

DANMARKS
NATIONALBANK

**Annual report
2023**



DANMARKS
NATIONALBANK

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Foreword

Danmarks Nationalbank was established for the specific purpose of restoring the monetary system in Denmark following the Danish state bankruptcy in 1813. In 1936, Danmarks Nationalbank became an independent, self-governing institution, laying down monetary policy independently of the Danish Government and the Danish Parliament (the Folketing).

The overall mandate of Danmarks Nationalbank is to help ensure stable prices, secure payments and the stability of the financial system.

The fixed krone exchange rate against the euro contributes to creating the framework for stable prices and thus also low inflation. Danmarks Nationalbank ensures secure payments by issuing high-quality



banknotes and coins and contributes to the secure settlement of electronic payments. By monitoring and making recommendations to relevant authorities, Danmarks Nationalbank contributes to the stability of the financial system.

Danmarks Nationalbank raised the benchmark monetary policy interest rate six times during 2023 by a total of 1.85 percentage points to 3.6 per cent for the current account rate and the interest rate on certificates of deposit, and 3.75 per cent for the interest rate on the lending facility. The interest rate increases came in the immediate aftermath of the European Central Bank (ECB) raising its monetary policy interest rates by a total of 2 percentage points, as inflation in the euro area was above the ECB's inflation target.



To ensure that cash remains a safe and efficient means of payment, Danmarks Nationalbank will issue a new series of banknotes, probably in 2028-29. This was announced by Danmarks Nationalbank in November 2023. The new banknote series will not include a 1000-krone banknote. Older banknote series and the 1000-krone banknote of the current series will cease to be valid means of payment after 31 May 2025.

A more detailed description of Danmarks Nationalbank's activities can be found on Danmarks Nationalbank's website. The website also contains all publications published during the year.

Copenhagen, 12 March

Christian Kettel Thomsen
Chairman

Signe Krogstrup

Per Callesen

Key figures





RESULT

Kr. 10.6 billion
Kr. 19 billion 

The result for the year in 2023 was a profit of kr. 10,575 million compared to a loss of kr. 8,464 million in 2022. After allocation of profit for the year, net capital totalled kr. 83.7 billion.

FOREIGN EXCHANGE RESERVE

Kr. 626 billion
Kr. 48 billion 

The increase is due to net intervention purchases: kr. 13 billion; Central government net borrowing in foreign currency: kr. 8 billion; Interest payments and other realised returns: kr. 15 billion; Exchange rate adjustments at year end: kr. 10 billion; Foreign exchange transactions from central government and the EU: kr. 2 billion.

VALUE OF GOLD STOCK

Kr. 29.8 billion
Kr. 2.7 billion 

Danmarks Nationalbank's gold stock remained unchanged at 66.5 tonnes and is included in the foreign exchange reserve. The price of Danmarks Nationalbank's gold in Danish kroner increased by 10 per cent during 2023.

CASH IN CIRCULATION

Kr. 68.2 billion
Kr. 6.9 billion 

Cash in circulation totalled kr. 62.1 billion for banknotes and kr. 6.1 billion for coins. Change compared to last year is kr. -6.8 billion and kr. -0.1 billion respectively. In 2023, the circulation of 1000-krone banknotes decreased by kr. 6.0 billion.



Report of the Board of Governors



Report of the Board of Governors on the activities of Danmarks Nationalbank

Monetary policy, financial markets and the real economy

The primary purpose of monetary policy is to maintain low and stable inflation, which is a prerequisite for a robust economy. In Denmark, this is achieved by keeping the krone rate stable against the euro. Danmarks Nationalbank do this through the purchase and sale of kroner and euro and by adjusting policy rates.

The fixed exchange rate policy implies that monetary policy in Denmark follows the monetary policy determined by the European Central Bank, ECB. This will often contribute to reducing fluctuations in the Danish economy and inflation. To the extent that developments in the Danish economy deviate from the euro area, domestic fiscal policy can be used as a stabilisation tool.

Denmark has been conducting a fixed exchange rate policy since 1982 – initially against the German D-mark and then against the euro. The formal basis for the Danish fixed exchange rate policy is the European Exchange Rate Mechanism 2. The central rate of the krone against the euro – and previously the German D-mark – has been unchanged since 1987.

Danmarks Nationalbank raised the benchmark monetary policy rates six times during 2023 by a total of 1.85 percentage points to 3.6 per cent for the current account rate and the interest rate on certificates of deposit, and 3.75 per cent for the interest rate on the lending facility, see Chart 1.

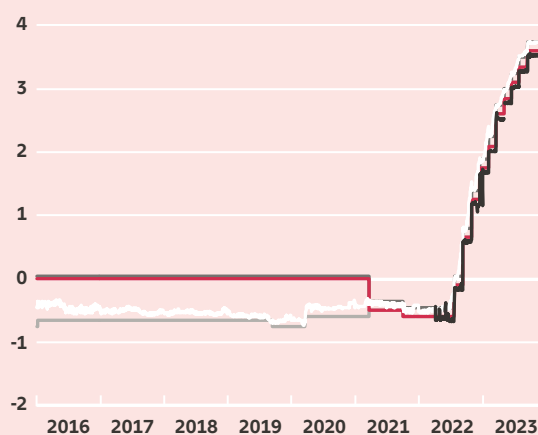
The interest rate increases came in the immediate aftermath of the ECB raising its monetary policy interest rates by a total of 2 percentage points, as inflation in the euro area was above the ECB's inflation target.

At the beginning of 2023, the krone rate against the euro was on the strong side of the central parity rate.

Chart 1

Danmarks Nationalbank raised monetary policy rates six times during 2023

Per cent



Legend:
DESTR-swap (white)
DESTR (black)
Current account rate (red)
CD rate (grey)
Lending rate (dark grey)

Note: Denmark Short-Term Rate, DESTR, is a short-term transactionbased reference rate for the Danish money market. The DESTR swap is a 1-month Cita swap with 19 basis points deducted.

Source: Refinitiv Eikon and Danmarks Nationalbank.

In February, Danmarks Nationalbank widened the negative monetary policy interest rate spread to the ECB by raising monetary policy rates by 0.15 percentage points less than the ECB did. Thus, the monetary policy interest rate spread to the ECB widened from -0.25 to -0.4 percentage points. For the rest of the year, Danmarks Nationalbank's monetary policy rates have followed the changes in the ECB's interest rates one-to-one. Prior to widening the policy rate spread, Danmarks Nationalbank had intervened in the foreign exchange market by selling Danish kroner against purchasing currency, following its usual reaction pattern.

The negative yield spread should be viewed in light of Denmark's large balance of payments surplus. The large surplus results in Danish companies having a significant demand for Danish kroner.¹ The widening of the yield spread contributed to a weakening of the krone, so that by 2023, the krone rate against the euro was stable around the central parity rate, see Chart 2.

The higher policy rates have been transmitted smoothly to the Danish money market. The overnight reference rate, the Denmark Short-Term Rate, DESTR, has followed the policy rate increases and remained stable slightly below the current account rate, see Chart 1.

After the widening of the policy rate spread to the ECB, Danmarks Nationalbank has not intervened further in the foreign exchange market in 2023. Danmarks Nationalbank thus purchased currency totalling kr. 13.2 billion in 2023 via interventions in the foreign exchange market. The foreign exchange reserve was increased by kr. 48 billion to kr. 626 billion at year end.

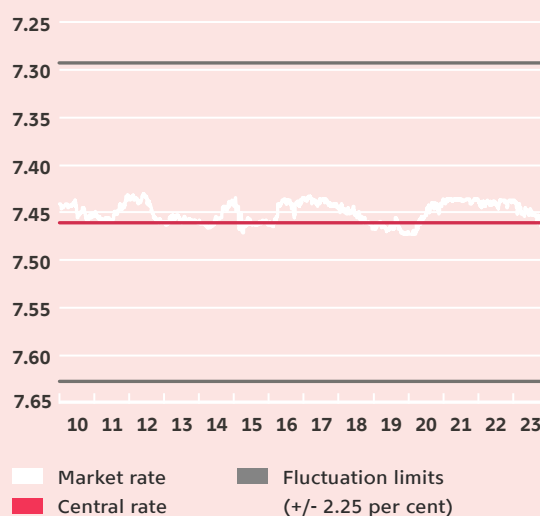
The bond markets were characterised by a certain degree of volatility in 2023. For the year as a whole, the interest rate on the 10-year Danish government bond remained largely unchanged, although there were fluctuations during the year, see Chart 3. The yield on the 10-year Danish government bond has followed the development in the German government bond, and thus the 10-year government bond yield spread to Germany has remained largely unchanged at around 0.25 percentage points.

¹ See Danmarks Nationalbank, Monetary policy has been tightened further, *Danmarks Nationalbank Analysis (Monetary and Financial Trends)*, No. 12, September 2023.

Chart 2

Stable krone near the central rate

Kroner per euro



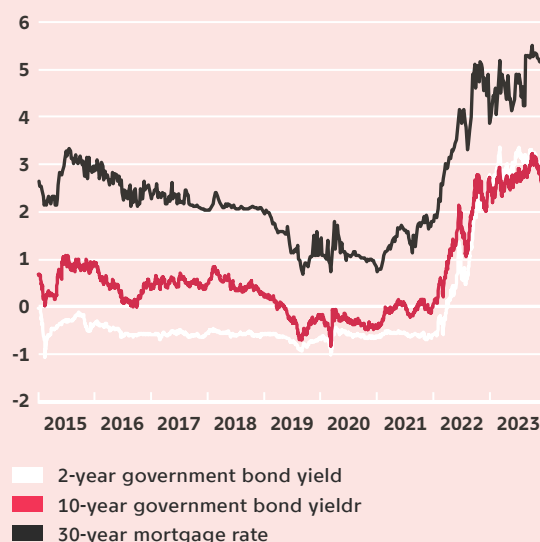
Note: An increase in the Chart means that the value of the krone has strengthened against the euro.

Source: Danmarks Nationalbank.

Chart 3

Bond markets were volatile in 2023

Per cent



Note: Interest rates on government bonds are par rates.

Source: Finance Denmark, Nordea Analytics and Danmarks Nationalbank.

The spread between Danish and German government bonds should be viewed in light of the market conditions of recent years, which have led to increased demand for German government bonds.

There have also been fluctuations in the interest rates on long-term fixed-rate mortgage bonds and short-term mortgage rates during 2023. Long-term fixed-rate mortgage bond yields remain significantly higher compared to the past decade, which has been the case since mid-2022, when the ECB began raising policy rates. In November and December, both long and short-term mortgage rates fell back in response to market participants' expectations that interest rates had peaked.

Lending rates for Danish households have risen faster and more sharply compared to the euro area. This should be viewed in light of the market-based mortgage credit system in Denmark, where the interest rate on new loans directly follows the interest rate on bonds, and the fact that Danish households have shorter interest-fixation periods compared to households in the euro area.² Annual credit growth for households and businesses has declined during 2023, and is negative for the first time since 2014. Overall, the financing conditions for Danish households and businesses in 2023 have tightened, which should be viewed in light of the tight monetary policy.

Danish share prices (OMX C25) increased by 7.7 per cent in 2023. The rise followed a significant fall in share prices in 2022 due to factors such as Russia's invasion of Ukraine, high inflation and rising interest rates.

Inflation fell in 2023

Consumer price inflation had begun to fall again by the beginning of 2023 in Denmark and abroad. This was particularly related to the fall in unusually high energy prices as uncertainty about energy supply in Europe became less pronounced. In Denmark, inflation fell throughout the year and was 0.4 per cent at year end, see Chart 4.

However, during 2023, inflationary pressures shifted from primarily coming from energy and other imported goods, which are more determined in global markets, to coming from domestic factors, including higher wage increases. Nevertheless, core inflation, which excludes consumer prices for energy and unprocessed

food, also fell throughout the year, partly because of tighter monetary policy. However, core inflation did not fall to the same extent as overall consumer prices. Core inflation at year end was 2.5 per cent and 5.2 per cent on average for 2023. The smaller decline in core inflation was partly due to a delayed effect from higher energy prices in the production of other goods and services, known as indirect effects, but also due to price increases for services.

The previous years' pressure on the labour market and high inflation contributed to an agreement in the spring collective bargaining negotiations on significant wage increases in the private sector in both 2023 and 2024. Wage increases in Denmark picked up significantly in the second half of 2023, but remained slightly lower than in the euro area throughout 2023.

As a result of inflation falling and higher wage increases, real wages rose throughout 2023, helping to support household consumption, which increased throughout the year. Consumer confidence also improved significantly, but at year end was still roughly on a par with the period around the financial crisis.

The increase in real income also helped to support house prices, and nationwide, single-family house prices at the end of the year were 3.7 per cent higher than at the end of 2022.³ In early 2023, Denmark's Nationalbank emphasised the importance of the housing tax reform being implemented as planned at the beginning of 2024, as it will make a significant contribution to healthier housing market structures. Both the number of transactions and prices of owner-occupied apartments increased significantly more in the capital area than in the rest of the country towards the end of 2023. This may have been prompted by the potential tax rebate that new owners could receive if the property was purchased and occupied before the turn of the year.

