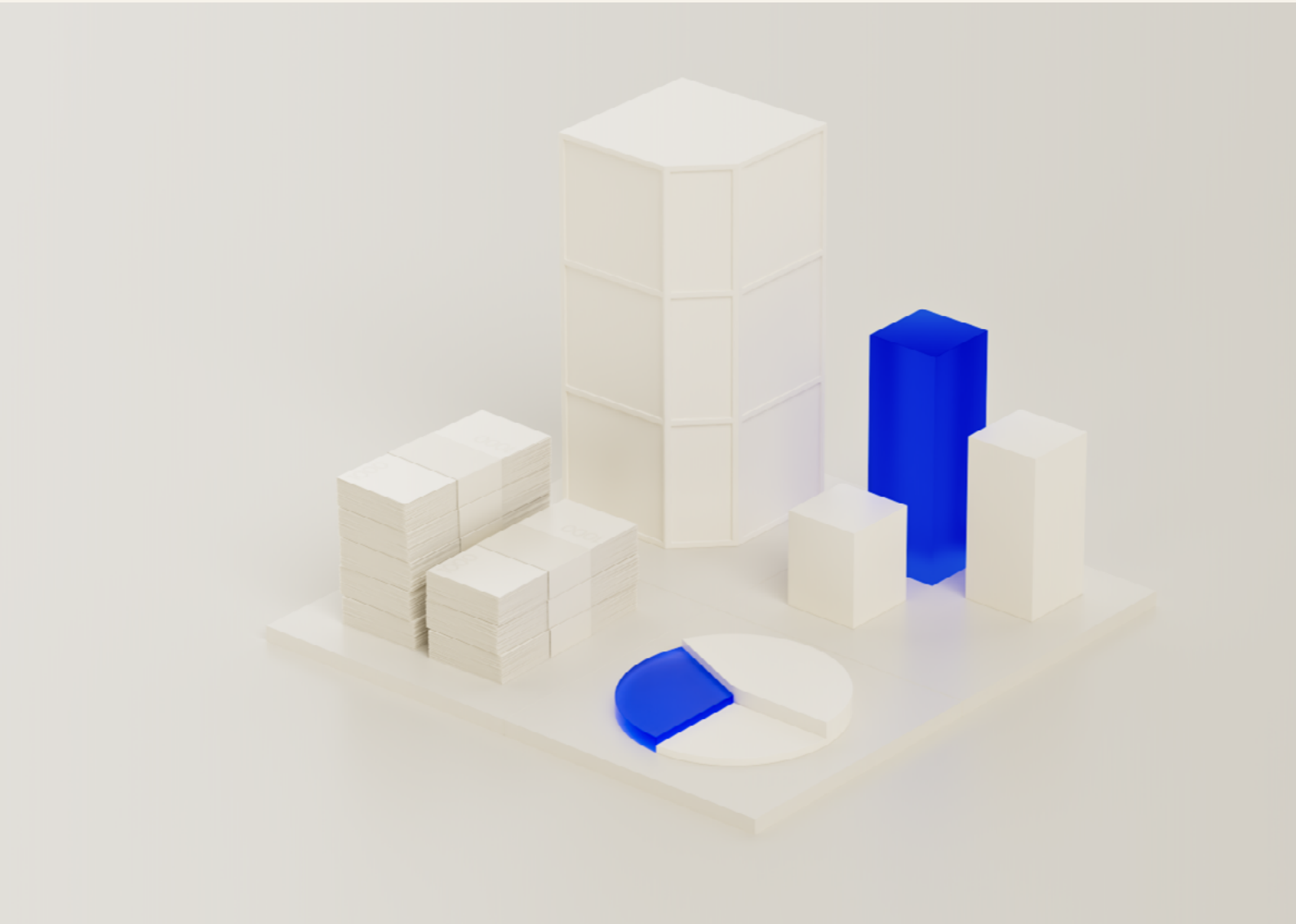
Norges Bank

Norway's Financial System

2025



Key figures

Norway's financial system

5 197bn
GDP (Gross domestic product)

19 742bn
Government Pension Fund Global (GPFG)

38bn
Cash in circulation

4 050bn
GDP Mainland Norway

6 886bn
Loans from financial institutions to private individuals, businesses and local governments

3 194bn
Total domestic bonds outstanding

3 672bn
Bank deposits

5 452bn
Assets under management in mutual funds

115
Number of banks

2 820bn
Total assets of insurance companies

545
Annual per capita card transactions

144%
Domestic debt-to GDP ratio

GDP: Market value, current prices. Source: Statistics Norway
Government Pension Fund Global: Norges Bank's Annual Report 2024. Source: Norges Bank
Cash in circulation: Norges Bank's balance sheet. Source: Statistics Norway
Loans from financial institutions to private individuals, businesses and local governments: Domestic credit to the private sector (ie only domestic lenders and borrowers). Source: Statistics Norway
Total domestic bonds outstanding: Market value of bonds registered in Euronext Securities Oslo (Norway's central security depository). Source: Statistics Norway
Bank deposits: Financial institutions. Balance sheets. Source: Statistics Norway
Assets under management in mutual funds: From Chart 2.19. Source: Norges Bank
Number of banks: From Table 2.1. Source: Norges Bank
Total assets of insurance companies: Life and non-life insurance. Source: Statistics Norway
Annual per capita card transactions: From Chart 3.6. Source: Norges Bank
Domestic debt-to GDP ratio: From Chart 3. Source: Norges Bank

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Preface and reader's guide

Norway's Financial System provides a general overview of the financial system in Norway, its tasks and how these tasks are carried out. This report is meant as a reference guide and textbook and is intended for a broad audience. The focus is on presenting the financial system in a simplified manner. Financial system professionals will also be able to find useful information. Hyperlinks to other, more detailed Norges Bank publications and to other institutions have been inserted in the text, enabling the reader to delve more deeply into topics of interest.

The introduction provides an overall overview of all the components of the financial system. *Section 1* describes the various markets: the money, bond, foreign exchange and equity markets, and the financial derivatives markets. *Section 2* discusses the most important financial institutions: banks, mortgage companies, insurance companies, pension schemes and various funds, etc in addition to Norges Bank, which itself is part of the financial system. *Section 3* describes the financial system infrastructure, which includes the payment system and systems for the payment and transfer of securities, foreign currency and derivatives.

The aim of this report is to promote public understanding of the financial system. The report will be revised annually to ensure that it is kept up to date and maintains its relevance as a reference and textbook. Readers are encouraged to suggest improvements or report errors, ambiguities or inadequate explanations. All comments should be sent to: dnfs@norges-bank.no.

Oslo, August 2025

The financial system

The financial system plays an important role in the economy, with three primary tasks:

- Providing consumers and businesses with borrowing and saving opportunities
- Providing payment services
- Managing risk

In a well-functioning financial system, these tasks are performed securely and efficiently. A system that is resilient to shocks reduces the probability of financial crises.

The financial system consists of many different markets, institutions and infrastructures. In this *Report,* the financial system is divided into financial markets, financial institutions and the financial infrastructure (Table 1).

System users are more or less all the members of society: businesses, public undertakings and most private individuals.

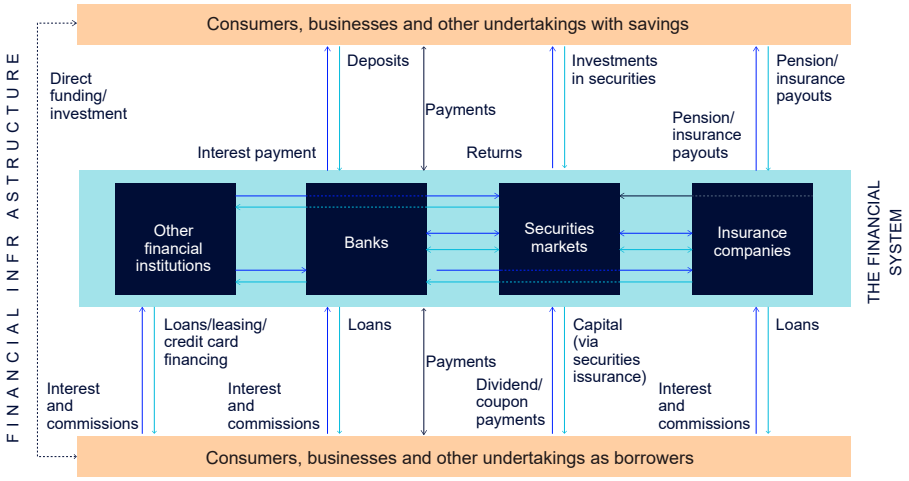
The definition of the financial system can be expanded to include, for example, institutions and mechanisms that provide security for contracts that are entered into, supply reliable information for effective credit intermediation and risk management and perform other functions such as supervision, regulation, registration of ownership rights, accounting, auditing, credit ratings and other financial analyses.

Chart 1 shows a simplified diagram of the financial system. Consumers, businesses and other undertakings with savings are shown in the box at the top. Consumers, businesses and other undertakings as borrowers are in the box at the bottom. The middle segment shows the financial system, where savings are channelled into investment through markets and undertakings. In practice, the participants are generally both savers

Table 1

1. Financial markets	2. Financial institutions	3. Financial infrastructure
Marketplaces for issuing and trading financial instruments. The properties of these instruments may vary with regard to return, risk, maturity, etc. In financial markets, savers can invest in corporate equity or in debt by lending directly to various borrowers.	Institutions such as banks, mortgage companies, pension funds, insurance companies, mutual funds, etc. They act as intermediaries between economic agents and play important roles related to the financial system's main tasks.	Ensures that payments and trades in financial instruments are recorded and settled. The legislation and standard agreements governing these processes are part of the financial infrastructure, as are computer systems and systems of communication between financial system participants.

Chart 1 What happens in the financial system?



Source: Norges Bank

and borrowers. Banks create money when they issue a new loan to a customer (see box: Money creation in Section 2). Payments and risk management also primarily take place in the financial system. The financial infrastructure makes all these transactions possible. A more detailed diagram of the financial system would include Norges Bank, which itself is a financial system participant and is also tasked with facilitating efficient and secure payments.

The primary tasks of the financial system

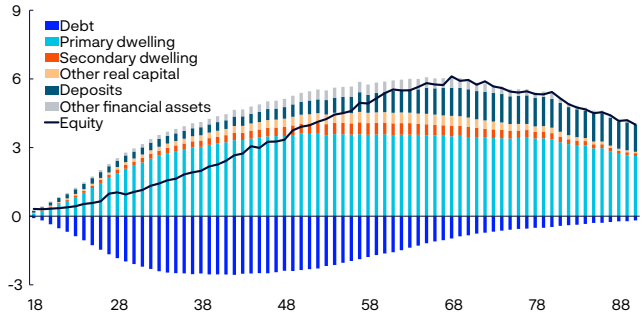
Providing consumers and businesses with borrowing and saving opportunities

Most people need to borrow money at some time in their lives. Private individuals borrow to finance an education, a house purchase or spending on large consumption items or to cover a temporary decline in income. Similarly, most people need to store their money at times when income exceeds expenditure, ie to save. For example, consumers might save in order to contribute to a pension scheme, to have a reserve for unforeseen expenses or to have enough equity to purchase a home. The financial system enables private individuals to borrow and save and thus to spread their consumption over a lifespan, irrespective of when income is accrued, as illustrated in Chart 2.

Businesses might borrow to finance investments in property, equipment, development and production or to meet payment obligations in unprofitable periods. In profitable periods, businesses need investment opportunities in order to be better equipped to deal with leaner times or manage current payment obligations and finance future investment. The financial system is intended to provide opportunities for savings to be channelled to profitable investment projects.

Chart 2 Assets, debt and equity by age of main income earner

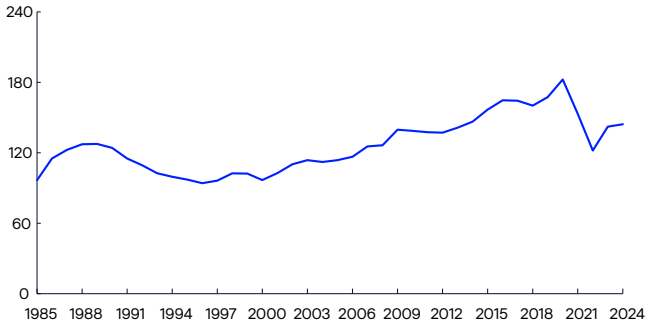
Mean in millions of NOK. 2023



Sources: Statistics Norway and Norges Bank

Chart 3 Domestic credit (C2) as a share of GDP

Percent



Sources: Statistics Norway and Norges Bank

Central and local governments might also borrow to fund investment and important expenditure during an economic downturn. Likewise, they need saving alternatives during upturns. Since 1990, the Norwegian government has saved a large portion of the government's petroleum revenues through investment in the global financial market via the Government Pension Fund Global (GPFG).

When a country's GDP rises, the total value of both financial assets and liabilities tends to rise even more (Chart 3).

At any point in time, some private individuals, businesses and governments will need to borrow while others will need to invest savings. In the financial system, savings are channelled to investment both across and within these groups. As it is possible to borrow and save abroad, total savings are not necessarily equal to total investment. A well-functioning financial system channels financing efficiently, thereby promoting economic stability.

Financial institutions and financial markets are intermediaries between savers and investors. Savers seek saving options with different lock-in periods and risk. Financial institutions and securities markets offer an extensive range of savings products. This is an area in continuous evolution, with new products emerging and existing ones being discontinued.

Banks accept and hold savings in the form of deposits and they provide loans. Only banks are permitted to accept ordinary deposits from the public. Banks distribute these savings across a large number of investments (borrowers), which reduces the risk that banks will incur losses. Banks have also specialised in credit risk assessment of borrowers. The government authorities have initiated various measures to protect customers' deposits in Norwegian banks, including deposit insurance (see Section *2.3.7 Deposit guarantees in Norway*). Savers can therefore make deposits without needing to assess how these deposits are invested by banks.

Saving in a bank is a special form of saving because bank deposits are also used to make payments and therefore function as money. Today, bank deposits are the dominant means of payment in advanced economies. Most people with savings in banks therefore want their funds to be available quickly, ie they should be liquid. (For further details, see box: Liquidity in Section 1.) At the same time, people who take out a mortgage usually want the option of a long repayment period. In this regard, banks play an important role by converting short-term deposits into long-term loans. This is called maturity transformation. (Read more about maturity transformation in Section *2.3.1 Banks' tasks*.)

Insurance companies and pension funds also act as intermediaries and accept savings that are earmarked for pensions. This capital is usually invested for the long term in Norwegian and international financial markets.

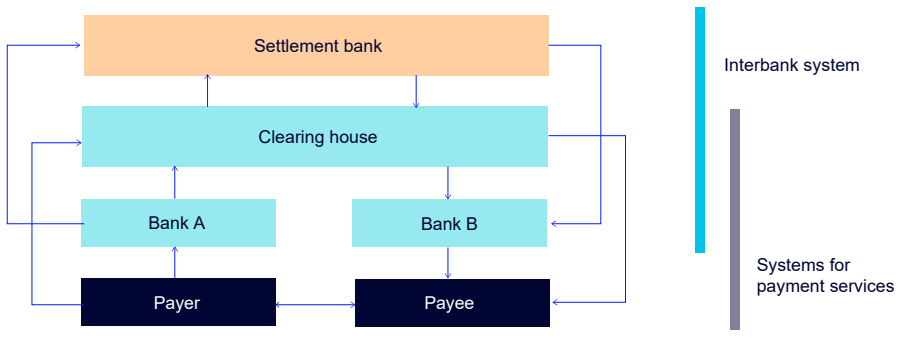
Large businesses and central and local governments can issue bonds or raise share capital in securities markets, where they receive saved funds directly from savers without having to go through financial institutions. Nevertheless, banks function as intermediaries by facilitating these transactions.

Providing payment services

Most of us make payments on a daily basis. We pay our bills using an online or mobile banking service and pay for goods in shops. We can pay using cash or using bank deposits, referred to as deposit money. Norges Bank issues cash based on user demand (see Section *3.1.1 Cash*). Factors determining the quantity of deposit money are described in Section *2.3.1 Banks' tasks*.

In a barter economy, both participants in a transaction must agree upon what to exchange. In a monetary economy, there is a universally acknowledged medium of exchange, money. Money can be in the form of banknotes or coins that are a universally acknowledged medium of exchange because they are defined as such by law. But money can also be in the form of deposit money, which is universally acknowledged to the extent it can be withdrawn in the form of banknotes and coins in the same amount. For the payment system to function efficiently, the value of

Chart 4 The Norwegian payment system



Source: Norges Bank

money in its different forms must be identical (a 1:1 ratio). This would also apply to a central bank digital currency if it is introduced (see box: Central bank digital currency in Section 3.2). Most transactions in the economy are settled using deposit money. For deposit money to be a universally acknowledged medium of exchange, confidence in the banking system is essential. (Read more about money in the box: What is money?)

There are a large number of banks and a very high number of payment transactions, including interbank transactions. Transactions using deposit money must be settled. Settlement is conducted in a settlement system, where, for example, 1000 payments between Bank A and Bank B can be collected together (netted) (Chart 4). All 1000 payments are settled and are acknowledged when B (or A) pays A (or B) the netted amount. Most interbank payments are settled in Norges Bank with what is referred to as central bank reserves, which are banks' deposits in Norges Bank. This means that banks settle payments to each other by

What is money?

Money is a generally accepted means of payment. This means that money may be used as payment for goods and services and financial assets such as equities and bonds and for repaying loans. Money also has a function as a measure of value, for example the value of a good, and as a store of value.

There are generally two types of money in Norway: deposit money and central bank money. Deposit money is issued by private banks, primarily by extending loans or in exchange for central bank money. Deposit money is thus a claim on private banks and used through different instruments, which is at present mostly cards or other digital instruments. Central bank money, ie claims on the central bank, is issued by Norges Bank to banks in the form of deposit money and to the general public in the form of cash (banknotes and coins). Cash is legal tender in Norway for consumer transactions, and the legislature has through various statutory provisions imposed requirements for the use of deposit money in different contexts. E-money, issued by e-money institutions, is also a means of payment but is not legally considered as money since the legislature has not imposed requirements for the use of e-money in the same way as for deposit money and central bank money.

The various forms of money must be interchangeable at a 1:1 ratio (parity) in order for the monetary system to function properly. An amount in the form of bank deposits can be converted to the same amount in cash and conversely. This is important if bank deposits are to be generally accepted as a means of payment. Conversion between deposit money and cash takes place when cash is deposited in and withdrawn from bank accounts.

Since cash is both a means of payment and payment instrument, settlement is immediate and final upon handover of banknotes and coins. Settlement using deposit money takes place when an account transaction is conducted from the payer's to the payee's account.

The authorities do not determine the total volume of bank deposits or the quantity of banknotes and coins in circulation. The volume of bank deposits depends, among other things, on the volume of bank lending (see box: Money creation in Section 2) and the quantity of banknotes and coins in circulation is determined by public demand (see Section *3.1.1 Cash*).

transferring funds between their accounts at Norges Bank. Norges Bank manages the quantity of central bank reserves by offering lending and deposit facilities to banks, referred to as market operations. The most common market operations are F-loans and F-deposits (see Norges Bank's website).

A system based on money simplifies exchange considerably. It reduces transaction costs in the economy and facilitates a more effective division of labour in society. In a well-functioning payment system, money transfers are conducted securely, in a timely manner and at a low cost. The payment system is a central part of a country's infrastructure and important for the stability of the domestic currency, the financial system and the economy in general.

Risk management

Both private individuals and businesses want to insure themselves against risk. Fire, theft and auto insurance, for example, can be purchased from a non-life insurance undertaking. Life insurance companies and pension funds sell insurance that guarantees payment in the event of disability or premature death of the insured. They also offer individual private pensions and group occupational pensions as a supplement to state pensions from the National Insurance Scheme.

Businesses may also seek insurance against various economic risks associated with their activities. There may be risks associated with future prices of both intermediate goods and final products. Exchange rate risk and the risk of a change in interest rates are other examples. Businesses can eliminate or mitigate such risks by means of financial instruments and derivatives. The sellers of derivatives can insure against, or hedge, their own risk by offering derivatives contracts to buyers with opposite needs, cover risk by owning the underlying instruments or resell risk to others. Capital markets also help to diversify and redistribute risk associated with investments. Investors can manage risk by owning securities with different types of desired risk. Diversification also reduces risk for those who invest their savings in mutual funds or asset management companies.

Banks are also experts at assessing the risk associated with the various investment projects for which they provide loans. Bank depositors can therefore entrust such assessments to the banks. The depositors' risk is also reduced because banks spread, or diversify, their lending across a large number of borrowers and, not least, because deposits are insured through a deposit insurance scheme. The current scheme in Norway covers deposits up to NOK 2m per depositor per bank. Banks are also subject to special government regulation.

Supervision and regulation of the financial system

A well-functioning financial system is crucial to a modern economy. If making payments or obtaining loans became impossible, this could quickly have wide-reaching consequences for the entire economy.

The financial system is therefore subject to more regulation and supervision by the authorities than most other sectors of the economy (see also *Appendix 3: Important financial system legislation*. Read more about the most important types of risk in the financial system in box: Risks in the financial system).

The financial system is primarily regulated through legislation. A licence issued by the authorities is required to establish a financial institution or to perform specific services within the financial system. Under the terms of the licence, an institution must meet extensive requirements

Risks in the financial system

The financial system contributes to more effective risk management in the economy. One element of risk management is identifying the nature of a risk and how it can be prevented. Pricing of risk is an important part of this work. There are different kinds of risk:

Credit risk is the risk of losses when a counterparty cannot settle its accounts. For example, the counterparty may be the issuer of a security, a counterparty in a derivative contract or a borrower with a bank loan. For corporate loans, credit risk can be associated with a sector's ability to service debt (for example construction) or with individual borrowers.

Liquidity risk is the risk that an undertaking cannot meet its payment obligations when due without incurring substantial additional costs. Liquidity risk may arise, for example, from the difference in terms to maturity between banks' assets and liabilities. Deposits in banks are typically open-ended with no prior notice of termination required, while bank loans have longer maturities. Liquidity risk is also used to refer to the risk of prices being influenced when securities or other assets are traded and is then referred to as market liquidity risk (see box: Liquidity in Section 1).

Market risk is a collective term for the risk of losses due to movements in market prices such as interest rates, exchange rates, commodity prices or share prices. These types of risk are often referred to as interest rate risk, foreign exchange risk, commodity price risk and equity risk.

Operational risk is the risk of losses associated with technical malfunctions, human error and inadequate control systems, such as faulty procedures, errors in or attacks on IT systems, regulatory violations, fraud, fire, terror attacks, etc. Operational risk can cause or amplify other kinds of risk.

Legal risk can be defined as the risk of losses when a contract cannot be enforced as planned, or because collateral cannot be realised as envisaged. Legal risk can arise in international business transactions as the legal basis often varies across countries.

If one or more of these risks reaches a high enough level, the efficiency and security of the financial system may be jeopardised. Systemic risk may then arise. Systemic risk in the area of financial stability is the risk that the financial system cannot perform its functions and thereby contributes to a severe downturn in the real economy. Time-varying systemic risk is especially associated with developments in debt, asset prices and the mismatch between the maturities of banks' assets and liabilities. Structural systemic risk is particularly associated with the degree of concentration in the financial system, the number and size of systemically important institutions and weaknesses in the financial infrastructure.

and is supervised by the authorities to ensure compliance. In the event of non-compliance, the licence can be revoked.

An institution may be required to hold a specific quantity of equity capital, hold liquid assets or be run by an appropriate board and management. Regulation may be direct in that certain activities are prohibited, for example, or indirect, in the form of risk-based capital requirements. Financial market regulation often applies to the marketplace itself, for example restricting the groups that may participate. There are also requirements for disclosure to the general public, market participants and the authorities (see box: Turnover in securities: Exchange-traded and OTC).

The purpose of regulation is to ensure that the financial system is stable and efficient. The Ministry of Finance is responsible for submitting draft legislation relating to the financial system to the Storting (Norwegian parliament). The establishment of new institutions or other undertakings is also primarily authorised by the Ministry of Finance. One exception is Interbank systems, for which Norges Bank is the licensing authority owing to its key role in, and responsibility for, the payment system. Banks' interbank payments are settled in the interbank systems.

Finanstilsynet's (Financial Supervisory Authority of Norway) primary responsibility is supervising institutions in the financial system to ensure that they comply with current legislation. Finanstilsynet can also impose new regulations on or issue recommendations on practices in the financial system. The aim of supervision is partly to ensure that the financial system's main tasks are performed in a sound manner and partly to protect user interests.

Finanstilsynet also has a particular responsibility for supervision related to banks' solvency, management and control. For the payment system to be efficient and secure, banks must also be efficient and secure.

As a disruption in the financial system can have severe consequences, it is important for institutions and the authorities to be prepared to handle adverse scenarios. This can mitigate negative consequences. The Ministry of Finance has an important coordinating role should a financial crisis arise. Norges Bank can contribute if there is a liquidity shortage by lending funds to banks against approved collateral.

International cooperation

The financial system operates to a great extent across national borders and there is broad international cooperation on regulation and supervision to promote financial stability. The Financial Stability Board (FSB) was established during the global financial crisis in 2008. The FSB is a collaborative body that monitors and makes policy recommendations for the global financial system. The FSB comprises the G20 countries and the most important international organisations and committees in this area.

The Basel Committee on Banking Supervision (BCBS) is the most important international body for the regulation of the banking sector. When the Committee was established in 1974, the collaboration focused on raising the standards of banking supervision and improving the exchange of information between regulators in different countries regarding international banks. After a period, the Committee recognised that there was also a need for a common regulatory framework governing the level of banks' equity capital, and the so-called Basel framework was developed. Subsequently, the BCBS has proposed regulation relating to many aspects of banks' activities (see *Appendix 2: Capital and liquidity regulation*).

Similar collaborative bodies have now been established for insurance, the *International Association of Insurance Supervisors* (IAIS); securities markets, the *International Organization of Securities Commissions* (IOSCO); and for the payment system and other financial infrastructure, the *Committee on Payments and Market Infrastructures* (CPMI). These organisations all draft proposals for international rules applicable to their respective areas. In addition, banks and other important market participants have established collaborative bodies that draw up key market standards, such as the *International Swaps and Derivatives Association* (ISDA).

Several of the above-mentioned institutions are referred to as international standard-setters. They draft proposals for minimum standards for international rules in their fields. These rules can be incorporated into national legislation or they can remain a market standard that market participants must adhere to in practice in order to do business in the relevant area. The proposed rules are often introduced for both small and large banks in most countries. The EU regulatory framework also largely reflects international standards.

The framework conditions for Norway's financial system are determined based on the Agreement on the European Economic Area (EEA), which regulates Norway's relationship with the EU. Norway is a part of the EU single market for financial services through the EEA Agreement. This means that Norway has virtually the same financial legislation as EU countries.

The International Monetary Fund (IMF) conducts regular reviews under its Financial Sector Assessment Program (FSAP) of countries' compliance with financial sector standards (see IMF).

For more information on the evolution of international regulations, see "Endringer i bankreguleringen etter finanskrisen i 2008" [Changes in banking regulations following the financial crisis in 2008], *Economic Commentaries* 5/2017, Norges Bank (in Norwegian only).

1. Financial markets

1. Financial markets

Financial markets are markets in which financial instruments are issued and traded, where savers can invest in corporate equity and lend directly to various borrowers. The main groups of financial instruments are debt instruments (bond and short-term paper markets), equity (stock markets), foreign exchange (FX) and derivatives. For debt and equity there is both a primary market, where equity securities, or stocks, and bonds are sold to investors, and a secondary market for the purchase and sale of existing bonds and stocks. The marketplace, or trading venue, may be a stock exchange where bid (buying) and ask (selling) prices are submitted and cleared. This means that the buyer accepts the seller's ask price and the seller accepts the buyer's bid price. Once the trade is cleared, it can be executed. Most standardised instruments such as equities or government bonds are traded on a stock exchange. Many other instruments are not primarily traded on a stock exchange but are traded either via alternative trading venues or bilaterally between buyers and sellers, called "over-the-counter" (OTC) trading. Corporate bonds, foreign exchange and derivatives are primarily traded OTC. (For further details, see box: Turnover in securities: Exchange-traded and OTC.)

Financial markets are also important for distributing risk in the economy. When projects and businesses are funded by raising capital in equity and bond markets, risk is spread over many investors and lenders. This improves access to capital and the distribution of risk. Participants also use financial markets to manage risk through the purchase and sale of instruments featuring different kinds of risk. Money, FX and derivatives markets have important functions in that they redistribute liquidity and various forms of risk. These markets are also used for speculation in developments in macroeconomic variables and financial assets. This contributes to price formation in the market and is an element in the redistribution of risk. In markets with substantial turnover, new information is quickly reflected in prices for financial instruments. This gives important information to both savers and borrowers and can improve resource utilisation in the economy.

Activity in the markets and at trading venues is regulated by the authorities, albeit to a somewhat lesser extent than is the case for financial institutions such as banks and insurance companies. (Read more in *Appendix 1: Regulation of financial markets and trading venues*. See also *Appendix 3: Important financial system legislation*.)

Turnover in securities: Exchange-traded and OTC

Financial instrument trades can take place on organised trading platforms or through bilateral agreements, referred to as "over-the-counter" (OTC). A stock exchange is the form of organised trading platform that is regulated most extensively to ensure that relevant information is available to investors. Norway's stock exchange, Oslo Børs Euronext, is regulated by Finanstilsynet. Securities that are expected to be widely traded will usually be accepted for trading on a stock exchange. For a company to be listed, ie for its shares to be traded on a stock exchange, detailed information about the company and, if a bond is to be issued, information on the bond agreement, must be submitted. Once a company has been listed, it has an obligation to regularly provide updated information. This ensures that relevant information about all the securities traded on the stock exchange is available to investors. Securities listed on Oslo Børs Euronext can be traded through the exchange's electronic trading system, which shows updated bid and offer prices with the associated trading volumes. Securities prices are continuously updated based on actual trades. Although the great majority of trades on Oslo Børs Euronext are in equities, bonds are also issued and traded on the exchange. Listed securities may also be traded off-exchange.

There are electronic trading platforms that are not stock exchanges and that are subject to less stringent information and transparency requirements. These are often referred to as Multilateral Trading Facilities (MTFs). MTFs are generally owned and operated by banks or brokers to avoid paying transaction fees to a stock exchange. Some MTFs are almost as open about their operations as stock exchanges, while others provide little information regarding prices and trading volumes. MTFs that only provide minimal information are called "dark pools". MTFs primarily offer trading in equities that are also usually listed on an exchange. Parties to a trade will often agree to trade at the same price as the listed equity on the exchange. As a result, large trades can be executed on an MTF without affecting prices on the exchange. Incentives for trading in an MTF rather than on a stock exchange may include lower transaction costs or the desire to avoid showing one's hand by displaying an order in the market. The introduction of MiFID II has limited the volume of equities that can be traded in "dark pools".

In the simplest form of OTC trades, the buyer and seller contact each other directly to agree on a transaction. Since it can be difficult to find a counterparty, brokers are often used as intermediaries in these transactions. For securities with fairly high turnover, brokers provide indicative bid and offer prices. As a rule, trades cannot be made at these prices, and transactions are agreed upon by phone or instant messaging via a computer network. Most bonds are traded in this manner.

1.1 Money markets

The money market comprises several types of financial markets in which participants can invest or borrow funds using financial instruments with maturities of up to one year. Participants use money markets primarily to manage their funding liquidity, ie the degree to which participants have the means to meet their payment obligations as they fall due (see box: Liquidity). The banking sector is the largest participant in the money market. The banking sector's most important instruments in the money market are unsecured interbank loans, primarily overnight loans, and secured loans in the form of FX swaps with maturities of up to one year. Other participants, such as central and local governments and other businesses, also utilise money markets, primarily to issue Treasury bills

Liquidity

The term liquidity is used differently in different contexts.

The liquidity of an asset means the ease with which it can be converted into money for the purchase of goods, services and other assets. Cash and bank deposits are money and thus the most liquid form of liquidity, while fixed capital such as housing is an asset that is relatively illiquid.

Market liquidity means the degree to which it is possible to trade assets, such as securities, in the market without substantially influencing market prices. A market is considered liquid if it is possible to trade large volumes in a short period of time without causing substantial movements in market prices. Some markets are more liquid than others, but in most markets, liquidity varies over time. During financial crises, liquidity in many markets can dry up.

Funding liquidity means the degree to which a person or business has sufficient funds available to pay for goods and services or to service debt as it falls due. In practice, it is a question of the amount of cash and bank deposits, which for banks includes their deposits in Norges Bank, that is or can easily be made available. Funding liquidity is most often used to describe the possibility of obtaining funding at an acceptable price so that a business has sufficient funds to make payments and service debt.

Central bank liquidity means banks' deposits in the central bank (central bank reserves). Central bank liquidity plays a key role in the setting of short-term market rates and the execution of payments in the economy. For each bank, central bank reserves are part of their funding liquidity.

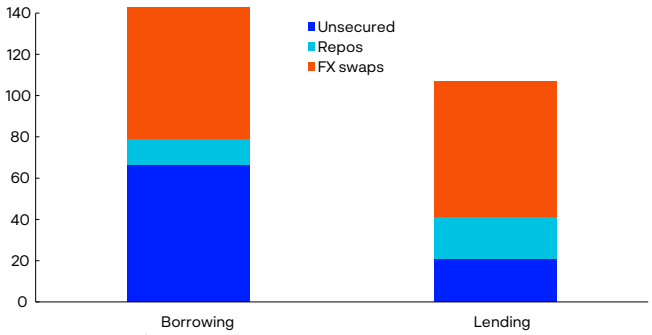
and short-term paper. The money market also comprises secured loans in the form of repurchase agreements (repos). Norges Bank is a key participant in the money market. For more information on the money market, see "Det norske pengemarkedet" [the Norwegian money market], *Staff Memo* 4/2022, Norges Bank (in Norwegian only).

Chart 1.1 is taken from money market data (RPD) reported to and compiled by Norges Bank and shows daily borrowing and lending by instrument in 2024.