The interest rate increases implemented by central banks to bring inflation down also dampened growth on Danish export markets, and the global growth slowdown rubbed off on many Danish export companies. However, extraordinary growth in the pharmaceutical industry boosted total Danish goods exports, which increased by 5.1 per cent during 2023. The growth in the pharmaceutical industry was largely driven by production by subcontractors abroad,

² See Bovin et al., The household cash-flow effects of monetary policy in Denmark and the euro area, *Danmarks Nationalbank Economic Memo*, no. 1, January 2024.

³ Source: Boligsiden.

which is statistically included in Danish exports and value added, but which does not contribute significantly to pressure on the Danish labour market.

The increase in the export of goods in 2023 helped to maintain the balance of payments surplus. Conversely, significant drops in freight rates in the latter part of 2022 and early 2023, among other things, contributed to the disappearance of the previously large surplus in the services balance. The total balance of payments decreased from kr. 378 billion in 2022 to kr. 311 billion in 2023 and amounted to 11.1 per cent of GDP in 2023.

In most parts of the Danish economy, the growth slowdown began in earnest during 2023, and capacity pressures eased significantly compared to 2022. For the year as a whole, GDP increased by 1.8 per cent, see Chart 5. However, the increase should be seen in the light of the extraordinary growth in the pharmaceutical industry and production abroad, which only contributed to a very limited extent to increasing capacity pressure in the Danish economy. Excluding production abroad under Danish ownership, Danish gross value added fell by 0.1 per cent in 2023.

Progress in the labour market in 2023

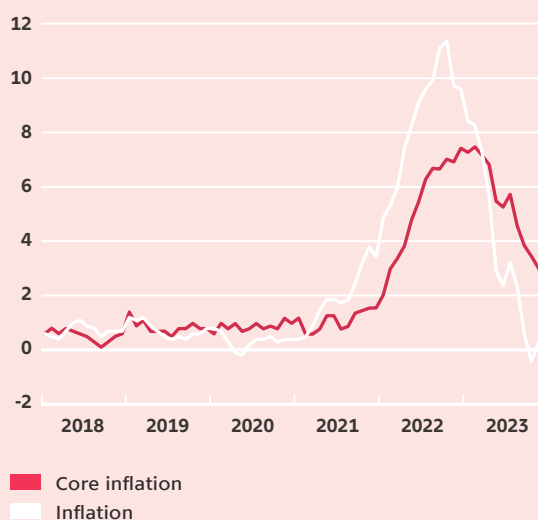
Despite slowing growth in most parts of the Danish economy, the labour market continued to improve. Employment rose by 29,000 people during the year and the number of employees exceeded 3 million for the first time at year end. The increase was, among other things, due to an influx of foreign labour. At the same time, unemployment grew only slightly from a low level. Unemployment at the end of the year was 87,000 people, which was significantly lower than in the years leading up to the pandemic, see Chart 6. Although the pressure on the labour market eased slightly towards the end of the year, many companies continued to report labour shortages.

Through 2023, fiscal policy contributed to a tight economic policy. Several times during the year, Danmarks Nationalbank emphasised the importance of a tight economic policy and the importance of fiscal policy not counteracting the interest rate increases implemented in the euro area to bring inflation down. Danmarks Nationalbank therefore recommended that any measures that would increase the pressure on capacity should be met by measures that reduced

Chart 4

Inflation fell in 2023

Per cent, year-on-year



Anm.: Inflation has been calculated using the EU Harmonised Index of Consumer Prices (HICP). Core inflation is HICP excluding energy and unprocessed foods.
Source: Statistics Denmark.

Chart 5

GDP increased by 1.8 per cent in 2023

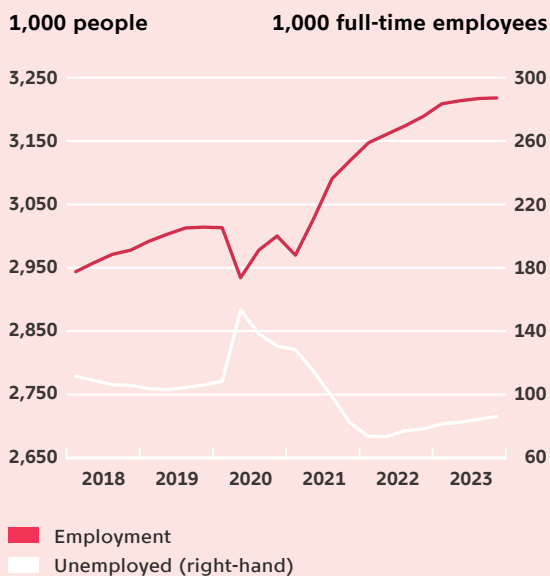
Kr. billion



Note: Production abroad covers sale relating to production abroad under Danish ownership, excluding directly related costs of materials. It is not possible to determine the value added from production abroad under Danish ownership because this production may involve a number of joint costs that are shared with traditional Danish production and cannot be separated. Therefore, the calculations should be seen as an estimate of the growth trajectory excluding these activities.
Source: Statistics Denmark and own calculations.

Chart 6

Progress in the labour market in 2023



Source: Statistics Denmark.

the pressure on capacity accordingly. The recommendation was based on the fact that capacity pressures, inflation and expected wage increases in Denmark were generally in line with the euro area. The ECB's monetary policy, designed to ensure sufficient dampening of activity in the euro area, would therefore also have a sufficient effect on the Danish economy via the fixed exchange rate policy.

Financial system stability

Danmarks Nationalbank contributes to ensuring the stability of the financial system by analysing the financial sector, overseeing and assessing systemic risks and making recommendations for the/in this area. In addition, Danmarks Nationalbank acts as chair and secretariat for the Systemic Risk Council, the Financial Sector Forum for Operational Resilience and the Danish Payments Council.

The Systemic Risk Council

Danmarks Nationalbank chairs and provides secretariat services for the Systemic Risk Council. The Systemic Risk Council oversees and identifies systemic risks in the financial system and can recommend policy measures to address and mitigate risks. In addition, the Council may express an opinion on financial matters, including trends in systemic risks and financial regulation, which, in the Council's judgement, are important in relation to financial stability.

Every quarter, the Systemic Risk Council assesses the adequate countercyclical capital buffer level. In March 2022, the Council chose to recommend to the Minister for Industry, Business and Financial Affairs that the buffer rate be raised to 2.5 per cent from 31 March 2023. The Council still considered it appropriate to raise the buffer at the March 2023 meeting. The Council also emphasised that it stands ready to recommend a reduction in the buffer rate with immediate effect in the event of stress in the financial system with the risk of a severe tightening of credit to households and businesses.

The Systemic Risk Council is also the macroprudential authority for the Faroe Islands and Greenland. This means that the Council is also overseeing systemic risks there and recommending macroprudential policy measures.

In June 2023, the Council discussed systemic financial risks in Greenland and noted that Greenland is in a long economic upswing and that labour market pressures are high along with lending growth. The Council decided to analyse these risks in more detail in consultation with the Greenlandic authorities, and at a future meeting the Council will assess whether there is a basis for activating the countercyclical capital buffer in Greenland.

As a result of the Systemic Risk Council's assessment that there are unaddressed risks related to the commercial real estate market, the Council decided at its meeting in October 2023 to recommend to the Minister for Industry, Business and Financial Affairs to activate a sector-specific systemic risk buffer for corporate exposures to real estate companies at a rate of 7 per cent applicable from 30 June 2024. The buffer is intended to increase the capitalisation of credit institutions so that they are better able to withstand impairments and potential losses from their lending to real estate companies.

In December 2023, the Systemic Risk Council discussed the use of loans with deferred amortisation in Denmark and connected systemic risks. The Council will continue to oversee systemic risks related to deferred amortisation in the housing market.

Profit made by the systemic credit institutions before tax was kr. 62 billion in 2023, kr. 40 billion higher than in 2022. The increase in profit was primarily driven by a significant increase in bank deposit margins. Deposit margins have increased as a consequence of money market interest rates rising significantly more than bank deposit rates since 2022. This development should be seen in light of a customer funding surplus for the banks and the limited customer reaction to the relatively low deposit rates.

In recent years, the profits of Danish credit institutions have also been supported by low impairment charges, which was also the case in 2023. Most institutions have maintained or increased their add-ons to the model-based impairment charges, known as management judgement, which among other things cover macroeconomic uncertainty. Management judgement give institutions an extra cushion to manage losses on their loan portfolio.

Credit institutions currently have significant exposures to the commercial property market, and in 2023, higher lending rates, economic slowdown and property price declines increased the risk of bank losses from the property sector. The segment is of particular importance to Danmarks Nationalbank, as lending to property companies has previously resulted in large losses for the banks. During the economic crisis in the 1990s and the financial crisis, loans to the property sector were the loan type that gave rise to the largest share of impairment charges.

In March 2023, specific regional US banks got into trouble due to inadequate risk management. The problems caused investors' risk perception of the banking sector to increase, resulting in falling prices for banks' shares and rising prices for their debt issues. The problems of those specific banks did not lead to systemic stress in the financial sector, and the prices of banks' debt and equity issues gradually decreased afterwards.

Danmarks Nationalbank is the lender of last resort in Denmark. This means that, in times of crisis, Danmarks Nationalbank may extend the borrowing facilities for credit institutions or provide exceptional liquidity support to safeguard financial stability. This is one of the reasons why Danmarks Nationalbank monitors the liquidity and funding needs of credit institutions. In 2023, the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR) were met, with significant excess coverage for both systemic and non-systemic banks.

Co-operation with the International Monetary Fund, IMF

Danmarks Nationalbank manages Denmark's relations with the IMF in cooperation with the Danish Ministry of Economic Affairs and the Danish Ministry of Finance. Danmarks Nationalbank also manages Denmark's financial accounts with the IMF. The main objective of the IMF is to promote global growth and financial stability.

Christian Kettel Thomsen, Chairman of Danmarks Nationalbank's Board of Governors, represents Denmark on the IMF Board of Governors. The Board of Governors is the IMF's highest decision-making body, and all member countries have a representative.

The Executive Board of the IMF is responsible for conducting the day-to-day business of the Fund. Denmark is represented here through the Nordic-Baltic constituency, which has an Executive Director representing Nordic-Baltic interests in the IMF. Danmarks Nationalbank, the Ministry of Economic Affairs and the Ministry of Finance coordinate the Danish positions with the other member countries in the constituency.

Governor Signe Krogstrup represents Danmarks Nationalbank in the Nordic-Baltic Monetary and Financial Committee, NBMFC, which sets the overall strategic guidelines for the work of the Nordic-Baltic constituency. At the beginning of 2024, Signe Krogstrup will take over the chairmanship of the NBMFC for a period of two years.

Once a year, the IMF conducts an analysis of the Danish economy and gives policy recommendations in a so-called Article IV report. The latest report was published in June 2023.

In 2021, the eight countries in the Nordic-Baltic region requested the IMF to conduct a regional analysis of threats and vulnerabilities related to cross-border money laundering and the impact on financial stability. The IMF's report on money laundering risks in the Nordic-Baltic region was published in September 2023.

Denmark's financial accounts with the IMF

One of the IMF's tasks is to provide loans to countries in economic difficulties. IMF lending is funded by member countries' quotas and loan commitments.

Denmark's financial accounts with the IMF consists of Denmark's quota and the following voluntary loan commitments:

- Loan commitment to the New Arrangements to Borrow (NAB)
- Bilateral loan agreement
- Loan commitments to the IMF's trust for loans to low-income countries, the Poverty Reduction and Growth Trust, PRGT.

Continues ...

... continued

Danmarks Nationalbank also participates in the IMF's voluntary trading system for Special Drawing Rights, SDR.

In 2023, Danmarks Nationalbank extended its bilateral loan agreement with the IMF. The agreement was extended by one year and will expire on 31 December 2024. Furthermore, Danmarks Nationalbank increased its loan commitment to the PRGT by 150 million SDR in 2023, corresponding to kr. 1.359 billion at end 2023. When Danmarks Nationalbank makes a loan commitment to the PRGT, Nationalbanken receives a government guarantee covering the credit risk on the loan. The decision to contribute to the PRGT is therefore made in consultation with the Ministry of Economic Affairs and the Ministry of Finance. Danmarks Nationalbank also joined the so-called encashment regime for the Danish loan commitments to the PRGT. Participation in the encashment regime means that 20 per cent of the loan amount under Danmarks Nationalbank's PRGT loan agreements will be reserved to meet potential requests for early repayment of loans from other contributors to the PRGT in case they experience balance of payments problems. Similarly, Danmarks Nationalbank will be able to request early repayment of loans to the PRGT in the event of balance of payments problems.

The Danish quota, loans to the IMF and SDR holdings are included in the foreign exchange reserve.

In December 2023, IMF member countries reached an agreement on the 16th quota review. Danmarks Nationalbank voted in favour of the agreement on behalf of Denmark. The agreement includes a 50 per cent increase in each member country's quota, a reduction of the lending resources in the NAB and a phasing-out of the bilateral loan agreements. The agreement will ensure that the IMF going forward will provide loans that to a greater extent are based on quota resources rather than voluntary loan commitments. The agreement will keep the IMF's overall lending capacity unchanged. Implementation of the quota agreement is expected to begin in 2024.

In Denmark and the rest of the EU, there are rules for crisis management of failing institutions. One of the objectives of the rules for crisis management of failing institutions is to ensure that crisis-hit credit institutions can be handled without significant negative effects on financial stability. As part of the crisis management regime, banks must fulfil the requirement for so-called eligible liabilities, the MREL requirement. Danmarks Nationalbank's stress tests in the first and second half of 2023 showed that some systemic credit institutions cannot continue to fulfil their total MREL requirements, including the

combined buffer requirement, for a one-year period with limited ability to issue new debt instruments. Danmarks Nationalbank recommended that institutions should avoid this vulnerability by building up sufficient excess capital adequacy relative to the requirement and ensuring a sufficiently even and long maturity profile for their debt issuances.