1.1.1 Money market participants

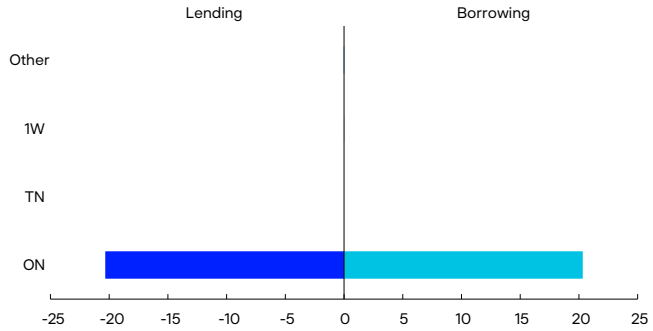
Banks are the largest participants in the money market. Fluctuations in banks' liquidity (funding liquidity, including central bank liquidity, see box: **Liquidity**) are primarily related to payment services, loan origination and maturity transformation (see Section *2.3.1 Banks' tasks*). Assume that a bank customer transfers an amount from his or her own account to the account of a recipient in another bank. The payer bank's liquidity will then be reduced as its deposit in Norges Bank is reduced. Conversely, the liquidity of the bank receiving the transfer will increase as its deposit in Norges Bank is increased. Banks use the money market to manage such liquidity fluctuations. Interbank loans comprise not only unsecured loans, but also secured loans such as repurchase agreements and FX swaps.

Chart 1.1 Lending and borrowing in the money market by instrument
Daily average for 2024. In billions of NOK



Source: Norges Bank

Chart 1.2 Unsecured interbank lending and borrowing in the money market by maturity
Daily average. In billions of NOK. 2024



Source: Norges Bank

Insurance companies, finance companies, mortgage companies and local governments also trade in the money market when they need to borrow or invest funds for short periods. Insurance companies invest most of their funds in long-term securities, but they also make short-term investments in the money market in order to have the means to cover upcoming payments. In the private sector, money markets are primarily used by the largest companies, whose resources are large enough to utilise this market, at least as borrowers. Smaller participants can save in the money market by, for example, purchasing mutual fund units. The government is another major participant and uses the money market to meet its short-term funding needs by issuing Treasury bills. As the government holds its liquidity in its account at Norges Bank, the government only participates in the money market as a borrower.

Norges Bank is a key participant in the money market. It uses market operations to control the total quantity of central bank reserves in the banking system (central bank liquidity). Norges Bank offers standing deposit and lending facilities to banks as part of its liquidity management (see box: Norges Bank's liquidity management and overnight lending rate).

1.1.2 Unsecured money market instruments

Unsecured money market instruments are unsecured interbank loans, Treasury bills and other short-term paper. Trades in unsecured interbank loans and deposits are concentrated around the shortest maturities, while Treasury bills and short-term paper can vary in maturity up to a maximum of one year.

1.1.2.1 Interbank loans and deposits

Banks can borrow from and invest with each other in the unsecured interbank market. Most trades take place at very short maturities, particularly overnight (Chart 1.2).

Norges Bank's liquidity management and overnight lending rate

The aim of liquidity policy is to keep the shortest money market rates close to the policy rate. Norges Bank makes changes to the policy rate by adjusting the terms for banks' loans and deposits in the central bank and keeps the shortest money market rates close to the policy rate on a day-to-day basis by controlling the size of banks' unrestricted deposits in Norges Bank (central bank reserves or reserves).

There are two main categories of liquidity management systems: floor or corridor. In a corridor system, the central bank's lending and deposit rates form a corridor for the shortest money market rates in the interbank market. The lending rate forms the ceiling and the deposit rate forms the floor of the corridor. The policy rate is normally in the middle of this corridor, and the central bank manages the reserves in the banking system (banks' deposits in the central bank) to keep them at zero (or slightly above zero). A bank that has received a net inflow from other banks over the course of the day and has a positive account balance in the central bank lends reserves to banks that have had a net outflow over the course of the day and thereby have a negative account balance in the central bank. By the end of the day, (most) banks have account balances at zero and claims on other banks in the interbank market. A corridor system incentivises banks to trade reserves with other banks and not with the central bank.

In a so-called floor system, the central bank seeks to maintain an oversupply of central bank reserves in the banking system. This system drives the shortest money market rates down to banks' marginal deposit rate at the central bank, which then forms a "floor" for the shortest rates.

Norway's liquidity management system is a cross between a floor and a corridor system. Norges Bank seeks to maintain reserves of NOK 35bn, with a target range of +/- NOK 5bn. Each bank has a sight deposit quota at Norges Bank. Deposits below the quota are remunerated at the sight deposit rate (which is equal to the policy rate), while deposits in excess of the quota are remunerated at a lower rate, known as the reserve rate. Norges Bank ensures that banks' total central bank reserves are close to the target of NOK 35bn by either providing liquidity via F-loans against collateral or withdrawing liquidity via F-deposits. F-loans are loans against collateral in fixed rate securities with a given maturity. If the sight deposit rate is changed during the maturity of the operation, the bank's allotment rate will be changed accordingly from the same date as the change in the sight deposit rate. For more details on Norges Bank's liquidity management system in general and the principles behind Norges Bank's liquidity policies, see "Norges Bank's liquidity policy: principles and design", *Norges Bank Papers* 3/2021.

The Treasury single account system is maintained by Norges Bank, and the government's account transactions with the banking system have been the main reason for fluctuations in banks' deposits at the central bank. Government outflows increase banks' deposits at the central bank. On Norges Bank's balance sheet, the government's deposits are reduced while banks' deposits increase. Correspondingly, government inflows reduce banks' deposits at Norges Bank. Thus, transactions over the government's account alter the quantity of reserves in the banking system and Norges Bank restores the balance using F-loans and F-deposits.

Norwegian banks also borrow reserves from other banks overnight through the interbank market. A bank that has been a net recipient of reserves through the day and exceeds its quota in Norges Bank will normally lend reserves to banks with negative account balances or deposits below the quota. The alternative is to deposit the reserves in excess of the quota at the lower reserve rate. Banks with net outflows of reserves through the day, and with negative account balances at the central bank, will want to borrow reserves from other banks. Otherwise, banks' negative account balances in the central bank

will be made into overnight loans (called D-loans) and charged at Norges Bank's overnight lending rate for banks, the D-loan rate, which is 1 percentage point higher than the sight deposit rate.

As in a corridor system, banks thus have an incentive to redistribute reserves among themselves. The interest rate that banks pay each other overnight is referred to as the Norwegian Overnight Weighted Average (Nowa), which is normally close to the policy rate (Chart 1.3). The Nowa rate is the first point on the "yield curve" and the very first part of the "transmission mechanism", ie how the central bank's policy rate affects longer-term interest rates: short-term money market rates influence the interest rates facing households and businesses, which in turn affect decisions concerning consumption, investment and saving.

If a bank has large net outgoing payments one day, but large net incoming payments the next, it can cover its short-term liquidity shortfall by borrowing in the interbank market. The bank will normally cover its more permanent financing needs with longer-term funding. This use of the interbank market explains why trades are concentrated around the shortest maturities. The interbank market is primarily used for banks' daily liquidity management. Its main function is as a safety valve, allowing banks to cover unexpected or short-term liquidity shortfalls at short notice.

1.1.3 Short-term paper and Treasury bills

Short-term paper refers to liquid debt securities with maturities of up to one year. The short-term paper market consists of a primary market where short-term paper is issued and a secondary market, where existing short-term paper can be resold. The government is the largest issuer in the short-term paper market, but banks, municipalities, regional businesses, mortgage companies and other private businesses also obtain short-term funding by issuing short-term paper. Local governments are the second largest issuers of short-term paper in NOK after the central government. Norwegian banks' issuance of short-term paper in NOK is limited because their short-term NOK needs can largely be met at lower cost in the FX swap market (see Section *1.1.4 Secured money market instruments*).

Short-term paper issued by the government is referred to as Treasury bills, which are short-term government debt instruments. Treasury bills are issued as zero-coupon securities with a maturity of up to one year. This means that these bills do not pay any interest (coupon payments), but they are issued at a discount, ie the offer price is lower than the face value and are redeemed at par at maturity. The difference between the issue price and the redemption price is the "interest payment". They are only issued in NOK and are listed on Oslo Børs. Norges Bank sells Treasury bills on behalf of the government in the primary market. The Treasury bills are sold by auction on Bloomberg's Auction System, where all the allotted bidders in the auction pay the same price (uniform price auction). Only selected banks, so-called primary dealers, are authorised to participate directly in the auctions. Trades in the secondary market for

Treasury bills can take place either on electronic trading platforms, or when an investor contacts a primary dealer or other broker that deals in these securities. The primary dealers are obliged to quote binding bid and ask prices on the Bloomberg E-Bond trading system for a given minimum amount.

New Treasury bills are introduced on international money market (IMM) dates, which are the third Wednesday of March, June, September and December. IMM dates are commonly used maturity dates for standardised money market products, and Treasury bills mature on the IMM date the year following issuance. Over the course of that year, the Treasury bill can be reopened to increase the volume outstanding. The maturity date will nevertheless always be a year after the bill was initially sold in the market.

1.1.4 Secured money market instruments

FX swaps are the most commonly used secured money market instruments in Norway. Although considerably smaller, the market for repurchase agreements (the repo market) has grown significantly in recent years.

1.1.4.1 Repurchase agreements (repos)

In a repurchase agreement, two parties agree to exchange securities for money for a given period. The agreement consists of two transactions with different settlement dates – one sale date and one repurchase date – which are agreed upon simultaneously. Upon entering into the agreement, one party relinquishes the securities in exchange for money (the sale). Once the agreement has reached maturity, the securities are returned to the initial seller, who simultaneously relinquishes a predetermined amount of money (the repurchase). The buyer pays an implicit rate determined by the difference between the sale and repurchase price of the securities.

Since repurchase agreements are loans where the lender receives securities as collateral, lenders are exposed to very limited risk. If the buyer, or borrower, should default when the agreement matures, lenders have access to the securities that were posted as collateral. In principle, all securities that can be traded in the fixed income market can be used in repurchase agreements. The amount that can be borrowed, however, depends on the quality and marketability of the security. An important difference between a repurchase agreement and an ordinary loan with collateral in the form of securities is that in a repurchase agreement the lender is the legal owner of the security in the period to the loan's maturity. The lender can make use of the collateral in the period until the repurchase agreement matures.

The largest banks and hedge funds are the primary participants in the Norwegian repo market. Most repurchase agreements are made with Norwegian Treasury bills, government bonds, and covered bonds as collateral (see box: Secured funding). Repurchase agreements are also made with foreign securities as collateral and so-called tri-party repos, in which the two parties entering an agreement allow a third party to

manage the exchanges between them. Repurchase agreements with listed securities as collateral, such as Treasury bills, government bonds, and covered bonds, are registered on the stock exchange if one of the parties in the transaction is a member of the exchange. The trades themselves take place OTC.

Secured funding

Some issuers offer guaranteed bonds. These bonds are considered particularly safe because the guarantor must pay the debt should the issuer default. The safest guaranteed bonds are backed by the government. Other bonds can include provisions whereby bondholders have a security interest in the assets of the issuer or priority over holders of other bonds from the same issuer in the event of bankruptcy.

Covered bonds (OMFs): OMFs are the Norwegian version of bonds referred to internationally as covered bonds. Covered bonds have for many years played an important role in residential mortgage funding in a number of European countries, including Sweden, Denmark and Germany. Covered bonds (OMFs) were introduced in Norway in 2007.

A covered bond provides an investor with a preferred claim on a defined pool of high-quality assets on an issuer's balance sheet. Norwegian covered bonds are subject to regulations with strict requirements as to who can issue such bonds and the quality of the underlying collateral. Only mortgage companies with special authorisation can issue covered bonds, and these companies are primarily owned and controlled by banks. Approved collateral includes residential mortgages with a maximum loan-to-value (LTV) ratio of 80%, loans for commercial real estate and holiday homes that are within 60% of the property's value, loans to or guaranteed by certain governments and authorities, and certain derivatives. The cover pool for Norwegian covered bonds mostly comprises residential mortgage loans. Under the so-called balance sheet requirement, the value of the cover pool must always equal 105% the value of the covered bonds outstanding, also referred to as overcollateralization. The individual mortgage company is responsible for ensuring that its cover pool always meets the requirements. Overcollateralisation provides investors with an additional buffer against a reduction in the value of the cover pool, for example in the event of a fall in house prices.

Securitised bonds (asset-backed securities (ABSs)): Securitisation means that the issuer sells certain assets to a legally separate special purpose vehicle (SPV), which funds the purchase by issuing ABSs in the market. Unlike covered bonds, ABSs are normally not subject to regulations defining the kind of assets that are eligible as collateral. The types of assets included in the cover pool will vary and are specified in the contract. In contrast to issuers of Norwegian covered bonds, ABS issuers are normally not required to maintain the value of the cover pool. The credit risk of the cover pool is therefore fully transferred to the investors. Nor are SPVs subject to supervision or capital requirements as is common for financial sector undertakings. ABSs are divided up based on quality and maturity into so-called tranches with different risk profiles. The tranches with the highest risk, but also the highest interest rates, must absorb losses first. Investors can adjust their risk profiles by the tranches they select. Securitisation is widespread in mortgage financing in countries such as the US and the UK, while covered bonds are more prevalent in most European countries.

1.1.4.2 Foreign exchange (FX) swaps

In an FX swap, two parties agree to exchange one currency for another for a given period (see box: Derivatives). This is done through an actual exchange of the underlying instrument, where the parties swap bank deposits in the relevant currencies. By entering into an FX swap, a bank holding foreign currency and needing liquidity in NOK can swap the currency for NOK for a given period. An FX swap between two banks can also be regarded as a secured interbank loan. The FX swap market is different from the repo market in that the collateral received by the lender is in the form of another currency rather than in the form of securities. The parties to an FX swap exchange currency at the current FX market spot rate and agree to reverse the swap on an agreed date in the future at a rate agreed on today. This future rate is called the forward rate. The difference between the spot rate and the forward rate, known as the forward premium, expresses the interest rate differential between the two currencies during the life of the swap.

The FX swap market is the segment of the Norwegian money market with the highest turnover. It is an OTC market, and its participants are largely major banks that rely heavily on foreign credit. Smaller banks largely use the unsecured interbank market to manage short-term liquidity fluctuations.

Derivatives

Derivatives are contracts that derive their value from an underlying asset. Derivatives can thus be used to reduce or increase exposure to an underlying asset and are therefore useful in risk management. The basic types of financial derivative are forward contracts and options.

A forward contract is an agreement to buy or sell an asset at a specified future time at a price agreed on today. The two parties to a forward contract have symmetrical rights and obligations. No payments normally accrue upon entering into a forward contract. The forward price is the future delivery price, making the value of the contract equal to zero for both parties at the time the contract is entered into. Once the forward contract has been entered into, its value can be changed. The buyer of a forward contract will make a profit on the settlement date if the price of the underlying asset is higher than the contract price and will take a loss if it is lower. The selling party will have the opposite exposure. If a forward contract is used to hedge an underlying position for the risk of losses due to price changes, the value of the forward contract will move in the opposite direction from the value of the underlying position, resulting in neither loss nor profit.

A future is a standardised forward contract traded on a commodity exchange.

A Forward Rate Agreement (FRA) is a forward contract with an agreed future rate of interest, for example the six-month interest rate in three months' time. FRAs are settled on the same day the future interest rate period begins, on the basis of the difference between the agreed interest rate and a selected reference rate. As a rule, the contracts start on IMM dates.

A swap is a contract in which two parties exchange cash flows. The two most common types are interest rate swaps and FX swaps. Parties to interest rate swaps usually exchange a fixed interest rate for a floating exchange rate. For example, a bank can use interest rate swaps to exchange fixed rate interest payments on bonds for floating rate payments. Its counterparty in the swap pays the bank's fixed rate interest payments to its bondholders, while the bank pays the floating rate to the counterparty. In an FX swap, the parties agree to exchange specified amounts of two different currencies at the current rate (the spot rate) and exchange these amounts back at a pre-agreed rate (the forward rate) when the agreement expires. The difference between the spot rate and the forward rate, the so-called forward premium, expresses the interest rate differential between the two currencies over the life of the contract. FX swaps are used, for example, by banks to exchange bond funding in foreign currencies for NOK. There are also combined foreign exchange and interest rate swaps, referred to as "cross-currency basis swaps".

An option is a contract that gives one party the right, but not the obligation, to buy (call option) or sell (put option) an asset at an agreed price (the strike price) on or before an agreed future date. The other party is obligated to fulfil the transaction if the option is exercised. The buyer pays the party selling the option a remuneration, or premium. The premium expresses the option's market value when the contract is entered into, which reflects its market value today and the value of potential future gains. The value of the option will vary according to the value of the underlying asset. The option will be exercised if this is profitable for its owner. A call option is exercised when the value of the underlying asset is higher than the strike price, while the put option is exercised when the value of the underlying asset is lower than the strike price. In both instances, the option is said to be "in the money". By buying an option, the investor's potential loss on the investment in the underlying asset is limited to the option premium paid to the party selling the option, while fully preserving the potential for profit. A distinction is made between options that can be exercised at any time during the life of the option (American options) and options that can only be exercised at maturity (European options).

A credit default swap (CDS) is a financial contract to insure the issuer of a bond or a bond index against default. The seller of a CDS will compensate the buyer if the underlying bond defaults. The price of a CDS contract thus provides some indication of how the market assesses the likelihood of default.

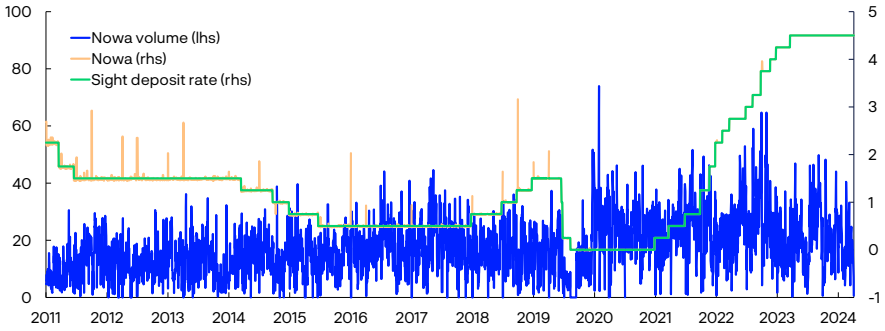
1.1.5 Money market reference rates

A reference rate is an interest rate that is used as a starting point for the pricing of other financial instruments. Reference rates play a critical role in the global financial system. These interest rates are linked to large sums of money through various financial products and financial contracts. Money market rates are frequently used as reference rates.

In 2011, in collaboration with Finance Norway, Norges Bank began gathering and registering data on unsecured interbank lending in the overnight market. Chart 1.3 shows daily transaction volumes. The volume-weighted average interest rate on these trades is called the Nowa rate (Norwegian Overnight Weighted Average). Norges Bank administers and publishes Nowa daily on Norges Bank website. Nowa has on average been the same as the interest rate on banks' deposits in Norges Bank (sight deposit rate) since it was established (Chart 1.4).

Chart 1.3 The Nowa rate and reported turnover volume

Volume in billions of NOK. Rate in percent



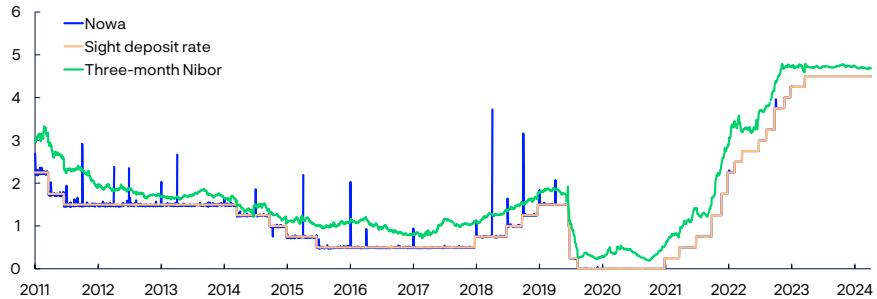
Source: Norges Bank

The most used reference rate in Norway is Nibor (Norwegian interbank offered rate), with three and six-month maturities. Six banks are panel banks and they provide a daily quotation of the rate for maturities from one to six months. Based on the six banks' submitted rates, Nibor is calculated as an average of the middle four observations for each maturity. Under the Nibor framework, the rates submitted by each panel bank should reflect the interest rate the bank would charge for loans in NOK to a leading bank that is active in the Norwegian money and foreign exchange market (see the Norske Finansielle Referanser AS website). There is little interbank lending in NOK at longer maturities than overnight. Most of large banks' NOK liquidity management takes place in the FX swap market, primarily through exchanging USD for NOK. When banks quote Nibor, they therefore often base their funding decisions on the rate they can obtain in USD and on the cost of exchanging NOK for USD in the FX swap market (see "Nibor, Libor and Euribor – all IBORs, but different", *Staff Memo* 2/2019, Norges Bank).

The G20 countries, via the Financial Stability Board (FSB), launched an initiative to reform interest rate benchmarks when attempts to manipulate

Chart 1.4 Sight deposit rate and short-term money market rates

Percent



Sources: Bloomberg and Norges Bank

global reference rates were uncovered (the Libor scandal), and there was a decline in activity in the unsecured interbank market following the financial crisis. Libor for GBP, CHF, EUR, JPY and USD tenors has been phased out in recent years and replaced with near risk-free overnight rates as reference rates. In Norway, a market for interest rate derivatives linked to the recommended alternative Norwegian reference rate, the Norwegian Overnight Weighted Average (Nowa) has been established. The publication of indicative prices for Nowa derivatives and bilateral trading in Nowa-linked products started in autumn 2021. Clearing of Nowa derivatives has been possible since April 2022 and turnover in such derivatives has gradually increased. According to LCH, outstanding volume in May 2025 was approximately NOK 4400bn.

1.1.6 Interest rate derivatives market

Interest rate derivatives are widely used to hedge the risk of interest rate fluctuations. Banks are important participants in this market. If a bank pays a fixed interest rate on its bond debt and it receives primarily a floating rate on its lending to households and businesses, interest income might be lower than interest expense. Banks can hedge against falling interest rates by entering into an interest rate swap (see box: Derivatives). Under the terms of the swap, banks pay a floating interest rate (Nibor) and receive interest payments at a fixed interest rate (the swap rate), thereby hedging the risk of fluctuations in the Nibor rate. Interest rate derivatives can also be used with Nowa as a benchmark instead of Nibor.

Interest rate derivatives can also be used for speculation in the fixed income market. The fixed rate reflects market expectations of the average Nibor or Nowa over the life of the swap. A participant who expects Nibor or Nowa to rise by more than the increase priced into the fixed rate can buy an interest rate swap in order to pay the fixed rate and receive payments at the Nibor or Nowa rate. If the participant's expectations are realised, the trade will be profitable.

Forward rate agreements (FRAs) are entered into primarily to take positions based on the expected three-month Nibor rate on a future date. A buyer of an FRA contract with three-month Nibor as the reference rate commits to paying the fixed FRA rate in exchange for three-month Nibor on a given future date (often an IMM date). If three-month Nibor rises by more than the increase priced into the FRA rate, parties that have agreed to pay the FRA rate stand to profit in the same way as if they had entered into an interest rate swap. There are also interest rate derivatives that can be used to take positions based on expectations of Nowa at a future date.

1.1.6.1 Participants in interest rate derivatives markets

Participants in interest rate derivative markets can be divided into two groups: market makers and end-users. Market makers are investment firms, including banks, offering to buy from or sell derivatives to end-users. Market makers make their profit from the difference between bid and ask prices. The difference between bid and ask prices reflects the price required by market makers for the risk they take on providing

binding quotes. End-users include financial institutions, businesses, the public sector, private individuals and institutional investors. An institution can be both market maker and end-user. This is the case for many of the banks that, in addition to setting prices, use derivatives to manage their risk or to take positions based on their perception of interest rate developments.

The government can use interest rate swaps as a part of government debt management. The average time to refixing of the government's debt portfolio (ie when an instrument is subject to a new interest rate) is reduced if the government enters into agreements to receive payments at a fixed interest rate and pay a floating interest rate. One of the reasons for using interest rate swaps is that reducing the average time to refixing can result in lower interest costs.

1.1.6.2 Trading venues and turnover

Interest rate derivatives can be traded both over-the-counter (OTC) and on a stock exchange, but in Norway the majority are OTC trades. OTC derivatives can be tailored or standardised. Standardised contracts, which are often tied to IMM dates, generate the largest turnover.

The most recent triennial survey of derivatives and FX market activity conducted by the Bank for International Settlements (BIS) shows that total turnover in OTC interest rate derivatives in the Norwegian market in terms of underlying nominal value in April 2022 was USD 114bn. Interest rate swaps and forward rate agreements (FRAs) accounted for USD 50bn and USD 63bn, respectively, of the total, while interest rate options accounted for under USD 1bn. (For more information on the BIS survey, see the Norges Bank website.)

1.2 Bond market

Bonds are standardised loans with original maturities of more than one year. A bondholder is entitled to repayment of the amount paid for the bond (face value, or principal), as well as interest at a predetermined fixed rate (coupon rate). The principal may be repaid in instalments on the coupon payment dates or, more commonly, at a predetermined time (the bond's maturity date).

The bond market is an organised market for issuing and trading bonds and can be divided into a primary and a secondary market. The primary market is a marketplace for participants needing long-term loans and investors seeking a vehicle for long-term saving. Bond issuers borrow money in the primary market by issuing bonds, which are bought by investors. Banks, mortgage companies, the government and businesses are the largest issuers in the bond market. The largest investor categories include life insurance companies, pension funds, mutual funds and banks. Bonds are marketable, and previously issued bonds can be resold between investors in the secondary market. The pricing of bonds that are regularly traded in the secondary market is an important source of

Bond yields and bond risk premiums

A bond yield is the compensation an investor demands to lend money to the issuer. In addition to expectations of future yields, the yield can contain risk premiums to compensate investors for various types of risk. The risk premium will usually be divided into maturity, credit and liquidity risk premiums. The size of the risk premiums reflects the level of uncertainty and how much compensation investors will demand to take on such uncertainty.

A maturity premium compensates the investor for the risk of unfavourable developments in interest rates while he or she holds the bond. For example, an investor who has purchased a two-year fixed-rate bond would be exposed to price risk/interest rate risk if the bond has to be sold in a year's time. A maturity premium can also arise because investors tie up liquidity over long periods when they invest in fixed-income securities with long maturities. To compensate for this, investors demand a positive liquidity premium to invest in fixed income instruments with longer maturities. A rising yield curve does not therefore necessarily reflect market expectations of higher short-term yields in the future. There are also other theories seeking to explain maturity premiums in the bond market. If investors have clear preferences for certain maturities, maturity premiums can vary in the different maturity segments.

A credit/default premium compensates the investor for losses on a bond if the issuer fails to make the agreed interest or principal payments.

A liquidity premium compensates the investor for the risk that selling a bond prior to maturity without reducing the price may prove to be more difficult than expected.

Since uncertainty concerning future developments normally tracks the rise in bond maturities, bonds with longer residual maturities normally have higher maturity, credit and liquidity premiums than corresponding bonds with shorter maturities.

Government bond yields and money market rates are widely used as reference rates for other bonds. In the Norwegian market, the most commonly used reference rate is the three-month money market rate Nibor (For more information on reference rates, see Section*1.1.5 Money market reference rates*). If the reference rate is a risk-free rate, the risk premium will be the investor's compensation for choosing a high-risk investment rather than a risk-free alternative.

A regularly traded bond provides an ongoing pricing of the risk associated with the bond, and bond yields are therefore an important indicator of risk and required rates of return in the market.

information about the risk associated with the issuer. (For further details, see box: Bond yields and bond risk premiums.)

In Norway, standardised loans with maturities shorter than one year are called short-term paper or Treasury bills. The short-term paper market is discussed in greater detail in Section *1.1 Money markets*.

1.2.1 Key concepts in the bond market

There are many different types of bond with varying maturity, yield and priority in the event of bankruptcy. This section provides a short review of some key concepts in the classification of bonds.

1.2.1.1 Maturity

Most bonds have maturities of one to ten years, but some have up to 20 to 30 years. Outside Norway, so-called "ultra-long" government bonds, with maturities of 40 to 100 years, have become somewhat more common. The term to maturity is decided by the lender based on the demand for financing. In determining a bond's maturity, the issuer will also take account of the investor's desired maturity. Bonds with redemption rights contain clauses that provide either the issuer or the investor with the right to require the bond to be redeemed before the maturity date. An issuer with the right to redeem the bond can choose to repurchase the bond from the investor at an agreed price. The redemption right for the bondholder provides a corresponding right to sell the bond back to the issuer at a price agreed upon in advance.

1.2.1.2 Interest rate

Bonds that regularly pay interest on their face value are called coupon bonds. Bonds that do not pay interest over the life of the bond are called zero-coupon bonds. When issued, the price of a zero-coupon bond is lower than the face value of the bond if the level of interest rates in the economy is positive, while the bondholder receives the bond's face value at maturity. Zero-coupon bonds are common internationally but less so in Norway. The most common bonds in Norway are a type of coupon bond called bullet bonds. Bullet bonds pay regular interest on fixed dates in the period to maturity and repay the entire principal at maturity.

The coupon rate that is paid during the life of a bond can be either fixed or floating. Floating rate bonds, referred to as floating rate notes, pay a short reference rate (typically three-month Nibor) plus a fixed risk premium (see box: Bond yields and bond risk premiums). Coupon rates on such bonds vary in line with the level of interest rates in the economy. A fixed rate bond pays a fixed nominal rate throughout its term. For such bonds, the interest rate at the time of issue will reflect issuer and bondholder expectations of the general level of interest rates and their compensation for the risk associated with the specific bond. Floating rate bonds are more common than fixed rate bonds in Norway, but all government bonds are fixed rate. Some bonds feature coupons that can be refixed over the life of the bond according to specified rules.

1.2.1.3 Priority

A bond is a liability item on the issuer's balance sheet. In the event of bankruptcy, different bonds have different priority for repayment. A bond's priority influences the degree of compensation investors will demand to invest in the bond.

Secured bonds are bonds backed by collateral in, and have preferential claims to, the cash flow of specific asset items on the issuer's balance sheet. In Norway, for example, covered bonds have a preferred claim on a defined selection of high-quality assets. Covered bonds are used extensively in the banking system to finance residential mortgages (see

box: Secured funding). Preferred claims or collateral in the form of specific assets reduce the risk that investors will not be repaid.

Unsecured bonds are called senior bonds. These are not backed by collateral in the form of specific assets but represent a general claim on the issuer.

Bonds with lower priority than senior bonds can be described as subordinated loan capital. Subordinated loan capital comprises various kinds of bonds. Non-preferred senior debt has the highest priority, followed by subordinated debt and finally preferred capital securities, including contingent convertibles (CoCos). Equity capital must absorb losses first if the borrower becomes insolvent.

Convertible bonds allow or require bondholders to convert bonds into shares in the same company at an agreed price. The criteria for when conversion can take place vary for different bonds. CoCos are often issued by large banks and can be contractually written down or converted into equity if the issuer's capital levels fall below a predetermined level or if the authorities so decide. With these kinds of bonds, bondholders risk incurring losses before equity capital is fully depleted.

Bonds can also be categorised according to the projects they finance. Green bonds are an example of loans that finance environmentally friendly projects. Oslo Børs has a separate list for green bonds. Projects are subject to an independent assessment before they can be listed on Oslo Børs' green bonds list. Globally, there are a number of different frameworks for classifying green bonds.

1.2.2 Norwegian bond issuers

The Norwegian bond market consists of bonds issued under Norwegian legislation. Issuers in the bond market are generally the same as in the money market. The largest issuers in the Norwegian bond market are the government, the banking sector, foreign nationals and non-financial institutions (Table 1.1). Local governments also obtain funding to some degree by issuing bonds.

1.2.2.1 The central government

The central government is the largest single issuer in the Norwegian bond market. The bonds it issues are called government bonds. The government also has Treasury bills outstanding, which are described in greater detail in Section *1.1 Money markets*. Government bonds are issued in NOK with a fixed coupon rate paid annually. The bonds are bullet bonds, ie the principal is repaid at maturity.

By comparison with other countries, the Norwegian government bond market is small. Governments normally borrow money to cover budget deficits and to strengthen their foreign exchange reserves. However, the Norwegian government has a positive net foreign asset position and also has a NOK liquidity reserve for daily payments. Nevertheless, the

Norwegian government does borrow a certain amount, to fund lending and provide capital injections for state banks and other government lending schemes. The government lending schemes that are funded by issuing government debt include the Norwegian State Education Loan Fund, the Norwegian State Housing Bank, the Norwegian Public Service Pension Fund residential mortgage programme and Export Credit Norway.

Government bonds are claims on the government, and the credit risk associated with these bonds is considered to be very low. Government bonds are also typically liquid, ie they can easily be sold without substantially affecting the market price. Government bonds therefore offer lower yields than corporate bonds. In many countries, government bond yields play an important role in the economy as reference rates for the valuation of other bonds and financial instruments (see box: Bond yields and bond risk premiums in Section 2). In Norway, the government seeks to distribute bonds across different maturities to provide reference rates for government bonds with maturities up to twenty years, thereby contributing to the efficiency of the financial market.

1.2.2.2 Local governments

Norwegian municipalities and counties are a smaller issuer category in the Norwegian bond market. The municipalities also borrow substantially through Kommunalbanken, which primarily obtains funding in bond markets abroad.

1.2.2.3 Banks and mortgage companies

The banking sector is comprised of banks and bank-owned mortgage companies and is the largest issuer category in the Norwegian bond market (see Table 1.1). A distinction is usually made between bonds that are secured on banks' assets and those that are not. Bonds that are not secured can be further classified based on their prioritisation (subordination) in the event the bank must be wound up or otherwise becomes subject to recovery or resolution by the authorities. Norwegian banks and mortgage companies also raise substantial funding in foreign bond markets (see box: Norwegian banks' and mortgage companies' bond funding from abroad).

Table 1.1 Issuer categories in the Norwegian bond market. Volumes outstanding at year-end, in billions of NOK

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Banks and mortgage companies	772	830	857	915	937	1 060	1 025	1 132	1279	1467
Central government	338	383	390	405	404	490	491	561	545	600
Local government	83	90	99	104	120	133	147	157	173	193
Norwegian non-financial firms	268	272	305	321	323	363	422	414	424	458
Other countries	248	268	284	296	323	351	425	442	485	487
Other	16	19	24	22	23	24	25	24	27	30
Total	**1 725**	**1 862**	**1 959**	**2 064**	**2 131**	**2 422**	**2 535**	**2 730**	**2933**	**3235**

Source: Statistics Norway

The bond market provides long-term funding for banks and mortgage companies with maturities that more closely match the maturities of their loans to households and businesses. In a global context, the Norwegian banking system has a comparatively high share of bond funding.

Banks have established specialised mortgage companies that have taken on some of their residential and commercial mortgages. These mortgage companies issue covered bonds backed by these mortgages. (For further details, see box: Secured funding.) At end-2024, the volume outstanding in the market for covered bonds issued in NOK was about NOK 1080bn, or approximately 35% of the Norwegian bond market as a whole. Most banks jointly own mortgage companies with other banks, while the largest banks own their own mortgage companies. Issuing covered bonds via jointly owned mortgage companies means that smaller banks also have access to a larger funding market. Most covered bonds in the Norwegian market are issued at a floating rate, as most residential mortgages funded by the covered bonds are floating rate loans.

1.2.2.4 Non-financial firms

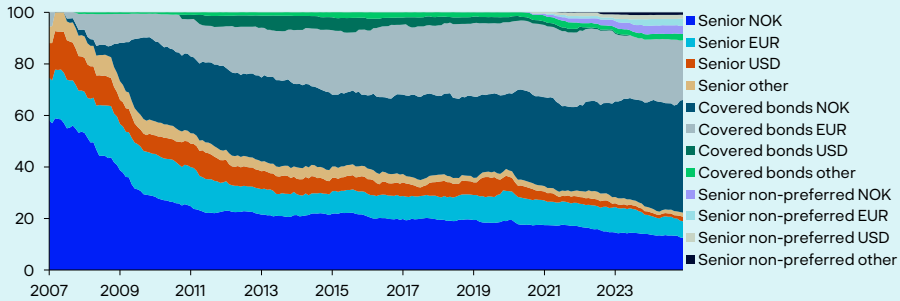
For non-financial firms, bonds are an alternative to bank loans. Most Norwegian businesses are too small to issue bonds, and nearly all credit to businesses is channelled via banks. In recent years, however, an increasing number of businesses have obtained funding in the Norwegian bond market, and there has been an increase in the volume of

Norwegian banks' and mortgage companies' bond funding from abroad

Norwegian banks and mortgage companies obtain a substantial share of their bond funding in foreign currency (see Chart 1.A). Most of the bonds are issued in EUR, but the banks also issue bonds in a large number of other currencies, primarily USD, SEK, CHF and GBP. Mortgage companies sell large volumes of covered bonds in foreign markets (see box: Secured funding).

Chart 1.A Bond debt of Norwegian banks and covered bond mortgage companies

By currency and type of bond. Percent



Sources: Bloomberg and Stamdata

Some of the foreign currency funding obtained by Norwegian banks is used to finance assets in the same currency. The remainder is converted and primarily used to finance lending in NOK. To conduct this conversion, banks utilise derivatives called foreign exchange (FX) swaps and interest rate swaps (see box: **Derivatives**). Banks use FX swaps to exchange FX funding for NOK today, while agreeing to reverse the transaction at an agreed time in the future. This provides banks with the NOK they require and ensures that the FX will be returned in time to pay back the bondholder at maturity. Banks use interest rate swaps to exchange the interest payments on fixed rate bonds for floating interest rate payments. Floating interest rates on funding reduces banks' risk, as most loans offered by banks carry floating interest rates.

Such FX and interest rate swaps can either last for the life of the bond or banks can roll over a series of shorter swaps. Covered bond mortgage companies utilise combined interest rate and FX swaps, called cross-currency basis swaps, which last for the life of the bond and are thus fully secured until maturity.

For a more detailed review of the banking system's bond funding abroad, see "Norwegian banks' foreign currency funding of NOK assets", *Staff Memo* 2/2014, Norges Bank.

bonds outstanding (Table 1.1). Norwegian regulations relating to the issuance of bonds are more concise and standardised than they are in many other countries, which has probably facilitated access to the Norwegian bond market for a greater number of small Norwegian firms and also some foreign businesses.

Businesses can have various motives for obtaining funding in the bond market. In some instances, a business can secure more favourable funding conditions in the market than through a bank, while in other cases the bond market provides funding opportunities for businesses that are not able to obtain bank loans.

While the Norwegian bond market was previously mainly used by firms in the power sector, sectors such as property, oil, gas and shipping now account for a significant share of the volume of bonds outstanding. The Norwegian bond market is characterised by a substantial proportion of high-yield bonds – ie bonds issued by businesses with high credit risk – which account for about half of corporate bonds outstanding. High-risk firms also include a number of foreign issuers. Since some of these businesses have revenue in foreign currency, a large share of the bonds is also denominated in currencies other than NOK, particularly USD.

Fixed rate bonds are more common in the corporate bond market than in the bank bond market. Fixed coupon payments provide businesses with more predictability. Asset-backed bonds are relatively common among businesses, particularly in the real estate, oil, gas and shipping sectors, where buildings, ships, oil rigs and other fixed assets serve as collateral.

1.2.3 Bond investors

The largest investor categories in the Norwegian bond market are life insurance companies, pension funds, banks, mutual funds and foreign investors (Table 1.2). Foreign investors are the dominant category in the government bond market and, compared with other countries, the share of bonds held by foreign investors is high in Norway.

Life insurance companies and pension funds have long-term obligations and have traditionally invested in bonds with long maturities and low credit risk. These participants are therefore substantial investors in the government bond, covered bond and municipal bond markets, although they also purchase bonds issued by businesses with low credit risk. In many cases, bonds are held to maturity. In recent years, the government bond and covered bond holdings of life insurance companies and pension funds have fallen. This may be related to these investors' nominal required rate of return, which has been higher than the yields on government bonds and covered bonds, which have been low. (Read more in Section *2.6 Insurance companies* and Section *2.7 Pension funds*.)

Banks also hold marketable government bonds, covered bonds and municipal bonds mostly as a buffer against liquidity outflows, so that they can sell some of these liquid holdings in the market in the event of a liquidity shortfall. Banks' holdings of government bonds and covered bonds have increased in recent years, reflecting new regulatory requirements for the composition and size of banks' liquidity portfolios. Both government bonds and covered bonds are among the securities that have been approved as liquid assets under the Liquidity Coverage Ratio (LCR) requirement (Read more in Section *2.3.6 Liquidity regulation*).

Mutual funds manage savings on behalf of their customers. The kind of securities the individual fund invests in depends on the kind of savings product they sell to their customers. Some pension funds only invest in government bonds, while others buy high-yield bonds. Mutual funds are the largest investor category in the bank bond market, and they also buy covered bonds and municipal bonds (Read more in Section *2.8 Mutual funds*).

Table 1.2 Investors in the Norwegian bond market. Holdings at year-end, in billions of NOK

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Banks and mortgage companies	397	453	479	542	536	734	662	792	842	875
Central government	92	105	109	98	91	120	144	165	142	148
Mutual funds	241	255	278	288	303	324	356	338	365	297
Life insurance companies and pension funds	350	380	396	402	396	411	424	447	478	499
Non-life insurance companies	72	62	65	61	59	60	58	60	63	71
Other countries	487	519	548	592	672	699	802	782	889	1202
Other	85	87	84	82	73	74	89	92	104	102
Total	**1 725**	**1 862**	**1 959**	**2 064**	**2 131**	**2 422**	**2 535**	**2 676**	**2884**	**3193**

Source: Statistics Norway

1.2.4 Primary bond market

The market for issuing bonds is called the primary market. It is a trading venue where participants with long-term borrowing needs can meet those seeking long-term investment. Bonds are issued by means of what is known as a book-building process (syndication) or through private placements. Government bonds are also issued at auctions. Issuers can increase the volume outstanding of a bond issue a number of times in the primary market. Such increases are called tap issues or reopenings.

1.2.4.1 Auctions

Norges Bank manages Norway's government debt under a mandate from the Ministry of Finance. Based on the government's estimated borrowing requirement and the Ministry of Finance's limits for government debt management, Norges Bank publishes the strategy and borrowing programme for the coming year each December. Auction dates and estimated borrowing volumes are regularly announced by Norges Bank in order to promote transparency in the market, which can result in lower borrowing costs for the government by reducing uncertainty among investors.

Since 2018, new government bonds have been issued by syndication. Existing government bonds are reopened in uniform price auctions on Bloomberg's auction platform. In uniform price auctions, all successful bidders in an auction pay the price quoted by the lowest bidder, unlike multi-price auctions, where bidders pay the price they submitted. In the auctions, bidders submit bids for the quantity they want to invest (volume) and the price they are willing to offer. A high price means a low yield for the government. The bids are ranked in order of price, from highest to lowest.

Government bond auctions were previously open to anyone. Since 2006, only selected banks, called primary dealers, are authorised to participate directly in the auctions. Norges Bank Government Debt Management has entered into an agreement with primary dealers to give them the exclusive right and obligation to participate in government bond auctions. However, they are not obligated to deliver a specific bid volume per auction. The primary dealers accept bids on behalf of customers wishing to invest in the Norwegian government. Alternatively, primary dealers can buy the securities themselves and then resell them to interested investors in the secondary market.

1.2.4.2 Book-building process

Bonds are often issued through what is referred to as a book-building process. Book building begins with an issuer in need of funding. This issuer contacts one or more underwriters. Issuers normally indicate the amount of funding they need and the price they are willing to pay. The underwriter assists the issuer in preparing the bond issue. The underwriter contacts potential investors and "builds a book" in which investors indicate the amount they want to buy and the price they are willing to pay. A single bond can involve multiple investors. The issuer can

adjust the volume and price of the bond depending on demand in the market. Bonds are commonly oversubscribed, but when they are undersubscribed, the underwriter may be obliged to buy the difference between what the issuer wishes to sell and the other investors wish to buy. The underwriter can also offer derivatives to issuers and investors so that they can alter the fixed rate or convert to another currency. The entire process is normally conducted over a short space of time and the issuer pays the underwriter for these services. Issuers often advertise bond issuances in advance. This is especially common if the issuer is not known to the investors.

1.2.4.3 Private placements

Smaller bonds can be issued through what are referred to as private placements, where the bonds are sold to a few investors without advertising. In many cases, there is only one investor who buys the entire placement and who may have initiated the transaction. In such cases, the issuer will often adapt the bond's size, maturity and other terms to suit the investor. An issuer may prefer a private placement to market funding in a turbulent market or because the price will generally be lower when there is an investor who wants a special issue.

1.2.5 Secondary bond market

Some investors buy bonds to hold to maturity, while others will be interested in the possibility of reselling the bonds to another investor before they mature. The market where investors purchase bonds (and securities in general) from other investors is called the secondary market.

There are different forms of bond trading. Listed bonds in Norway are available on the Oslo Børs electronic system for direct trading between investors. This form of trading is not widely used. A more common form is over-the-counter (OTC) trading, where buyers and sellers contact one another. A bond broker often acts as intermediary for these trades and helps investors find counterparties for the transaction. Brokers can themselves also act as counterparty until they find another investor, a process referred to as market-making. Buyer and seller both submit ownership transfer information to the Norwegian Central Securities Depository (VPS), which checks the information for accuracy. Trades are normally settled two days after they have been reported to the VPS (Read more in Section *3.3 Securities settlement (VPO)*).

Bonds that are expected to be widely traded in the secondary market are often listed on the stock exchange. Bonds listed on the exchange can also be traded electronically on the exchange's electronic trading platform. Some investors require the bonds they invest in to be listed on the exchange. Listing provides issuers with access to a wider investor base. It can also improve the liquidity of the securities, leading to lower liquidity premiums for issuers (Read more on liquidity premiums in box: **Bond yields and bond risk premiums**). Bonds can also be registered in alternative trading venues, such as Oslo ABM (Alternative Bond Market), which is subject to less extensive reporting requirements.

1.2.5.1 Secondary market for government securities

Primary dealers are obligated to quote firm bid and ask prices for a minimum volume of all the government securities outstanding on the Bloomberg E-Bond trading system[1]. Primary dealers thus act as government securities market makers. This improves liquidity in the government securities market and ensures that updated information on effective government bond yields is available at all times. Liquidity and reliable information are important for government bond yields to function as reference rates and can reduce the government's borrowing costs. Most are agreed upon directly between the trading parties. Primary dealers can borrow bonds from the government in order to be able to quote ask prices at any given time. The government can lend government securities to primary dealers on request for up to a week at a time. The government has its own stock of all its securities for this purpose. Government securities trading primarily takes place OTC and on organised trading venues such as Bloomberg, Eurex Bonds and Tradeweb.

1.2.5.2 Secondary market for other bonds

For other bonds, most trading also takes place in the secondary market via bond brokers. Brokers act as market makers for government bonds as well as other securities. Brokers often quote indicative prices, ie the prices they might be willing to buy or sell the bonds for. Customers must make contact to obtain precise price quotes and to execute trades.

Both Norwegian covered bonds and other bonds can be listed on Oslo Børs, but the vast majority of trades take place OTC. In 2014, Oslo Børs introduced a reference list for Norwegian covered bonds that meet certain requirements for size and investor base diversity. For the bonds on this list, indicative prices are quoted continuously through the day. The reference list is intended to improve the liquidity of the securities and to promote them to investors.

1.2.6 Other bond market participants

Credit rating agencies assess the credit quality of issuers and their bonds and issues credit ratings on a rating scale. Credit ratings can be regarded as an assessment of the probability of (security for) repayment and thus gives an implicit picture of expected losses. Market pricing of risk associated with issuers and bonds is therefore closely linked to the credit ratings they achieve.

A single bond issue often involves a large number of investors. A trustee is usually appointed to act on behalf of all the bond investors and promote their interests vis-à-vis the issuer. In Nordic bond markets, the Nordic Trustee company often acts as trustee. The presence of a trustee is important in that it provides assurance to bond investors that their rights are being safeguarded.

1 Detailed terms and conditions for primary dealers are available on Norges Bank's website.

1.3 Foreign exchange

Currency is the generic term for a country's monetary unit. The Norwegian krone (NOK) is Norway's currency. The foreign exchange (FX) market is the market for the purchase and sale of currencies. The exchange rate is the price of one currency in terms of another and is decided in the FX market. Exchanging one currency for another or using traveller's cheques account for a very small share of the activity in the FX market. In practice, most currency exchange takes place when deposits in one national currency in a banking system (for example NOK in a Norwegian bank) are transferred and deposited in another currency in this currency's banking system (for example Swedish krona (SEK) in a Swedish bank). The way currency trades are settled is explained in Section *1.3.3 Trading structure and turnover in the FX market*. There are certain risks associated with the settlement of currency trades, where time differences between national settlement systems involved in the trades can be considerable. This is discussed in Section *3.2.3 Foreign exchange settlement risk and the CLS foreign exchange settlement system* system. A list of standard currency codes is available (see box: **Currency codes (ISO 4217)**).

1.3.1 FX market

In terms of turnover, the FX market is the world's largest financial market. It is open almost every day, 24 hours a day. There is not one centralised market, but a worldwide collection of trading venues. For NOK, most trades take place abroad, in, among other places, London, New York, Copenhagen and Stockholm. The FX market is one of the markets subject to fewest regulations and requirements imposed by the authorities.

The exchange rate expresses the terms of trade between two different currencies, often called a currency cross or a currency pair. The rate is given as the price of one unit of a currency, referred to as the base

Currency codes (ISO 4217)

ISO 4217 is an international standard for currency codes established by the International Organization for Standardization (ISO). The codes were introduced in 1978. The standard is based on three letters and has made it possible to standardise data processing for different currencies as special symbols such as $ (US dollar), € (euro) and £ (pound sterling) were thereby rendered superfluous. The first two letters are based on the ISO 316-1 alpha-2 country codes and designate the country. These codes are the same as those used for websites. The last letter designates the currency type. For the Norwegian krone, the code is NOK, NO for Norway and K for krone. In the same way, the code for the US dollar is USD and the code for the pound sterling is GBP. An important exception is the currency code for the euro, which is EUR.

currency, in terms of another, referred to as the quote currency. For the euro, the European Central Bank (ECB) recommends using EUR as the base currency, ie expressing the value of one euro in foreign currency.

An exchange rate is determined by supply and demand in the FX market. Supply and demand for foreign currencies are determined by transactions related to international trade in goods and services, interest accruals and other payments between countries, and international capital flows such as foreign investment or debt. Speculative capital transactions account for a substantial share of the transactions in the FX market. Traditional models seeking to explain exchange rate developments over the somewhat longer term are often based on developments in macroeconomic variables, such as interest rates, inflation and output. Over the short term, exchange rates are affected by a number of technical market conditions.

1.3.2 FX market instruments

1.3.2.1 Spot trades

The most common FX market transactions are spot exchanged trades, which are the purchase or sale of currency for immediate delivery. For most currency pairs, spot trading means that settlement will take place two business days after the trade has been agreed, although some currency pairs also settle the day after the day of the trade.

1.3.2.2 Forward trades (outright forwards)

It is also possible to enter into agreements to settle at a later date. Such contracts are called outright forward contracts. The exchange rate used in an outright forward contract is called the forward exchange rate, which is the spot rate adjusted for the interest rate differential between the two currencies during the relevant maturity. This adjustment is either called the forward premium or forward discount, depending on whether the interest rate differential is positive or negative. The designation of forward trades as “outright” indicates that, unlike swap agreements, they will not be reversed at a later date.

1.3.2.3 FX derivatives

Derivatives are instruments whose value is determined by fluctuations in the value of an underlying asset. The most commonly used derivatives in the FX market are FX swaps and FX options (see box: Derivatives).

FX swaps are widely used by banks to manage liquidity in both NOK and foreign currency. Banks agree to exchange one currency for another for a short or long period. The process is reversed when the forward contract is settled. Turnover in the FX swap market is highest for contracts with maturities of up to one year. As FX swaps carry no exchange rate risk for banks, they are useful for parties wishing to hedge for exchange rate movements.

FX options are often used to hedge for large undesirable exchange rate changes but are also used to take speculative positions in the FX market.

FX options are primarily traded OTC (see box: Turnover in securities: Exchange-traded and OTC).

1.3.3 Trading structure and turnover in the FX market

Banks have traditionally played an important market maker role in the FX market, by quoting firm bid and ask prices for trades. Previously, the FX market was largely based on telephone communication between banks. Voice brokers were important participants in the market and contributed to a well-functioning market by communicating prices between market makers via open landlines. Today, a substantial share of FX trading takes place on electronic trading platforms. In recent years, other non-bank participants, ie large financial market participants such as hedge funds and other high frequency traders (HFT), have also begun to act as market makers in the FX market. These participants can trade via large international banks using special counterparty codes and using bank credit lines, for which banks charge fees. Such participants will often base their FX trades on algorithms.

An algorithm is a computer program used to quote prices or make investment decisions in financial markets. An example of this is pricing algorithms that automatically quote a bank's bid and ask prices up to a certain volume. Algorithms can also be programmed to divide up large transactions into many small trades within a given period in order to limit exchange rate effects. In addition, they can be used to identify exchange rate trends or can be programmed to buy or sell foreign exchange if key financial figures differ from market expectations. Electronic Broking Services (EBS) was the first platform to facilitate algorithmic trading in the spot market. Algorithms can change prices a large number of times per second. Electronic trading venues such as LSEG (Refinitiv) and EBS have decided that tradable prices quoted by market makers cannot be withdrawn until a certain amount of time has passed, for example one second, even if no trades are made at that price. This is referred to as the minimum quote life.

1.3.3.1 Electronic FX trading

Electronic FX trading has gained ground since the end of the 1980s, when Reuters offered an electronic system where banks could ask for prices (exchange rates) for various currency pairs. Systems were eventually launched where banks could submit how much they were willing to buy or sell at a given price. The company was later renamed Refinitiv and subsequently LSEG and is a major international trading platform for trades in currency pairs such as GBP/USD, EUR/GBP, AUD/USD, NZD/USD, USD/CAD, Nordic currencies (EUR/ NOK, EUR/SEK and EUR/DKK) and several emerging economies' currencies. To compete with Reuters, a number of major international banks jointly established Electronic Broking Services (EBS) in 1990. EBS Market, currently owned by CME Group, is now the most widely used platform for the currency crosses EUR/USD, USD/ JPY, EUR/JPY, USD/ CHF and EUR/CHF. Previously, the market was primarily shared between Reuters and EBS, but a large

Table 1.3 Average daily turnover in Norway's FX market in April. In billions of NOK and percent of total

	1998	2001	2004	2007	2010	2013	2016	2019	2022
Spot	22.5 (33.6%)	31.1 (26.4%)	18.9 (18.9%)	20.8 (10.8%)	13.6 (10.4%)	15.9 (12.8%)	112.0 (33.7%)	13.4 (5.4%)	22.6 (10.4%)
Forwards	44.1 (65.8%)	85.8 (72.8%)	80.7 (80.7%)	170.7 (88.7%)	114.5 (87.2%)	106.7 (85.8%)	219.0 (65.8%)	239.17 (93.1%)	193.94 (88.9%)
-of which outright	1.2 (1.8%)	3.8 (3.2%)	3.2 (3.2%)	14.5 (7.5%)	10.8 (8.2%)	3.2 (2.6%)	5.4 (1.6%)	4.4 (1.7%)	6.3 (2.9%)
-of which FX swaps	42.9 (64.0%)	82.0 (69.6%)	77.5 (77.5%)	156.2 (81.2%)	103.7 (79.0%)	103.5 (83.2%)	213.6 (64.2%)	234.8 (91.4%)	187.6 (86.0%)
Cross swaps	-	0.2 (0.1%)	0.1 (0.1%)	0.3 (0.2%)	2.4 (1.8%)	0.9 (0.8%)	0.6 (0.2%)	3.1 (1.2%)	1.1 (0.5%)
FX options	0.4 (0.6%)	0.9 (0.7%)	0.3 (0.3%)	0.7 (0.3%)	0.8 (0.6%)	0.7 (0.6%)	1.0 (0.3%)	0.5 (0.2%)	0.5 (0.2%)
Total	**67.0 (100%)**	**117.9 (100%)**	**100.0 (100%)**	**192.5 (100%)**	**131.4 (100%)**	**124.3 (100%)**	**332.7 (100%)**	**256.9 (100%)**	**218.2 (100%)**

Sources: BIS and Norges Bank

number of different electronic FX trading platforms have since been established. These are multibank platforms, where multiple banks quote prices, or single-bank platforms. The largest multibank platforms are LSEG FXAll, 360T and Currenex. Bloomberg also offers its customers the opportunity to trade FX electronically via the FXGO platform.

In order to facilitate standardisation and increase efficiency in the exchange of confirmations, payment orders and account information between financial institutions, SWIFT (the Society for Worldwide Interbank Financial Telecommunications) was established in 1973 by 239 banks from 15 different countries. In 2022, more than 11 000 financial institutions in over 200 countries used the system and more than 8bn messages were sent via SWIFT. The SWIFT main office is in Brussels.

1.3.3.2 Turnover in NOK

As the FX market is not a centralised market venue, acquiring a complete overview of all its activities is difficult. The BIS has conducted triennial surveys of global FX market activity since 1989 (see the BIS website for more information).

The BIS survey is extensive, and close to 1200 financial institutions across 52 jurisdictions participated in the 2022 survey. Table 1.3 shows average daily turnover in the Norwegian FX market according to survey data. Globally, turnover in NOK is far higher[2] (read more on the Norges Bank website). Some turnover is in the spot market but most is in the forward market. Virtually all trades in the forward market involve FX swaps. FX options and cross currency basis swaps account for a very small portion of turnover.

2 The figures in the table show average daily turnover in the NOK market carried out geographically in Norway, which increasingly accounts for a smaller share than carried out abroad. For example, turnover in NOK in the domestic spot market accounted for less than 10% of the turnover in NOK in the global spot market.

In the NOK spot market, turnover has traditionally been highest in EUR, while in the NOK FX swap market, turnover has been highest against USD. If a Norwegian customer wants to buy USD with NOK, the customer's bank will probably first use NOK to buy EUR and sell EUR for USD simultaneously. The transaction is conducted in this manner because these markets are somewhat more liquid than the market for USD purchased with NOK. Globally, spot turnover is highest in USD, EUR and JPY against other currencies. In the FX swap market, USD is the main benchmark currency.

1.3.3.3 Reference exchange rates

Oslo Børs has listed official exchange rates in Norway since the stock exchange opened in 1819 and until 1 September 2001, when Norges Bank took over. Exchange rate listing is now normally undertaken daily at 2.15 pm. The rates are not binding and are only meant to provide a snapshot of the FX market. Starting on 1 July 2016, the European Central Bank (ECB) took over the quoting of exchange rates and the publication time was then moved from 2.30 pm to around 4 pm. The background for this is the ECB's view that the rates are for informational purposes only and should not be used for transaction purposes (see ECB press release of 7 December 2015).

Exchange rates fluctuate considerably over the course of a day, and official exchange rate listings at fixed times are needed in order to measure the value of FX positions. A commonly used official benchmark exchange rate is the WM/Refinitiv Fix, which is fixed daily at 4 pm GMT. This rate is often used by international banks and managers in portfolio valuation. To make it more difficult to manipulate the benchmark, the fixing window, ie the period in which price developments are used to calculate the fix rate, has been widened to 2½ minutes before and after the time of publication. For most currency pairs, turnover data from the LSEG Matching, EBS and Currenex trading platforms are used to calculate the WM/Refinitiv fixes.

1.3.4 FX for travel and holidays

Norwegian tourists today largely use international debit or credit cards such as VISA, MasterCard, Diners or American Express to pay for goods and services when they are abroad. However, there will still be a need for cash in local currency to pay various expenses. In recent years, Norwegian banks have scaled back FX purchase and sale facilities at their branches and instead redirected customers to ATMs that dispense the most common currencies. The purchase and sale of foreign exchange for travel and holidays in Norway today largely takes place at exchange bureaus in the largest cities and at airports and train stations.

1.4 Equities

Equities are shares in a business. The market value of all the shares in a business (its market capitalisation) represents the market value of its equity capital. Equity markets are markets for issuing new equities

(primary market) and for trading equities (secondary market). Equity markets distribute capital and spread risk among investors and businesses/projects.

1.4.1 Corporate structure and funding

Entrepreneurs starting a business must invest their own capital or raise capital from other investors. Sufficient capital is necessary for both start-ups and existing companies to obtain loans from banks and/or markets. Equity capital and any loans, referred to as debt or debt capital, are used to cover establishment and development costs and to fund machinery, goods and other equipment a business needs for its daily operations.

Fresh capital can be raised by issuing equities, or ownership shares, in the business. The most common corporate structure is the limited liability company, where shareholders' liability is limited to paid-in share capital. Shareholders are otherwise not liable for the company's debt or other obligations. Norwegian limited liability companies can either be public (ASA) or private (AS) and are regulated by the Norwegian Public Limited Liability Companies Act and the Limited Liability Companies Act (electronic versions not available), respectively. This legislation includes provisions relating to accounting, dividend distributions and share capital write-downs, which are intended to protect a company's creditors. An AS requires a minimum of NOK 30 000 in share capital, while an ASA requires a minimum of NOK 1m. Requirements are higher for ASAs because these are companies with a large number of shareholders and/or that wish to be able to raise capital from the general public. Listed limited liability companies must be ASAs. Boards of ASAs are required to be gender-balanced, but in an AS, one and the same person may be the company's sole shareholder, board member and employee. Read more in *Appendix 3: Important financial system legislation*.

The accounting profit or loss from the company's activities is added to (or deducted from) equity. Earnings therefore influence the value of the shares. Earnings also often set an upper limit on dividends that can be paid to shareholders. The portion of earnings that is not paid out as dividend can be used to repay debt or finance new projects. When the business posts a loss, equity is reduced and the company can go bankrupt if the financial statements show that the value of equity is zero. In the event of bankruptcy, once all other claimants have been satisfied, any remaining assets are distributed to the shareholders – ie debt capital is given priority over equity capital. Thus, equity investments involve higher risk than investments in debt capital (eg bonds). Greater risk implies that equity capital should be expected to yield higher returns than debt capital over time. A high equity ratio improves a company's ability to survive periods of loss and makes it easier to raise new debt capital. Companies operating in an industry where earnings are highly volatile normally have higher equity ratios than those operating in industries where earnings are more stable.

1.4.2 Equity markets

For shareholders holding shares as a financial investment, buying and selling shares easily will be important. Shares in an ASA are therefore often traded on a stock exchange or other regulated trading venue. Most limited liability companies are nevertheless small and unlisted, with few shareholders and infrequently traded shares. Equity markets provide a way of transforming illiquid investments in fixed assets, expertise and specialised production equipment, into more liquid holdings for investors. The purchase and sale of a few shares does not normally affect the share price but trading large volumes of shares over a short period may influence the share price. The problem of executing transactions of the desired size without affecting share prices is referred to as market liquidity risk (see box: Liquidity).

Investors as a group conduct a form of continuous indirect monitoring of companies' operations via the price of new issues (primary market) or via the ongoing price discovery process in the secondary market (trading on the stock exchange). For investors to be willing to buy shares, the subscription/market price must be attractive enough for the company's expected earnings to satisfy buyers' required rate of return adjusted for the risk that earnings will not be as expected (risk-adjusted return). Companies/projects with low profitability or poor management are "punished" by lower share prices. Listing on the stock exchange contributes to diversification of ownership, and profitability assessments of projects and management are therefore conducted by a number of investors. For assessments to be as accurate as possible, companies are required to submit reliable information, such as periodic financial reporting. Stock exchanges and legislators have an important role in ensuring that appropriate regulatory frameworks are in place. This includes the requirement that all relevant information about listed companies is made available to market participants in such a way that all participants receive the information at the same time (see *Appendix 1: Regulation of financial markets and trading venues*).

As it can be costly to promote a company/project to investors in the equity market, small companies/projects have in practice little direct access to capital from equity markets. An alternative source of equity capital has emerged: crowdfunding (For more information on crowdfunding, see Section *2.9.4 Crowdfunding*).

Equity markets allow investors to diversify their investments across companies and sectors, and thus reduce the risk associated with individual companies. At the same time, risk is distributed in such a way that the highest risk will be borne by the investors with the highest capacity and appetite for risk. In well-functioning equity markets, it is also easier for companies to specialise, and risk can thereby be reduced by diversifying investments. (Read more about diversification in box: Diversification in Section 2.)

An efficient and secure system for registering the ownership of securities, known as a central securities depository (CSD), reduces the costs associated with investing in securities (Read more about CSDs in Section *3.3 Securities settlement (VPO)*).

1.4.3 Size of the Norwegian equity market

At end-2024, the market value of listed equities, registered with Euronext Securities Oslo (ES-OSL), the Norwegian CSD, was NOK 3 679bn. Most Norwegian limited liability companies are neither listed nor registered with ES-OSL. Oslo Børs ASA is wholly owned by Euronext Nordic Holding AS and operates venues for trading equities and equity certificates (see next section), fixed income products (bonds, short-term paper and Treasury bills) and derivatives. There are three venues for trading equities at Oslo Børs: Oslo Børs, Euronext Expand and Euronext Growth Oslo. Large, long-established companies with wide shareholder bases are listed on Oslo Børs. Euronext Expand (previously Oslo Axess) has somewhat less stringent listing requirements than Oslo Børs and comprises a large number of young companies. Euronext Growth (previously Merkur Market) was established in 2016 and is aimed at small and medium-sized companies as well as large companies that do not aim to be fully listed on regulated exchanges. The admission process for Euronext Growth has been designed to be quicker than for Oslo Børs and Euronext Expand, and its admission requirements are also lower. In May 2025, 208 equities were listed on Oslo Børs, while 16 equities were listed on Euronext Expand and 93 equities on Euronext Growth.

1.4.3.1 Other equity instruments

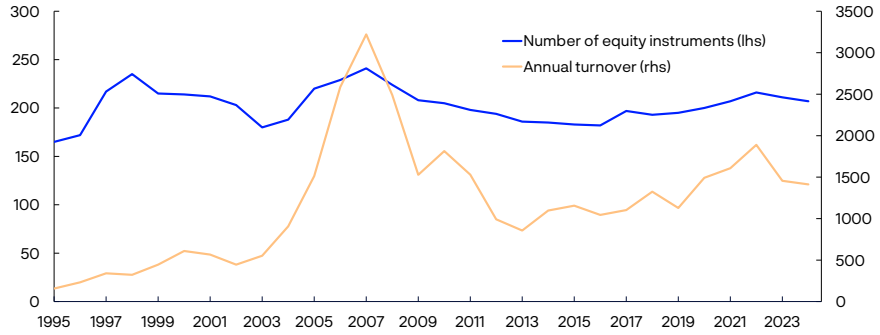
Equity certificates are equity instruments issued by savings banks (for more information, see box: Evolution of the Norwegian banking sector in Section 2). There are clear similarities between equity certificates and shares, and both are taxed in the same manner. The primary difference is that equity certificates do not confer full ownership rights to a bank's equity capital and that the composition of savings banks' governing bodies is subject to specific requirements. A number of savings banks have issued equity certificates, many of which are also listed on Oslo Børs. Oslo Børs has established an Equity Certificate Index (OSEEX), which includes all listed equity certificates.

Shares and equity certificates are both equity instruments. Chart 1.5 shows developments in equity instrument turnover on Oslo Børs and in the number of listed equity instruments since 1995.

The turnover rate is influenced by price developments for equity instruments. The higher the price level, the higher the turnover rate, all else equal. When online trading of equities became possible with the introduction of a new electronic trading system on Oslo Børs in 1999, transaction costs were reduced substantially, especially for small investors. The annual number of trades and the turnover rate increased sharply until the onset of the international financial crisis in 2008. The number of trades has also remained fairly high since the crisis, possibly

Chart 1.5 Turnover and number of equity instruments listed on Euronext Oslo Børs

Number of equity instruments at year-end. Annual turnover in billions of NOK



Source: Euronext Oslo Børs

influenced by increased algorithmic trading. Turnover has nonetheless declined, and increased competition for trading in Norwegian equities from alternative market venues and foreign stock exchanges may have contributed to the lower turnover.

1.4.4 Issuers

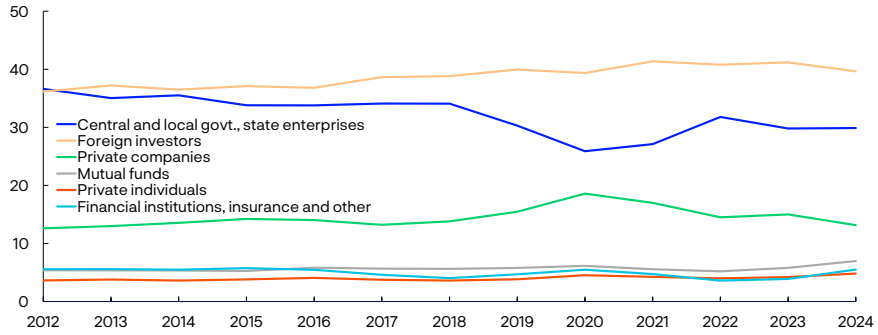
Chart 1.5 shows developments in the number of equities and equity certificates listed on Oslo Børs. The number of new companies on Oslo Børs may be affected by the business cycle. It may be easier to raise capital in the market when the economic outlook is favourable. Companies aiming to be listed on the stock exchange must meet listing requirements in terms of size, company history and spread of share ownership. A large number of owners increases the likelihood that the company's shares will be regularly traded on the exchange. The most common reason why a company is delisted from Oslo Børs is that it is taken over by another company. Companies that go bankrupt will also be delisted. In some cases, majority shareholders also want to delist a company from the stock exchange; delisting of shares for this reason is subject to special rules that aim to protect the interests of minority shareholders.