Climate change and the green transition

Climate change and the green transition are already affecting society today and will have a greater impact in the future. This will also have a knock-on effect on the financial sector and thus potentially on financial stability.

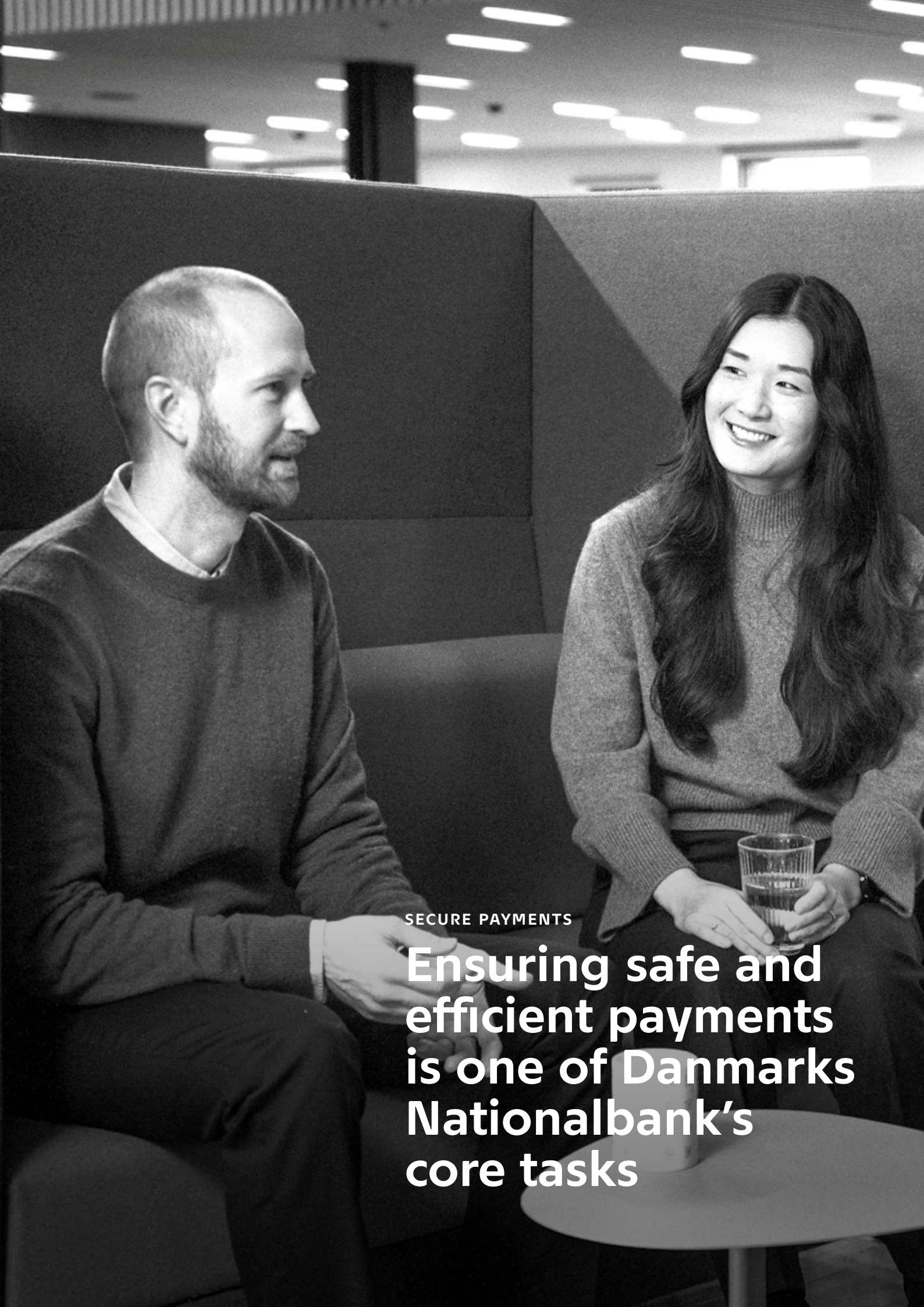
Storm surges and cloudbursts hit homeowners in several parts of the country in the autumn. In a number of analyses, Danmarks Nationalbank has found that credit institutions can hold significant mortgage values at risk of flooding and that the risk of flooding can have a certain impact on house prices. However, there is no immediate evidence that banks are currently incorporating this information into their lending by, for example, being less likely to provide financing for these homes.

In its semi-annual financial stability analysis from December 2023, Danmarks Nationalbank focused on the framework for regulating climate-related financial risks, which is under consideration by the EU financial authorities. In 2023, Danmarks Nationalbank supported the exploratory initiatives to adjust the pan-European rules.

Secure payments

Danmarks Nationalbank contributes to the secure and effective settlement of electronic payments in Denmark, including by ensuring that the banks can settle transactions between them, and by overseeing systemically important payment and settlement systems. In addition, Danmarks Nationalbank acts as chair and secretariat for the Danish Payments Council and the Financial Sector Forum for Operational Resilience.

Danmarks Nationalbank oversees that payments and financial transactions in Denmark can be completed securely and efficiently. The oversight covers the central payment and settlement systems as well as



SECURE PAYMENTS

Ensuring safe and efficient payments is one of Danmarks Nationalbank's core tasks

the main payment solutions and is based on international standards and guidelines. The oversight is reported in the annual publication on oversight of financial infrastructure.

Danmarks Nationalbank continued to focus on cyber security in systems subject to oversight in 2023. There was a particular focus on contingency planning and tests and business continuity plans to strengthen the resilience of financial systems in the event of cyberattacks. In the ongoing oversight, there is follow-up on how those responsible for the overseen systems work with and comply with Danmarks Nationalbank's recommendations in this area.

Consolidating payments on TARGET Services

In 2023, Danmarks Nationalbank continued its efforts to consolidate the execution of banks' payments and securities transactions in Danish kroner to the European payment and securities settlement platform, TARGET Services. This will provide economies of scale, and cooperation with the other central banks will strengthen a number of areas such as cybersecurity. Collaboration with the financial sector in Denmark and the ECB on migration to TARGET Services is proceeding according to plan. The test phase was kicked off in July 2023, when Danmarks Nationalbank began testing the systems in a central bank test. The central bank test is an important preparation for letting banks into the systems. The banks started user testing in January 2024, a year that will see user testing along with detailed planning and preparation for migration in 2025.

There are a number of functionalities that Danmarks Nationalbank does not get via TARGET Services, e.g. SWIFT and collateralisation functionality. Danmarks Nationalbank continued to prepare these technical solutions according to plan in 2023, and they will be made technically ready during 2024. Migration to TARGET Services means that the existing payment system, Kronos2, will be shut down.

Since the decision to join TARGET Services, it has been a strategic goal for Danmarks Nationalbank to help enable instant payments across currencies. The bank has therefore also joined efforts to launch a pilot project on cross-border instant payments together with the ECB and Sveriges Riksbank.

This will provide insight into and contribute to solution design for the settlement of instant payments across currencies.

Threat-based tests in the Danish financial sector

Since the beginning of 2019, a special unit of Danmarks Nationalbank has coordinated testing of cyber resilience in the financial sector via so-called threat-based red team testing (TIBER-DK). The test participants include the largest financial institutions and selected critical IT suppliers. In the test, an ethical hacker team mimics a real cyberattack and attempts to gain access to pre-specified socially critical functions and data in the test participants' IT systems. The goal is for test participants to pinpoint weaknesses in the cyber defence themselves so that they can be addressed in order to increase cyber resilience. From January 2025, the area will be covered by EU regulation in relation to threat-based red team testing (Digital Operational Resilience Act, DORA). In 2023 Danmarks Nationalbank has anchored the extensive Danish experience in the detailed guidelines at the European level and contributed to domestic legislation.

Analysis of the potential impact of the digital euro in Denmark

The European Central Bank is working on the development of a central bank digital currency for citizens and businesses – the so-called digital euro. A potential future decision on issuing a digital euro is still pending, and several technical standards, rules and conditions have yet to be clarified. Danmarks Nationalbank analysed the potential implications a digital euro could pose to safe and efficient payments, the fixed exchange rate policy and financial stability in Denmark in 2023.⁴

A digital euro with low holding limits for citizens and businesses is not expected to have significant consequences for the fixed exchange rate policy or financial stability in Denmark. Danish citizens can access the digital euro when visiting the euro area, and the digital euro can potentially be a cheaper alternative to existing payment solutions. The use of the digital euro in Denmark is subject to an agreement. If such an agreement is concluded, it is expected that the digital euro will only have a minor effect on domestic retail payments.

⁴ See Danmarks Nationalbank, Digital euro – potential impact on payments, fixed exchange rate policy and financial stability in Denmark, Danmarks Nationalbank Analysis, no. 19, November 2023 ([link](#)).

Analysis of offline payments as a means of payment in Denmark

In an analysis in 2023, Danmarks Nationalbank identified that offline card payments have the potential to constitute a national payment contingency measure in Denmark if the Internet or payment systems become unavailable. This presumes that relevant parties involved in card payments allow and accept offline card payments with the most widely used payment card brands and types in Denmark. In cooperation with relevant stakeholders, Danmarks Nationalbank will work towards making this happen.

Danmarks Nationalbank's survey of public payment habits and preferences

In the spring of 2023, Danmarks Nationalbank conducted a representative sample of Danish citizens over the age of 15 about their payment habits and preferences. The survey, which has been conducted every two years since 2017, was conducted in 2023 by Epinion, who collected 2,737 responses.

The respondents answered a number of questions about, for example, their opinion on the legal

obligation for stores in Denmark to accept cash and their preferred payment solution in a given payment situation. In addition, all respondents completed a payment diary with their payments for one full day. For each payment, the respondent provided a number of details, including payment method and location, e.g. payment by Dankort in a supermarket.

The results of the survey support Danmarks Nationalbank's objective of ensuring safe and efficient payments in Denmark. Insights from the survey have contributed to several analyses in 2023, including the public's availability of different payment solutions and their specific characteristics, the use of crypto-assets among the Danish public and the potential for offline card payments as a payment contingency measure in Denmark. Danmarks Nationalbank continues to benefit from the insights from the survey, which will contribute to further analyses in 2024.

Analysing the role of cash in Denmark

Based on the survey of the payment habits and preferences of the Danish public, Danmarks Nationalbank published an analysis in 2023 on

Financial Sector forum for Operational Resilience

Danmarks Nationalbank chairs and acts as secretariat of the Financial Sector Forum for Operational Resilience, FSOR. The forum is a public-private collaboration forum between 28 key private players and authorities in the financial sector. Operational resilience covers a number of risks, including the risk of disruption from cyberattacks.

FSOR identifies and addresses operational risks that could potentially threaten financial stability. A risk analysis is updated every six months. FSOR assesses the need for additional measures to reduce the risks identified. FSOR's annual reports and risk analysis method can be found on Danmarks Nationalbank's website.

In 2023, FSOR focused on risks associated with the ability to restore critical functions after a severe cyber-attack, the use of cloud services and risks related to large language models. An analysis on how payments can continue in extreme, but plausible scenarios has also been initiated.

FSOR's crisis management plan is designed to ensure coordination between organisations in a crisis situation in which key parts of the sector are affected. In June 2023, an unannounced test of the activation of the crisis management plan amongst the participants was conducted. The crisis management team also organised two theme

days to increase focus and understanding of its role. The crisis management team also participated in a cross sectoral national crisis response test and a Baltic/Nordic test as a representative of the Danish financial sector.

In 2023, Danmarks Nationalbank analysed the cyber maturity of the FSOR participants based on a survey conducted at the end of 2022. Similar surveys were conducted in 2016, 2018 and 2020. The survey was based on self-assessment by organisations and provides an overview of the cyber maturity in the financial sector. The key findings of the analysis were that management commitment in cybersecurity has a positive impact on cyber maturity, and that working with cyber risks remains important given the threat level, including working with recovery plans of systems and data.

Cross-border knowledge sharing is an important source of inspiration for developing efforts further in order to increase operational resilience in the financial sector. With this in mind, Danmarks Nationalbank took the initiative in 2017 to organise the first annual conference on cybersecurity under the title "Nordic Cyber in Finance Conference". The conference rotates between the Nordic central banks, and in 2023 Danmarks Nationalbank organised the conference for the second time.

the role of cash in Denmark, where there is a low and declining use of cash. The analysis showed, among other things, that cash is and will continue to still be needed in Denmark. This reflects the fact that cash is a commonly used means of payment in shops and between private individuals. It also has a number of special characteristics that make a small group of citizens, for various reasons, depend on cash as a means of payment. The analysis also concluded that, as the use of cash declines and the number of customers who want to pay in cash in retail stores declines, it may make sense to ease the cash requirement in order to support safe and efficient payments.

Cash initiatives

Cash remains a secure means of payment today and in the years to come. However, if Danes are to continue to have confidence in cash in the long term, the design and production of banknotes must always be at the forefront of technological development. Therefore, Danmarks Nationalbank has decided to launch initiatives in three areas:

- Denmark is to have a new series of banknotes based on the latest technologies to prevent counterfeiting attempts. The new banknotes are expected to be launched in 2028-2029 and the series will consist of 50, 100, 200 and 500-krone

banknotes. The new banknotes will have a new look and design theme. When the new banknote series goes into circulation, it will replace the current banknote series over a number of years. The new series does not include a 1000-krone banknote.

- All banknotes other than the current banknotes with images of bridges and archaeological finds (2009 series) will no longer be legal tender after 31 May 2025. This includes all older banknote series – from the ‘substitution series’ (1944 series) up to and including the series of portraits and church art (1997 series).
- The 1000-krone banknote in the current banknote series with images of bridges and archaeological finds (2009 series) will become invalid at the same time as the older banknote series. New 1000-krone banknotes will no longer be put into circulation and 1000-krone banknotes will be invalid as a means of payment after 31 May 2025.

The 1000-krone banknote is not essential to ensure safe and efficient payments in Denmark. Only 1 in 10 cash payments have a value of more than kr. 500, and only about 1 in 4 citizens have used a 1,000-krone banknote for a payment in the past year. In addition, the absence of the 1000-krone banknote will reduce the need for change in shops. Simultaneously, money laundering regulations also prohibit large cash payments. Furthermore, the police and other authorities estimate that the 1000-krone banknote is used to a greater extent than other banknotes in connection with various kinds of financial crime. Although the number of counterfeits of Danish banknotes is still limited, the 1000-krone banknote is increasingly subject to counterfeiting attempts. This can damage trust in cash.

From 1 June 2025 until the launch of a new series of banknote in 2028-2029, there will be one valid banknote series consisting of four banknotes: 50, 100, 200 and 500-krone banknotes. Until the launch of the new banknotes, the current banknotes will be continuously updated. A new security-updated version of the 500-krone banknote was put into circulation in 2020, and from the beginning of 2024 and in 2025, security-updated 50, 100 and 200-krone banknotes of the current series will also be put into circulation.

As part of the recall of older banknotes and the 1000-krone banknote, Danmarks Nationalbank will establish at least two exchange points. Members of the public and businesses unable to deposit these

The Danish Payments Council

Danmarks Nationalbank acts as the chair and secretariat of the Danish Payments Council. Two meetings were held as usual in 2023. The object of the Danish Payments Council is to promote the efficiency and security of payments for citizens, companies and banks. The Council consists of 13 members, all of whom have a high degree of relevance to retail payments in Denmark.

The Danish Payments Council continuously monitors developments in the retail payments area, including proposals for and implementation of new legislation. In 2023, the Council discussed, among other things, the European Commission's proposal for instant payments in euros and a citizen-facing central bank digital currency referred to as 'euro CBDC'. Also on the Council's agenda in 2023 was the development of the digital payments market in Denmark, the use of cash, offline card payments as a payment contingency and the range of payment solutions offered by big tech companies.

notes at their bank, exchange them at currency exchange bureaux or spend them before the deadline of 31 May 2025 can have their banknotes exchanged. The exchange points will accept recalled banknotes until 31 May 2026. Danmarks Nationalbank's exchange points are expected to open by the end of 2024.

Coin webshop closed

Danmarks Nationalbank closed the sale of coins and banknotes via the Royal Danish Mint's coin webshop in December 2023. The decision was made because demand in online sales had been declining in recent years.

It has also become more expensive to produce coins for the webshop alone. This is because less cash is generally used in society, e.g. for payments in shops. This means there is less need to produce coins for general circulation in society. This makes it proportionately more expensive to produce new coins if their sole purpose is to support sales in the webshop. It is expensive because small procurements of new coins result in a higher unit price. In addition, there is handling and transport of the coins, which also become more expensive per coin for small deliveries.

Production of commemorative coins in connection with special royal occasions is still planned, such as the regent's birthdays and anniversaries. Information about upcoming coins and their distribution will be announced via the Danmarks Nationalbank's website.

Statistics

Statistics help Danmarks Nationalbank ensure a robust economy in analyses of the Danish economy and the financial sector.

Danmarks Nationalbank collects and compiles a wide range of data and statistics in the financial area. Data comes primarily from a number of key players in society, such as banks, mortgage credit institutions, payment institutions, insurance and pension companies, investment funds and large corporates. Data is disseminated on Danmarks Nationalbank's website, e.g. in statistical news, DataBank and on social media.

Danmarks Nationalbank works closely with Statistics Denmark to compile and publish statistics. Danmarks Nationalbank's Statistics are available on Statistics

Denmark's website, DataBank and detailed micro-data from Danmarks Nationalbank is available via Statistics Denmark's Research Service.

Danmarks Nationalbank began publishing monthly foreign exchange and money market statistics in 2023 based on daily reports from the largest banks in Denmark. Danmarks Nationalbank uses the daily data to support financial stability, oversee developments in the foreign exchange market in Danish kroner and to monitor monetary policy transmission in Denmark.

Danmarks Nationalbank also started publishing data in 2023 on climate-related indicators that contribute to monitoring greenhouse gas emissions from the financial sector's investments, etc. The purpose of climate-related indicators is to shed light on the financial sector's financing of greenhouse gas emissions and exposure to emission-intensive companies that may have an impact on financial stability.

Danmarks Nationalbank has started collecting daily data on payment card payments from card acquirers in Denmark. Data is included in Danmarks Nationalbank's statistics on public payment habits and economic developments in various industries. Statistics for daily payments will be published in 2024.

Banknotes and coins in circulation

Danmarks Nationalbank is the issuing authority for banknotes and coins in Denmark. The total circulation of coins and banknotes decreased by kr. 6.9 billion in 2023. The decline in 2023 extends the trend in 2022 and is due to several factors.

The decline in banknotes in circulation is a derivative effect of the fact that Danes' primary payment solutions are still digital solutions such as payment cards, payment instruments, online banking and services such as mobile payments. Positive deposit rates have also reduced the demand for cash as an asset, while restrictions on the exchange of Danish cash abroad have further reduced demand. Finally, the previously mentioned recall of old banknote series (those from 1944-1997), and the phasing out of 1000-krone banknotes have also had a significant impact on circulation in December 2023.

The value of banknotes and coins in circulation was kr. 68.2 billion at the end of 2023. This is kr. 6.9 billion less than the previous year, corresponding to a decrease of 9.2 per cent, see Chart 7.

The decrease in total circulation is mainly due to a decrease in banknotes in circulation, which fell by kr. 6.8 billion to kr. 62.1 billion during 2023. Of this, Faroese banknotes in circulation accounted for kr. 0.5 billion. Total coins in circulation decreased by 1.6 per cent to kr. 6.1 billion.

Banknote circulation in 2023 decreased steadily throughout the year. The decrease was mainly driven by a decline in the circulation of 1000-krone banknotes, which fell by kr. 6 billion during the year. As the 1000-krone banknote began to be recalled in December, demand for 500-krone banknotes increased. Nevertheless, the circulation of 500-krone banknotes fell by kr. 235 million over the year. The circulation of the other banknote types (50, 100 and 200-krone banknotes) was relatively stable during the year.

As previously mentioned, Danmarks Nationalbank initiated the recall of all older series and a phase-out of all 1000-krone banknotes in 2023. At year end, the total volume of banknotes under recall and being phased out totalled kr. 22.6 billion. In the first month of the recall alone, the circulation of these banknotes decreased by kr. 1.9 billion. They will remain legal

tender until 31 May 2025 and can continue to be redeemed at Danmarks Nationalbank's exchange points until 31 May 2026. Danmarks Nationalbank's exchange points are expected to open by the end of 2024.

When Danmarks Nationalbank started recalling the old banknote series, an extraordinary 'de-issue' of the old 5 and 10-krone banknotes issued in the 1944 and 1952 series and the older Faroese 1-krone banknotes started. This is because these banknotes were recalled in 1954 and can no longer be redeemed at Danmarks Nationalbank and are therefore no longer part of cash in circulation.

The amount of counterfeit banknotes is still low – even though there has been an increase in the last few years. The number of counterfeit banknotes detected increased from 1,452 in 2022 to 2,163 in 2023. Of the registered banknotes, 1,547 were found in circulation. The counterfeit banknotes registered were mainly 1000-krone banknotes. In relation to the total number of banknotes in circulation of 181.6 million, registered counterfeit banknotes amount to approximately 8.7 counterfeit banknotes per million banknotes in circulation, which is a low level in an international context.

Result for 2023

Danmarks Nationalbank made a profit of kr. 10,575 million in 2023 compared to a loss of kr. 8,464 million in 2022.

The result for 2023 reflects the fact that market trends generally have contributed to a positive return on Danmarks Nationalbank's financial portfolio, see Chart 8. The result is also high in a historical context and is the highest since 1993.

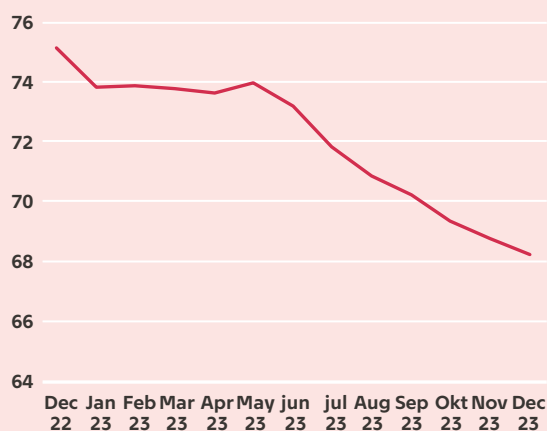
A generally higher interest rate level increased Danmarks Nationalbank's profit in 2023. Higher interest rates increase the return on interest-bearing assets, but also result in higher funding costs for Danmarks Nationalbank on interest-bearing liabilities (monetary policy deposits and central government's account).

Monetary policy interest rates in Denmark have been lower than the foreign exchange reserve investment rates on the European money market. Profit has therefore been made across interest-bearing assets and liabilities.

Chart 7

Banknote and coin circulation decreased in 2023

Kr. billion



■ All banknotes in circulation

Source: Danmarks Nationalbank.

In addition, changes in interest rates have a particular impact on seigniorage (the counterpart of banknote and coin circulation) and return on equity (less gold stock). When interest rates rise, profits from interest increase, and vice versa when interest rates fall. This is because these liabilities are non-interest bearing, while the corresponding assets earn interest at a higher rate.

Falling bond yields at year end also contributed to a positive market value trend for the domestic and foreign bond portfolios.

Interest-bearing foreign instruments contributed a total income of kr. 17.1 billion, while domestic bonds generated an income of kr. 1.4 billion. Conversely, Danmarks Nationalbank incurred interest costs on deposits, etc., of kr. 13.3 billion.

Rising equity prices, combined with a gradual increase in Danmarks Nationalbank's equity exposure in 2023, have contributed a positive return of kr. 2.6 billion, with a positive contribution from gold stock of kr. 2.7 billion. Finally, there is a gain on exchange rate adjustments of kr. 1.2 billion as a result of the Danish krone weakening slightly against the euro compared to the beginning of the year.

The shift from negative to positive interest rates has resulted in structurally higher profits. A projection of Danmarks Nationalbank's result based on such factors as market interest rate expectations points towards continued profits in the coming years, but at a lower level than in 2023.

Expenses and impairments totalled kr. 1.2 billion, a decrease of kr. 164 million compared to 2022.

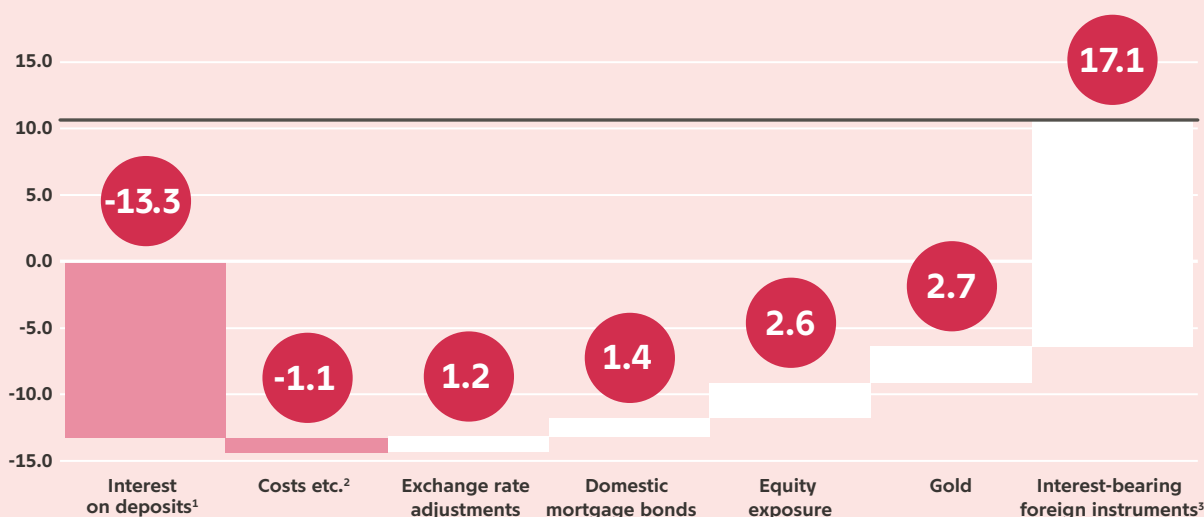
The average number of full-time employees increased from 452 to 477. The increase is due to continued high staffing of the TARGET Services project and the restoration and renovation project for Danmarks Nationalbank's building in Havnegade. On the other hand, Danmarks Nationalbank saved on electricity and heating expenses, and in 2023, the bank did not have the same IT costs as in 2022.