The sector composition of companies listed on Oslo Børs is markedly different from that of other countries. The Oslo Børs energy sector index (primarily oil and offshore companies) comprises a particularly large number of companies.

1.4.5 Investors

The Norwegian government, foreign investors and private sector businesses are the largest shareholders on Oslo Børs (Chart 1.6). Norwegian private individuals own a small share of equity instruments on Oslo Børs.

Chart 1.6 Shareholdings in companies on Euronext Oslo Børs
At year-end. Percent



Source: Statistics Norway

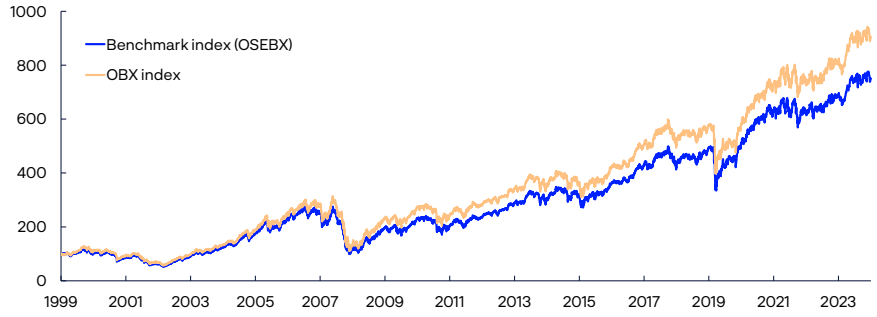
1.4.6 Equity indexes on Oslo Børs

Equity indexes are designed to measure the value of the equity market as a whole and of different market segments. The most widely used equity indexes are called price indexes and total return indexes. Changes in both share prices and dividends received are used to compute total return indexes, and the weights of the equities in the index are changed daily based on price developments. Price indexes are similar, but dividends received are not included. Equity indexes simplify the comparison of returns in the equity market with those from alternative investments such as bonds and bank deposits.

The Oslo Børs Benchmark Index (OSEBX) is an index containing a representative selection of all the shares listed on Oslo Børs. The selection is based on share turnover and diversification across groups of industries. Oslo Børs revises the index biannually and implements changes in March and September each year. The OSEBX equity weights are free-float adjusted, ie equities that are not expected to be traded, such as the government's shareholdings and the strategic holdings of shareholders with controlling influence are not included when shares in the index are weighted.

The Oslo Børs index (OBX) comprises the 25 most traded equities on Oslo Børs. The composition of equities in the index is revised biannually. The OBX index is intended to consist of marketable equities that appropriately reflect the equity market on Oslo Børs. The OBX index serves as an underlying index for trading in listed derivatives (options and futures) on Oslo Børs (see box: Derivatives). In derivatives trading, it is important to be able to buy and sell the various OBX index components (the underlying securities). Chart 1.7 shows cumulative total return in the OSEBX and the OBX index. The chart shows that since 2000, the 25 most traded equities have shown somewhat higher returns than a more broadly composed index.

Chart 1.7 Main Norwegian equity market indexes
Index. 31 December 1999 = 100



Source: Bloomberg

1.4.7 Equity-related derivatives

The characteristics of different types of derivatives are explained in box: Derivatives. Exchange-traded derivatives are standardised with regard to the underlying instrument and terms of delivery. On Oslo Børs, options and futures on the OBX index, and options, futures and forwards for the most liquid equities are traded. Listed derivatives are settled via a clearing house, which acts as central counterparty (CCP) for both buyer and seller (see Section *3.3 Securities settlement (VPO)*).

Two widely used key figures for activity in the derivatives market are the number of traded contracts and the total value of these contracts. The annual number of standardised derivatives contracts on Oslo Børs rose substantially in the period 2002–2008 but has since edged down as a result of a decrease in the number of index derivatives.

2. Financial institutions

2. Financial institutions

Financial institutions function as intermediaries between economic agents. Their main tasks are to enable businesses and private individuals to borrow money and invest savings, execute payments, handle cash and assess, redistribute and price risk. The role of financial institutions in money and capital markets is described in Section *1. Financial markets*. The Financial Institutions Act lists the entities that can be defined as financial institutions (see *Appendix 3: Important financial system legislation*).

Norges Bank is the central bank of Norway, and Section *2.1 Norges Banks's balance sheet and the financial system* provides an overview of Norges Bank's primary tasks. Banks constitute the largest and most important category of financial institution. They have the exclusive right to accept deposits from the public and account for the largest share of lending. Banks are significant participants in the payment system since deposits are used as means of payment. Private individuals and businesses hold accounts in banks in order to receive or pay wages and bills. Banks also lend to private individuals or to businesses. (see Section *2.3 Banks* for more information on the role and operations of banks).

Financial Institutions Act

The Act on financial institutions and financial groups (Financial Institutions Act) is intended to promote financial stability, including ensuring that financial institutions operate in an appropriate and sound manner. The Act lays down requirements for the establishment, operation, crisis resolution and wind-up of financial institutions. Under the Act, the following entities are considered financial institutions:

- banks
- mortgage companies
- finance companies
- insurance companies
- pension undertakings
- holding companies of financial groups

Undertakings authorised to operate as payment institutions or e-money institutions, unless otherwise prescribed by provisions of, or pursuant to, the Financial Institutions Act are also considered financial institutions.

Investment firms, management companies for mutual funds, state banks, public funds and Norges Bank are not considered financial institutions. Nevertheless, some of these entities will be discussed in this section.

Table 2.1 Types of financial institutions in Norway. At 31 December 2024

	Number	Loans (NOK bn)[1]	Total assets	Total assets (in percent of GDP)
Banks (excl. branches of foreign banks)	99	2 644	5 513	106%
Branches of foreign banks	16	744	1 697	33 %
Mortgage companies (incl. branches of foreign banks)	29	2 703	3 185	61%
Finance companies (incl. branches of foreign banks)	37	184	208	4%
State lending institutions	3	480	495	10%
Life insurance companies (excl. branches of foreign companies)	10	125	2 485	48%
Non-life insurance companies (excl. branches of foreign companies)	50	2	274	5%
	Mrd. Kr			
Bond and short-term paper debt outstanding	3 382			
Issued by the public sector and government-owned companies	1070			
Issued by banks	404			
Issued by other financial institutions	1098			
Issued by other private companies	319			
Issued by foreign entities	487			
GDP Norway (2024)	5 197			
GDP (mainland) (2024)	4 050			

1 Retail lending only, ie lending to foreign customers is excluded.

Sources: Finanstilsynet, Statistics Norway and Norges Bank

Mortgage companies may also lend money but may not accept deposits (see Section *2.4 Mortgage companies*). Mortgage companies have taken over a large share of residential mortgage financing since 2007, when a new type of mortgage company issuing covered bonds was authorised. Insurance companies offer life insurance, non-life insurance and credit insurance (see Section *2.6 Insurance companies*). Together with pension funds, they channel savings and manage risk (see Section *2.7 Pension funds*).

Table 2.1 provides an overview of various types of financial institution in Norway grouped by size together with an overview of financial institutions' issuance of certificates and bonds in Norway. Issuance is also undertaken by financial institutions outside Norway.

2.1 Norges Banks's balance sheet and the financial system

The main items in Norges Bank's balance sheet are presented in Table 2.2. On the asset side are claims in NOK and in foreign currencies. On the liability side is central bank money in the form of deposits and banknotes and coins, in addition to equity. Many of Norges Bank's primary tasks are related to changes in the balance sheet.

Norges Bank is the bankers' bank. In practice, this means that banks hold accounts at the central bank and use them to settle payments to each other by transferring funds between their accounts at Norges Bank (see box: Liquidity in Section 1. Norges Bank conducts monetary policy and

Table 2.2 Norges Bank's balance sheet

Assets	Equity and liabilities
Loans to banks Claims on the IMF Foreign exchange reserves	Deposits from banks Deposits from the IMF Government deposits Banknotes and coins Equity
GPFG	Government deposits. GPFG

sets the interest rate on banks' deposits in Norges Bank. This rate forms the basis for the interest rate level in Norway (see box: Norges Bank's liquidity management and overnight lending rate in Section 1). Banks are also able to borrow from Norges Bank. Moreover, the central bank is the lender of last resort, which means that it is responsible for ensuring that solvent banks hold sufficient liquidity even in a crisis situation and shall, if necessary, provide emergency liquidity assistance (ELA). For more information, see Norges Bank's website for more information on ELA. Norges Bank requires collateral for all types of loans and does not assume credit risk. Norges Bank decides the level of banks' time-varying capital requirements and issues advice on the level of capital requirements related to banks' systemic risk.

Norges Bank is also the government's bank, which means that the Treasury single account system is maintained by Norges Bank. In addition to assets related to more traditional central bank operations, the asset side of Norges Bank's balance sheet also includes the securities holdings in the Government Pension Fund Global (GPFG). Offsetting these foreign securities is the government's savings account with Norges Bank (GPFG deposits). Norges Bank also engages in activities on behalf of the government that are not reflected in the balance sheet, such as facilitating government borrowing through the issuance of government bonds and Treasury bills (see Section *1.2.2.1 The central government*).

Norges Bank has operational responsibility for ensuring that payments can be executed in Norway (see Section *3. Financial infrastructure*). Norges Bank has the sole right to issue cash and provides cash in the quantity demanded by the general public, which it does in collaboration with private entities. Payments between banks with an account (central bank reserves) at Norges Bank are settled in Norges Bank's settlement system (NBO). This settlement is a precondition for all other payments made in NOK.

The purpose of Norges Bank's central banking activities is not to ensure the highest possible return on equity. Instead, Norges Bank performs the tasks laid down in the Central Bank Act and must therefore manage its equity in the best possible manner to ensure the highest possible return transferred to the government as owner. As the owner of Norges Bank, the government receives transfers of profit from the central bank according to specified rules. Because of its tasks on behalf of society, Norges Bank assumes financial risk. For example, the central bank

Table 2.3 Largest Nordic banking groups operating in Norway. By market capitalisation. At 31 December 2024

Financial group	Main business line
Nordea	Banking
DNB	Banking
SEB	Banking
Danske Bank	Banking
Swedbank	Banking
Sampo	Insurance
Handelsbanken	Banking
Tryg	Insurance

Source: SNL Financial / S&P MI 1

assumes considerable foreign exchange risk in its management of the foreign exchange reserves. If necessary, the government can supply additional equity.

2.2 Financial groups

A single financial group can comprise several types of financial institution and this type of horizontal integration has shown a growing trend over time.

A financial group can more easily offer customers a complete range of products and services than a single institution, exploiting economies of scale in areas such as IT and marketing. What is known as “cross-selling”, where group companies market and sell one another’s products and services, can boost earnings. Alliances of savings banks can have the same effect. A number of alliances operate non-banking activities on behalf of member banks. The individual savings banks are usually too small to form their own financial groups in order to engage in insurance activities, investment management and the like. A financial group, such as the SpareBank 1 Alliance, can offer these services.

Table 2.3 provides an overview of the eight largest financial groups in Norway and their main line of business. Of these, six mainly engage in banking, while the remainder specialise in insurance.

DNB, the SpareBank 1 Alliance, KLP, Storebrand and the Eika Alliance are the largest Norwegian-owned financial groups. They offer most kinds of financial services. DNB, the SpareBank 1 Alliance and the Eika Alliance mainly engage in banking, while the other two focus on insurance.

2.3 Banks

Banks offer a number of products and services to economic agents, including short-term and long-term loans. They differ from other types of financial institution because they have the exclusive right to create and accept deposits from the public. Deposits are the simplest and most

Consumer credit

Consumer credit refers to credit card debt and other forms of unsecured debt.[1] Consumer credit, including Norwegian households' interest-bearing credit card debt, accounts for about 3% of total household borrowing. Credit card issuers usually offer credit with an interest-free period of eg one month. Interest-bearing credit card debt accounts for slightly over 30% of consumer credit as herein defined. Interest rates on consumer debt are generally much higher than on collateralised loans. Banks and finance companies' margins on consumer loans are higher, which can be an advantage as expected default rates and losses are considerably higher for consumer loans than for other kinds of loans to private individuals. To increase lenders' resilience to losses, risk weights for consumer loans are higher than for lower-risk loans, such as residential mortgages. Higher risk weights result in higher capital requirements. (Read more in*Appendix 2: Capital and liquidity regulation*.)

After the financial crisis (2008–2009), a number of new consumer credit providers have entered the market, primarily relatively new operators. The specialised consumer credit banks have primarily funded lending and rapid growth by a corresponding increase in deposits. Consumer credit banks attract deposits by offering markedly higher deposit rates than other banks. The combination of high interest rates and deposits that are largely guaranteed by the Norwegian Banks' Guarantee Fund make consumer credit banks attractive to depositors.

To improve the consumer credit market and strengthen the position of consumers, the authorities have introduced a number of measures. Two regulations have been laid down, one on the invoicing of credit card debt and another on the marketing of consumer credit. In addition, the Storting has passed the Act on consumer credit information. The Act strengthens finance companies' ability to perform sound credit assessments as it gives new creditors access to information about a borrower's existing debt by authorising debt registers for unsecured debt. In 2019, the Ministry of Finance issued a regulation laying down requirements for banks' prudent consumer lending practices, based on previous guidelines. In 2021, the residential mortgage regulation and consumer credit regulation were replaced by a new common lending regulation for all personal loans.

1 Finanstilsynet publishes semi-annual reports on developments in consumer credit, see their website: Utviklinga i forbruksgjeld [Developments in consumer credit] (in Norwegian only).

common form of savings for households, as well as the most important means of payment. Banks offer many different deposit products, which vary according to interest rate terms and restrictions on withdrawals. Among the types of account offered by banks are ordinary current accounts, savings accounts or high-interest accounts and the home savings scheme for young people (BSU) account. Deposits can be withdrawn as cash from ATMs, in shops and in bank branches, or used directly to make payments using debit cards or via an online or mobile banking service. The increased prevalence of computers and smart phones has increased the use of online and mobile banking, resulting in fewer bank branches and ATMs in Norway. (For more on the role of banks in the payment system, see Section *3. Financial infrastructure*).

Banks offer several types of loan, such as residential mortgage loans, commercial loans and consumer loans. Loans can vary by type of interest (fixed or floating), length of fixed-rate periods, currency and form of

Evolution of the Norwegian banking sector

Norwegian banks are classified as either commercial banks or savings banks. A commercial bank may only be established as a privately held limited liability company (or public limited liability company). A savings bank, on the other hand, may not be established as a limited liability company. Savings banks have traditionally been organised as mutually owned foundations, with equity primarily comprised of previous years' retained earnings. Savings banks are expected to support local communities, even if no legal obligation exists, both by offering reliable banking services and by using some of their profits to support local activities.

From around 600 savings banks in 1960, the number has fallen to just slightly over 80. While commercial banks increasingly became nationwide institutions, savings banks increased in number in regional Norway. With changes in settlement patterns and industry structure, savings banks had to become larger in order to constitute a real alternative to commercial banks. Following the banking crisis around 1990, just over 70% of savings banks' total assets were concentrated in the ten largest savings banks.

From the end of the 1980s, savings banks were allowed to raise additional capital in the market. This was necessary for enabling them to participate in the same lending growth as commercial banks. These equity instruments are called equity certificates today. (See Section *1.4.3.1 Other equity instruments*.)

Alliances in the savings bank sector evolved through the 1990s. SpareBank 1 Gruppen was established in 1996, while the Eika Alliance (Terra Gruppen between 2000 and 2013) was established in 1997. The idea behind forming alliances was to establish joint product companies for non-banking activities, while actual banking activities continued at the individual banks. The number of alliances and their composition have changed over time (see Section 3.5.2 in Official Norwegian Reports NOU 2024: 22 – regjeringen.no (in Norwegian only).

In 1985, foreign banks were authorised to engage in banking activities in Norway. This was the beginning for the subsidiaries and branches of foreign banks that subsequently became important participants in the Norwegian banking market. There was a series of mergers between Norwegian banks and a number of acquisitions by foreign banks in the late 1980s and the 1990s, leading to a substantial reduction in market share for Norwegian commercial banks. Table 6 in Banking statistics shows the market shares of different banks and banking groups.

For a complete overview of the different types of banks in Norway, see Finanstilsynet's registry. For documentation of historical developments, see "Historical Monetary and Financial Statistics for Norway", Occasional Papers No. 57, Norges Bank.

repayment (annuity or serial loan). Interest-only loans, often in the form of home equity lines of credit up to a maximum amount, have also become an alternative to instalment loans, particularly among older borrowers.[1] The borrower is free to make repayments or borrow more up to this limit. The Lending Regulation sets a cap on new home equity lines of credit at 60% of the dwelling's value. The borrower pays interest only on the amount drawn at any given time. Furthermore, banks can exchange foreign currency and provide financial advice. Some banks choose to offer only a limited range of loans or services, eg banks that specialise in

1 See Finanstilsynet's (Financial Supervisory Authority of Norway) Residential Mortgage Survey for 2024 (in Norwegian only).

Money creation

Money is defined as a generally accepted means of payment. (See box: **What is money?** in the introduction and box: **Definitions of monetary aggregates** for a more detailed and precise description of money.)

Banks create money when they issue a new loan to a customer. A new loan increases the customer's deposit account by the same amount. Customer deposits are money. The customer can then use the deposit to pay for a car, for example. The deposit is then transferred to the car dealer, who may either have an account with the same bank or with another bank. In the former case, the deposit will remain in the same bank. In the latter case, the deposit will be transferred to another bank but remain in the banking system. For the banking system as a whole, new loans will always create deposits, often referred to as deposit money. Money is also created if the banking system buys securities from households and businesses. Sellers of securities then receive money in their accounts as payment for these securities.

When the customer repays a loan, the customer's deposits will be reduced by the same amount and money will "disappear". The same thing occurs when banks issue bonds that are purchased by individuals and businesses. When payments are made for bonds, deposits are reduced. Tax payments to the central government (but not to local government) also reduce the money supply. These payments end up in the government's deposits with Norges Bank, which are not included in the money supply. Cash withdrawals by individuals and businesses reduce deposits, but not the money supply.

Bank lending depends on opportunities for making profitable loans. This is affected by factors such as the level of funding costs, regulatory requirements and the ability of businesses and households to repay loans. Loan volumes will then determine the volume of bank deposits created in the banking system. However, households and businesses must at the same time be willing to hold deposits accruing interest at the deposit rate offered. Alternatively, banks can issue bonds to compensate for deposit funding instead of raising deposit rates. At the same time, banks must ensure that they hold sufficient central bank reserves or other liquid assets to make payments to other banks (funding liquidity) and satisfy the authorities' capital and liquidity requirements. (For an overview of Norwegian bank funding, see Section *2.3.3 Banks' assets and funding*)

"Money in the modern economy: an introduction" in the Bank of England Quarterly Bulletin 2014 Q1 provides a more detailed account of how banks create money. (See also: Hvordan skapes penger? [How is money created?], a post on norges-bank.no/Bankplassen, a blog written by Norges Bank staff, 4 January 2019 (in Norwegian only) and "Increased growth in broad money after the outbreak of Covid 19", *Staff Memo* 10/2022, Norges Bank).

consumer credit. (See box: **Consumer credit** and "Ny vekst i forbruks-gjelden" [New rise in consumer credit] a post on bankplassen blog, a blog written by Norges Bank staff, *11 March 2024 (in Norwegian only)).*

Norwegian banks are classified as either savings banks or commercial banks, but this distinction has become less relevant over time. The main difference between commercial and savings banks is related to ownership structure and not to the services they offer customers. See also box: **Evolution of the Norwegian banking sector**).

2.3.1 Banks' tasks

2.3.1.1 Providing opportunities to save and borrow

Banks play an important role as an intermediary between prospective savers and prospective borrowers. Savers deposit their cash in deposit accounts with a certain rate of return in the form of interest payments. Amounts can be withdrawn as and when needed by depositors. The banks transform many small and liquid deposits into fewer, and on the whole, larger and long-term loans.[2] However, banks are not dependent on new deposits in order to extend credit to a new customer. When banks issue a new loan, they create money (see box: Money creation).

Banks assess the probability that a borrower will default. If the borrower does not pay, the loss falls on the bank. There are economies of scale to be achieved in gathering and processing information, issuing credit ratings, following up borrowers and formulating loan contracts.

2 See Holden, Steinar (2016), *Makroøkonomi*. Cappelen Damm, for a more detailed and explanatory presentation.

Definitions of monetary aggregates

The money-issuing sector comprises Norges Bank, banks and mortgage companies.

The money-holding sector comprises households, non-financial firms (businesses), local government administration and financial institutions other than banks and mortgage companies. Foreign sectors are not included.

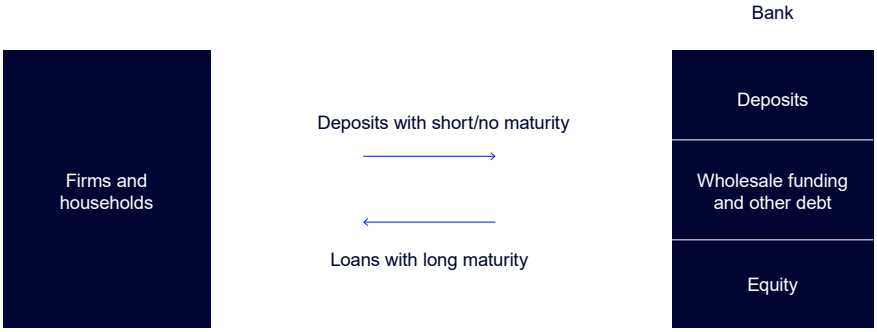
- *Narrow money M1* is defined as the money-holding sector's stock of Norwegian banknotes and coins (currency in circulation) and their transaction deposits in NOK and foreign currency. Bank deposits in transaction accounts include deposits that can be released for payments and overnight withdrawals without incurring costs other than ordinary transaction fees.
- *Intermediate money M2* is defined as the sum of M1 and the money-holding sector's deposits in NOK and foreign currency in accounts at banks in Norway redeemable at notice for up to three months and/or with an agreed maturity of up to two years.
- *Broad money M3* is defined as the sum of M2 and the money-holding sector's holdings of repurchase agreements, excluding holdings of clearing houses, and short-term paper and bonds with a maturity of up to two years issued by the money-issuing sector. M2 accounts for about 99% of M3.
- *The monetary base M0* is defined as the sum of Norwegian banknotes and coins in circulation and the deposits of banks, mortgage companies and other elements of the money-holding sector held with Norges Bank, ie primarily central bank reserves (see box: Liquidity in Section 1).

Statistics Norway publishes statistics on both *credit aggregates* and *monetary aggregates*. The definition of money supply has been adjusted slightly over time and is discussed in Høstmark C., M. Mathiesen, K. Pedersen and K. Østensen (2016): "Omlegging av pengemengdestatistikken ", [Changes to money supply statistics], Notater 09/2016, Statistics Norway (in Norwegian only), and Tangen A.H. (ed) (2019): "Omlegging av indikatorene for penger og kreditt" [Changes to money and credit indicators], Notater 09/2019, Statistics Norway (in Norwegian only). See also (2013) "Om pengemengden" [On the money supply], *Staff Memo* 14/2013, Norges Bank (in Norwegian only).

Banks can also access confidential information on existing and potential customers. Information about a borrower's personal identity number, income and degree of capability for work, etc, is necessary for establishing a contract, but customers may be reluctant to provide this information to "just any" provider of goods or services, due to its sensitive nature. Owing to the cost involved in gathering information, most private individuals and small and medium-sized businesses will borrow from banks and not directly in the bond market (see Section *1.2.2.4 Non-financial firms*. Banks charge fees and interest as payment for loans and other services. Banks pay a lower interest rate on deposits than the interest they receive from loans. The difference is referred to as the interest rate margin.

A borrower may have a substantial and immediate need for capital, to buy a home or purchase production equipment, for example. However, the borrower's income, which will be used to repay the loan, is spread over several years. The borrower therefore needs a long-term loan. Savers on the other hand may prefer to have immediate access to their funds. Banks meet the needs of borrowers and savers by offering borrowers long-term loans, while offering savers immediate access to their funds. The transformation of short-term deposits into long-term loans is called maturity transformation (Chart 2.1). The primary reason banks are able to do this is that the overall stock of deposits has proved to be fairly stable. Statistical calculations enable banks to forecast how much they must normally have available to pay depositors. Banks also hold deposits with the central bank and have access to the central bank borrowing facilities, which helps them to manage fluctuations in customer deposits.
A situation may nonetheless arise when a bank's solvency is in doubt, prompting a large number of depositors to withdraw their funds at the same time. This is known as a "bank run". To prevent bank runs, Norway has a deposit guarantee scheme, which is intended to protect the funds of small savers, even if the bank experiences problems. The guarantee scheme in Norway currently covers deposits of up to NOK 2m per depositor per bank (see also Section *2.3.7 Deposit guarantees in Norway*).

Chart 2.1 Maturity transformation



Source: Norges Bank

Banks also perform maturity transformation when they borrow in the market at maturities that are shorter than the maturities of the loans they have extended to customers. Interest rates on short-term loans are normally lower than interest rates on long-term loans. Banks will therefore earn more when they choose short-term funding over long-term funding. Banks can modify the maturity structure of their market funding to achieve a better match with the maturity of their customer loans. This reduces maturity transformation which also reduces refinancing risk (see box: Risks in the financial system in the introduction).

Financial markets also contribute to maturity transformation (see Section *1.2 Bond market* and Section *1.4 Equities*).

2.3.1.2 Assessing risk

In a well-functioning credit market, banks' assessments of individual investment projects and of borrowers and pledged collateral will help to channel savings to investment projects with an adequate level of profitability. This means the price for or interest rate on loans assessed to be high-risk (eg unsecured consumer loans) will be higher than on low-risk loans. If the borrower provides the lender with collateral, eg a mortgage on a dwelling, the lender's risk of losses is reduced and the interest rate on the loan will be lower.

Banks and their covered bond mortgage companies (see Section *2.4.1 Covered bond mortgage companies*) have extensive experience in assessing borrower risk. They often know their customers and use this information and credit risk expertise to quantify and price the risk associated with each loan. Banks also reduce the risk associated with lending by making a large number of small loans to different customers (diversification). The risks banks assume are monitored by owners, the banks' lenders and supervisory authorities. This reduces the likelihood that they will assume risks greater than their risk-bearing capacity.

2.3.1.3 Provision of payment services

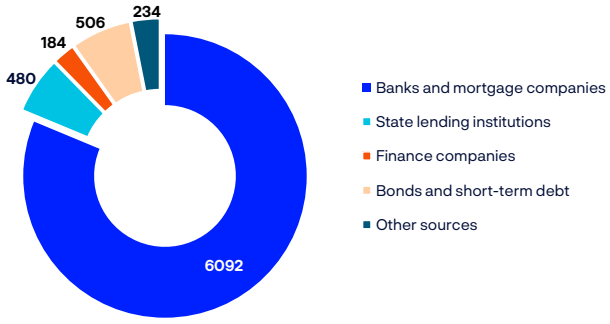
Banks are key participants in the payment system. All payments in NOK are ultimately settled between banks in Norges Bank's settlement system (NBO) (see Section *3. Financial infrastructure*). As a general rule, only banks may hold an account at Norges Bank. After a more detailed assessment and subject to conditions laid down by Norges Bank, other financial institutions with a head office in an EEA State can also hold an account at Norges Bank.

2.3.2 Structure of Norway's banking sector

Banks and mortgage companies account for around 80% of total domestic credit to Norwegian households and businesses (Chart 2.2). This is a far higher share of total credit than in the US, for example, where the bond market plays a more important role. Norwegian households borrow almost exclusively from banks and mortgage companies, while Norwegian businesses borrow mostly from banks and to some extent in the bond market.

Chart 2.2 Credit to households and businesses by credit source

Gross domestic credit. In billions of NOK. At 31 December 2024



Source: Statistics Norway

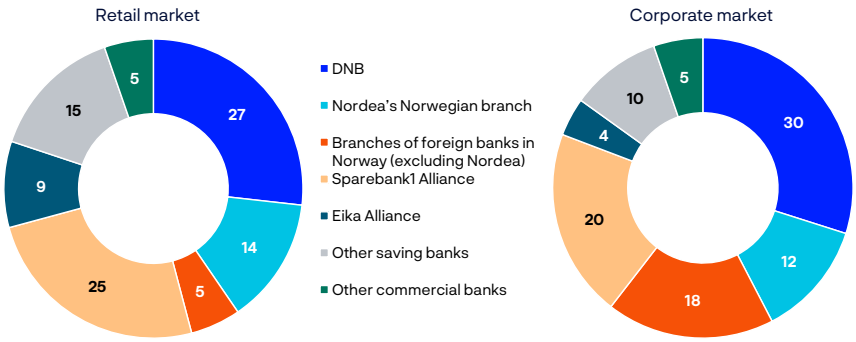
Although there are a large number of banks in Norway's banking sector, the degree of concentration is relatively high (Chart 2.3). Compared with other European countries, Norway's banking sector is not particularly large relative to total GDP (see "En internasjonal sammenligning av norsk banksektor" [The Norwegian banking sector in an international comparison], *Staff Memo* 9/2018, Norges Bank (in Norwegian only)).

The Norwegian banking market is dominated by Norwegian-owned banks. The other banks are subsidiaries or branches of foreign banks. The subsidiaries are owned by foreign banks, but are separate Norwegian legal entities, regulated in the same manner as other Norwegian banks. On the other hand, branches are not separate legal entities and are regulated by their home state authorities. Nordic banks dominate among the foreign banks in Norway, but Santander Consumer Bank (a subsidiary of the Spanish bank, Banco Santander) also has a significant presence.

Since the turn of the millennium, foreign subsidiaries and branches have increased their market shares in the Norwegian banking market (see "Branches of foreign banks and credit supply", *Economic Commentaries* 3/2017, Norges Bank). From 2018 and onwards, the market share of the

Chart 2.3 Market shares of total lending

Percent. At 31 December 2024



Source: Norges Bank

Table 2.4 Largest banking groups in Norway. At 31 December 2024

Banking group	Part of:	Head office / main area
DNB Bank	Independent bank	Oslo / Norway
Nordea Bank Norge[1]	Branch of Finnish bank	Oslo / Norway
Sparebank1 Sør-Norge	SpareBank 1 Alliance	Stavanger / Rogaland, Vestland, Agder, Telemark, Vestfold, Buskerud and Oslo region
Handelsbanken NUF[2]	Branch of Swedish bank	Oslo / Norway
Sparebanken Vest	Independent savings bank	Bergen / Vestland, Rogaland, Møre og Romsdal
Danske Bank NUF	Branch of Danish bank	Trondheim / Norway
SpareBank 1 SMN	SpareBank 1 Alliance	Trondheim / Trøndelag, Møre og Romsdal, Vestland and Oslo
Santander Consumer Bank	Subsidiary of Spanish bank	Lysaker / Auto and consumer loans
SpareBank 1 Østlandet	SpareBank 1 Alliance	Hamar / Innlandet, Oslo, Akershus and Buskerud
SEB	Branch of Swedish bank	Oslo / Commercial and investment banking
Sparebanken Sør	Independent savings bank	Kristiansand / Agder, Telemark, Vestfold and Rogaland
Sparebank1 Nord-Norge	SpareBank 1 Alliance	Tromsø / Troms, Finnmark and Nordland

1 Includes Nordea Bank AB (Publ) and Nordea Eiendomskreditt.
2 Includes Handelsbanken Eiendomskreditt.
Sources: Banking groups' quarterly reports and Norges Bank

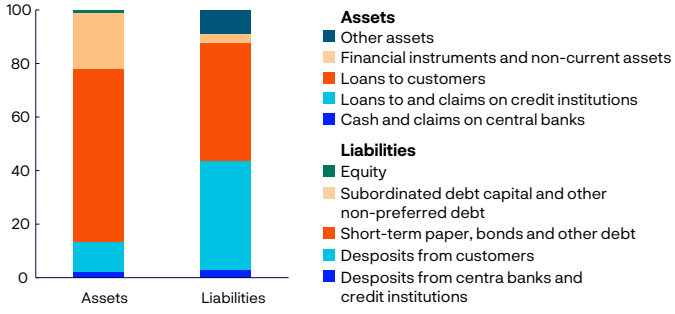
foreign-owned subsidiary branches has been relatively stable. Nordea, Danske Bank and Handelsbanken are the largest foreign-owned branches. (see Table 2.4 for an overview of the largest banks in Norway).

Today's savings bank sector comprises a large number of savings banks. Most are very small but are members of large alliances The SpareBank 1 Alliance comprises 12 banks, most of which are large in their regions, while the Eika Alliance comprises over 50 smaller savings banks.