Expenditure on resources in the coming years will continue to be characterised by the projects related to the migration of Danish kroner to TARGET Services, the restoration of Danmarks Nationalbank's building, the recall of old banknotes and the 1000-krone banknote, as well as the launch of a new banknote series.

Chart 8

Result 2023 – main categories

Kr. billion



■ Profit for the year of kr. 10,575 million

Source: Danmarks Nationalbank.

1. Interest from banks and central government, etc.

2. Expenses incl. impairments, dividend and profit margins from financial fixed assets etc., and other income.

3. Contributions from foreign bonds, money market investments and hedging (e.g. FX swaps).

Distribution of net profit

The result basis for a possible transfer to the central government is calculated as the average of the financial results of the last five years, excluding gold price adjustments.

If the result basis is negative, Danmarks Nationalbank's net capital absorbs the loss. If the result basis is positive, a decision is made on a possible transfer based on the development in net capital. The determination of the transfer rate takes into account that, over time, Danmarks Nationalbank's net capital should increase at the same rate as nominal GDP – unless there is an extraordinary need for consolidation. This is based on a projection of Danmarks Nationalbank's earnings.

According to the above calculation, the result basis is negative, hence no transfer will be made to the central government for the 2023 financial year.

Profit for the year of kr. 10,575 million will be transferred to Danmarks Nationalbank's General Reserves. The net capital subsequently amounts to kr. 83,707 million.

Organisation



Board of Directors

Committee of Directors

Audit

Helle Munk Miltoft

Board of Governors

Governor

Signe Krogstrup

**Governor by
Royal Appointment,
Chairman**

Christian Kettel Thomsen

Governor

Per Callesen

**Banking
and Markets**

Martin Wagner Toftdahl

**Secretariat and
Communications**

Camilla Riemer Penn

Financial Stability

Peter Ejler Storgaard

**Economics and
Monetary Policy**

Thomas Harr

Financial Statistics

Bent Allan Christiansen

Research

Steffen Andersen

Corporate Services

Lone Mortensen

Organisation

Danmarks Nationalbank focuses on being a well-functioning, efficient and attractive workplace with a strong learning culture that develops excellent professionalism and attracts the best employees.

A new Governor by Royal Appointment and Chairman of the Board of Governors joined Danmarks Nationalbank in 2023 when Christian Kettel Thomsen took office on 1 February. Christian Kettel Thomsen has a background as Permanent Secretary in the Danish Ministry of Finance and the Danish Prime Minister's Office, and as Vice-President of the European Investment Bank.

Employees

Danmarks Nationalbank had 487 full-time employees at the end of 2023. This is 26 more than the previous year, which is mainly due to the addition of resources to the project of migrating Danish kroner to the pan-European infrastructure TARGET Services. Six of the employees are trainees, PhD students and interns, corresponding to 3.44 full-time employment (FTE) positions, which the bank prioritises to take social responsibility. 33 student assistants are also employed (corresponding to 12.96 FTE).

Staff turnover was 14.5 per cent in 2023, unchanged from 2022. In total, 76 employees left Danmarks Nationalbank during 2023 and 95 new employees were appointed. Of the 76 employees who left, 22 were student assistants, trainees, interns, etc. Similarly, 26 of the new recruits were student assistants, trainees, interns, etc.

Total absence due to illness decreased in 2023 to 6.3 days per employee compared to 7.4 days per employee

in 2022. Excluding long-term illness, absence increased to 4.6 days per employee compared to 4.3 days per employee in 2022.

In 2023, 21 employees were posted to national and international organisations, such as the European Central Bank, the EU Representation, and the Bank for International Settlements. Such postings are part of Danmarks Nationalbank's objective to increase its knowledge levels, develop the bank's employees and exert influence on the work of international organisations.

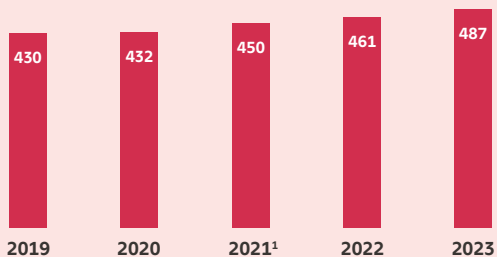
IT and Digitalisation

In 2023, Danmarks Nationalbank decided to establish IT and Digitalisation as an independent department and business area on 1 January 2024. This is because IT and digitalisation is a strategic and business-critical area for the bank now and in the future. The area is now integrated into virtually all parts of the bank's tasks including the society-oriented ones, such as interbank payments, data registers, website and other communication systems, the bank's digital workplace and the entire security area.

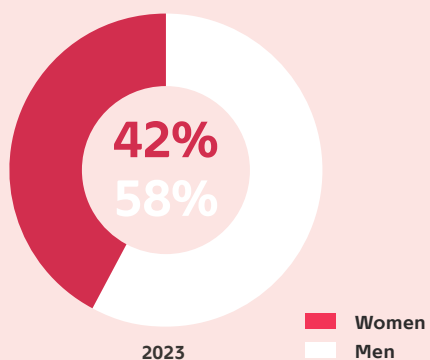
Collective bargaining negotiations 2023

Collective bargaining negotiations were held at the bank in 2023 in common with the rest of the financial sector. Negotiations take place between representatives from the bank and from the bank's staff association. The results were in line with the sector, with the focus on wage increases. In addition, 26 weeks of paid maternity leave was introduced for fathers and co-mothers, which also supports the bank's strategic work with diversity.

Development in full-time employees

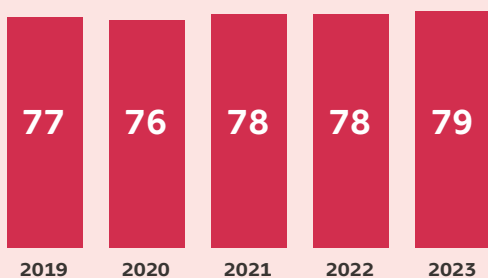


¹ From 2021, PhD students will be included based on their agreed working hours in the bank, and therefore count as 0.15 FTE instead of 1.0 FTE. The number of employees is as at the end of the year.



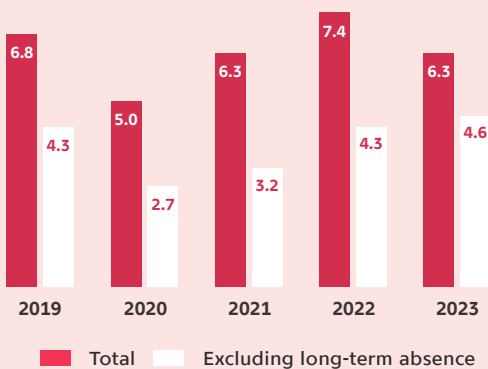
Work satisfaction

In 2023, work satisfaction increased slightly compared to previous year



Absence due to illness

Unit = days



Restoration and renovation of Havnegade 5

Danmarks Nationalbank's listed building at Havnegade in Copenhagen is undergoing major and necessary restoration and renovation work.

The building was designed by architect Arne Jacobsen and is considered one of Denmark's most striking expressions of modernist architecture. It has been listed since 2009, and the restoration is being carried out in close consultation with the Danish Agency for Culture and Palaces. Renovation will take place over a number of years, and the majority of Danmarks Nationalbank's employees have temporarily relocated to Langelinie Allé in Copenhagen.

The project includes protection against rising sea levels and cloudbursts, replacement of marble and glass facades, removal of PCBs and asbestos, and improvements to fire safety and indoor climate.

In connection with the project, Danmarks Nationalbank is in the process of analysing options for changing land use in order to make the most appropriate use of the surplus square metres in the future. At the same time, the interiors must be updated to meet the requirements of a modern and flexible workplace.

Throughout 2022 and 2023, a number of pilot projects have been carried out and they have further qualified the finances and schedule, and the buoyancy control contract was put out to tender in October 2023. The remaining tenders will be put out during 2024-2026.

In September 2023, Danmarks Nationalbank published a revised construction estimate of kr. 3.5 billion incl. VAT and a revised plan for moving back in, which is now expected to take place in 2029 instead of 2028. Danmarks Nationalbank will not know the total price of restoration and renovation of the building until the tender process is finalised, which is expected in 2026. The revised construction estimate is a result of the clarification of how the various renovation tasks were carried out in practice throughout 2023. For example, removal of the pollutant PCB has proved more costly than initially thought. Several technical installations also needed replacement, which must be done in limited space, adding to the complexity. Time studies during the pilot projects have also shown that disassembly and reassembly of building components is more extensive and will require more time for the tradesmen than our consultants previously anticipated. General price and wage increases in the construction industry in 2022 and 2023 also have to be taken into account.

Whistleblower scheme

Danmarks Nationalbank has a whistleblower scheme where, among other measures, it is possible for the bank's employees and members of the Committee of Directors and Board of Directors as well as suppliers and business partners to report violations of EU law in areas laid down in the Whistleblowing Directive, serious offences and other serious matters.

No reports were received in 2023. Danmarks Nationalbank rejected one report, as it did not relate to the bank's activities. The bank has an external law firm that is responsible for receiving and following up on any reports submitted under the whistleblower scheme. All reports must be made through Danmarks Nationalbank's whistleblower portal, which ensures confidentiality. Reporting can also be done anonymously.

Strategy

Danmarks Nationalbank's strategy is a guideline for business and organisational development and is used as an ongoing tool for prioritisation, decision-making and communication about the bank's initiatives. The strategy was communicated on Danmarks Nationalbank's website in 2023.

A number of initiatives were launched in 2023 to support the three objectives of the strategy (see box), including strengthened cyber recovery in the financial sector, analyses of the perspectives of central bank digital currency in the euro area, increased focus on diversity and inclusion, and analyses of the climate footprint on financial stability.

Other ways to strengthen strategic vision and maintain the foundation for ground-breaking analyses are also been worked upon. Among other things, all employees are regularly invited to hear external speakers who can inspire with new knowledge, most recently on quantum technology, artificial intelligence and green national accounts. Several other initiatives where the strategy has guided prioritisation are described elsewhere in this report. Implementation is continuous through development initiatives across the organisation, which are systematically followed up.

Diversity, inclusion and equal opportunities

Danmarks Nationalbank works with diversity as part of its strategy. The bank wants to be a diverse and



Danmarks Nationalbank's strategy

Danmarks Nationalbank's strategy contains three strategic objectives to support fulfilment of its purpose. The strategy is based on the following focus areas and can be read in full at nationalbanken.dk.



Visionary and responsive

We oversee economic and financial developments and analyse the consequences of the fixed exchange rate policy.

We keep abreast of developments in the financial sector and assess new trends and technologies with a focus on maintaining financial stability as well as a secure and efficient payments infrastructure.

We engage in national and international collaboration to analyse the economy and ensure appropriate regulation of new actors and products in the financial sector.

Relevant agendas and cutting-edge analyses

We prepare timely and cutting-edge analyses of topics of relevance to the Danish economy and the financial sector, in both the short term and the long term.

We are at the forefront of economic and financial analyses and use of new technology, new data sources and research methods.

We set new agendas and qualify the public debate, and we adapt to developments in communication forms and channels.

Excellent professionalism and high credibility

Strategic vision is an integral part of the performance of our tasks, supported by up-to-date, cyber-resilient and efficient IT tools and infrastructure.

We achieve better results by bringing diversity into play. We focus on diversity and inclusion.

We have a strong learning culture that helps us develop excellent professionalism and attract the best employees.

inclusive workplace that has equal opportunities for all employees and where everyone feels safe, supported and welcome. Diversity and inclusion contribute to a good working environment for everyone, which benefits the bank's purpose of ensuring a robust economy in Denmark.

Various training sessions were organised throughout 2023 for the bank's managers with the aim of strengthening the approach to inclusive leadership. Topics have included bias, also known as unconscious bias, and microaggressions.

As a natural part of the diversity policy, the bank changed its 2-year graduate economist programme to include all graduate colleagues, not just economists. The name has also been changed from Economist Programme to Danmarks Nationalbank Academy.

As part of the bank's diversity, inclusion and equal opportunities policy, the bank introduced targets for all management levels with a goal of reaching 40 per cent of the underrepresented gender by 2025.

At the end of 2023, the gender distribution in the group management was four women and six men, i.e., 40 per cent and 60 per cent, respectively. Among the heads of section, the gender distribution was 11 women and 15 men, corresponding to 42 per cent and 58 per cent, respectively.

Employer branding project

In 2022 and 2023, Danmarks Nationalbank worked purposefully with employer branding. The project was initiated as a strategic effort to strengthen the bank's brand and make the bank more attractive to potential candidates. The project will support the bank's strategic goals of excellent professionalism and high credibility. The project also aims to support Danmarks Nationalbank's strategic work with diversity and inclusion, as the bank wants to appeal to a broader target group of candidates, including more experienced candidates and IT profiles. The project has led to a number of internal and external activities, including a new core narrative about Danmarks Nationalbank as a workplace. The core narrative focuses on the fact that Danmarks Nationalbank is an exceptional, essential and empathetic workplace.

Strong learning culture and employee development day

On 22 September 2023, Danmarks Nationalbank held an employee development day. Around 400 employ-

ees participated for half a day. Every two years, the bank organises an employee development day when employees work on a relevant theme that supports the strong learning culture and gives the bank's employees the opportunity to meet across departments for the benefit of everyday collaboration.

The theme of the day was artificial intelligence, and the programme was composed of internal and external presentations, as well as a panel debate with four business leaders. The internal presentation was given by representatives from the bank's AI cluster, which is the interdisciplinary working group that works with artificial intelligence in the bank.

The bank's internal sustainability work

Danmarks Nationalbank has ongoing focus on ensuring sustainable internal management of resources, including minimising greenhouse gas emissions. This is achieved through energy management, environmentally friendly waste management, and environmentally and climate-friendly policies for purchasing and business travel.

In 2023, Danmarks Nationalbank initiated work on how emissions from its overall operations could be measured and reported. A statement of the bank's CO₂e footprint can show the way for new initiatives to reduce emissions. Examples of smaller initiatives in 2023 included changing lighting controls, reducing different types of waste, water-saving measures and ongoing critical considerations in relation to service life extension rather than new purchases.

Communication

Danmarks Nationalbank communicated on its analytical work, role and tasks via various platforms and channels in 2023. 22 analyses were published in 2023. In addition, there was a larger production of financial statistics, podcasts, economic memos and working papers.

Danmarks Nationalbank organised five press conferences in 2023. As usual, two press conferences were held on the outlook for the Danish economy and the monetary and financial trends, and two press conferences were held on financial stability and bank stress tests. A press conference was also held on the future of cash at which the Danish Financial Supervisory Authority, Finance Denmark, and the Danish Chamber of Commerce were also represented.

The bank's employees and Board of Governors have given a large number of presentations at home and abroad, as well as a number of interviews. This

was especially true when Governor Christian Kettel Thomsen took office in February 2023. And in connection with the announcement of new initiatives in the cash area, several communication activities were carried out in collaboration with and aimed at selected stakeholder groups.

Danmarks Nationalbank contributes to increasing both children's and young people's understanding of macro economy and the financial sector. 2023 was no exception, as Danmarks Nationalbank offered lectures for upper secondary school classes and others. The bank again collaborated with Finance Denmark on the annual Money Week, where the oldest primary school classes can learn more about money and personal finances and the role of the financial sector in society. In this connection, Danmarks Nationalbank also developed digital teaching material on the Danish economy for primary and lower secondary school students and teachers. Furthermore, Danmarks Nationalbank continues to provide an educational website for upper secondary school classes to learn more about monetary policy and the role of banks in the Danish economy, and efforts have been made to raise awareness of the teaching material among relevant subject teachers.

In June 2023, Danmarks Nationalbank launched its new website, www.nationalbanken.dk. This was preceded by a thorough process of clarifying needs, designing, inviting tenders, and implementing the technical solution, as well as developing completely new content for the website. The website's technical setup and performance has worked satisfactorily. Automatic security updates have eliminated the need for ongoing manual security patches of the previous website and have resulted in resource savings and an overall increase in IT security.

The new website showed its flexibility and usability in November 2023, when Danmarks Nationalbank announced new cash initiatives. A new campaign site was quickly launched with all relevant information for citizens using pre-developed design modules and features. In the first week, the website had almost five times as many unique visitors as in the same period the previous year.

Committee of Directors and Board of Directors

Danmarks Nationalbank's Board of Directors and Committee of Directors oversee that Danmarks Nationalbank complies with statutory requirements and meets the objectives set out in the Danmarks Nationalbank Act and the by-laws. The Board of Directors is Danmarks Nationalbank's supreme

decision-making authority. The Committee of Directors is charged with keeping informed of important aspects of Danmarks Nationalbank's activities, approving appointments of assistant governors and directors, overseeing that auditing is planned satisfactorily and reviewing Danmarks Nationalbank's major exposures etc. The Committee of Directors selects the proposals and recommendations to be put to the vote at the meetings of the Board of Directors.

The Committee of Directors held ten ordinary meetings in 2023. The Board of Directors held four ordinary meetings during the year, where topics such as Danmarks Nationalbank's economic forecasts, financial stability, the cash area and the bank's accounts and report were discussed. In addition, members of the Board of Directors participated in four quarterly reviews that go into more depth on specific tasks or projects in Danmarks Nationalbank's departments.

The Board of Directors elected three new members during 2023: Morten Skov Christiansen from the Danish Trade Union Confederation (FH), Marianne Lyngby Pedersen from Indeks Retail and Elisa Rimpler from BUPL. During the year Lizette Risgaard from FH, Per Bank from Salling Group and Grete Christensen from the Danish Nurses' Association resigned from the Board.

There was a high turnover among the elected members of the Board of Directors. From the beginning of 2023, the following members of the Danish parliament joined the Board of Directors: Alex Ahrendtsen from Dansk Folkeparti (Danish People's Party), Hans Andersen and Morten Dahlin from Venstre (Denmark's Liberal Party). During 2023, Martin Lidgaard left the seat for Samira Nawa from Radikale Venstre (Danish Social Liberal Party), and Torsten Schack Pedersen left the seat for Preben Bang Henriksen from Venstre.

Kristian Hundebøll from DLG and Elisa Rimpler from BUPL joined Danmarks Nationalbank's Committee of Directors. Per Bank from Salling Group and Grete Christensen from the Danish Nurses' Association resigned from the Committee, while Venstre MP, now minister, Morten Dahlin stepped in instead of Jakob Ellemann-Jensen from Venstre. As from January 2024 Torsten Schack Pedersen joined the Committee of Directors.



Danmarks Nationalbank's Board of Directors as at 1 March 2024

Chairman: Professor Christian Schultz
Deputy Chairman: Anne Hedensted Steffensen,
Managing Director

Elected by the Folketing for the period ending 31 March 2026:

Alex Ahrendtsen
Hans Andersen
Lisbeth Bech-Nielsen
Preben Bang Henriksen
Samira Nawa
Anne Paulin
Torsten Schack Pedersen
Jesper Petersen

Appointed by the Minister for Industry, Business and
Financial Affairs for the period ending 31 March 2026:

Michael Dithmer, Permanent Secretary of State
for Industry, Business and Financial Affairs
Johan Legarth, Permanent Secretary of State for Justice

Elected by the Board of Directors for the period
ending 31 March:

Connie Astrup-Larsen	2024
Philipp Schröder	2024
Gitte Pugholm Aabo	2024
Kathrine Forsberg	2025
Marianne Lyngby Pedersen	2025
Elisa Rimpler	2025
Morten Skov Christiansen	2026
Claus Jensen	2026
Christian Woller	2026
Asger Enggaard	2027
Kristian Hundebøll	2027
Anja Philip	2027
Jens Bjørn Andersen	2028
Christian Schultz	2028
Anne Hedensted Steffensen	2028

Danmarks Nationalbank's Committee of Directors as at 1 March 2024

Chairman: Professor Christian Schultz
Deputy Chairman: Michael Dithmer, Permanent Secretary
of State for Industry, Business and Financial Affairs

Elected by the Board of Directors until 31 March 2024:

CEO Kristian Hundebøll
Member of Parliament Anne Paulin
Member of Parliament Torsten Schack Pedersen
Chairman Elisa Rimpler
Professor Christian Schultz

Appointed by the Minister for Industry, Business and
Financial Affairs for the period ending 31 March 2026:
Michael Dithmer, Permanent Secretary of State for Industry,
Business and Financial Affairs Johan Legarth, Permanent
Secretary of State for Justice

Danmarks Nationalbank's representation on committees, in international organisations etc.

As at 1 March 2024, Danmarks Nationalbank is represented in the following committees, international organisations etc.:

The European Union (EU)

The European Systemic Risk Board (ESRB)

Governor Christian Kettel Thomsen is a member.

The Economic and Financial Committee

Governor Signe Krogstrup is a member.

The European Central Bank (ECB)

The General Council

Governor Christian Kettel Thomsen is a member.

The International Monetary Fund (IMF)

Board of Governors

Governor Christian Kettel Thomsen is the Danish member.

The Nordic/Baltic Monetary and Financial Committee

Governor Signe Krogstrup is a member.

Bank for International Settlements (BIS)

*Meeting of Governors, Global Economy Meeting,
Small Open Economies Meeting*

Governor Christian Kettel Thomsen
represents Danmarks Nationalbank.

The Organisation for Economic Cooperation and Development (OECD)

The Economic Policy Committee

Assistant Governor Thomas Harr is a member.

Nordic-Baltic Macropprudential Forum

Governor Christian Kettel Thomsen is a member.

The Danish Payments Council

Governor Per Callesen is the Chairman.

The Systemic Risk Council

Governor Christian Kettel Thomsen is the Chairman.
Governor Per Callesen is a member.

The Economic Council

Governor Signe Krogstrup is a member.

The Governing Board of the Danish Financial Supervisory Authority

Head of Financial Stability Peter Ejler Storgaard is a member.

The Coordination Committee on Financial Stability

Governor Per Callesen is a member.

Risk management

Danmarks Nationalbank's financial portfolios consist of the foreign exchange reserve of kr. 626 billion and the holdings of domestic mortgage bonds of kr. 33 billion.

The primary purpose of the foreign exchange reserve is for Danmarks Nationalbank to be able to intervene in the foreign exchange markets at short notice to support the fixed exchange rate policy. The foreign exchange reserve must also support financial stability and lending to the International Monetary Fund, IMF.

The foreign exchange reserve increased by kr. 48 billion in 2023. The increase was driven by Danmarks Nationalbank's intervention purchases of kr. 13 billion, while kr. 15 billion comes from interest income and kr. 10 billion from market value adjustments. Foreign exchange transactions on behalf of the central government contributed with kr. 2 billion. Finally, the central government has increased foreign currency loans (Commercial Papers and European Medium Term Notes) by net kr. 8 billion.⁵

The primary purpose of the foreign exchange reserve requires sufficient investments with high liquidity and creditworthiness. Therefore, a detailed liquidity management framework has been designed

to fulfil the liquidity needs of Danmarks Nationalbank. The majority of the reserve is placed in central bank accounts, short-term reverse repos (collateralised deposits) with commercial counterparties and central clearing counterparties, and liquid government bonds.

In addition, the objective is to achieve the best possible return for the given risk level and within the framework of Danmarks Nationalbank's guidelines for responsible investment. Consequently, Danmarks Nationalbank also has, for example, equities and corporate bonds, which contributes to increasing projected earnings and diversifying risk. The exposure to equities and corporate bonds is achieved via exchange-traded funds (ETFs) that follow the EU's minimum requirements for Paris-Aligned Benchmarks, PAB. The equity exposure was kr. 16.1 billion at the end of 2023, distributed between the US (45 per cent), the euro area (45 per cent) and Japan (10 per cent). At the same time, European corporate bonds amounted to kr. 8.6 billion. Danmarks Nationalbank manages equity risk by setting specific limits for the overall and regional equity exposure.

The interest rate risk measured by the krone duration increased to kr. 2.6 billion at the end of 2023.⁶ The krone duration contributes to stabilising Danmarks Nationalbank's profit over a longer horizon.

5 When the central government borrows in foreign currency, Danmarks Nationalbank converts the foreign exchange proceeds into Danish kroner, which are credited to the central government's account at Danmarks Nationalbank. Central government foreign borrowing therefore affects the foreign exchange reserve.

6 The krone duration indicates the loss from a 1 percentage point increase in interest rates.

Table 1

Danmarks Nationalbank's financial portfolios

Kr. billion	2023	2022
Foreign bonds¹	112	96
Government bonds with a credit rating of AA- or higher	71	26
Government bonds with a credit rating of BBB- to A+	12	13
Other bonds with a credit rating of A- or higher ²	29	57
Domestic mortgage bonds	33	32
Money market products (central bank deposits, reverse repo transactions, etc.)	407	396
Other holdings and exposures		
Gold	29.8	27.0
Exposure to equities via ETF	16.1	7.7
Exposure to corporate bonds via ETF	8.6	2.5
IMF ³	56.8	57.4
Selected risk measures/financial ratios		
Expected shortfall, 95 per cent ⁴	5.2	3.8
Earnings at risk, 95 per cent ⁵	10.3	8.7
Krone duration	2.6	2.1
Foreign exchange exposure (before FX hedge in brackets)		
EUR	554(430)	524(424)
USD	0(59)	0(59)
JPY	0(62)	0(32)
Other	0(3)	0(11)

Note: The table shows the middle credit rating given by Fitch, Moody's and Standard & Poor's respectively. Rounded figures.

Source: Danmarks Nationalbank, Fitch, Moody's and Standard & Poor's.

1. The market value of bonds is calculated including accrued interest.

2. Including securities issued by the Bank for International Settlements (BIS) which are not subject to credit rating.

3. As a counter item to the allocation of Special Drawing Rights, there is a liability (counter item on the liabilities side) to the IMF of kr. 44 billion.

4. Indicates the expected loss in the 5 per cent worst-case scenarios in Danmarks Nationalbank's portfolio and its risk model in one year.

5. Indicates the difference between expected earnings and expected loss in the 5 per cent worst-case scenarios.

This is done through an asset-liability management (ALM) approach. Essentially, an ALM approach means that financial risk is considered holistically across assets and liabilities. Since Danmarks Nationalbank has a significant amount of non-interest-bearing liabilities, including banknotes and coins in circulation and net capital, it earns structurally more when interest rates are high. By having a certain krone duration, e.g. in the form of long-term bonds, Danmarks Nationalbank hedges against a fall in interest rates to a certain extent: In the event of a fall in interest rates, structural profits decline, but Danmarks Nationalbank realises a gain in the form of price increases.