2.3.3 Banks' assets and funding

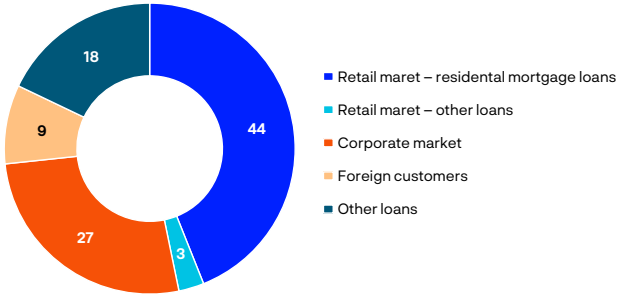
Loans account for the largest part of Norwegian banks' assets (Chart 2.4). The largest single loan items are residential mortgages and commercial real estate loans (Chart 2.5 and Chart 2.6). Loans are primarily in NOK. Other assets include securities in addition to deposits in credit institutions and central banks. An important reason for banks to hold assets of this type is that they need assets that can be sold quickly if

Chart 2.4 Assets and liabilities of Norwegian-owned banks and covered bond mortgage companies
Percent. At 31 December 2024



Source: Norges Bank

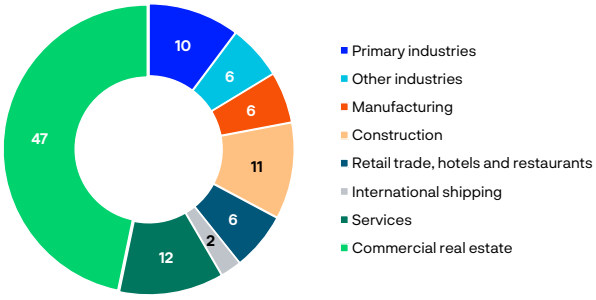
Chart 2.5 Loan distribution
Banks and covered bond mortgage companies in Norway.
Retail lending. Percent. At 31 December 2024



Source: Norges Bank

Chart 2.6 Lending to the corporate sector

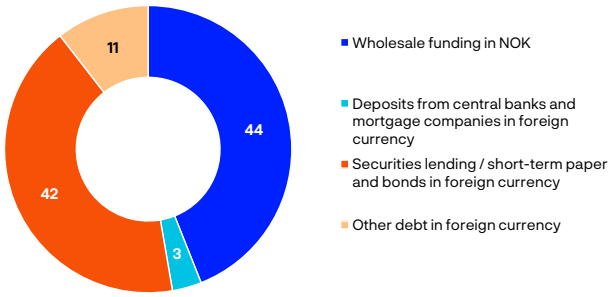
Banks and covered bond mortgage companies in Norway. Percent. At 31 December 2024



Source: Norges Bank

Chart 2.7 Wholesale funding by currency

Norwegian-owned banks and covered bond mortgage companies. Percent. At 31 December 2024



Source: Norges Bank

depositors increase their withdrawals or the bank cannot roll over its wholesale funding. Substantial portions of the other assets are in foreign currencies such as USD and EUR.

Norwegian banks fund most of their activities with deposits and bonds (Chart 2.4). Customer deposits account for most of the funding, followed by long-term[3] wholesale funding. These two funding sources are assumed to be generally stable. Banks with stable funding are more resilient to periods of turbulence. Small savings banks are financed by customer deposits to a greater extent than the large banks, while foreign subsidiaries and branches are largely funded by the parent bank in the foreign banking group. DNB also relies to some extent on short-term wholesale funding in the form of commercial paper issued in currencies other than NOK.

Linking banks with potential customers/depositors is now more efficient due to the development of digital platforms. A deposit platform is a digital trading venue for bank deposits and provides banks with access to funding, but they are also marketing platforms, targeting potential customers (see box: Deposit platforms).

Approximately half of banks' wholesale funding is raised in foreign currency (See Chart 2.7 and discussion in box: Norwegian banks' and mortgage companies' bond funding from abroad in Section 1). Smaller savings banks rely on funding in NOK to a greater extent than large banks. (See "Norwegian banks' foreign currency funding of NOK assets", *Staff Memo* 2/2014, Norges Bank, for a more detailed review of Norwegian banks' foreign currency funding.)

In addition to deposits and borrowing (debt capital), banks also rely on equity funding. In the event of bank losses, equity capital is the first to absorb losses. Equity funding is discussed in more detail in Section *2.3.5 Capital adequacy regulation*.

3 "Long-term" means more than one year's maturity.

Deposit platforms

A deposit platform is a digital trading venue for bank deposits. Banks and potential customers/depositors are linked together on the platform. Customers can be private individuals, businesses, local governments etc. Banks advertise their deposit terms and conditions on the deposit platform, giving customers a comprehensive overview of their products. Customers can then choose a bank and digitally manage their deposits.

A depositor becomes a customer of the bank and not of the deposit platform, which is just an intermediary. Via the deposit platform, customers can open accounts in a number of banks and deposit their money there. This makes it easy for customers to change banks and continually ensure that they have the best terms and conditions among the deposit platform's partner banks.

Deposit platforms give banks access to funding and are also marketing platforms, targeting potential new customers. This can be particularly advantageous for smaller banks and can promote competition between banks. As a rule, deposits are subject to a required savings period and are therefore an advantage in the context of banks' liquidity requirements.

Deposit platforms are still few in number in Norway and in Europe.

More statistics can be found on Statistics Norway website. See also Norges Bank's banking statistics.

2.3.4 Regulating banks – why and how?

Because of their considerable importance to society, banks are subject to extensive regulation. Deposits are an important savings vehicle and means of payment for most people. Other banking tasks, such as maturity transformation, providing payment services, distribution of risk and assessing and monitoring borrowers are also important for a well-functioning financial system and for the economy as a whole.

The aim of banking regulation is to promote the stability and efficiency of the financial system. Regulation is intended to reduce the probability of future financial crises and ensure that banks are able to perform their tasks as efficiently as possible. Regulations can entail costs in the form of a reduction in financial services. If the gains of regulation are higher than the costs, society as a whole will benefit. (See "Why regulate banks?", *Staff Memo* 16/2013, Norges Bank, for a further discussion of why banks are regulated and "Optimal capital adequacy ratio for Norwegian banks", *Staff Memo* 9/2022, Norges Bank, for quantifying trade-offs when calculating capital requirements for banks).

Owing in particular to maturity transformation, banks are vulnerable to large deposit withdrawals and wholesale funding losses (see Section *2.3.1 Banks' tasks*). In the event of substantial funding shortfalls, a bank may quickly find itself in a situation that threatens its existence. In addition, banks are closely interlinked, for example through interbank exposures and common or similar securities portfolios in liquidity

reserves. Problems at one bank can easily spread to others, creating domino effects that can jeopardise the entire financial system. (See "Smitte mellom banker – Systemrisiko som følge av bankenes sammenkobling" [Contagion in the banking sector – Systemic risk owing to banks' interconnectedness], *Staff Memo* 13/2016, Norges Bank (in Norwegian only)).

Deposit guarantees are intended to reduce the risk of large withdrawals of deposits by shielding retail customer deposits if a bank fails. Consumer protection is an element of deposit guarantee schemes. Retail customers are not ordinarily able to adequately assess a bank's risk level to determine whether their deposits are correctly priced or to judge a bank's solvency.

The first regulations were aimed at promoting adequate and stable access to banking services. The safety net that was put in place first (deposit insurance and central bank borrowing facilities) may have created a sense of assurance that encouraged risk-taking and increased the volume of services provided (behavioural risk). This in turn has resulted in additional rounds of regulation, primarily to curb risk-taking.

Owing to increased globalisation of the banking sector, problems in banks easily spread across borders. For that reason, the past 30 years have seen growing coordination of banking regulation internationally (see *Appendix 2: Capital and liquidity regulation*.) Moreover, the EU single market in financial services has led to a common set of rules for banks in the EEA.

Finanstilsynet (Financial Supervisory Authority of Norway) supervises banks and other financial institutions to ensure regulatory compliance. If a bank or other financial institution is in breach of current regulations, Finanstilsynet is mandated to take action to ensure compliance. In the event of non-compliance, the undertaking is as a first step directed to present plans for returning to compliance. These plans must be approved by Finanstilsynet. Finanstilsynet may also impose restrictions on dividend payments to shareholders and interest payments on certain categories of debt and as a last resort, Finanstilsynet may revoke the financial institution's licence. If a bank is on the verge of failing or the authorities decide to close it, recovery and resolution rules will apply (see Section *2.3.8 Bank recovery and resolution*).

Historically, banking crises have had considerable influence on the design of banking regulation (see "Bank regulation and bank crisis", *Working Papers* 18/2009, Norges Bank). In the aftermath of banking crises, regulation is tightened and minimum capital requirements are raised. When some time has elapsed after the crisis, capital levels have tended to fall.

For a thorough review of the Norwegian banking crisis at the end of the 1980s and beginning of the 1990s, see "The Norwegian banking crisis", *Occasional Papers* 33/2004, Norges Bank and "Norges Banks rolle på finanssektorområdet i perioden 1945–2013, med særlig vekt på finansiell

stabilitet" [Norges Bank's financial sector role in the period 1945–2013, with a particular focus on financial stability], *Occasional Papers* 48/2015, Norges Bank (in Norwegian only). NOU 2011: 1, "Bedre rustet mot finanskriser – Finanskriseutvalgets utredning" [More resilient to financial crises – Report of the Financial Crisis Commission], Official Norwegian Reports (in Norwegian, with English summary), provides a detailed review of the global financial crisis in 2008.

2.3.5 Capital adequacy regulation

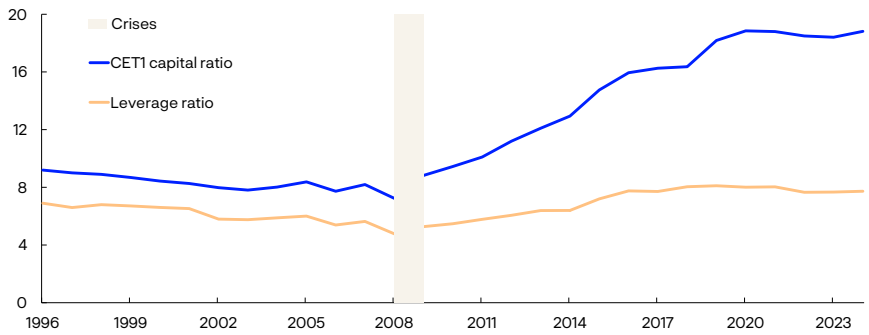
The aim of capital adequacy regulation is to ensure that financial institutions hold sufficient loss-absorbing capital relative to the risk they assume. This capital, which primarily comprises equity and other loss-absorbing capital, is required to be sufficient to absorb fairly large unexpected losses.

Following the banking crisis in the years 1988–1993, the parliamentary commission appointed to investigate the crisis (the Smith Commission) noted that the minimum capital requirement was too low prior to the crisis and that banks were undercapitalised. Banks' capital requirements were subsequently increased. Somewhat stricter capital requirements in Norway than those prevailing internationally were a source of strength for the Norwegian banking sector during the global financial crisis in 2008. The crisis highlighted the need for stricter banking regulation in many areas, and banks' capital requirements were raised.

Since 2008, Norwegian banks' Common Equity Tier 1 (CET1) capital ratios have increased considerably. CET1 capital as a percentage of total assets has also increased,albeit far less (Chart 2.8).

Norway is subject to EU capital adequacy legislation, which is based on the Basel III framework and which entered into force in the EU in January 2014. (See Finanstilsynet's consultation document Gjennomføring av CRD IV i norsk regelverk [Implementation of CRD IV in Norwegian regulations] (in Norwegian only) and Norway's implementation of the European Union's prudential framework (CRR/CRD IV)). In 2023, the EU reached political agreement about amendments to the Capital Requirements

Chart 2.8 Common Equity Tier 1 (CET1) capital ratios and leverage ratio
Norwegian banks overall. Percent. Period to 2024



Source: Financial Supervisory Authority of Norway

Directive (CRD) and the Capital Requirements Regulation (CRR), which will complete the European implementation of the Basel III recommendations. The amendments, CRD VI and CRR III, known as the "Banking Package 2021", include a new and more risk-sensitive standardised approach for estimating capital requirements for credit risk, a new capital requirement floor for IRB banks and changes to supervisory and reporting requirements. CRR3 entered into force in the EU on 1 January 2025, with the capital requirement floor being phased in over the seven-year period leading up to 2032. CRR3 entered into force in Norway on 1 April 2025. CRR3 contains a number of national choices (see Endringer i kapitalkravsforordningen (CCR3) [Amendments to the capital requirements regulation (CCR3)] (in Norwegian only). For a more detailed presentation of the current capital requirements in Norwegian regulations, see *Appendix 2: Capital and liquidity regulation*.

2.3.6 Liquidity regulation

In Norway, the global financial crisis of 2008 was primarily a liquidity crisis, which revealed the need for better management of banks' liquidity and funding structure (see box: **Liquidity** in Section 1 for an introduction to the concept of liquidity). Banks can reduce liquidity risk by receiving deposits from a large number of small depositors, having long maturities on wholesale funding and holding sufficient liquid assets (liquidity buffers) in the form of marketable securities or central bank reserves. By maintaining liquidity buffers, banks will be more resilient to periods of market turmoil. Banks can use the assets as collateral for new loans or sell them as a way to avoid additional borrowing.

The liquidity rules require banks to hold a certain stock of liquid assets. Under the Liquidity Coverage Ratio (LCR) requirement, banks must hold sufficient high-quality liquid assets to survive a 30-day period of financial market stress. (For a more detailed description of liquidity regulation, see *Appendix 2: Capital and liquidity regulation*.)

The LCR requirement was finalised in the EU in 2014 and in Norway in 2017. The Norwegian liquidity requirements harmonise with the EU liquidity regulations. The Net Stable Funding Ratio (NSFR) requirement proposed by the EU requires banks to hold sufficient stable funding to cover their illiquid assets (see *Appendix 2: Capital and liquidity regulation*). The requirement is intended to make banks' funding structure more robust. Retail loans are an example of illiquid assets. Stable funding includes Tier 1 capital, bonds with long residual maturities and several types of customer deposits. The requirement entered into force in the EU in June 2021 and in Norway in June 2022.

2.3.7 Deposit guarantees in Norway

Membership of the Norwegian deposit guarantee scheme became a statutory requirement for savings banks in 1924 and for commercial banks in 1961. Under current law, membership is obligatory for all Norwegian banks, including subsidiaries of foreign banks. Deposit guarantee rules are intended to protect small, uninformed depositors, eliminating the

need for them to monitor the bank's financial situation and reducing the risk that they will withdraw their funds in a panicked response to rumours that the bank is in trouble. The Norwegian deposit guarantee scheme covers deposits of up to NOK 2m per depositor, including accrued interest (see the Financial Institutions Act). This limit applies even if the customer has more than one account with the same bank, such that the total amount of up to NOK 2m is covered. If the customer has deposits in more than one bank, the limit applies to each bank.

In Norway, the Norwegian Banks' Guarantee Fund provides the deposit guarantee. Banks are charged an annual risk-adjusted fee to the Fund. The Fund is responsible for ensuring that depositors gain access to guaranteed deposits no later than seven working days after the Ministry of Finance has decided that a bank is to be placed under public administration. The same deadline applies if a bank is not permitted to pay out the guaranteed deposits to depositors for other reasons.

Branches of foreign banks in Norway are, in principle, not covered by the Norwegian guarantee scheme. Deposits held by Norwegian customers in these banks are protected by the deposit guarantee schemes in these banks' home states. However, branches may apply for membership of the Norwegian deposit guarantee scheme (also called "topping up"). In this case, the Norwegian fund guarantees deposits of up to NOK 2m less the amount guaranteed by the home state scheme.

In 2011, the amount insured by deposit guarantee schemes in the EU was fully harmonised at EUR 100 000. The Government is working to retain the higher limit in Norway (see the Ministry of Finance's website on Norwegian deposit guarantee scheme (in Norwegian only)).

2.3.8 Bank recovery and resolution

When a large, important bank has been at risk of failing, the authorities in most countries have intervened to ensure the bank's continued operation, fearing serious consequences for the financial system if the bank had to be closed. Rescue operations have been in the form of loans on favourable terms and loan guarantees or capital injections. In almost all cases, no losses have been imposed on creditors. This is referred to as a bailout. Such bailouts have provided banks' creditors with a form of implicit guarantee for their loans, which may have induced them to conduct risk assessments that are less thorough than they otherwise would have been. Creditors have come to expect that the authorities will also bail them out in the future. This is often referred to as moral hazard. Banks have been able to take on more risk without having to pay their lenders for the increase in risk. This increases lending as well as risk in the banking system.

Since the global financial crisis in 2008, new international rules have been introduced for resolving banking crises. In January 2015, the Bank Recovery and Resolution Directive (BRRD) entered into force in the EU. The aim of the Directive is to enable the authorities to manage failing

banks to ensure continuity of the bank's critical functions, but without providing banks with public funds.

An important element of the Directive is the bail-in tool. In a bail-in, the authorities write down the value of the bank's debt and/or convert part of the debt into equity without closing the bank. When creditors, including those of systemically important banks, face a real risk of losses, they will assess banks' risks more thoroughly and set the interest rate on their loans to banks in accordance with the risk of losses. Banks' funding costs will rise, and banks' appetite for risk will be lower. Lending will decline and risk in the entire financial system will be reduced. (For a review of the bail-in tool, see "Kriseløsing av banker ved hjelp av bail-in – momenter ved innføring i Norge" [Bank resolution with the aid of the bail-in tool – factors associated with introduction in Norway], *Staff Memo* 12/2014, Norges Bank (in Norwegian only).)

The EU BRRD also contains provisions relating to the establishment of national resolution authorities and a resolution financing arrangement, preparation of recovery plans and contingency plans for individual banks and depositor preference. In Norway, Finanstilsynet is the national resolution authority, while the Ministry of Finance decides whether a bank should be subject to resolution or placed under public administration. A recovery plan includes measures for the bank to implement if it finds itself in substantial problems, while a resolution plan indicates the measures Finanstilsynet can implement if a bank becomes subject to resolution. An important part of each bank's recovery plan is the minimum requirement for regulatory capital and other liabilities that can easily be used in a bail-in.[4] The minimum requirement for such capital and liabilities is called the minimum requirement for own funds and eligible liabilities (MREL). A new recovery and resolution directive (BRRD II) was introduced in Norway in June 2022. For a more detailed presentation of MREL, see *Appendix 2: Capital and liquidity regulation*.) Bank recovery and resolution and MREL are primarily relevant for systemically important banks. Non-systemically important banks may be placed under public administration Deputy Governor Jon Nicolaisen discussed fundamental issues relating to bank resolution in his speech "Should banks be bailed out?", given in 2015. Depositor preference means that covered deposits will never be written down or converted into new equity, and the same applies to non-guaranteed deposits held by retail customers and small and medium-sized enterprises (SMEs) until all other liabilities have been written down to zero or converted to equity.

2.4 Mortgage companies

Mortgage companies originate long-term mortgages for households and businesses. They differ from banks in that they cannot accept deposits or perform payment services. Mortgage companies mainly finance their

4 Much of such debt must be subordinate. Non-preferred senior liabilities are a new debt category that absorbs losses before ordinary senior liabilities, but after subordinated liabilities. See Norges Bank (2021) "New minimum requirement for own funds and eligible liabilities (MREL)", Financial Stability 2021, pages 38–39.

activities by issuing bonds. Covered bond mortgage companies, which finance residential and commercial mortgages by issuing covered bonds, account for a large share of mortgage companies in Norway (see box: Secured funding in Section 1).

2.4.1 Covered bond mortgage companies

New rules were introduced in Norway in June 2007 allowing mortgage companies with a special licence to issue Norwegian covered bonds. A covered bond is a bond that gives investors a preferential claim on a specified pool of the issuer's assets, known as the cover pool.

Under the Financial Institutions Act, Norwegian covered bonds must be issued by a covered bond mortgage company. Covered bond mortgage companies are established, owned and controlled by banks. The majority of Norwegian banks are joint owners of such companies with other banks, but some large and medium-sized banks have established their own mortgage companies. A few banks do not have any links with companies issuing covered bonds. Norwegian covered bond mortgage companies are subject to requirements to ensure timely payment of interest and principal and must set strict limits on interest rate and exchange rate risk. Norwegian covered bond mortgage companies are subject to a strict limits on interest rate and exchange rate risk. Finanstilsynet is responsible for supervising Norwegian covered bond companies' liquidity management and their limits on exchange rate and interest rate risk.

Covered bond mortgage companies fund much of the residential mortgage lending in Norway. Funding takes place either when the loans are extended directly by the mortgage company, or when banks transfer loans they have made to the mortgage company, which issues covered bonds collateralised by the loans. Banks normally extend short-term credit to the covered bond mortgage companies when the mortgages are transferred. The covered bond mortgage companies obtain liquidity to repay the credit either by selling covered bonds or by providing the bank with covered bonds of the same value as the mortgages it has transferred. When the mortgages are replaced by covered bonds or the proceeds from the sale, the bank's balance sheet is changed. The bank can, for example, use these funds to repay debt. The possibility of issuing covered bonds expands banking groups' sources of stable funding. Jointly owned mortgage companies also enable smaller banks to obtain funding in international capital markets. (For a detailed review of Norwegian covered bonds and covered bond mortgage companies, see "Obligasjoner med fortrinnsrett – et marked i sterk vekst" [Norwegian covered bonds – a rapidly growing market", in Norwegian only], *Economic Bulletin* 1/2010, Norges Bank.)

2.4.2 Other mortgage companies

Some mortgage companies are not authorised to issue covered bonds and primarily issue ordinary unsecured senior bonds. There are only a few these companies in Norway.

Kommunalbanken is the largest among them, with total lending at NOK 369bn at end-2024. Kommunalbanken provides credit to the Norwegian local government sector. Almost all of Norway's municipal authorities are customers of Kommunalbanken.

If all Norwegian municipalities were to borrow directly in capital markets, the costs involved would be high. Kommunalbanken can provide favourable borrowing terms for municipalities by providing credit to the Norwegian local government sector as a whole. Kommunalbanken finances its lending to the local government sector by issuing bonds and commercial paper in international capital markets. Kommunalbanken's main product is long-term amortised loans, with the same interest rate offered to all the bank's customers. Kommunalbanken is a limited company wholly owned by the government and has been assigned the highest possible credit rating (AAA). It has been designated by the Ministry of Finance as systemically important and is therefore subject to additional capital requirements.

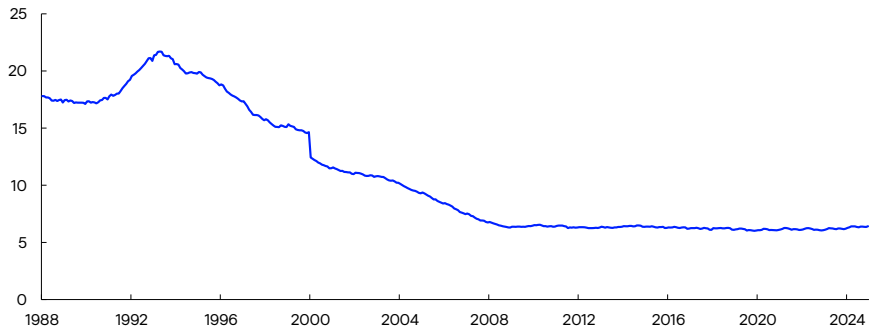
2.5 Government lending schemes

State lending institutions shall ensure financing of politically prioritised activities such as providing equal opportunities in education or fostering innovation in the business sector. Government lending schemes are less used now than they used to be. At the end of the 1980s, government lending schemes accounted for 18% of total credit in Norway (C2). This share has fallen sharply (Chart 2.9).

Household loans via government lending schemes have decreased in particular. Today, the largest state lending institutions are the Norwegian State Educational Loan Fund and the Norwegian State Housing Bank (see box: State lending institutions.

Loans from state lending institutions are financed by government borrowing. The Norwegian government has the highest possible credit rating (AAA) and can therefore borrow at a low rate.

Chart 2.9 Credit from state lending institutions
Percent of domestic credit (C2)



Source: Statistics Norway

2.6 Insurance companies

Insurance is a contract that guarantees compensation for financial loss as a result of arbitrary, unforeseen events. The basic idea behind all insurance is that a large number of people are exposed to the same type of risk of financial loss. Since events that lead to financial loss rarely occur simultaneously for many people, it is an advantage to join a risk-sharing arrangement, via an insurance undertaking, in order to distribute risk among its members (customers). A necessary condition for such an arrangement to function is that there are a sufficient number of customers who want to insure themselves against this risk. A loss incurred by an insured party is covered by the insurance undertaking. The policyholder makes a regular, recurring payment, known as a premium, to the insurance undertaking. The insurance undertaking uses these premiums to build up reserves that can be drawn down in the event of losses. Mutual fire insurance companies were among the first

State lending institutions

The Educational Loan Fund

The Norwegian State Educational Loan Fund was established in 1947 to manage government support for education. The Educational Loan Fund is a government agency under the Ministry of Education and Research with the objective of promoting equal opportunities for all in education regardless of geographical location, age, gender, functional ability or socioeconomic status, primarily by providing grants and favourable loans. The scheme is intended to increase the level of education in the labour force. The Educational Loan Fund has over 1m customers, and financial support for students totalled just over NOK 40bn in 2024. The Fund's lending portfolio amounted to NOK 277bn (see the Norwegian State Educational Loan Fund's website).

The Housing Bank

The Norwegian State Housing Bank was founded in 1946 as a bank for housing construction. Following World War II, housing was in short supply and the Housing Bank was established to contribute to Norway's reconstruction. Today, the Housing Bank is under the Ministry of Local Government and Regional Development is responsible for implementing government housing policy. It provides housing allowances, housing grants and loans (see the Housing Bank website). Borrowers are primarily local authorities, private sector firms, housing cooperatives and wage earners. The Bank's lending portfolio amounted to approximately NOK 187bn at end-2024.

Export Finance Norway (Eksfin)

Export Finance Norway (Eksfin) was established on 1 July 2021 through the merger of the Norwegian Export Credit Guarantee Agency (GIEK) and Export Credit Norway AS and is a public enterprise under the Ministry of Trade, Industry and Fisheries. By offering credit and guarantees for the purchase of Norwegian export goods and services, Eksfin's mission is to ensure that Norwegian export industries are financially competitive abroad. Norwegian and foreign companies may apply to Eksfin for various types of financing. Loans are guaranteed by Eksfin or financial institutions with a high credit rating. Eksfin also guarantees credit extended by private financial institutions that are comprised by its mission. At end-2024, Eksfin's guarantee portfolio totalled NOK 100bn and its lending portfolio totalled NOK 45bn (see Eksfin's website for more information).

Innovation Norway
Innovation Norway was established in 2004 through the merger of the Norwegian Industrial and Regional Development Fund (SND), the Norwegian Trade Council, the Norwegian Tourist Board and the Government Consultive Office for Inventors (SVO). Innovation Norway is owned by the Ministry of Trade, Industry and Fisheries (51%) and local government authorities (49%). Innovation Norway's mission is to foster profitable business development in Norway, Norwegian companies' competitiveness and promote long-term growth through business sector development. Innovation Norway provides advisory services, grants, loans and guarantees, promotes Norwegian businesses and tourism abroad and has offices in a number of countries. Its lending portfolio amounted to NOK 18bn at end-2024 (see Innovation Norway's website).

insurance companies in modern times. They arose in the wake of the great fires of London and Copenhagen. Fire insurance companies could distribute losses among a large number of members who faced a risk of fire, at the same time as a fire would seldom affect many members at the same time. The first fire insurance company in Norway was Christiania Brand-Assurance-Casse, founded in 1753, and was based on voluntary membership by homeowners in Christiania (now Oslo).

Insurance premiums are calculated as expected loss plus an amount to cover the cost of operating the insurance scheme. A basic principle in insurance is that the insurance premium paid by the customer should be commensurate with the risk taken by the insurance undertaking. This could in principle indicate a pricing of the insurance premium at the individual level. However, this could easily be perceived as unfair and could be difficult to implement in practice. Customers who are able to hold back information about their risks are more likely to subscribe to an insurance policy and the premium will be lower than implied by the level of risk assumed by the insurance company. A higher take-up rate of high-risk customers is called adverse selection. Since income from premiums is supposed to cover expected expenditure, the company will have to increase its premiums. Normal-risk customers may then be reluctant to take out insurance, which in turn increases the ratio of high-risk customers. In a worst-case scenario, the insurance undertaking could be forced to withdraw the insurance product.

2.6.1 Types of insurance

Insurance can be classified in several ways. Insurance can for example be divided based on the type of risk covered by the policyholder's insurance contract, giving the categories: life insurance, non-life insurance and credit insurance. Life insurance products can be divided into two main groups: pension insurance and insurance that normally provides a one-time payment in the event of disability or death. Pension insurance provides payments over a number of years in the event of disability, death or achieving pension age (see box: The pension system in Norway).

The pension system in Norway

The pension system in Norway comprises three parts:

- State pensions under the National Insurance Scheme, with universal coverage.
- Employer-financed pensions, often called occupational pensions. These are agreements between a company and its employees to provide pension benefits in addition to the state pension (collective pension agreements). Companies can purchase pension benefits from a life insurance company or organise pensions through their own pension funds. In addition to collective pension agreements, all public sector employees are eligible for contractual early retirement pensions, as are employees of private firms with a collective bargaining agreement that allows contractual early retirement. Contractual early retirement pensions are financed by the employer and the government.
- Individual savings and pension schemes.

Occupational pensions have been mandatory in Norway since 2006. It became compulsory for private sector businesses to establish an occupational pension scheme (primarily businesses with more than one employee). Occupational pensions are a tax-favoured form of saving, whereby pension premiums are tax-free up to a certain limit. Pension benefits, on the other hand, are taxed in line with other income. A key feature of collective pension agreements in Norway in recent years is the transition from defined-benefit to defined-contribution occupational pension schemes. The most important difference between the two schemes is related to who bears the return risk on the accumulated assets in the period until benefits are paid (accumulation period).

In a defined-benefit pension scheme, retirement benefits are paid as a predetermined percentage of the employee's final earnings at the agreed pension age. With this scheme, pension payments are predictable for the employee. The employer pays an annual premium into the pension scheme. The size of the premium depends on factors such as the employee's years of service, age, wage level and the return achieved by the life insurance undertaking. The employee bears no risk for the return on accumulated contributions. A defined-benefit pension scheme provides a guaranteed future rate of return on contributions from the insurance undertaking or the pension fund. The guaranteed rate of return will determine the size of the premium payments needed to provide the predetermined future pension.

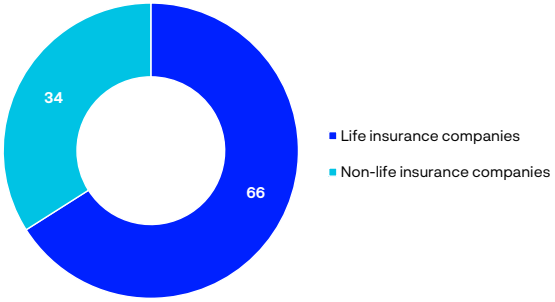
In a defined-contribution pension scheme, the level of pension payments will depend on the size of the contributions (pension capital) and the return on this capital. The costs of the scheme, ie the premiums to be paid, are predictable for the employer. The employee bears all the risk related to returns on pension capital. In a defined-contribution scheme, annual contributions must be at least 2% of employee earnings between 1 G and 12 G (G is the National Insurance basic amount).

Pension capital is still highest in the defined-benefit pension schemes, but premiums for the defined-contribution schemes operated by Norwegian insurance companies are now higher than for the defined-benefit schemes.

An employee who leaves a private business that has a defined-benefit pension scheme receives a paid-up policy. Paid-up policies are insurance contracts that do not require additional premium payments and entitle the holder to future pension payments. An employee will also receive a paid-up policy if the business chooses to discontinue the defined-benefit scheme in favour of a defined-contribution scheme or if the business closes down.

Chart 2.10 Insurance companies in Norway

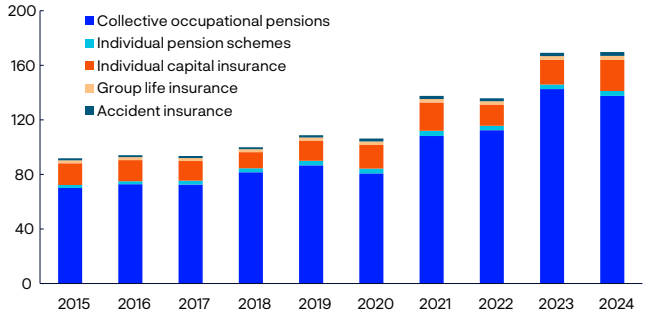
Market share by premium income. Percent. Data for 2024



Source: Statistics Norway

Chart 2.11 Life insurance companies' premium income by segment

In billions of NOK



Source: Statistics Norway

Insurance can also be classified by the insured object (person, property or asset insurance). Examples of insurance of the person are pension, health and accident insurance. Insurance of property includes fire, auto and theft insurance. Examples of insurance that can serve to protect assets are liability insurance (motor vehicle liability insurance) and credit insurance (credit risk insurance for customers).

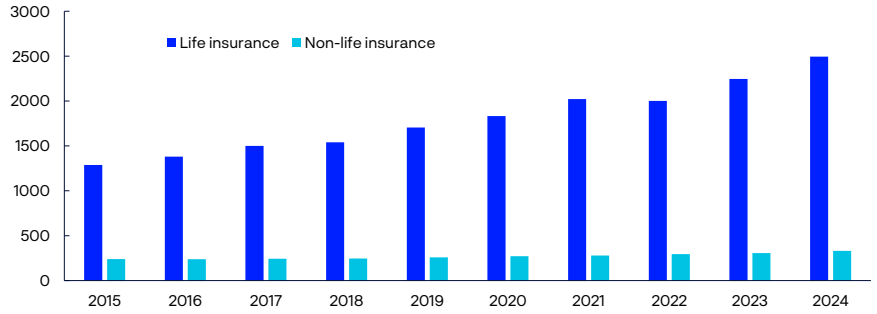
A distinction is also commonly made between cases where the insurance undertaking is the original issuer of the insurance contract (primary insurance) and cases where some of the liability has been taken over by another undertaking (reinsurance). Even insurance companies need to insure themselves against major unforeseen events or a large number of claims, eg large pay-outs owing to natural disasters such as earthquakes and floods and reduce risk by purchasing reinsurance for this purpose.

Life insurance accounts for the largest share of the insurance market in Norway in terms of income from premiums (Chart 2.10). However, there are more non-life insurance companies than life insurance companies (Table 2.5). Most of the premium income of life insurance companies is derived from pension insurance (Chart 2.11). Pension insurance comprises collective occupational pensions and individual pension schemes. For pension insurance, the insurance premium includes a substantial saving element, and the insurance company manages these funds until the time comes for benefits to be paid out. As a result, insurance premiums and total assets for life insurance companies are high compared with non-life insurance companies (Chart 2.12).

Table 2.5 Key figures for insurance companies and pension funds. 2024

	Number	Total assets in billions of NOK
Non-life insurance companies (incl. branches of foreign companies)	77	330
Life insurance companies (incl. branches of foreign companies)	16	2486
Pension funds	74	515
- of which, private	42	263

Chart 2.12 Insurance companies' total assets
In billions of NOK



Source: Statistics Norway

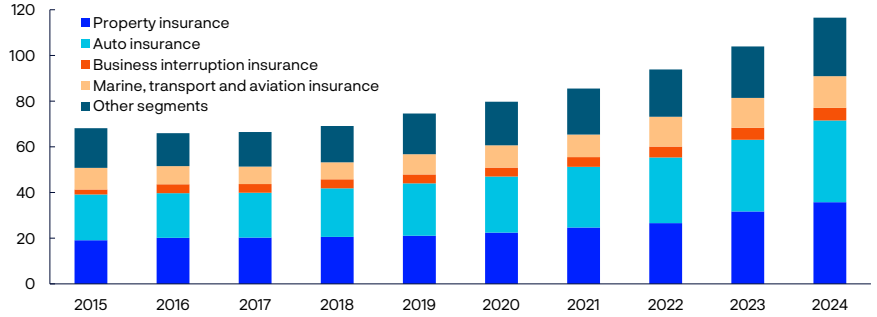
Auto insurance and property insurance make the largest contribution to non-life insurance companies' premium income (Chart 2.13), followed by marine, transport and aviation insurance.

Ranked by premium income, KLP, Storebrand Livsforsikring and Nordea Liv are the largest life insurance companies (Chart 2.14). Gjensidige, If Skadeforsikring, Fremtid Forsikring and Tryg are the largest companies in the non-life market (Chart 2.15).

Insurance companies' main assets are Norwegian and foreign bonds, commercial paper, equities and property. Liabilities chiefly comprise customer claims. Claims are calculated as the present value of future payments to policyholders. These are referred to as technical provisions.

For the insurance market to function efficiently, customer confidence in the integrity of insurance contracts is important. This is especially true of contracts for long-term pension saving. Insurance companies are therefore subject to specific regulation to safeguard the rights of customers (see box: **Regulation of insurance companies** and *Appendix 3: Important financial system legislation*).

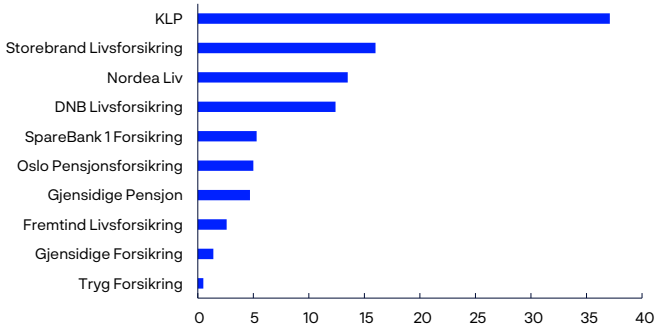
Chart 2.13 Non-life insurance companies' premium income by segment
In billions of NOK



Source: Statistics Norway

Chart 2.14 Life insurance market shares by premium income

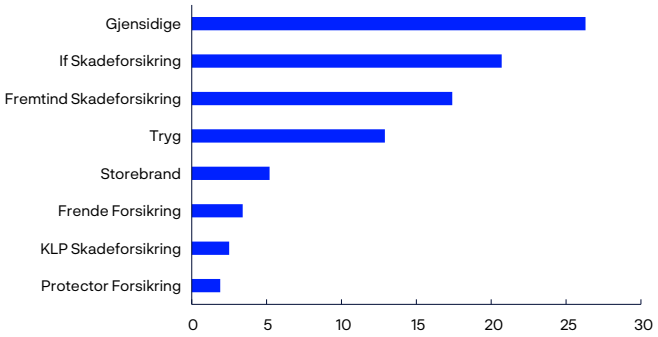
Percent. Data for 2024 Q4



Source: Finance Norway

Chart 2.15 Non-life insurance market shares by premium income

Percent. 2024 Q4



Source: Finance Norway

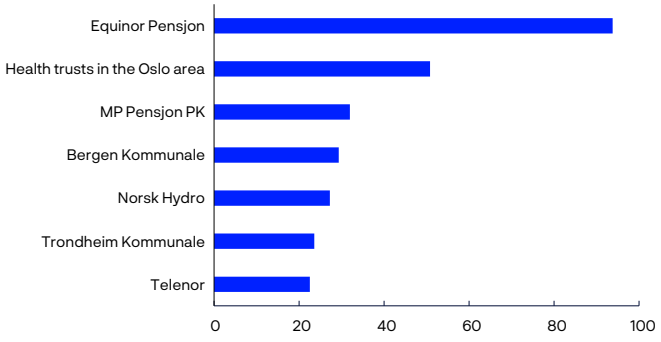
2.7 Pension funds

In Norway, occupational pension savings are managed by both life insurance companies and pension funds. A pension fund is an autonomous institution established by a private business or a municipality offering one or more collective occupational pension schemes. There are more private pension funds than municipal pension funds in Norway (Table 2.5). Chart 2.16 shows the total assets of the largest pension funds. Most pension fund assets are invested in bonds (Chart 2.17).

While life insurance companies are regulated under the Solvency II Directive (see box: Regulation of insurance companies), pension funds are regulated under the Institutions for Occupational Retirement Provision (IORP) Directive. However, from 1 January 2019, pension funds have had to comply with a capital requirement based on a simplified application of the rules under Solvency II.

Chart 2.16 The largest private and public (municipal) pension funds

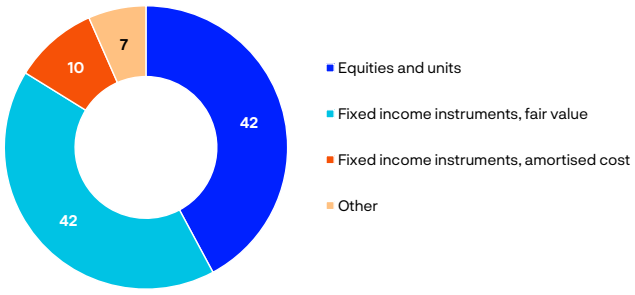
Total assets in billions of NOK. At 31 December 2024



Source: Financial Supervisory Authority of Norway

Chart 2.17 Pension funds' assets (based on a sample of pension funds)

Percent of total assets. At 31 December 2024



Source: Financial Supervisory Authority of Norway

Regulation of insurance companies

The current solvency framework for insurance companies in the EEA, Solvency II Directive, was adopted by the EU in 2009 and introduced in January 2016, but with long transitional arrangements. Adjustments to the framework was adopted by the EU in January 2025 and the revised Solvency II regulations will enter into force in January 2027 at the latest.

Solvency II is more sensitive to risk than the previous framework, Solvency I. Under Solvency II, both assets and liabilities are calculated at market value. The market value of liabilities is calculated by discounting future liability cash flows using risk-free market rates. The capital requirement is determined by a stress test, which ensures that the insurance undertaking will be able to withstand severe shocks to factors (such as equity and bond prices) that affect the insurance undertaking's equity capital.

Statens pensjonskasse (SPK, the Norwegian Public Service Pension Fund) is not included in the figures for pension funds. SPK administers occupational pension schemes for employees in the public sector and state-owned companies. SPK also administers the pension scheme for some groups in the local government sector and the private sector. The Storting determines the framework and lays down regulations for SPK pursuant to the Act relating to SPK. SPK members pay a portion of their salary as a pension contribution. Employer contributions are only paid by businesses generating revenues. The portion of annual pension payments that is not covered by contributions is financed by government subsidies. SPK is therefore not a fully funded, but a pay-as-you-go pension scheme.

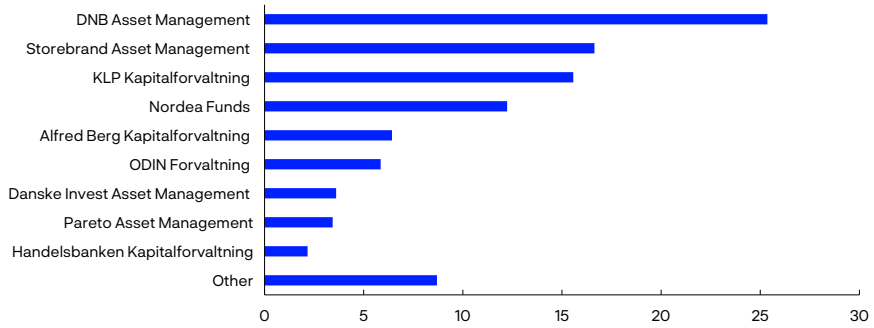
Kommunal Landspensjonskasse (KLP) provides pension, financial and insurance services for local authorities, health trusts and public sector enterprises and offers defined contribution occupational pensions for private sector firms. KLP is organised as a mutual insurance undertaking. This means that when a pension scheme is established, KLP customers invest capital and thus become the company's owners. KLP's main product is occupational pensions for local government employees. KLP pension schemes are fully funded.

2.8 Mutual funds

A mutual fund, or securities fund, is a collective investment scheme whereby a large number of unit holders pool their investments in securities markets. A securities fund management company authorised by Finanstilsynet administers and manages the assets in the portfolio. Fees and other charges, deducted from the assets under management, cover the security fund management company's expenses. Thus, unit holders are charged for the management of the fund.

Capital from unit holders in mutual funds goes to financing issuers of securities. There may be a number of advantages for an investor in investing in a mutual fund rather than in individual equities and bonds.

Chart 2.18 Market shares of mutual fund management companies
Percent. At 31 December 2024



Source: Norwegian Fund and Asset Management Association

First, mutual funds can benefit from economies of scale, which lowers costs. One example of this is reduced costs for analysing and selecting securities. Second, it is easier to spread risk across a large number of securities. This is known as diversification. Third, professional investment managers may potentially be able to offer better returns and risk management. Among the drawbacks of mutual funds are that investors have less influence on investment decisions and that mutual funds involve the payment of fees and other charges to the mutual fund management company.

Diversification means spreading risk by allocating investments across several securities. Since different securities rarely involve the same risk or move exactly in tandem, total risk in a diversified portfolio will be lower than if the investment were allocated to only one security.

Fund management companies can be owned by banks, insurance companies or others (Chart 2.18, which shows the largest fund managers). Each management company usually offers a large number of funds with differing investment profiles.

2.8.1 Mutual funds classified by asset

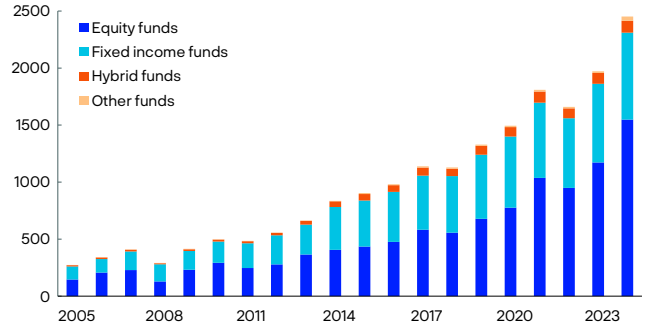
Mutual funds in Norway can be classified by investment instrument (Chart 2.19):

- Equity funds invest in equities and account for over half of total assets under management by mutual funds.
- Fixed income funds also account for a substantial share and invest in fixed income instruments. About half of assets under management in fixed income funds are bond funds and they also include liquidity funds[5] and “other fixed income funds”.

5 The EU’s money market funds regulation sets strict requirements for funds designated as money market funds. When the regulation entered into force in Norway on 1 February 2023, there were no Norwegian funds that met the requirements. In the Norwegian statistics, the earlier “money market funds” group has therefore been renamed “liquidity funds”.

Chart 2.19 Assets under management in mutual funds by type of fund

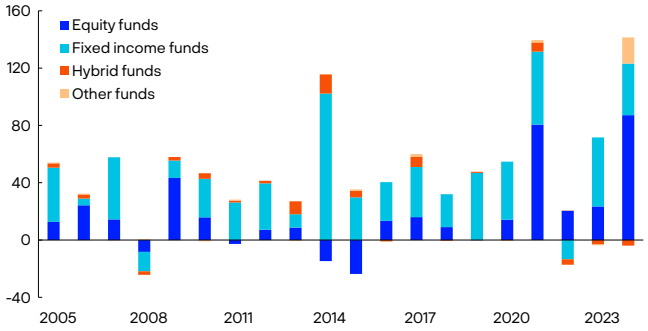
In billions of NOK. At year-end



Source: Norwegian Fund and Asset Management Association

Chart 2.20 Net new subscriptions in mutual funds

Cumulative annual amount. In billions of NOK. At 31 December 2024



Source: Norwegian Fund and Asset Management Association

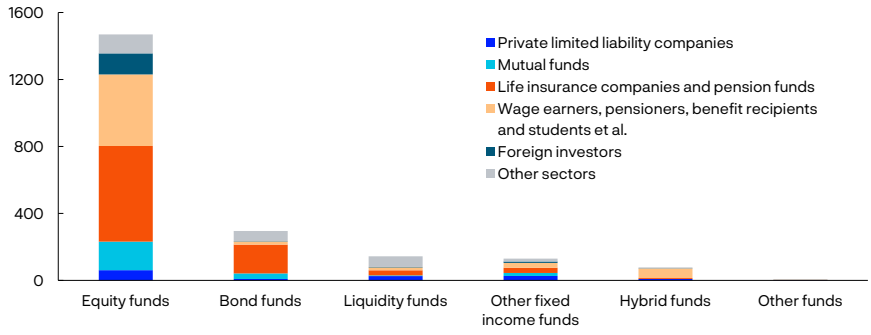
- Balanced funds, also known as hybrid funds, invest in both equities and fixed income securities.
- Other funds include hedge funds. These funds have modest levels of assets under management in Norway.

Developments in total assets under management in mutual funds are determined, among other things, by the supply of net capital inflows and the return for the various funds. In 2024, total assets under management in mutual funds rose (Chart 2.19). The rise was largely driven by the advance in equity markets and high net new subscriptions in fixed-income funds (Chart 2.20).

Units in Norwegian mutual funds are primarily owned by life insurance companies and pension funds (Chart 2.21). They hold a substantial share of units of bond funds and equity funds. Private individuals primarily hold units in equity funds and balanced funds, but to a limited extent in bond funds.

Chart 2.21 Mutual fund unit holders

In billions of NOK. At 31 December 2024



Source: Statistics Norway

In addition to investing in NOK-denominated assets, mutual funds invest in foreign assets denominated in foreign currencies. The NOK value of such fund units thus depends on exchange rate movements. To hedge against exchange rate volatility, these funds often use foreign exchange derivatives. These derivatives usually have a tenor of three months and are rolled over at maturity. In the event of large unforeseen exchange rate movements, it may be necessary to adjust the amount being hedged or meet counterparty margin calls if the value of the derivative contract moves against the fund, ie resulting in a gain for the counterparty. (See Norges Bank's *Financial Stability Report* 2020 and *Staff Memo* 2/2021, Norges Bank, "Bond market fire sales and turbulence in the Norwegian FX market in March 2020" for a discussion of such a case in March 2020

2.8.2 Other classifications of mutual funds

Mutual funds can also be classified by their form of management or how the investment units are traded. Funds are commonly classified as passively or actively managed funds, exchange-traded funds or so-called funds of funds.

Passively managed funds seek to recreate developments in a given portfolio of securities (the benchmark index). These funds are therefore often called index funds. An equity index fund may aim for the same return as the benchmark index by holding a portfolio of equities that is approximately the same as the benchmark index. For liquidity reasons and to reduce costs, index funds may refrain from holding equities that represent only a small share of the benchmark index. The fund's return is nevertheless expected to closely track the index.

Actively managed funds try to "beat the index", ie obtain a higher return than the index at the same level of risk. The manager then carefully selects investments, buying and selling stocks when changing market conditions offer opportunities for higher returns. With analyses and frequent purchases and sales of securities, the cost of active management is higher than for passive management. Examination of returns for the various funds shows that few actively managed funds have outperformed index funds over time.[6]

Although exchange-traded funds (ETFs) have been one of the most rapidly growing segments in the global financial market, there are few of these funds in Norway. ETFs are traded over a stock exchange like equities and may be either index funds or actively traded funds. At end-2024, there was only one exchange-traded fund on Oslo Børs.

Some mutual funds are so-called funds of funds. These funds invest in other funds and thereby easier achieve diversification of risk, although for investors this often means more expensive management, with fees payable both to the fund itself and to the funds that make up the portfolio.

6 See, for example, Fama, E.F. and K.R. French (2010): "Luck versus Skill in the Cross-Section of Mutual Fund Returns", Journal of Finance, Vol. LXV no. 5.

2.8.3 Regulation of mutual funds

The Securities Fund Act regulates the organisation and scope of mutual funds and fund management companies. Mutual funds are regulated to safeguard the interests of their unit holders, for example by ensuring that investments are diversified to spread risk and that unit holders receive information about historical returns, risk and costs. Finanstilsynet is responsible for supervising management companies to ensure that they operate in compliance with legislation. All Norwegian mutual funds are subject to approval by Finanstilsynet.

Many mutual funds are UCITS funds (Undertakings for collective investment in transferable securities). This type of fund complies with the European Union regulatory framework and is intended to be an investment alternative for consumers. UCITS funds have extensive requirements governing risk spread, investment universe and how frequently unit holders can redeem their shares.

An alternative investment fund (AIF) is similar to a mutual fund and covers a wide range of different types of collective investment undertakings, such as real estate investment trusts (REITs), private equity funds (see Section *2.9.3 Private equity funds*) and hedge funds. Many AIFs have complex structures with high risk and difficult redemption processes. A number of these AIFs will therefore not be a suitable saving alternative for consumers. The management and marketing of AIFs is regulated by the Act on the management of alternative investment funds (the AIF Act). Crowdfunding (see Section *2.9.4 Crowdfunding*) may in some cases be comprised by the Act on the management of alternative investment funds. Managing an AIF requires in principle authorisation by the Finanstilsynet. Managers of AIFs with total assets below certain thresholds are exempt from the licensing requirement but must be registered in a register administered by Finanstilsynet.

2.9 Other financial institutions

2.9.1 Finance companies

Finance companies mainly provide short-term loans in the form of leasing, factoring, debt instrument loans for the corporate sector and consumer loans, often credit card loans. The loans are primarily financed through short-term borrowing. Approximately 30% of finance companies in Norway, measured by retail lending volume, are foreign companies with branches in Norway.

Factoring is a form of corporate financing whereby a business sends its accounts receivable (invoices) to the finance company, which then immediately pays (lends) about 80% of the value of these invoices to the business. The finance company receives payment for the invoices and transfers the balance to the business minus fees and interest.

2.9.2 Securities firms

Securities firms or investment firms act as intermediaries in securities markets and are authorised by Finanstilsynet to offer investment services related to financial instruments. Securities firms have a crucial role in secondary market trading of financial instruments and in providing underwriting services for companies issuing stock on the primary market, known as corporate services. The most important services offered by securities firms, in addition to traditional brokerage and services, are investment advisory services, analysis and guaranteeing full subscription of an issue.

Securities firms also provide active management of investors' portfolios on an individual basis and as authorised by the investor. To prevent conflicts of interest between clients and between the firm and its clients, systems and physical information barriers must be established between active management and other business areas.

Securities firms are regulated by the Securities Trading Act and are subject to supervision by Finanstilsynet. Extensive statutory requirements govern securities firms' activities and organisation. The firm must be structured in such a way that the risk of conflicts of interest is kept to a minimum. In addition, the firm's management and owners must be fit to manage and own a securities firm.

At end-2024, there were 104 securities firms with a Norwegian licence. Of these, 13 were banks authorised to operate as securities firms. In addition, there were 17 branches of foreign securities firms.

2.9.3 Private equity funds

Private equity funds are a type of fund where companies invest in unlisted companies. They offer equity or debt capital financing to companies. Investment is motivated by the prospect of a future sale or listing. Debt capital is often provided in the form of convertible bonds, which investors can convert into shares at a later date. These funds are often organised as financing partnerships between institutional investors and affluent private individuals.

2.9.4 Crowdfunding

The development of digital platforms has increased the range of funding options. Crowdfunding is the practice of funding a business or a private individual by raising financial contributions from a large number of people. With traditional funding models, on the other hand, a limited number of investors, sometimes only one bank or a few large investors, are asked to invest a substantial amount. In contrast, crowdfunding uses online platforms to reach many small potential investors who may each wish to invest relatively small amounts.

A funding transaction involves three different types of agents: investors who invest (crowdfunders), a company or a private individual seeking

funding and the crowdfunding company that facilitates the funding via an online platform.

Financial crowdfunding comprises:

- *Lending-based crowdfunding (peer-to-peer lending (P2P)).*The crowdfunder (the lender) lends money to the company or the private individual (the borrower). The loan is brokered by a crowdfunding company via an online platform.
- *Equity-based crowdfunding.* The crowdfunder pays an amount in return for ownership in a company in the form of unlisted shares. The crowdfunding offering is brokered by a crowdfunding company via an online platform.

Financial crowdfunding is typically used to raise capital to fund small projects. Most financial crowdfunding platforms facilitate financing for small and medium-sized enterprises (SMEs). SMEs can often find it difficult to obtain a bank loan or raise equity capital in securities or venture capital markets. Financial crowdfunding allows individuals to invest directly in projects or companies that they would not have had easy access to otherwise. For companies, the cost of raising capital can be lower. Crowdfunding can thus increase value added if other potentially profitable projects are realised as a result.

Non-financial crowdfunding comprises:

- *Donation-based.* Worthy causes and small companies and projects can apply for funding on such platforms. The funder does not receive any compensation.
- *Rewards-based.* Support for more commercial projects where the funder pledges an amount and receives a reward from the project owner such as a discount on the future product (pre-sale) or a product sample.

Crowdfunding has grown rapidly in several countries. Crowdfunding has grown rapidly in several countries. Globally, crowdfunding is particularly widespread in the US, while the largest crowdfunding market in Europe is the UK (see Official Norwegian Reports (NOU) 2021: 10 Ny lov om folkefinansiering av næringsvirksomhet [New Act on crowdfunding of business activities] (in Norwegian only)).

The Norwegian crowdfunding market is small compared with other countries,[7] and is primarily lending-based crowdfunding.

On 10 November 2021, the EU introduced a regulation on crowdfunding. The Government approved on 26 January 2024 that Norway would participate in the decision of the EEA Joint Committee to incorporate the regulation into the EEA Agreement. Assuming consent from the Storting

7 The size of the Norwegian market and discussion of the crowdfunding rules are based on Report to the Storting No. 18 (2022–2023), Financial Markets Report 2023 [in Norwegian only].

(the Norwegian parliament), the regulation will apply as Norwegian law as adapted by the EEA Joint Committee's decision. The regulation covers providers of both equity-and loan-based crowdfunding services. Projects financed under the regulation must be for business activities only and only in an amount of up to EUR 5m. Crowdfunding services for consumers falls outside the scope of the regulation.

Crowdfunding platforms in Norway are currently subject to different rules depending on the operating model. Equity-based crowdfunding is regulated by the Securities Trading Act and the AIF Act, while loan-based crowdfunding is regulated by the Credit Intermediation Act, the Financial Institutions Act and the Financial Contracts Act. Both loan-based and equity-based platforms are subject to money laundering regulations. In the Financial Institutions Regulation, the Ministry of Finance has exempted lending by loan-based crowdfunding platforms from a licensing requirement when certain conditions are met.

In the Financial Market Report, the Government states that it would facilitate crowdfunding by simplifying the rules for the industry and increasing consumer protection. Requirements governing intermediaries of credit to consumers are regulated through the Credit Intermediation Act. The Act was approved by the Storting in December 2022 and entered into force on 1 July 2023.

3. Financial infrastructure

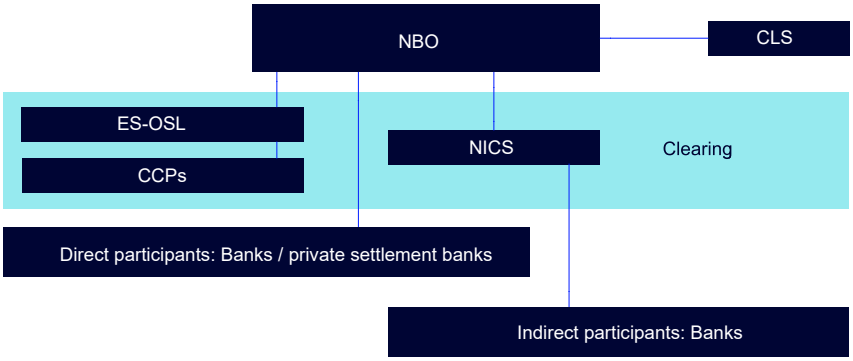
3. Financial infrastructure

The financial infrastructure refers to the systems that enable economic agents to conduct financial transactions, from everyday card payments in shops to trades in the securities and foreign exchange markets. Examples of the financial infrastructure are payment systems, securities settlement systems, central securities depositories (CSDs), central counterparties (CCPs) and trade repositories. The financial infrastructure comprises both the technical systems and the agreements and regulations governing their use. This publication treats cash as part of the financial infrastructure.

A payment system can be divided into “systems for payment services” and “interbank systems”. A payment service system is the part of the payment system that is aimed at customers and that makes it possible for consumers and firms to convert deposit money withdrawn from their bank account for cash, use payment cards and make online and mobile banking payments. An interbank system is a system that enables banks to settle payments among themselves.

At the core of the Norwegian interbank system are Norges Bank’s settlement system (NBO) and the Norwegian Interbank Clearing System (NICS) (Chart 3.1). NICS calculates what banks owe each other based on all of the payments made by their customers. The result of this clearing process is sent five times daily to NBO, where interbank settlement is performed by transferring reserves between banks’ accounts. Read more about NBO in Section *33.2.1 Norges Bank’s settlement system (NBO)* and about NICS in Section *3.2.2 The Norwegian Interbank Clearing System (NICS)*.

Chart 3.1 The Norwegian payment system



Source: Norges Bank

As banks' currency trading runs into the hundreds of billions of kroner a day, losses can be heavy if a counterparty is unable to fulfil its obligations. To limit this risk, a global multi-currency bank called CLS was created (see Section *3.2.3 Foreign exchange settlement risk and the CLS foreign exchange settlement system*). CLS prevents the risk of losses by ensuring that one side of a trade is not paid unless the other side has also been paid.

The securities settlement system (VPO) covers settlement of cash and securities. Payment for the securities is settled at Norges Bank, and the actual securities are transferred through Euronext Securities Oslo (ES-OSL). (Read more on the ES-OSL website.)

CCPs play an important role in financial markets (see Section *3.4 Central counterparties*). They enter into trades with financial instruments and become the buyer for the seller and the seller for the buyer. The risk of one of the parties to a trade being unable to fulfil its side of the bargain – known as counterparty risk – is thus transferred to the CCP, which guarantees that the trade will be completed. Since April 2010, Oslo Børs Euronext has required all equities traded on the exchange to be settled through a CCP.

3.1 Retail payment services

Retail payment services generally cover payments between households, businesses and government authorities, which are relatively low in value, but high in number. A distinction is drawn here between means of payment and payment instrument.

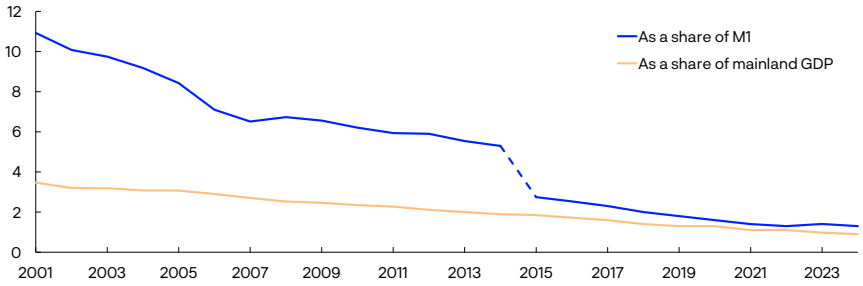
A means of payment is a claim that is transferred between buyer and seller as payment for goods and services. There are two main means of payment: cash, which is a claim on Norges Bank, and bank deposits (deposit money), which are claims on banks (see also box: **What is money?** in the introduction). Electronic money (e-money) is a third means of payment, defined in Section 2-4 of the Financial Institutions Act as "monetary value as represented by a claim on the issuer that is stored on an electronic device, issued on receipt of funds for the execution of payment transactions and accepted as a means of payment by undertakings other than the issuer".

Payment instruments are used to transfer means of payment. These can be divided into three main groups: cash (which in turn is also a means of payment), payment cards and bank transfers (such as online banking payments). Mobile phone payments can use cards, bank transfers or both as underlying payment instruments.

Cards and cash are primarily used for point-of-sale payments, while cards and bank transfers are more commonly used for remote payments where buyer and seller do not physically meet.

Chart 3.2 Value of cash in circulation as a percent of the value of narrow money (M1) and mainland GDP, respectively

Percent



Sources: Statistics Norway and Norges Bank

3.1.1 Cash

Cash is anonymous, physical, independent of electronic systems and guaranteed by the central bank. This means that cash can fulfil specific functions in the payment system that are challenging to achieve with other payment solutions.

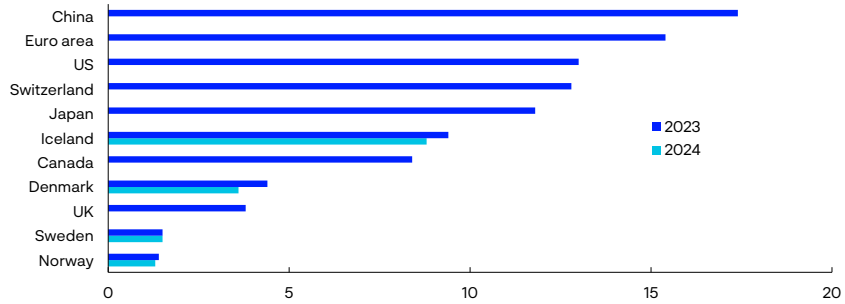
Under the Central Bank Act, cash is legal tender in Norway, and under the Financial Contracts Act (in Norwegian only), a consumer has the right to settle an obligation to a payee in cash. Deposit money is a generally accepted means of payment but is not legal tender.

Norges Bank supplies banks with cash, which is then distributed to the public. At the same time, the Financial Institutions Act requires banks to accept cash from customers and make deposits available for customers in the form of cash. in line with customers' needs and expectations. Thus, it is public demand that determines the volume of banknotes and coins in circulation.

Only a small proportion of payments are made using cash. Cash's share of the value of means of payment (M1) and mainland GDP is also low, and

Chart 3.3 Cash as a percentage of narrow money (M1) in selected countries

Figures for 2023 and 2024 (Nordic countries)



Sources: BIS, Central Bank of Iceland, Danmarks Nationalbank, ECB, Statistics Norway, Statistics Sweden and Norges Bank

has long been low, compared with other countries (Charts 3.2 and 3.3). However, cash is still important both for preparedness in the payment system and so that consumers who, due to various reasons, do not have access to or the possibility to use electronic payment systems can make payments.

For more information on cash in circulation, see "Årsrapport Setlar og myntar 2024" [Annual Report Notes and Coins] (in Norwegian only).

3.1.2 Payment cards

There are three main types of payment card: debit cards, charge cards and credit cards.

A debit card is issued by a bank and is linked to a bank account. Transactions are debited directly from the cardholder's account. A charge card does not debit the cardholder's account directly. Instead, the card issuer accumulates purchases over a given period and bills the cardholder for the total amount. A credit card works like a charge card but gives the cardholder the option of credit. This means that the cardholder can choose to pay off all, part or none of the balance on the card. Any amount outstanding at the end of a period is rolled over to the next period, and interest begins to accrue.

BankAxept is Norway's domestic debit card system. Owned and operated by banks in Norway through a limited company, it is by far the most widely used system in Norway for domestic card payments. International cards account for the remaining card payments. International cards are payment cards issued in Norway by Norwegian banks or card companies under licence from international card systems such as Visa and MasterCard. These can be debit cards, charge cards or credit cards. For more detailed information on payments using BankAxept, see box: **How does a BankAxept card payment work?**

The most common payment cards are co-badged, combining BankAxept and an international debit card. More than half of issued payment cards are of this type, while slightly more than one in three cards is an international credit card. The traditional way of paying with a payment card is for the card's chip to be read in a physical payment terminal and the cardholder to enter the PIN.

Most card payments are contactless. These primarily use either a physical card or a mobile phone on which the card details are stored electronically. Communication between the payment terminal and the payment card or mobile phone uses wireless technology: payment is made by holding the card or mobile phone close to the payment terminal. The user does not normally need to enter a PIN if the payment is below a certain amount. Payment cards are also used for remote payments, mainly when buying goods online. In this case, users enter their card details and approve payments in an online payment terminal direct from their own computers. Alternatively, the process can be simplified using digital wallets.

How does a BankAxept card payment work?

Six out of ten card payments in Norway are made with a BankAxept card. Most of these payments are debit card transactions. The majority of BankAxept cards are co-badged cards and also include another payment solution, usually Visa or MasterCard, but in practice, BankAxept is automatically selected by most payment terminals unless the payer actively chooses the alternative payment solution.

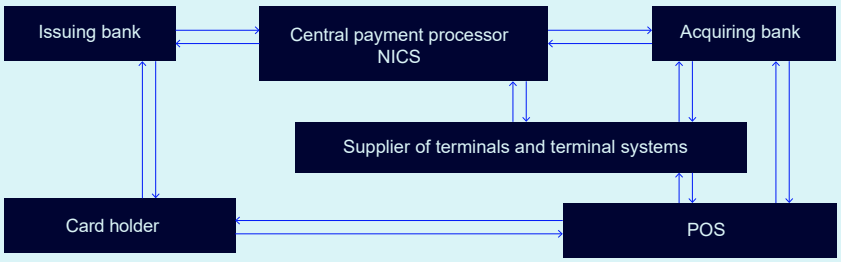
To be able to accept payments using BankAxept cards, a point of sale (the merchant) must have an agreement with both BankAxept and a bank that guarantees settlement of these transactions. Settlement means that the merchant's account is credited with all payments made with BankAxept cards using the shop's payment terminals in a given period. The terminals themselves can be rented or purchased from banks or other suppliers. Payers must have an agreement with a bank to link a BankAxept card to their account.

What happens when a payment is made with a BankAxept card?
When a customer uses a BankAxept card, the terminal reads the data on the card and asks the customer to enter a PIN. A request to authorise the payment is then generated. This is sent to a central payment processor, which checks that the correct PIN has been used and that the request comes from a genuine terminal at a real merchant. The authorisation request is then forwarded to the issuing bank (the cardholder's bank) (Chart 3.A).

The issuing bank checks that the criteria for authorising the transaction have been met, that the card has not been blocked and that there are sufficient funds. The response (yes or no) is sent by the issuing bank to the processor, which then forwards it to the terminal at the point of sale, where the result is displayed on the screen. All of this normally takes place in less than half a second.