Under the National Bank of Denmark Act (*nationalbankloven*), Danmarks Nationalbank must hold a gold stock. The gold stock is 66.5 tonnes and has been virtually constant in size since 1970. The value increased to kr. 29.8 billion at the end of 2023. The market risk on the gold stock is not actively managed. However, the market risk on gold is included in the overall modelling of risk across

Danmarks Nationalbank's financial portfolios and as part of determination of the strategic asset allocation.

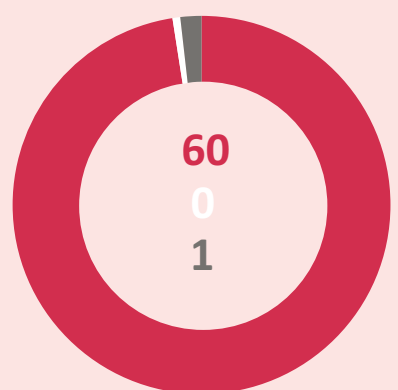
The claim on the IMF is included in the foreign exchange reserve. Danmarks Nationalbank's total claim was kr. 56.8 billion at the end of 2023. The IMF lends money to countries in economic difficulties and finances these loans via the member countries' quotas and loan commitments, including via Danmarks Nationalbank. Danmarks Nationalbank has made additional commitments totalling kr. 160 billion. Although the commitments are significant, the expected drawdown is low.

The portfolio risk is measured by *expected shortfall*, which indicates the average loss in the worst-case scenarios for the financial portfolios over a one-year horizon, simulated using Danmarks Nationalbank's portfolio- and risk model. Danmarks Nationalbank's expected loss is kr. 5.2 billion in the 5 per cent worst-case scenarios for the financial portfolios (*95 per cent expected shortfall*). The portfolio risk is sensitive to interest rate levels. If interest rates rise, portfolio risk decreases as structurally higher earnings will offset the market value loss in worst-case scenarios. For example, if interest rates rise, the bank earns structurally more. To correct for the effect of the interest rate level, it is therefore also relevant to look at the *earnings at risk* which is the difference between the expected earnings and the expected shortfall. The *earnings at risk* was kr. 10.3 billion at the end of 2023, see table 1. The increase in *earnings at risk* from 2022 to 2023 is mainly due to the increase in equity exposure during 2023.

Chat 9

The collateral value of pledged securities at year-end was dominated by mortgage bonds

Kr. billion, end of year



■ Mortgage bonds ■ Other bonds
■ Danish government securities

Note: *Mortgage bonds* comprise both specially covered bonds (SDOs), specially covered mortgage bonds (SDROs) and mortgage bonds (ROs). *Other bonds* consist of bonds issued by KommuneKredit and Føroya Landsstýri or guaranteed by the Danish central government. Rounded figures.

Source: Danmarks Nationalbank.

Risks on loans to banks and mortgage credit institutions

Danmarks Nationalbank provides monetary policy loans in Danish kroner with a term of one week to monetary policy counterparties by traditional pledging of securities, while intraday credit is also provided to facilitate the settlement of payments.

No ceiling has been imposed on the amounts that the counterparties may borrow from Danmarks Nationalbank, but it is a mandatory requirement that adequate collateral must be pledged. Systematic, ongoing coverage controls are in place. Danmarks Nationalbank only risks incurring credit losses on

lending if two events occur simultaneously: the default on a loan by a counterparty combined with the realisation value of the collateral pledged being lower than the credit provided. A deduction, a so-called haircut, is used in the calculation of the collateral value. The risk of bad debts is very low.

Collateral basis and lending

Banks had no real need to take out monetary policy loans in 2023. During the year, a few banks have tested loan access on a smaller scale. The collateral basis for traditional pledging of collateral consists primarily of Danish mortgage bonds or Danish government securities and to a minor extent of bonds issued by KommuneKredit and Føroya Landsstýri (the Faroese government), as well as bonds guaranteed by the Danish central government. The collateral value was approximately kr. 61 billion at the end of 2023, see chart 9. The collateral value is the market value of the securities pledged by the counterparties less the haircut.

Within each monetary policy day, the institutions can use a drawing right in connection with the settlement of payments, securities and currencies as well as interbank payments. The size of the drawing right is determined by the institutions' traditional pledging of securities to Danmarks Nationalbank as collateral, their account deposits with Danmarks Nationalbank (Kronos2), their holdings of certificates of deposit issued by Danmarks Nationalbank, as well as the facilities of the auto-collateralisation arrangement with Euronext Securities and auto-collateralisation with TARGET2-Securities (T2S). The credit must be redeemed before the end of the monetary policy day.

Danmarks Nationalbank may open extraordinary lending facilities and expand the collateral base on a case-by-case basis.

Operational risk

Operational risk is the risk of direct or indirect losses due to inadequate or failed internal processes, human errors and actions, system errors or losses due to external events. Operational risk also comprises business, compliance and reputational risks.

Maintaining and developing a high risk-based security level is considered to be a precondition for maintaining

Danmarks Nationalbank's credibility, and a robust Danish economy. Therefore, the work on risk management and security is a high priority in the ongoing operations processes and in the development of major projects.

Risk management is based on Danmarks Nationalbank's risk policy and strategy, which are decided by the group management. As a consequence of Danmarks Nationalbank's activities, the organisation is exposed to a broad range of different risks. The risk management work focuses on the following areas, in particular:

- Cyberattacks
- IT operational stability
- Business operation errors
- Data and personal data security
- Reputation
- Physical security

Systematic work is being done to identify, assess, manage and follow up on significant operational risks to ensure that the level of risk is acceptable.

Strengthening crisis response plans and business continuity plans in the event of critical situations remains a key part of the ongoing work with risk management. The systematic work also involves continuous development of and participation in the financial sector's crisis response under the Financial Sector Forum for Operational Resilience (FSOR).

Insurance strategy

Danmarks Nationalbank's insurance policies and insurance strategy are reviewed annually in collaboration with an external insurance broker. The composition of Danmarks Nationalbank's insurance portfolio is anchored in a risk-based assessment of possible losses, and thus the continuous evaluation of areas to be insured and the extent to which they are to be covered.

Climate footprint



Climate footprint of the financial portfolios

The purpose of the climate-related disclosure is to contribute to transparency about the climate footprint of Danmarks Nationalbank's financial portfolios, in line with the European Central Bank and other national central banks. Climate-related disclosures can also be used as an indication of whether certain portfolios are particularly exposed to CO₂e emissions.

In the 2022 annual report, Danmarks Nationalbank disclosed for the first time the climate footprint of the part of the foreign exchange reserve that is invested in bonds issued by governments and regional authorities, as well as equities and corporate bonds through exchange-traded funds (ETFs).⁷ In the 2023 annual report, Danmarks Nationalbank expands the disclosure to also include the portfolio of domestic mortgage bonds, scope 3 emissions for the holdings of ETFs and holdings of green bonds.

The primary purpose of the foreign exchange reserve is to support the fixed exchange rate policy

The primary purpose of the foreign exchange reserve is to enable Danmarks Nationalbank to maintain the fixed exchange rate policy through intervention in the foreign exchange market. The foreign exchange reserve must also be able to support financial stability and lending to the International Monetary fund, IMF. Thus, the climate footprint of the foreign exchange reserve is not used in the active management of Danmarks Nationalbank's liquidity reserves.

In addition to liquidity considerations, the foreign exchange reserve aims to achieve the best possible risk-adjusted return. Therefore, part of the foreign exchange reserve is invested in equities and corporate bonds through ETFs, which are not subject to the primary purpose of the foreign exchange reserve. From an investment perspective, equities and corporate bonds are also most closely linked to CO₂e emissions. Therefore, in 2021, Danmarks Nationalbank decided that the holdings of ETFs must follow the EU's minimum requirements for Paris-Aligned Benchmarks (PAB ETFs). This implies that over time, there is a requirement to reduce the carbon intensity of each ETF in line with the Paris Agreement's climate targets.

Disclosure on climate footprint of financial portfolios is an evolving area

The disclosure covers approximately 20 per cent of the foreign exchange reserve (excluding gold and claims on the IMF) corresponding to kr. 110 billion, as well as the entire holdings of domestic mortgage bonds of kr. 33 billion in 2023. For these asset classes, widely recognised calculation methods and sufficient data for climate-related disclosure exist. However, for other asset classes such as deposits in foreign central banks, there are no recognised methods or standards on how carbon metrics should be calculated.

The disclosure for the holdings of ETFs covers scope 1, 2 and 3 emissions. Scope 3 metrics can help describe the full climate footprint of individual investments, and it is therefore important to include

⁷ Disclosure of climate footprint of the financial portfolios: Background and methodology, *Danmarks Nationalbank Report*, no. 2, March 2024.

in the overall climate-related disclosure.⁸ However, interpretation of scope 3 emissions for companies is, among other things, challenged by double counting and differences in accounting methods.

The calculations for the foreign exchange reserve are based on emissions data from 2021 and 2022, as data for 2023 is not yet available. Therefore, the disclosure only reflects that in 2023, Danmarks Nationalbank has changed its portfolio composition of bonds issued by governments and regional authorities, as well as exposure to equities and corporate bonds. Thus, it is important to emphasise that the movement in the reported metrics for Danmarks Nationalbank does not mean that there has been a real improvement or deterioration in the global CO₂e emissions.

Table 2 summarises the climate footprint of the financial portfolios using three calculation methods.

Bonds issued by central governments and regional authorities

For the holdings of bonds issued by governments and regional authorities, the calculations show a significant increase in absolute financed emissions in 2023, which is due to a doubling in the holdings of government bonds, etc.

Conversely, the calculations show that the weighted average carbon intensity decreased in 2023. For governments and regional authorities, the metric indicates the average carbon intensity, which is the issuer's emissions relative to its GDP, weighted by their respective share of Danmarks Nationalbank's total holdings of government bonds. The decrease in turn reflects that Danmarks Nationalbank had a larger share of government bonds, in 2023 issued by countries with lower emissions relative to GDP. For example, in 2023, Danmarks Nationalbank owned more European government bonds relative to US government bonds than in 2022.

For bonds issued by governments and regional authorities, the weighted average carbon intensity and carbon footprint are calculated in the same way.

Equities and corporate bonds (ETFs)

For the holdings of equities and corporate bonds through ETFs, the absolute financed emissions have increased, since Danmarks Nationalbank increased the total holdings of equities and corporate bonds to kr. 25 billion in 2023 from kr. 10 billion in 2022.

The weighted average carbon intensity and CO₂e footprint of the holdings also increased slightly in 2023. For equities and corporate bonds, weighted average carbon intensity indicates the ETF's share of the average carbon intensity, which is the company's emissions relative to its revenue. The CO₂e footprint for equities and corporate bonds indicates the ETF's share of the emissions intensity, which is the company's emissions relative to the enterprise value of the company.

The increase reflects that Danmarks Nationalbank, in 2023, allocated relatively more of the holdings to corporate bonds, whose weighted average carbon intensity and CO₂e footprint are relatively higher than for the holdings of equities. Looking at the equities alone, the climate footprint decreased from 2022 to 2023.

The overall decrease in the climate footprint of the ETFs since 2021 reflects the reallocation of the holdings to ETFs that follow the EU Paris-Aligned Benchmarks.

Domestic mortgage bonds

For the portfolio of domestic mortgage bonds, the CO₂e footprint and absolute financed emissions have decreased in 2023. The CO₂e footprint for domestic mortgage bonds indicates Danmarks Nationalbank's share of emissions financed by the respective cover pools. This share is relative to Danmarks Nationalbank's total portfolio of domestic mortgage bonds.

⁸ Scope 1 covers the company's direct emissions. Scope 2 covers the company's indirect emissions from energy purchases. Scope 3 covers other indirect emissions associated with the production and consumption of the company's products, e.g. emissions from the production of purchased materials from subcontractors.

Table 2

Climate footprint of Danmarks Nationalbank's financial portfolios

Foreign exchange reserve: Bonds issued by central governments and regional authorities

Allocation of emissions	Production-based		
	2023	2022	2021
Weighted average carbon intensity (tonnes CO ₂ e per million euros in GDP)	149	170	227
CO₂e footprint (tonnes CO ₂ e per million euro invested)	149	170	227
Absolute financed emissions (tonnes CO ₂ e)	1,799,959	940,677	1,932,962
Share of foreign exchange reserve market value (per cent)	16	8	14

Foreign exchange reserve: Equities and corporate bonds (ETFs)

Allocation of emissions	Scope 1-2			Scope 3		
	2023	2022	2021	2023	2022	2021
Weighted average carbon intensity (tonnes CO ₂ e per million euros in revenue)	62	60	106	440	430	-
CO₂e footprint (tonnes CO ₂ e per million euro invested)	23	20	53	126	126	-
Absolute financed emissions (tonnes CO ₂ e)	77,042	26,895	98,176	418,351	173,897	-
Share of foreign exchange reserve market value (per cent)	5	2	3	5	2	-

Domestic mortgage bonds

Allocation of emissions	Emissions from registered properties		
	2023	2022	2021
CO₂e footprint (tonnes CO ₂ e per million kroner invested)	3.13	3.39	-
Absolute financed emissions (tonnes CO ₂ e)	112,242	117,977	-
Share of the domestic portfolio's market value (per cent)	100	100	-

Note: Foreign exchange reserves are calculated excluding gold and claims on the IMF. The CO₂e of countries for 2021 are used in 2023, while the CO₂e of companies, GDP, revenue and EVIC for 2022 are used in 2023, as data for 2023 was not available at the time of disclosure.