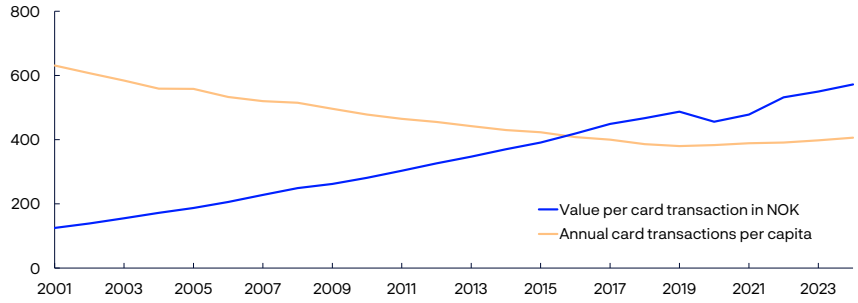
NICS performs interbank clearing five times each weekday (see Section *3.2.2 The Norwegian Interbank Clearing System (NICS)*). Each clearing is sent to Norges Bank for settlement upon completion. Up until settlement at Norges Bank, the amount is placed on hold in the payer's account and is therefore unavailable for other use. After settlement in Norges Bank, NICS sends the transaction data to the acquiring bank (the merchant's bank) for the merchant's account to be credited, and to the issuing bank for the payer's account to be debited.

Chart 3.A BankAxept payment process



Source: Norges Bank

Chart 3.4 Annual card transactions per capita and value per card transaction in NOK



Source: Norges Bank

Some businesses, such as some supermarket and petrol station chains, also issue cards for payment purposes. These cards can only be used in the issuer's outlets and are therefore not regarded as proper payment cards.

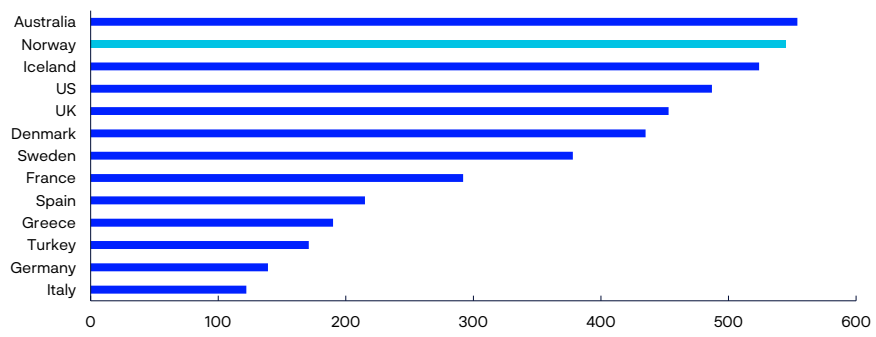
The number of goods and services purchases made using payment cards has risen over time (Chart 3.4, partly because of a rise in the total number of payments (increased spending) and partly because card payments have to some extent replaced cash payments.

Norway has one of the highest levels of card usage in goods and services purchases (Chart 3.5). At the other end of the scale are the Mediterranean countries and Germany. Germany is one of the advanced economies with lowest card usage. Online shopping accounts for an increasing share of card payments (Chart 3.6). Payments to Norwegian websites account for well over half of online payments.

Mobile payment is a payment method and not a payment instrument. Mobile payment can use a number of different payment instruments.

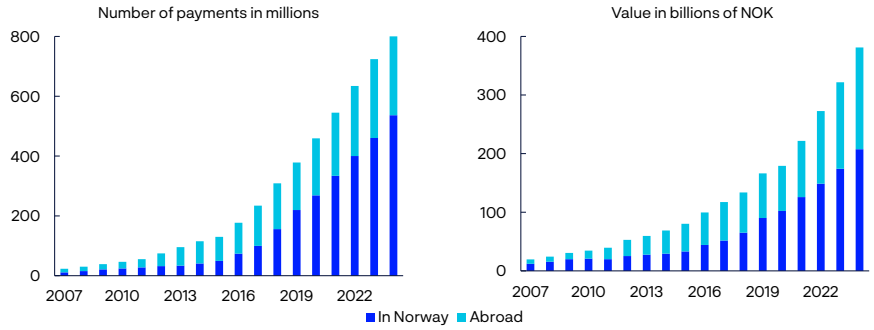
Chart 3.5 Annual card transactions per capita in selected countries

2023



Sources: BIS, Central Bank of Iceland, ECB and Norges Bank

Chart 3.6 Online payments using Norwegian payment cards



Sources: BIS, Central Bank of Iceland, ECB and Norges Bank

Mobile payment can be made at physical points of sale (POS), for online purchases or for peer-to-peer (P2P) transfers. Mobile payment is the dominant method used for P2P transfers and accounts for a rapidly increasing share of POS payments and online purchases. For P2P transfers, bank transfers are primarily used (see next sub-section), while for other payments, payment cards are the underlying payment instrument. Vipps and Apple Pay are among the most widely used payment solutions for mobile payments in Norway.

3.1.3 Bank transfers

Households use bank transfers to pay bills and make payments to others. Businesses use them to pay bills and wages.

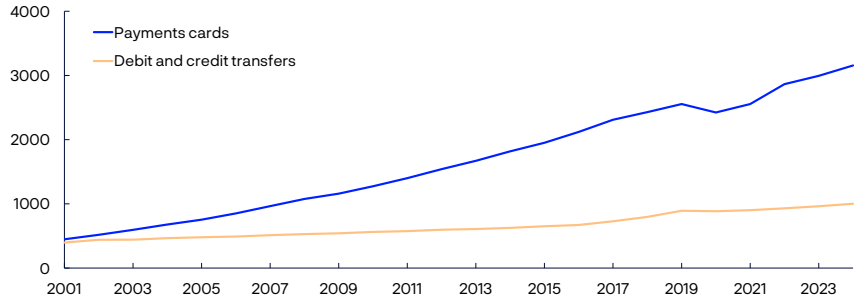
When making a bank transfer money is transferred from one account to another without using a card system. There are two types: debit transfers initiated by the payee, such as payments using Avtalegiro (direct debit), while credit transfers are initiated by the payer, such as payments registered by consumers using online banking. If debit transfers are combined with an invoice that is sent electronically (e-invoice), the payment process will be fully automatic for the customer. Both payee and payer must have an agreement with their bank for direct debits to take place.

Debit and credit transfers are used mainly for remote payments where payer and payee do not physically meet. Some payments at point of sale can also result in bank transfers. For example, a payment with a credit card will initially count as a card payment, but eventually the customer will be sent an invoice or bill that needs to be paid. This last payment is recorded as a debit or credit bank transfer.

The number of card payments is much higher than the number of bank transfers (Chart 3.7). The average value of a bank transfer is far higher than the average value of a card payment.

Chart 3.7 Use of payment instruments

In millions of transactions



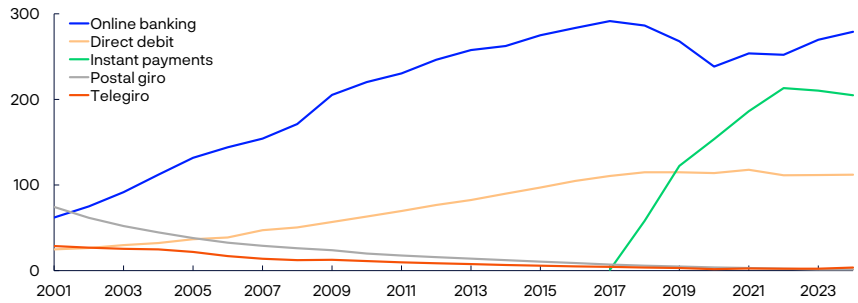
Source: Norges Bank

The vast majority of bank transfers made by retail customers are now electronic. Chart 3.8 shows the different types of bank transfers. Paper-based and manual transfers, such as postal giro and telegiro payments, are rarely used these days. Standard online banking payments are the most common way for retail customers to pay their bills, but the use of other efficient methods, such as direct debit, is also widespread. Direct debit payments are made automatically when they fall due, provided that the customer's account has sufficient funds. Instant payments are another common means of payment, where the payee receives payment almost immediately after the payment has been initiated by the payer.

For more information on retail payment services, see "Retail payment services 2024".

Chart 3.8 Debit and credit transfers from retail customers

In millions of transactions



Source: Norges Bank

3.2 Interbank systems

3.2.1 Norges Bank's settlement system (NBO)

Norges Bank is the ultimate settlement bank in the Norwegian payment system. All payments made in NOK are ultimately settled between banks in Norges Bank's settlement system (NBO). This includes ordinary payments by households and firms, large payments in the financial and foreign exchange markets, and payments involving the public sector. Average daily turnover in NBO in 2024 was around NOK 350bn.

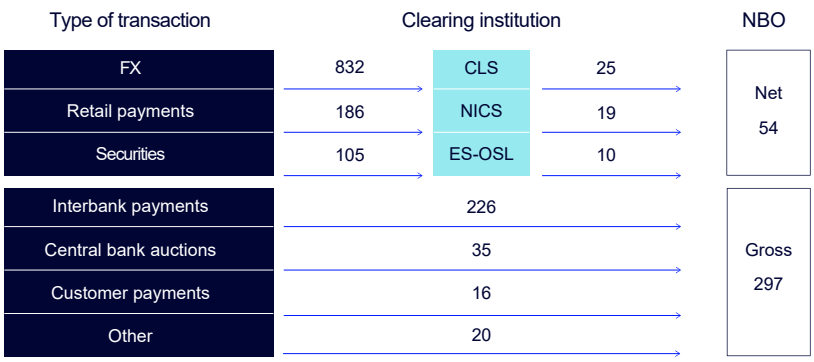
NBO is also used to implement Norges Bank's monetary policy. Read more about the implementation of monetary policy in Section *1.1 Money markets* and in box: **Norges Bank's liquidity management and overnight lending rate** in Section 1.

In total, 104 banks have an account with NBO, including most Norwegian banks. These banks can participate directly or indirectly in the various settlements in NBO. Indirect (or tiered) participation means that a bank relies on another bank (a direct participant) to perform settlement in NBO on its behalf. Although most Norwegian banks have an account with NBO, few banks settle their transactions directly in NBO. These are primarily the largest Norwegian banks and the Norwegian branches of Scandinavian banking groups. The majority of Norwegian banks have only a few gross transactions and participate in net settlements through one of the big banks. Foreign banks without branches in Norway can hold accounts in Norges Bank but choose to participate indirectly in the settlement in Norges Bank. In terms of value, transactions originating from foreign banks account for a substantial share of turnover in NBO.

NBO's turnover stems from the following settlements:

- Gross settlements (settlement of individual transactions in real time) account for more than 85% of turnover in NBO (Chart 3.9). These transactions include large financial market transactions, often related to banks' foreign exchange trading, liquidity management and

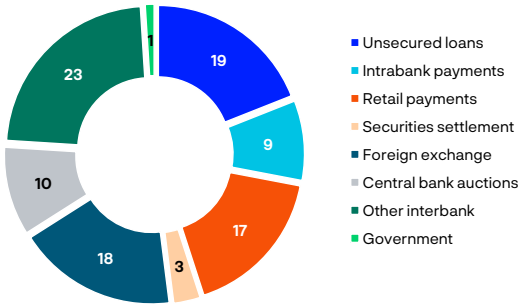
Chart 3.9 Gross and net settlement in NBO
In billions of NOK. Daily average. 2024



Sources: Bits, Euronext Securities Oslo, CLS and Norges Bank

Chart 3.10 Gross settlement by transaction type

Percent. August 2015



Source: Norges Bank

payments on behalf of customers (Chart 3.10). The average size of these transactions was just over NOK 76m in 2024. All Norwegian banks with an account with NBO can participate directly in gross settlement, but only 10–15 banks do so.

- NICS Net primarily settles ordinary retail payments but also some small-scale financial market transactions (below NOK 25m) (see Section *3.2.2 The Norwegian Interbank Clearing System (NICS)*).
- Securities settlement is the settlement of securities transactions, including payments between banks related to securities transactions. The actual securities are settled through Euronext Securities Oslo (ES-OSL) (see Section *3.3 Securities settlement (VPO)*). Participants in VPO that do not have an account with Norges Bank settle the cash leg of securities transactions through a bank (liquidity bank).

Norges Bank requires banks to have sufficient funds to cover the positions they intend to settle in NBO. This can be in the form of deposits or use of the lending facility at Norges Bank. To gain access to the lending facility, banks must pledge securities registered in a central securities depository as collateral in favour of Norges Bank. Banks' available liquidity from the central bank's lending facility generally exceeds what they need to settle payments.

The Scandinavian Cash Pool has been developed by Norges Bank in collaboration with the Riksbank (Sweden's central bank) and Danmarks Nationalbank (Denmark's central bank) to facilitate liquidity management for banks that participate in settlements at some or all of the Scandinavian central banks. The Pool allows banks to use deposits in one central bank as collateral for loans from another.

Central bank digital currency

A number of central banks, including Norges Bank, are considering whether to issue a general purpose central bank digital currency (CBDC) in the future. This form of money is a claim on the central bank in the official currency and would then be a new representation of Norwegian money and serve as a supplement to cash and traditional payments using bank deposits.

Technological advances have brought this issue to the fore. Falling cash usage and the possibility of major changes in the monetary and payment system have raised the question of whether new functions will be needed in order to ensure that payment systems remain efficient and robust and to maintain confidence in the monetary system.

The introduction of a CBDC could be an appropriate measure to strengthen contingency arrangements in the payment system and contribute to innovation in payment services. At the same time, the introduction of CBDCs could impact bank funding and financial stability, see for example "Vil bankenes utlånsrenter øke ved innføring av digitale sentralbankpenger" [Will the introduction of a central bank digital currency push up banks' lending rates], a post on bankplassen.norges-bank.no, a blog written by Norges Bank staff, 24 June 2021 (in Norwegian only). CBDCs can take different forms depending on purpose.

A study of CBDCs comprises complex issues. No western country has yet introduced CBDCs and there is therefore limited international experience to draw on. More analysis is needed to assess how a best-suited CBDC solution should be designed and whether it is an appropriate solution relative to the costs required to establish and operate such new infrastructure. In January 2024, Norges Bank decided to continue its study on CBDCs to prepare for an introduction of a CBDC if this should prove necessary to secure an efficient and secure payment system. The study comprises both retail CBDCs and wholesale CBDCs for interbank settlement. No decision has been made to introduce a CBDC.

3.2.2 The Norwegian Interbank Clearing System (NICS)

NICS is the banks' joint system for receiving and clearing payment transactions. Almost all payment transactions in Norway are sent to NICS for clearing before being sent to NBO for settlement. Small-value payments, such as card payments and bank transfers, are netted so that each bank has a single debit or credit position against other participant banks. The clearing is performed by NICS and sent to NBO for settlement (net settlement) five times daily: at 5.30 am, 9.30 am, 11.30 am, 1.30 pm and 3.30 pm.

All banks that participate in NICS do so directly. Banks can participate in the net settlement at Norges Bank either directly (Tier 1 banks) or indirectly (Tier 2 banks). Once clearing in NICS is complete, the Tier 1 banks that serve as settlement banks for Tier 2 banks settle these banks' positions at Norges Bank. These positions are then added to the settlement bank's own position so that the settlement bank has a single position in the net settlement. Once settlement in NBO is complete, the Tier 2 bank's account with the settlement bank is debited or credited. At the end of 2023, 20 banks participated directly in net settlement in NBO (Tier 1 banks) and 91 banks indirectly (Tier 2 banks).

Payments cleared through NICS are below NOK 25m. Large-value payments, or specially marked payments, are sent to NBO for gross settlement, either directly to Norges Bank or via NICS. NICS has introduced a real-time payment solution where the payee's account is credited within seconds of payment initiation and before the payer's bank is debited. The payment is backed by central bank money, which eliminates interbank credit risk.

Norges Bank has awarded the licence to operate the Norwegian Interbank Clearing System (NICS) to the financial industry's infrastructure company, Bits AS (Bits), which is subject to supervision by Norges Bank. Bits has outsourced the technical operation of NICS.[1] Although the technical operation of NICS has been outsourced, Bits remains responsible for its operation.

3.2.3 Foreign exchange settlement risk and the CLS foreign exchange settlement system

Foreign exchange (FX) settlement involves the risk of counterparty default, often referred to as Herstatt risk after the German bank of that name, which failed in 1974 (for more about Herstatt risk, see "Bank Failures in Mature Economies", *BCBS Working Papers No. 13*, April 2004, and box: **Herstatt risk**).

CLS was set up in 2002 to reduce FX settlement risk. Settlement in CLS is based on payment versus payment (PvP), which means that banks are protected from delivering one part of a trade until they have received the other part. This means that settlement risk is substantially reduced, and the transacting banks only have credit risk exposure to CLS. CLS currently settles FX trades in 18 different currencies.

CLS Bank is located in New York and is supervised by the US central bank, the Federal Reserve. Norges Bank and the other central banks whose currencies are settled by CLS Bank are members of an oversight committee chaired by the Federal Reserve. CLS Bank is organised as a limited liability company owned by settlement members.

1 The operation of NICS has been outsourced to Mastercard Payment Services Infrastructure (Norway) AS.

Herstatt risk

One widely discussed incident that had significant consequences for the foreign exchange market was the failure of the German bank Bankhaus Herstatt in June 1974. This happened during the afternoon, local time, after the German settlement system had closed, but before the final settlement in the US. Many of the bank's customers, who wanted to convert German marks into US dollars, had already sent German marks to Herstatt and were expecting to receive their dollars later that day in New York. However, Herstatt's correspondent bank in New York suspended all outgoing payments on behalf of Herstatt once it became known that the bank was insolvent and had ceased operating. Some of these customers were left with considerable exposure to Herstatt, and some customers' claims were never met. Herstatt risk has come to be used widely as an alternative term for foreign exchange settlement risk.

Participation in CLS can be either direct (as a settlement member) or indirect (as a third party). Settlement members make all incoming and outgoing payments themselves, while third parties participate through a settlement member. DNB is the only Norwegian settlement member. Actual settlement in CLS is gross (payment versus payment) in private bank money (bank deposits, also known as inside money) in CLS Bank, but banks pay in a net amount calculated by CLS for each currency. Settlement members pay and receive funds through CLS's central bank account via their own accounts.

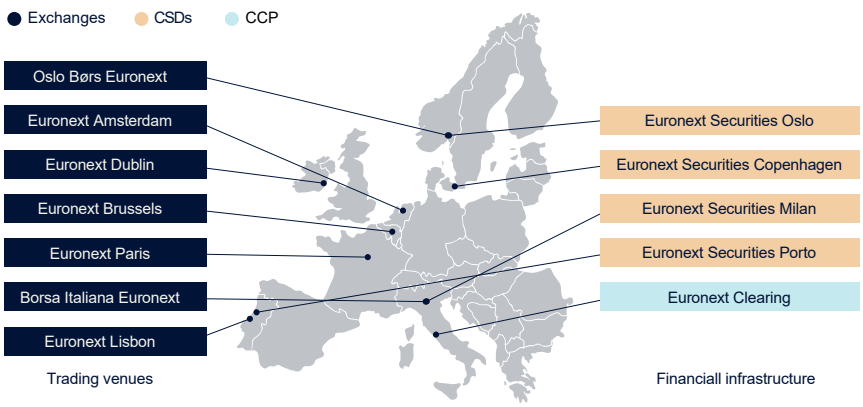
If a settlement member does not have an account with a central bank, payments are made via another bank with an account at that central bank, known as a correspondent bank. There are four correspondent banks for Norwegian kroner: DNB, Nordea, SEB and Danske Bank. These correspondent banks send and receive Norwegian kroner in NBO on behalf of their participant banks. CLS has a total of more than 70 settlement members. Funds in NOK are paid and received through CLS's Norges Bank account via the four correspondent banks and Handelsbanken (see the CLS website).

3.3 Securities settlement (VPO)

The securities settlement system (VPO) has a cash leg and a securities leg. Ownership of Norwegian financial instruments is registered electronically in Euronext Securities Oslo (ES-OSL), the only Norwegian CSD. Information about securities is registered in the CSD, such as the name of the issuer and the owner, and whether the securities have been pledged as collateral. A securities trade is not completed (does not gain legal protection) until the change in ownership is registered in a CSD. All financial instruments can be registered in a CSD. CSDs are regarded as systemically important institutions.

The total market value of securities registered in ES-OSL is currently around NOK 8 000bn. When a security is sold, the security itself is

Chart 3.11 Euronext Group



Source: Euronext

transferred from the vendor's account to the buyer's account at ES-OSL, while the cash leg is settled at Norges Bank. VPO settlements take place three times a day (early morning, late morning, and afternoon). Gross daily turnover for securities settlements at ES-OSL was around NOK 105bn in 2024, whereas the daily net settlement value at Norges Bank was around NOK 10bn. Like Oslo Børs Euronext, ES-OSL is owned by the international group Euronext N.V., which also includes other CSDs (Chart 3.11).

European legislation on securities and derivatives

The EU is working to create a single securities market in the EU with more efficient competition and enhanced transparency in securities and derivatives trading. To achieve this, the EU has introduced a number of directives and regulations in recent years on trading and settlement of financial instruments. Important examples include the Markets in Financial Instruments Directives (MiFID I and II), the European Market Infrastructure Regulation (EMIR) and the Central Securities Depositories Regulation (CSDR).

- MiFID I regulates what happens before a trade is made and aims to improve protection of investors. For example, there are restrictions on the information that can be provided to customers and on the types of product that can be offered to different kinds of customer. The Directive also requires the best bid and offer prices to be quoted ahead of the trade, with subsequent publication of the price, volume and timing of a trade. MiFID I was introduced in Norway in 2007.
- MiFID II is an extension of MiFID I in response to a number of trends in the market. For example, MIFID II introduces requirements to limit the risk of instability and market manipulation as a result of high-frequency trading (HFT) using computer programs. Trading models based on mathematical algorithms must be designed in such a way that they are robust to different market conditions. Participants must also supply the supervisory authorities with detailed information on the algorithms they use. MiFID II was introduced in Norway through a regulation on 1 January 2018.
- EMIR requires suitable OTC derivatives to be cleared through a CCP and all derivatives trades to be reported to a trade repository. The central clearing requirement applies to financial firms that trade in derivatives outside regulated trading venues. Non-financial firms must use CCPs for OTC derivative transactions above a certain volume. EMIR was introduced in Norway on 1 July 2017.
- CSDR standardises national legislation on central securities depositories (CSDs) and aims to promote competition between CSDs in different countries. The Regulation provides for links between CSDs, allowing investors and issuers to choose which depository a security should be registered in, where this does not contravene national legislation. Harmonisation of the rules in different countries is essential for efficient cross-border settlements on the T2S platform. A new Central Securities Depository Act, which implements CSDR in Norway, entered into force on 1 January 2020 and supersedes the previous Securities Register Act.

A common feature of these regulations is that providers of financial infrastructure services (CCPs, CSDs, trade repositories and investment service providers) authorised in one EU member state are entitled to operate throughout the EU/EEA (known as the "single passport"). Non-EU service providers can apply to the European Securities and Markets Authority (ESMA) for third-country recognition. Providers that are authorised by the EU (either directly or on a third-country basis) are subject to pan-European supervision and oversight, where for example ESMA participates.

TARGET2-Securities (T2S)

The work to create a single market for financial services has been strengthened by the development of infrastructure for cross-border securities settlement (Target2-Securities (T2S)) under the auspices of the European Central Bank (ECB).

T2S is currently used by 24 central securities depositories (CSDs). Except for the Danish CSD, Euronext Securities Copenhagen, all CSDs settle in euros. Norges Bank and Euronext Securities Oslo (ES-OSL) may join at a later date if there is sufficient interest among market participants and if Norges Bank can reach a satisfactory agreement with the ECB.

Under T2S, banks still have securities accounts with CSDs and cash accounts with central banks, but the accounts with central banks and CSDs participating in T2S are linked. Settlement in securities accounts and central bank accounts takes place on a transaction-by-transaction basis, with securities and cash being transferred simultaneously. If CSDs have accounts with each other, two banks will be able to settle securities trades with one another directly even if they are not members of the same CSD.

Traditionally, each country has had its own solutions for trading and settlement of securities. In recent years, however, the EU has worked to promote further integration of the European securities markets. One example of this is the EU Central Securities Depository Regulation (CSDR), which has contributed to standardising legislation in European countries. ES-OSL began to use its new authorisation under CSDR on 1 March 2022. The CSDR has been transposed into the new Norwegian Central Securities Depository Act. The CSDR was implemented in Norway on 1 January 2020 (see box: European legislation on securities and derivatives). Most of the CSDs in the EU/EEA area hold a CSDR licence. Today, there are about 30 CSDR-licensed CSDs, including ES-OSL and the other Euronext CSDs. The authorisation was granted by Finanstilsynet, which is the competent authority, after consultation with Norges Bank, which is the relevant authority according to CSDR.

CSDs authorised under the CSDR may offer services throughout the EU/EEA if they have notified the competent authority in the country where services are to be provided. The CSDR allows issuers and investors to choose among competing CSDs. The purpose is to promote a single securities market.

The establishment of TARGET2 and TARGET2-Securities (T2S), the ECB/Eurosystem payment system for processing cross-border payments and securities transactions, also promotes European integration (see box: TARGET2-Securities (T2S)).

3.3.1 How are trades made?

Financial instruments are traded both on regulated trading venues (for example stock exchanges) and unregulated markets (see also box: Turnover in securities: Exchange-traded and OTC in Section 1).

Before buying or selling equities on a regulated trading venue, an investor must be a customer of a securities firm (broker). The trade is initiated when the customer asks the broker to place an order in the venue's trading system, stating which securities are to be bought or sold together with the desired volume and price. The trading venue compares buy and sell orders, and trades are executed as soon as there are buy and sell orders that match in terms of price, volume and any other terms. A trade is normally settled two days after being made.

Investors in the bond market are normally large institutions, such as banks and insurers, and generally trade bilaterally outside a trading venue (OTC), agreeing between them the volume, price, settlement date and any other terms. The buyer and seller (or their brokers) send information on the trade to the CSD, which matches the information from the two parties. As with equities, trades are normally settled two days after they take place.

3.3.2 How does securities settlement work?

A number of different types of agents participate directly in the securities leg of VPO, including the securities departments of large Norwegian banks, branches of foreign banks, some Norwegian brokerages and central counterparties (CCPs), slightly more than half of which also participate directly in the cash leg at Norges Bank. Private investors and a number of banks participate in VPO indirectly through one of these direct participants.

Trading in fixed income instruments and in equities is sent to ES-OSL by the securities firms. ES-OSL checks that the information on purchases and sales matches in terms of price, volume and other terms. If the trade is in equities, a CCP will normally become the counterparty in the securities settlement in ES-OSL (see Section 3.4 Central counterparties).

VPO is a multilateral net settlement. ES-OSL calculates a net position for each bank based on the agreed securities transactions. Norges Bank executes the cash leg of the settlement and ES-OSL enters the securities transactions in the participants' securities accounts (the securities leg of the settlement). This solution ensures that securities only change owner after the buyer has paid and the seller has delivered (delivery versus payment). CCPs participate in securities settlement but generally have a net position close to zero, because they act as seller for the buyer and buyer for the seller.

Once settlement between securities firms and banks is completed, investors (and other indirect participants in the settlement) are credited or debited. In the cash leg, this means that securities firms transfer money to the investors that have sold securities and debit the investors who have purchased securities. This can also be done prior to settlement. For Norwegian investors, Norwegian equities are registered on an ES-OSL account in the name of the investor. Otherwise, equities may be registered in the investor's bank (nominee registration), where

only the name of the nominee and not the name of the beneficial owner appears in VPS. There are currently about 1.6m ES-OSL accounts.

3.4 Central counterparties

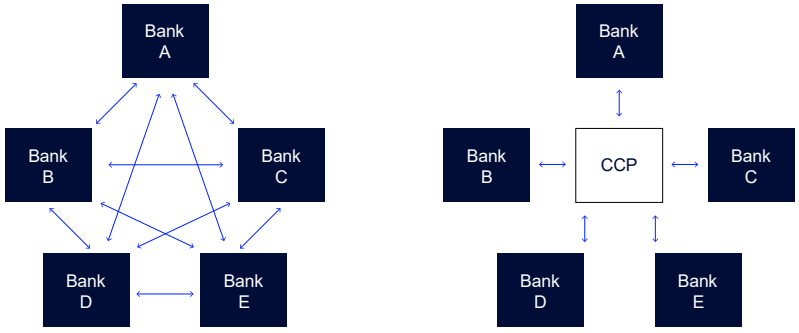
A central counterparty (CCP) enters into a transaction between buyer and seller and becomes the counterparty for both (clearing). The original contract is replaced with two new ones: one between the buyer and the CCP and one between the seller and the CCP. The parties to the transaction will not be exposed to each other, but to the CCP instead (Chart 3.12). The CCP guarantees completion of the transactions that are cleared through it and is responsible for payment of any margin requirements. Margin requirements are either in the form of cash or securities and are intended to ensure that the CCP does not incur a loss in the event of counterparty default.

3.4.1 Use of central counterparties

The global financial crisis in 2008 revealed that margin requirements for bilateral trading in derivatives (OTC derivatives) were not adequate. In addition, the authorities were unaware of the scale and type of exposures between market participants. Drawing on the experience gained during the financial crisis, the G20 leaders agreed to strengthen the regulation of derivatives markets. Importantly, it was agreed that OTC derivatives should to a greater extent be settled via CCPs. This has been followed up in the US by means of the Dodd-Frank Act and in Europe through the European Market Infrastructure Regulation (EMIR) (see box: European legislation on securities and derivatives).

EMIR was incorporated into Norwegian law on 1 July 2017 (see also *Appendix 3: Important financial system legislation*). Under EMIR, standard interest rate derivatives, which are by far the most widely traded derivatives, are subject to clearing (Chart 3.13). For example, banks use interest rate derivatives in connection with foreign currency borrowing in bond markets (see box: Norwegian banks' and mortgage companies' bond funding from abroad in Section 1). Today, Norwegian banks settle

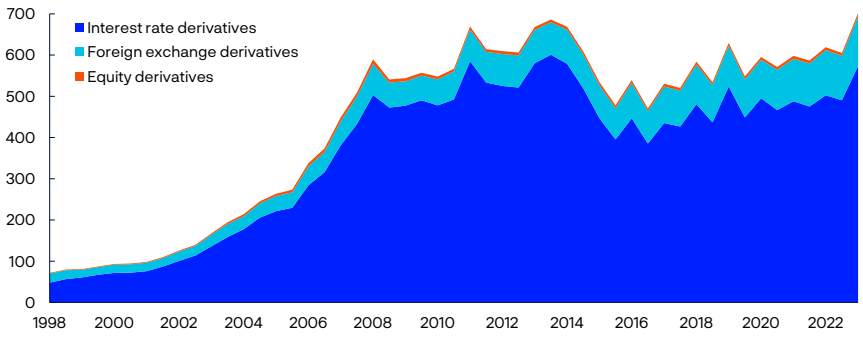
Chart 3.12 Central counterparty (CCP)



Source: Norges Bank

Chart 3.13 Global OTC derivatives market

Notional amounts outstanding. In trillions of USD



Source: BIS

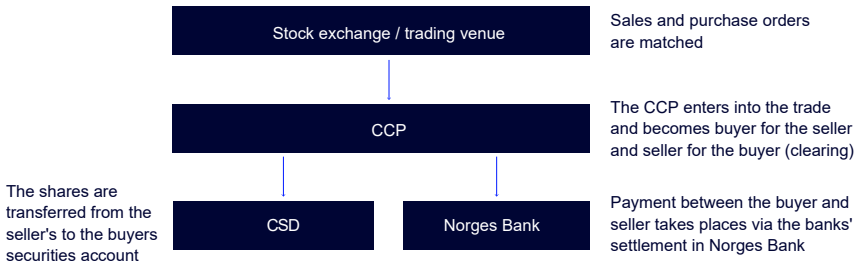
interest rate derivatives bilaterally and through SwapClear, which is part of the UK CCP LCHClearnet (LCH). DNB Bank ASA participates directly in SwapClear, as do a number of other Nordic banks.

Clearing through a CCP has also increased because many trading venues have made it a requirement. Clearing of equities has been compulsory on Oslo Børs Euronext since 2010. The clearing obligation on Oslo Børs Euronext came about primarily as a result of foreign participants' interest in anonymous trading. Norwegian equities are also traded on other trading venues (Chart 3.14). Some CCPs are active on one or more trading venues. CCPs that clear equities in NOK take part in the cash leg at Norges Bank, either directly or through another bank.

3.4.2 Central counterparties and financial stability

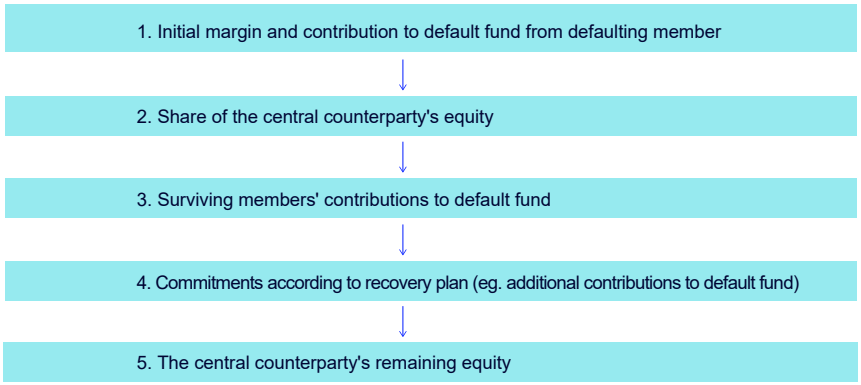
In principle, a CCP has a balanced position (a "matched book"). Any fluctuations in the prices of the equities or derivatives that it clears will therefore not involve a risk of losses for the CCP. It is still, however, exposed to a conditional market risk. If either party fails to fulfil its obligations under the trade, the CCP is obliged to honour the terms of the original trade with the party that has not defaulted. In this situation, the CCP's position will no longer be balanced. The CCP will then close out the position by entering into a new contract to buy or sell an opposite

Chart 3.14 Trading, clearing and settlement of equities in NOK



Source: Norges Bank

Chart 3.15 Illustration of the central counterparty default waterfal



Source: Norges Bank

position in the market. To limit risk, the CCP will try to close out the position quickly once a participant has defaulted.

To manage the risk they take on, CCPs require CCP members to deposit margins and pay contributions to a default fund. If a member defaults, losses must initially be covered by the margin and default fund contribution paid in by the defaulting member. If the losses exceed the margin and the default fund contribution, the CCP's own equity is used. Any losses beyond that must be covered by other participants' default fund contributions (Chart 3.15).

Most direct participants in a CCP are large banks. If a CCP's losses are so large that it has to exhaust the default fund to close out the position, the CCP may require members (including Norwegian banks) to pay in an additional contribution to the default fund. The size of these contributions depends on the contracts the CCPs have with members.

3.4.3 Central counterparties and systemic risk

CCPs should have clear and pre-defined procedures for the management of a clearing member default. With clear procedures, margin requirements and required default fund contributions, problems are less likely to arise compared with bilateral settlement. Since trading venues introduced the obligation to use a CCP, market participants' exposures have been concentrated in a small number of CCPs. This means that the consequences could be considerable if a CCP's risk management procedures are inadequate.

CCPs often operate in more than one country. To ensure that CCPs take sufficient account of the risks they face, the authorities have introduced close monitoring and extensive cross-border collaboration. The Norwegian authorities participate in the groups (colleges) responsible for the supervision and oversight of three CCPs active in the Norwegian securities market.

Appendix

Appendix 1

Regulation of financial markets and trading venues

In financial markets, savings are channelled to investments, and risk is allocated according to investors' willingness to bear risk. Moreover, many markets generate prices that are communicated to the public and thus function as important carriers of information. These tasks cannot be properly performed unless participants have confidence in the functioning of the financial market as a whole. A securities trade requires confidence that the right to own the security is not in dispute, that everyone in the market has equal information and that the parties are honest in their actions. If participants do not have that confidence, securities trading will be associated with risk beyond the risk of the individual security. This will make it more expensive for businesses to raise capital in securities markets.

Various kinds of market failure can give rise to a loss of confidence. For example, information asymmetry increases the risk of insider trading and price manipulation. Protecting investors is the responsibility of the authorities, and there are various measures in place to reduce the risk associated with financial market activities, including regulation and supervision. The Securities Trading Act regulates actual trading in financial instruments and sets requirements for participants. The Act also regulates the intermediary function and lays down requirements for security and impartiality. The Act relating to regulated markets (Stock Exchange Act) (in Norwegian only) and the Central Securities Depository Act regulate the securities market infrastructure. In markets where consumers (non-professional investors) participate, consumer information and protection are key objectives of the legislation

To ensure that investors in Norwegian securities traded in regulated markets are provided, as far as possible, with the same information, the Securities Trading Act contains the following provisions:

- Requirements with regard to ongoing and periodic information.
- A requirement for close associates of a company who have particular knowledge of its financial position (primary insiders) to give notification of the purchase or sale of shares.
- A disclosure requirement for large shareholders when their holdings exceed or fall below specified thresholds in either direction. For holdings of up to 25%, there is a disclosure requirement for every 5 percentage points.

A requirement for extensive publicly available information in connection with an initial public offering or offers to subscribe for shares or other securities in a regulated market.

Finanstilsynet monitors compliance with the legislation and the information requirements. (See Finanstilsynet's website for information about prospectuses (in Norwegian only)).

Norway participates in the EU single market in financial services under the EEA Agreement. Norwegian legislation is therefore harmonised with EU legislation. The EU Markets in Financial Instruments Directive (MiFID) lays down requirements for the organisation of investment firms and their conduct of business, authorisation requirements for regulated markets, reporting obligations to prevent market manipulation, notification obligations relating to transactions in shares and provisions on admission of financial instruments to quotation on regulated markets. The Directive has been implemented in Norway through the Securities Trading Act. MiFID I was introduced in Norway in 2007 and MiFID II in January 2018.

Over the past decades, various forms of derivatives (see box: **Derivatives** in Section 1) have become an increasingly important element in financial markets. Derivatives trading has been largely unregulated or lightly regulated. Market participants' poor understanding of the risk associated with the exposure related to some derivatives was a challenge during the financial crisis. After the crisis, regulation of the derivatives markets has become more extensive, including mandatory clearing for certain standard interest rate derivatives. In the EU, over-the-counter (OTC) derivatives, central counterparties and transaction registers are regulated by the European Market Infrastructure Regulation (EMIR). EMIR was introduced in Norway on 1 July 2017.

The CSDR (Central Securities Depository Regulation) standardises the legislation relating to central securities depositories (CSDs) and is intended to promote competition between CSDs in different countries (see Norges Bank's Financial Infrastructure Report 2020). This regulation was implemented in Norwegian law on 1 January 2020.

FX and money markets have been viewed as markets that function well with very little specific government regulation. For self-regulation to function, efficient markets and professional participants are essential. In these markets, trust is largely assured by participants' self-regulation and by the fact that participants (ie banks and other financial institutions) are regulated. Examples of misuse of information and attempts to manipulate key prices in unregulated markets in recent years have led to a number of initiatives taken to regulate previously unregulated activities and market participants.

Appendix 2

Capital and liquidity regulation

Banking crises can impose substantial costs on society. The authorities therefore set capital, liquidity and funding requirements for banks so that banks can weather periods of higher losses and funding shortages without recourse to taxpayer funds.

Banks must meet a number of different capital requirements simultaneously. The banking regulations contain three different capital requirement categories:

- Requirements for risk-weighted capital ratios are intended to ensure that banks' capital is sufficient relative to their risk of losses.
- Leverage ratio requirements are intended to ensure that banks fund lending and other assets with a sufficient share of Tier 1 capital, independent of banks' risk of losses and calculation approach.
- The minimum requirement for own funds and eligible liabilities (MREL) is intended to ensure efficient bank recovery and resolution without recourse to taxpayer funds.

The banking regulations also contain two different liquidity requirements for banks, enabling them to weather periods of deposit run-offs and funding shortfalls:

- The Liquidity Coverage Ratio (LCR) requirement is intended to ensure that banks have a sufficient stock of liquid assets to weather a 30-day period without access to new funding and financial market stress.
- The Net Stable Funding Ratio (NSFR) is intended to ensure that banks fund illiquid assets with long-term funding.

International cooperation on common banking regulation
Problems in the banking sector can be transmitted across borders. Authorities from a number of jurisdictions and international bodies have therefore worked over several decades towards common banking regulation, both to increase the resilience of the global banking system and to establish a level playing field for banks.

The Basel Committee on Banking Supervision (BCBS) plays a key role in the work to set international standards for banking regulation. The Basel Committee, which is an international body for central banks and supervisory authorities from the largest advanced economies, held its first meeting in 1975. The Committee has issued detailed proposals for banking regulation in three rounds: the Basel I, II and III frameworks. The

Committee has no supranational authority, but members have committed to implementing the Committee's recommendations.

Since the global financial crisis in 2008, the Financial Stability Board (FSB) and the European Banking Authority (EBA) have also played key roles in the international cooperation on banking regulation. The FSB, which was established in 2009, is a collaborative body that monitors and provides policy recommendations on the framework for the global financial system. The FSB comprises the G20 countries and the most important organisations and committees in this area. The EBA, which was established by the EU in 2011, draws up guidelines for banks that ensure consistent banking regulation practices at the European level.

In Europe, the European Commission issues draft banking regulations. The EBA assists the European Commission in its work and proposals are generally based on the Basel Committee's recommendations. The European Council and the European Parliament then adopt the regulation based on the proposal from the Commission.

Banking regulations in Norway are subject to EU rules. Rules adopted by the EU with EEA relevance are incorporated into the EEA Agreement and transposed into Norwegian law. EU rules are laid down as either directives or regulations. Regulations are to be incorporated into Norwegian legislation verbatim, while EU directives are often formulated more generally, which gives Norway greater flexibility in their implementation.

The evolution of banking regulation

In 1988, the first global standard for bank capital regulation appeared when the Basel Committee published the Basel I framework. Basel I was implemented in over 100 jurisdictions and entered into force in Norway in 1991.

The Basel I framework was eventually criticised for insufficiently addressing differences in risk. Under Basel I, capital requirements were calculated using fixed and standardised risk weights based on a relatively rough categorisation of assets' assumed risk. In some instances, given this relatively rough categorization, banks with high risk could be subject to the same capital requirements as banks with lower risk. Large international banks that had used their own risk management models argued that their internal models should be used to calculate capital requirements as they provided a more accurate picture of actual risk than the Basel I rules.

In 1999, the Basel Committee proposed a new capital framework for banks, and in 2004, the Committee published an updated proposal, referred to as Basel II. Basel II was introduced in Norway in 2007. One of the intentions of Basel II was to improve the alignment between capital requirements, the risk associated with banks' assets and banks' risk management. Basel II introduced three pillars for capital regulation. Pillar

1 sets minimum requirements and buffer requirements for all banks. Pillar 2 comprises additional individual requirements based on the supervisory authority's risk assessment of individual banks. Pillar 3 consists of requirements regarding the disclosure of information aimed at strengthening market discipline.

The financial crisis in 2008 revealed a number of weaknesses in Basel II, including a need for requirements to improve the resilience of banks to losses and funding shortfalls, and to better enable banks to support economic growth. In 2010, the Basel Committee therefore presented a detailed proposal for a new capital and liquidity framework, Basel III. Basel III contained proposals for liquidity coverage and stable funding requirements, capital buffer requirements and a leverage ratio requirement.

The financial crisis also showed the importance of bank recovery and resolution without recourse to taxpayer funds and without negative effects on financial stability. In 2011, the FSB therefore proposed new principles for bank recovery and resolution. The principles formed the basis for MREL, the EU minimum requirement for banks' own funds and eligible liabilities that can quickly be written down or converted to new equity (bail-in tool).

Risk-weighted capital requirements for Norwegian banks

Banks and other financial institutions must meet risk-weighted capital adequacy requirements. The aim of the risk-weighted capital requirements is to ensure that banks have sufficient capital relative to the risk of losses. The risk-weighted requirements need to correspond with loss risk, so that banks with risky exposures must hold more capital than banks with safer assets.

Banks' risk-weighted capital ratios are calculated as banks' capital as a percentage of risk-weighted assets (RWA):

$$\text{Capital adequacy ratio} = \frac{\text{Capital}}{\text{RWA}}$$

The numerator in the capital adequacy ratio, ie capital, may comprise different types of capital. The authorities set capital adequacy requirements measured by Common Equity Tier 1 (CET1) capital, Tier 1 capital and regulatory capital, where:

- Common Equity Tier 1 (CET1) capital = Equity capital – regulatory deductions[1]
- Tier 1 capital = CET1 capital + hybrid capital (additional Tier 1 capital, AT1)[2]

1 Including assets that will not necessarily be of value in a loss situation, such as goodwill, deferred tax assets and other intangible assets.

2 Hybrid capital is a combination of liabilities and equity. Hybrid capital pays a coupon but can be written down or converted into equity. In addition, banks can choose to not pay interest on hybrid capital. Examples of hybrid capital are preferred capital securities and contingent convertible securities (CoCos).

- Regulatory capital = Tier 1 capital + subordinated debt capital (Tier 2)[3]

Banks are subject to a minimum CET1 capital requirement of 4.5%, a Tier 1 requirement of 6% and a total minimum capital requirement of 8%. Even if all the requirements should be met, it is most common to calculate and report capital adequacy using CET1 capital. Assets that cannot be used to cover losses are subtracted from equity capital prior to the calculation of capital adequacy (regulatory deductions). If a financial institution operates at a loss, the equity capital covers initial losses, followed by hybrid capital until any subordinated debt capital begins covering losses.

The denominator in the ratio, ie risk weighted assets, is calculated by weighting exposures with appurtenant risk weights:

- Risk weighted assets (RWA) = $\sum_{\forall i}$ Exposures$_i$ * Risk weight$_i$

The higher the risk of losses on an exposure, the higher the risk weight should be and the more capital the bank must hold to cover that exposure. Residential mortgage loans are for example normally included with a lower weight than corporate exposures, which are riskier. Basel II allowed banks to calculate risk weights using an internal ratings-based (IRB) approach subject to approval by the authorities. The IRB approach is based on models containing historical data for defaults and losses on various types of exposures. Banks that have not applied to Finanstilsynet for approval to use the IRB approach must use risk weights set by the authorities (the standardised approach).

In addition to capital adequacy requirements, banks also face a number of buffer requirements. These are also referred to as “soft” requirements because they allow for some flexibility, although they must also consist of CET1 capital (Chart A.1):

Chart A.1 Pillar 1 capital requirements in Norway

Percent of RWA

Source: Ministry of Finance

Up until 31 December 2023, the new systemic risk buffer requirement of 4.5% applies only to banks using the advanced IRB approach. The other banks must meet the old systemic risk buffer requirement of 3% up until 31 December 2023.

3 Subordinated debt has many of the same characteristics as hybrid capital, but the restrictions on, for example, maturity are not as stringent and subordinated debt covers losses after hybrid capital.

- The capital conservation buffer remains fixed at 2.5%. It is intended to cover losses resulting from cyclical systemic risk and ensure that capital adequacy does not fall below the minimum requirement in severe downturns.

- The systemic risk buffer (SyRB), which is now at 4.5%, aims to ensure that banks hold sufficient capital to withstand a future downturn. The SyRB should reflect the assessment of structural vulnerabilities in the financial system, ie persistent features of the financial system that change rarely or little from year to year. Norges Bank is tasked with advising the Ministry of Finance on the level of the SyRB and the size of the buffer is to be assessed at least every other year (see "A framework for advice on the systemic risk buffer" *Norges Bank Papers* 5/2022, Norges Bank, for more information about the basis of Norges Bank's decisions).

- The buffer for systemically important financial institutions is either 1% or 2% for systemically important banks and mortgage companies. Problems in systemically important financial institutions can inflict more severe consequences on society than similar problems in other financial institutions. Systemically important financial institutions must therefore hold an extra capital buffer. Financial institutions may be classified as domestically systemically important institutions (D-SIIs) or globally systemically important financial institutions (G-SIIs). No Norwegian financial institutions have been designated as G-SIIs, but Finanstilsynet annually advises the Ministry of Finance as to which financial institutions in Norway should be regarded as D-SIIs. Financial institutions with total assets of at least 10 (20)% of mainland GDP and/or at least 5 (10)% market share of the lending market in Norway should be, as a rule, designated as D-SIIs and subject to an additional 1 (2)% buffer requirement. DNB Bank ASA, Kommunalbanken AS, Nordea Eiendomskreditt AS and SpareBank 1 Sør-Norge ASA are designated as D-SIIs. DNB Bank ASA is subject to a buffer rate of 2% and the other three institutions are subject to a buffer rate of 1%.

- The countercyclical capital buffer (CCyB), which is now at 2.5% is intended to strengthen banks' solvency and mitigate the risk that banks amplify an economic downturn. The CCyB should reflect the Bank's assessment of cyclical vulnerabilities in the financial system. If a downturn will or could cause a marked reduction in credit supply, the CCyB rate should be lowered. Norges Bank sets the CCyB rate each quarter. See "A framework for decisions on the countercyclical capital buffer" *Norges Bank Papers* 4/2022, Norges Bank, for more information about the basis of Norges Bank's decisions.

The requirements mentioned above are referred to as Pillar 1 requirements. In addition, there are Pillar 2 CET1 capital requirements, intended to cover risks that are not, or are only partly, covered by Pillar 1 requirements. Pillar 2 requirements are individual and depend on Finanstilsynet's assessments of the risks of the bank in question (see

Finanstilsynet (2022) "Finanstilsynet's practices for assessing risk and capital needs", Circular 3/2022). Pillar 2 requirements consist of a formal requirement set as an individual decision and a capital margin requirement (Pillar 2 guidance), which is not a formal requirement.

All banks fulfilled capital requirements by a solid margin at end-2024.

Banks that do not satisfy the buffer requirements are automatically restricted in their ability to make payouts, such as employee bonuses, dividends, interest on hybrid capital and share buybacks. The automatic restrictions are calculated based on the size of the banks' unfulfilled share of the overall buffer requirement. When buffer requirements are breached, banks must also provide Finanstilsynet with a recapitalisation plan within five business days. The capital plan should also include a timetable for when the bank will meet the buffer requirements. If a bank is on the verge of breaching the minimum requirement, specific recovery and resolution rules will apply (see Section *2.3.8 Bank recovery and resolution*).

Leverage-related requirements for Norwegian banks

Risk-weighted capital requirements will not always ensure that banks' capital is sufficient relative to their risk of losses. The calculation of risk-weighted capital requirements is largely based on historical loss and default data. Since actual risk cannot be observed directly in historical data, risk-weighted capital requirements will not capture all changes in risk. If banks underestimate their risk and risk weights become too low, the risk-weighted capital ratio will give the impression that banks' ability to absorb losses is better than it actually is.

Prior to the financial crisis, banks' risk weights declined, which enabled the banks to meet risk-weighted capital adequacy requirements even though their equity ratios fell. The authorities therefore introduced a leverage ratio (LR) requirement as a backstop for the risk-weighted requirement.

LR is calculated by dividing Tier 1 capital by a non-risk-weighted exposure measure, which primarily corresponds with banks' assets (exposures), both on and off-balance sheet[4]:

$$\text{Leverage ratio} = \frac{\text{Tier 1 capital}}{\text{Exposure measure}}$$

The LR requirement sets an absolute limit for the size of a bank's total exposures with a given capital stock. The current LR requirement is 3%.

Minimum requirement for own funds and eligible liabilities (MREL)

The financial crisis also demonstrated the importance of bank recovery and resolution without recourse to taxpayer funds and without negative effects on financial stability. The authorities therefore introduced a new minimum requirement for banks' own funds and eligible liabilities that can

4 Off-balance sheet exposures include derivatives and unutilised credit lines.

be written down quickly and converted to new equity (bail-in tool), called the minimum requirement for own funds and eligible liabilities (MREL) in Europe. The purpose of MREL is to ensure that banks and the authorities are able to forestall or resolve crises efficiently and in a timely manner, without the taxpayers having to bear the losses. Systemically important banks should also be subject to resolution without operational disruption.

It is an important principle for the authorities that a bank's owners and thereafter creditors, as the bank's risk-takers, are to bear losses when a bank is failing. This must apply to all banks. MREL is therefore composed of loss-absorption amounts for all banks to ensure that banks' owners and creditors absorb losses so that taxpayers are not forced to bear the losses.

Moreover, for failing banks deemed to be systemically important, a part of their residual liabilities must be converted to new equity during resolution, so that systemically important banks are recapitalised, and their core functions continue. MREL is therefore composed of a recapitalisation amount to ensure that important banks with large losses are able to continue operations by swiftly converting liabilities to new equity. Since banks' owners and creditors bear the losses from a bail-in, another important principle is that no creditor or shareholder is left worse off from bank recovery or resolution than they would have been from an insolvency. This is referred to as the no creditor worse off (NCWO) principle.

At end-2023, Finanstilsynet decided that the most important Norwegian banks were to be subject to MREL. MREL may be met with both regulatory capital and other liabilities that can be easily written down and/or converted into new equity capital. For less important banks that are intended to be placed under public administration if they fail, the recapitalisation amount is not required.

The Bank Recovery and Resolution Directive (BRRD II) entered into force in Norway on 1 June 2022. Under BRRD II, MREL consists of total MREL and subordinated MREL. The requirements depend on banks' size and systemic importance. Banks with total assets greater than EUR 100bn that are not globally systemically important (G-SIIs) are referred to as systemically important banks. Among Norwegian banks, only DNB has total assets greater than EUR 100bn. Banks with total assets less than EUR 100bn but that nonetheless would pose a systemic risk if they failed are referred to as "fished" banks.

Total MREL is calculated according to a risk-weighted method (risk-based total MREL) and a leverage-based method (leverage-based total MREL), both of which are to be met at all times:

- Risk-based total MREL is calculated as twice the total minimum capital requirement under Pillar 1 and 2 plus a capital conservation buffer, systemic risk buffer and the buffer for systemically important banks.

The new rule also introduces an absolute minimum requirement for the most important banks (top-tier or "fished" banks), whereby MREL must be at least 13.5% of RWA.

- Leverage-based total MREL is calculated as twice the leverage ratio requirement. The absolute minimum leverage-based MREL under the new rules is 6% of the total exposure measure (TEM) for the most important banks.[5]

Total MREL can be partially satisfied with ordinary senior liabilities under certain conditions. In most cases, total MREL will be higher than subordinated MREL. This means that most banks will be able to use some ordinary senior liabilities to satisfy total MREL. Risk-based total MREL may not be satisfied with capital used to satisfy the buffer requirements. This does not apply to leverage-based total MREL. Since leverage-based total MREL may be satisfied with buffer capital, banks' ability to use buffer capital may be restricted if leverage-based MREL is binding.

BRRD II also introduces rules on the share of MREL that must be subordinated to ordinary senior liabilities, called subordinated MREL. More subordinated liabilities reduce the risk that the bank resolution authority will breach the NCWO principle and thus reduces legal uncertainty when recapitalising a failing bank.

BRRD II contains a number of absolute minimum requirements for subordinated MREL. The priority ranking requirement must at the outset be at least 8% of a bank's total liabilities and own funds (TLOF), at least 6% of TEM and at least 13.5% of RWA.

Leverage-based and TLOF-based subordinated MREL may be satisfied with all regulatory capital, including capital used to satisfy the buffer requirements, and liabilities that are subordinated to ordinary senior liabilities. Capital used to satisfy the buffer requirements may not be used to satisfy risk-based subordinated MREL of 13.5%.

However, for banks classified as top-tier and "fished", the resolution authority can calculate the priority ranking requirement as twice the total minimum requirement under Pillar 1 and 2 plus all buffer requirements (prudential formula). Unlike risk-based subordinated MREL of 13.5%, the prudential formula may be satisfied with buffer capital. In principle, the prudential formula may only apply to 30% of banks that are "fished" or top-tier, but the bank resolution authority is empowered to increase this percentage if it wishes to address country-specific conditions in the banking sector. The total priority ranking requirement is calculated for all top-tier or "fished" Norwegian banks according to the prudential formula.

Bank liquidity and funding requirements

The financial crisis in 2008 demonstrated that banks' liquidity buffers were insufficient, and that short-term funding was excessive. During the crisis, a number of banks experienced difficulty meeting commitments, owing to deposit run-offs, financial market stress and a complete dry-up

5 Banks classified as top-tier or "fished" banks. For G-SIIs, the leverage-based total MREL is 6.75% of TEM.

of wholesale funding. Banks' adaptation was part of the reason why central banks had to provide banks with extraordinary liquidity and intervene in the markets. To strengthen the resilience of banks in such situations, the Basel Committee recommended Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) requirements.

Liquidity Coverage Ratio

The Liquidity Coverage Ratio (LCR) is intended to make institutions less dependent on short-term funding and liquidity from central banks. Under the LCR, banks' liquidity portfolios must be sufficient to survive a period of 30 days with deposit run-offs and financial market stress, without access to new funding. The LCR must consist of high-quality liquid assets (HQLA). The LCR is calculated by dividing HQLA by total net cash outflows:

$$\text{LCR} = \frac{\text{Stock of HQLA}}{\text{Total net cash outflows}} \geq 100\%$$

Total net cash outflows are calculated as expected cash outflows less expected cash inflows in the stress period. Calculations are to be based on assumptions regarding the inability to roll over wholesale funding and deposit run-offs.

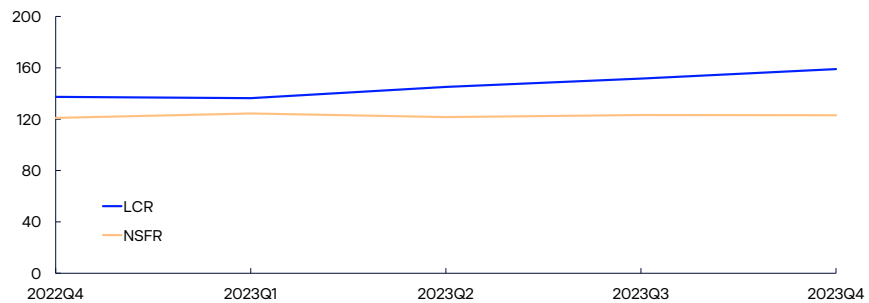
The value of the stock of HQLA is to be calculated after haircuts for assumed price declines in the stress period. Government securities are normally the most liquid securities and are thus well-suited for liquidity buffers. In 2014, the EU decided that covered bonds would be given more favourable treatment in liquidity buffers than recommended by the Basel Committee.

In Norway, banks and mortgage companies must maintain a minimum LCR of 100% for all currencies in total. Banks with nearly all their liabilities in NOK will primarily be required to hold 100% of their liquid assets in NOK. The requirement is 50% in NOK if the bank holds other significant currencies than NOK. This means that they may use HQLA in foreign

Chart A.2 Liquidity coverage ratio (LCR) and Net Stable Funding Ratio (NSFR)

Weighted average for all banks overall

Period: 2022 Q4 – 2024 Q4



Source: Financial Supervisory Authority of Norway

currency to fulfil the remaining 50% of the NOK requirement. For other significant non-NOK foreign currencies, the requirement is 100%. Norwegian banks overall meet the LCR requirement with an ample margin (Chart A.2) (see also Finanstilynet's (Financial supervisory authority of Norway) webpage on liquidity (in Norwegian only)).

Net Stable Funding Ratio requirement

The Net Stable Funding Ratio (NSFR) requirement is intended to limit banks' refinancing risk. The NSFR requires banks to fund illiquid assets with long-term funding. The NSFR is calculated by dividing the available amount of stable funding by the required amount of stable funding:

$$\text{NFSR} = \frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} \geq 100\%$$

The available amount of stable funding is calculated by weighting funding according to available stable funding (ASF) factors. Funding that is considered most stable includes equity capital, bonds with residual maturity of at least one year and deposits from the retail market and small businesses.

The required amount of stable funding is calculated by weighting assets and off-balance sheet exposures assumed to require stable funding with defined required stable funding (RSF) factors. Illiquid assets with long residual maturities are subject to the highest long-term funding requirements. Loans are the most common assets that are subject to long-term funding requirements.

The Ministry of Finance introduced NSFR in Norway on 1 June 2022 together with the rest of the banking package 2. Banks have already reported NSFRs for several years. At end-2023, all Norwegian banks satisfied the requirement.

Appendix 3

Important financial system legislation

Act	Short title	Activity regulated	Description
Act of 14 July 1950 no 10 relating to foreign exchange regulation	Foreign Currency Act		Most of the Act (Foreign Exchange Regulation) has been repealed. Remaining provisions authorise the Ministry or Norges Bank to lay down regulations on the importation and exportation of means of payment and securities and on disclosure requirements in connections with such transactions.
Act of 16 June 1989 no 69 rel1ating to insurance contracts	Insurance Contracts Act	Contracts for insurance and insurance distribution.	Amendments to this Act implements some parts of the EU's Insurance Distribution Directive. The Act lays down private law rules for contracts for non-life insurance and insurance of individuals, including disclosure requirements and liability. The provisions are mandatory in principle, but some exceptions are specified.
Act of 16 June 1989 no 70 relating to natural disaster insurance	Act on Natural Disaster Insurance	Insurance companies (non-life insurance).	The Act regulates insurance of property against natural disasters. Property in Norway insured against fire damage is, under the Act, also insured against natural disasters, if the damage to the property in question is not covered by other insurance.
Act of 13 June 1997 no 44 relating to limited liability companies	Limited Liability Companies Act	Limited liability companies.	The Act lays down provisions on the establishment, operation, liquidation, merger and demerger of limited liability companies and on the relationship between the company and its shareholders, on company capital and company management etc.
Act of 13 June 1997 no 45 elating to public limited companies	Public Limited Companies Act	Public limited companies.	The Act lays down provisions on the establishment, operation, liquidation, merger and demerger of public limited companies and on the relationship between the company and its shareholders, on company capital and company management etc.
Act of 17 December 1999 no 95 relating to payment systems	Payment Systems Act	Interbank systems and operators of such systems, systems for payment services, securities settlement systems and participants in payment systems.	The Act lays down licensing requirements for establishing and operating interbank systems and notification requirements etc for systems for payment services. The Act also lays down rules on legal protection and collateral for clearing and settlement agreements in interbank systems and securities settlement systems and regulates terms and conditions for participation in payment systems.
Act of 24 November 2000 no 81 relating to occupational defined contribution pensions	Act on Defined Contribution Pensions	Entities that have set up a defined contribution pension scheme.	The Act lays down requirements for the contents and benefits of defined contribution pensions schemes.
Act of 26 March 2004 no 17 relating to financial collateral	Act on Financial Collateral	Parties to financial collateral agreements; the parties' creditors.	The Act is intended to promote secure, orderly and efficient financial collateral arrangements. Rules for commercial transactions that are customary in European financial markets shall be clear and predictable. Bankruptcy and security interest rules are coordinated to ensure predictability to enable financial market participants in case of default to know what will happen if a counterparty does not honour its commitments.
Act of 10 June 2005 no 44 relating to insurance activity	Act on Insurance Activity	Insurance undertakings, pension undertakings, banks and securities fund management companies.	The Act lays down special requirements for the organisation of insurance undertakings and pension funds, business rules for individual and group life insurance, local government pension schemes and rules for the transfer of pension schemes. The Act also contains rules pertaining to non-life insurance.
Act of 29 June 2007 no 75 relating to securities trading	Securities Trading Act	Investment firms, credit institutions, regulated markets, multilateral trading facilities, organised trading facility, issuers of listed instruments, data reporting services providers, market operators and investors.	The Act lays down requirements for establishing investment firms and providing investment services and conducting investment activities, including business activity and organisational requirements. The Act also lays down rules for trading in financial instruments that are listed or for which listing has been applied for on a Norwegian regulated market. This includes general provisions on conduct, rules on notification and disclosure requirements, bid obligations and prospectus requirements. The Act also lays down requirements for central counterparties (CCPs) and for clearing of some derivatives trades.

Act	Short title	Activity regulated	Description
Act of 25 November 2011 no 44 relating to securities funds	Securities Funds Act	Securities funds, management companies.	The Act lays down requirements for a securities fund licence and management of securities funds, including organisation and business activities. The Act contains provisions on investing assets, information to investors, rules on sale and marketing of securities funds and rules on cross-border management of securities funds.
Act of 20 June 2014 no 28 relating to alternative investment funds	Act on Alternative Investment Funds	Managers of alternative investment funds.	The Act lays down requirements for a licence to manage an alternative investment fund, including the manager's organisation and business activities. The Act contains provisions on information requirements, marketing of alternative investment funds and rules on cross-border management of alternative investment funds.
Act of 4 December 2015 no 95 relating to the setting of financial benchmarks	Act on Financial Benchmarks	Administrators of benchmarks and entities under supervision by Finanstilsynet that make contributions to the setting of benchmarks.	The Act on Financial Benchmarks implements the EU Benchmark Regulation in Norwegian law. The Benchmark Regulation is intended to ensure that generally used benchmark are set in a proper and reliable manner in order to facilitate well-functioning markets and promote financial stability. The Regulation lays down requirements for administrators of benchmarks and for the proper setting of benchmarks.
Act of 17 June 2016 no 30 relating to EEA financial supervision	Act on EEA Financial Supervision	EU supervisory bodies ESN, EBA, ELOPA and ESRB.	The Act implements EEA rules corresponding to EU regulations establishing the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (ELOPA), the European Securities and Markets Authority (ESMA) and the European Systemic Risk Board (ESRB), respectively, with necessary EEA adaptations.
Act of 16 June 2017 no 47 relating to debt information and credit reports on private individuals	Debt Information Act	Credit registers and registering and providing debt information.	The Act regulates the terms and licence for operating as a credit register, ie entity that shares debt information with banks and other credit providers for use in generating credit reports. The Act also lays down rules on credit registers' receipt and submission of debt information and their duty of confidentiality regarding this information.
Act of 23 March 2018 no 3 relating to the Norwegian Banks' Guarantee Fund	Act on the Norwegian Banks' Guarantee Fund	Norwegian Banks' Guarantee fund.	The Act lays down rules inter alia on the organisation of the Norwegian Banks' Guarantee Fund, the Fund's task pursuant to Chapters 19 and 20 of the Financial Institutions Act and its relationship to Norges Bank and Finanstilsynet.
Act of 15 March 2019 no 6 relating to central securities depositories and securities settlement	Central Securities Depository Act	Central securities depositories (CSDs), managers and account operators.	The Act regulates the obligation and right to register financial instruments in a CSD and the legal effect of such registration. The Act also regulates licensing and organisational requirements for operating as a CSD. In addition to regulating CSDs, the Act also regulates securities settlement. The rules are intended to reduce the risks and costs associated with cross-border securities settlement and promote competition between CSDs. The new Act supersedes the Securities Register Act, but retains some of the previous Act's rules, including registration of rights and legal effects of registration. The Act also implements the Central Securities Depository Regulation (CSDR) in Norwegian law.
Act of 21 June 2019 no 31 relating to Norges Bank and the monetary system etc	Central Bank Act	Central banking activities.	The Act lays down rules for the organisation of Norges Bank, including the Bank's governing bodies and the relationship between the Bank and the political authorities. The Act specifies the Bank's tasks and instruments for promoting the objective of maintaining monetary and financial stability and an efficient and secure payment system. This includes eg the legal basis for the Bank's loans to and deposits from banks (bankers' bank) and other market participants, including market operations.
Act of 20 December 2019 no 109 relating to the processing of data in credit information activities	Credit Information Act	Credit information activities.	The Act pertains to the disclosure and other processing of data as part of credit information activities and supplements the Personal Data Act for credit information that comprises personal data. The Act also regulates the processing of data concerning legal persons in credit information activities.
Act of 22 December 2021 no 163 relating to insurance mediation	Act on Insurance Mediation	Insurance mediation.	The Act supersedes the Act of 10 June 2005 no 41 relating to insurance mediation. The Act lays down licensing and qualification requirements for conducting insurance mediation, as well as requirements for insurance schemes and general business requirements.
Act of 16 December 2022 no 91 relating to credit intermediation	Credit intermediation Act	Credit intermediaries.	The Act pertains to the intermediation of all types of loans to consumers. The Act also lays down requirements for licensing credit intermediaries, Norwegian credit intermediaries abroad, foreign credit intermediaries in Norway, requirements for organisations, executives and employees as well as a register of intermediaries.

Act	Short title	Activity regulated	Description
Act of 21 June 2024 no 41 relating to Finanstilsynet	Financial Supervision Act	Finanstilsynet (Financial Supervisory Authority of Norway). financial sector entities subject to supervision. including financial institutions. regulated markets. securities depositories and investment firms. auditors and accountants.	The Act specifies rules for the entities subject to supervision by Finanstilsynet. The authority's organisation and its primary tasks and powers, including the measures it may implement regarding the entities it supervises.
Act of 27 May 2025 no 18 relating to digital operational resilience in the financial sector	The DORA Act	IT security in financial institutions	The Act implements harmonised requirements for IT security in financial institutions in Europe. The purpose of the Act is to contribute to promoting robustness, financial stability and security for customers, as well as safeguarding critical societal functions. The requirements for Norwegian financial institutions' risk management, incident management and use of IT providers will be significantly more extensive and detailed. The Act stipulates, among other things, requirements for the enterprises' follow-up of and control of IT suppliers.

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