Source: UNFCCC, World Bank, MSCI, Covered Bond Label and own calculations.

This movement can be caused by, among other things, the fact that smaller proportions of property values are financed by mortgage loans (lower loan-to-value ratio) or that the energy labels of the properties, on the basis of which emissions are calculated, have improved.

Green bonds in the financial portfolios

Apart from calculating the climate footprint of the financial portfolios, Danmarks Nationalbank also reports the market value of the holdings of green bond.⁹ Green bonds totalled kr. 1.7 billion in 2023 (0.3 per cent of the financial portfolios),¹⁰ kr. 1.1 billion in 2022 (0.2 per cent) and kr. 1.4 billion in 2021 (0.3 per cent). The increase in 2023 is partly due to an increase in the holdings of corporate bonds through ETFs to kr. 9 billion from kr. 3 billion in 2022, which includes green bonds.

9 Green bonds are identified using Bloomberg data, which is based on the guidelines of the Green Bond Principles put forward by the International Capital Market Association (ICMA).

10 Excluding gold, claims on the IMF and equities through ETFs.





An aerial photograph of a city waterfront. In the foreground, a large, modern building with a dark, flat roof and a grid-like pattern of small, circular greenery is visible. To its right is a parking lot filled with cars. Further right, a wide road runs along the water's edge. In the background, a dense cluster of colorful, multi-story buildings with various roof colors (red, grey, white) is situated. A large, historic building with a prominent green copper roof and a tall, ornate spire is located in the bottom right corner. The water is a deep blue, and a few boats are visible in the harbor.

Financiál staterments 2023

Key figures and financial ratios 2019-23

Income statement (DKK million)	2023	2022	2021	2020	2019
Net interest income, etc.	4,092	-731	-1,048	-628	-22
Value adjustment of gold	2,726	1,467	1,034	2,863	3,832
Other value adjustments	4,845	-7,931	1,334	236	3,178
Income from financial fixed assets, etc.	22	22	40	213	19
Other income	40	42	1	2	2
Expenses, incl. depreciation and amortisation	-1,150	-1,314	-1,167	-1,051	-913
Other expenses	-	-19	-	-19	-
Net profit or loss for the year	10,575	-8,464	194	1,616	6,096
Allocated as follows:					
Allocation to/from net capital	10,575	-8,464	194	1,616	6,096
Payable to the central government	-	-	-	-	-
	10,575	-8,464	194	1,616	6,096

Balance sheet (DKK million)	2023	2022	2021	2020	2019
Assets					
Foreign exchange reserve assets	630,499	586,035	538,160	440,328	444,317
Monetary policy lending	-	-	-	-	-
Other lending	1,553	1,903	1,874	3,900	2,091
Domestic bonds	33,068	31,802	31,359	32,906	32,099
Other assets, etc.	2,794	5,685	1,696	4,235	2,429
Total assets	667,914	625,425	573,089	481,369	480,936
Liabilities					
Banknotes and coins in circulation	68,221	75,125	77,587	74,524	70,552
Monetary policy deposits	290,458	247,879	202,527	164,003	230,566
Central government	160,461	161,779	151,533	136,875	70,411
Foreign exchange reserve debt	4,612	7,960	3,059	1,342	3,101
Other liabilities	60,455	59,550	56,787	23,223	26,521
Total liabilities	584,207	552,293	491,493	399,967	401,151
Total net capital	83,707	73,132	81,596	81,402	79,785
Total net capital and liabilities	667,914	625,425	573,089	481,369	480,936

Key figures	2023	2022	2021	2020	2019
Foreign exchange reserve (DKK million)	625,887	578,075	535,101	438,986	441,216
Net position of banks and mortgage credit institutions vis-à-vis Danmarks Nationalbank (DKK million)	290,458	247,879	202,527	164,003	230,566
Change in banknotes and coins in circulation (per cent)	-9.2	-3.2	4.1	5.6	-0.3
Change in equity (per cent)	14.5	-10.4	0.2	2.0	8.3
Average no. of employees (full-time equivalents)	477	452	444	424	425

Board of Governors' report on Danmarks Nationalbank's financial statements

The result for the year is a profit of DKK 10,575 million compared to a loss of DKK 8,464 million in 2022.

The development in profit for the year has been significantly affected by a higher interest rate level. This affects profit from Danmarks Nationalbank's bonds, deposits and loans.

The result from financial portfolios increased from a loss of DKK 7,195 million in 2022 to a profit of DKK 11,663 million in 2023.

The higher positive return on net foreign receivables resulted in additional income of DKK 16,847 million compared to last year. In total, the item amounted to a net income of DKK 16,166 million in 2023.

The current account rate and the interest rate on certificates of deposit were increased six times during the year from 1.75 per cent at the end of 2022 to 3.60 per cent at the end of 2023. Combined with an increase in average deposits from banks and mortgage credit institutions from DKK 213 billion in 2022 to DKK 272 billion in 2023, this resulted in a net interest expense of DKK 8,205 million compared to DKK 195 million in 2022.

The average balance on the central government's current account was DKK 163.9 billion, which is an increase of DKK 16 billion from 2022, when the average balance was DKK 147.8 billion. In 2023, interest expenses on central government deposits amounted to DKK 4,760 million, which is DKK 4,860 million more than in 2022. The increase in interest expenses can largely be attributed to the fact that the return on government deposits in 2023 averaged

2.9 per cent compared to an average of -0.2 per cent in 2022.

In 2023, Danmarks Nationalbank saw significant capital gains from its bond and equity portfolios. In total, the exchange rate gain on foreign holdings was a profit of DKK 3,295 million compared to a loss of DKK 6,585 million in 2022. In addition, there is a total profit from exchange rate adjustments of DKK 1,153 million.

The total profit contribution from the domestic securities portfolio contributed income of DKK 1,413 million, which is an additional income of DKK 2,671 million. The development in income from interest and value adjustments can also be attributed to the positive interest rate level that characterised 2023.

Value adjustment of gold contributed a total of DKK 2,726 million in 2023, which is an increase of DKK 1,260 million compared to 2022. The increase is because the price of gold in Danish kroner has increased by 10.1 per cent compared to last year.

No credit losses have been recognised on the bank's exposures in 2023, and there is no need to make provisions for these at the end of the year.

Expenses

Danmarks Nationalbank's total operating expenses fell by DKK 84 million to DKK 1,088 million in 2023.

As a result of an increase in the number of employees from 452 full-time employees to 477, staff expenses increased by DKK 34 million to DKK 440 million. The migration of the settlement of Danish

kroner to the European payment platform TARGET Services and other related tasks continue to draw more resources from the bank.

Other operating expenses decreased by DKK 99 million compared to last year, from DKK 731 million in 2022 to DKK 632 million. The decrease is mainly attributable to the bank incurring significant transition costs in 2022 in connection with the move to new IT operation suppliers. In addition, the bank reduced its energy costs by DKK 10 million in 2023. Conversely, operating expenses increased because of the restoration and renovation of Havnegade 5.

Finally, no major purchases of new banknotes and coins were made in 2023, which meant that the expenses regarding these decreased by DKK 20 million.

Depreciation, amortisation and impairment charges amounted to DKK 62 million, a decrease of DKK 80 million compared to 2022. In 2022, this item was affected by major impairment charges on fixed assets that will not be utilised in connection with the relocation to Havnegade and departures because of the transfer to Danmarks Nationalbank's IT operations suppliers.

Balance sheet

During 2023, the total balance sheet increased by DKK 42.5 billion to DKK 667.9 billion.

This development is reflected in a change in the banks' net position, which has increased by DKK 42.6 billion. This is offset by an increase of DKK 44.5 billion in total foreign exchange reserve assets in 2023. This increase has been placed in repo reverse

transactions, foreign bonds and an increase in the holdings of Exchange Traded Funds.

Furthermore, cash in circulation decreased by DKK 6.9 billion during 2023, which is attributable in particular to a decrease in the circulation of 1000-krone banknotes.

Distribution of net profit

The profit for the year of DKK 10,575 million is transferred to Danmarks Nationalbank's General Reserves. No profit share is transferred to the central government for 2023 financial year. The net capital subsequently amounts to DKK 83,707 million.

Statement by the Board of Governors and the Board of Directors on the annual report

The Board of Governors today reviewed and approved the financial statements of Danmarks Nationalbank for the financial year 1 January - 31 December 2023. The annual report has been prepared in accordance with the Danmarks Nationalbank Act. In our opinion, the financial statements offer a true and fair presentation of Danmarks Nationalbank's assets, liabilities and financial position as at 31 December 2023 and of the profit and loss from Danmarks Nationalbank's operations for the financial year 1 January - 31 December 2023. In our opinion, the Board of Governors' review provides a true and fair account of the matters described in the review.

Copenhagen, 27 February 2024

Board of Governors

Christian Kettel Thomsen
Chairman

Per Callesen

Signe Krogstrup

Internal audit report

To the Board of Directors

Opinion

In our opinion, the financial statements give a true and fair view of Danmarks Nationalbank's assets, liabilities and financial position at 31 December 2023 and the result of Danmarks Nationalbank's activities for the financial year 1 January - 31 December 2023 in accordance with the Danmarks Nationalbank Act.

We have audited the financial statements of Danmarks Nationalbank for the financial year 1 January - 31 December 2023, which comprise income statement, balance sheet, notes and accounting policies ("the financial statements").

Statement on the Board of Governors' report

Management is responsible for the Board of Governors' report on the activities of Danmarks Nationalbank.

Our opinion on the financial statements does not cover the Board of Governors' report, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, it is our responsibility to read the Board of Governors' report on the activities of Danmarks Nationalbank and in that connection to consider whether the report is materially inconsistent with the financial statements or with our knowledge obtained during the audit, or otherwise appears to be materially misstated.

In our opinion and based on the work performed, the Board of Governors' report on the activities of Danmarks Nationalbank is in accordance with the financial statements and has been prepared in accordance with the requirements of the Danmarks

Nationalbank Act. We did not identify any material misstatement in the Board of Governors' report.

Management's responsibilities for the financial statements

Management is responsible for the preparation of financial statements that give a true and fair view in accordance with the Danmarks Nationalbank Act. Management is also responsible for internal controls considered necessary by Management for preparing financial statements that are free of material misstatement, whether due to fraud or error.

Basis of opinion

We have conducted our audit in accordance with International Standards on Auditing. Those standards require that we plan and perform the audit with a view to obtaining reasonable assurance that the financial statements are free of material misstatement.

The audit included an assessment of the procedures and internal controls established by Management that are of relevance to Management's preparation and fair presentation of the financial statements, including an assessment of the risks of material misstatement. The audit also included evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. The audit included the most significant areas and risk areas, and we believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Copenhagen, 27 February 2024

Helle Munk Miltoft
Chief Internal Auditor

Independent auditor's audit report

To the Board of Directors

Opinion

In our opinion, the Financial Statements give a true and fair view of the financial position of Danmarks Nationalbank at 31 December 2023, and of the results of Danmarks Nationalbank's operations for the financial year 1 January - 31 December 2023 in accordance with the Danmarks Nationalbank Act.

We have audited the Financial Statements of Danmarks Nationalbank for the financial year 1 January - 31 December 2023, which comprise income statement, balance sheet and notes, including a summary of significant accounting policies ("financial statements").

Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) and the additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of Danmarks Nationalbank in accordance with the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (IESBA Code) and the additional ethical requirements applicable in Denmark, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Statement on the Board of Governor's report on Danmarks Nationalbank's financial statements

Management is responsible for the Board of Governor's report on Danmarks Nationalbank's financial statements.

Our opinion on the financial statements does not cover the Board of Governor's report on Danmarks Nationalbank's financial statements, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the Board of Governor's report on Danmarks Nationalbank's financial statements and, in doing so, consider whether the Board of Governor's report on Danmarks Nationalbank's financial statements is materially inconsistent with the financial statements or our knowledge obtained during the audit, or otherwise appears to be materially misstated.

Moreover, it is our responsibility to consider whether the Board of Governor's report on Danmarks Nationalbank's financial statements provides the information required under the Danmarks Nationalbank Act.

Based on the work we have performed, in our view, the Board of Governor's report on Danmarks Nationalbank's financial statements is in accordance with the Financial Statements and has been prepared in accordance with the requirements of the Danmarks Nationalbank Act. We did not identify any material misstatement in the Board of Governor's report on Danmarks Nationalbank's financial statements.

Management's Responsibilities for the Financial Statements

Management is responsible for the preparation of Financial Statements that give a true and fair view in accordance with the Danmarks Nationalbank Act, and for such internal control as Management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, Management is responsible for assessing Danmarks Nationalbank's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting in preparing the financial statements unless Management either intends to liquidate Danmarks Nationalbank or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Danmarks Nationalbank's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by Management.
- Conclude on the appropriateness of Management's use of the going concern basis of accounting in preparing the financial statements and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on Danmarks Nationalbank's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause Danmarks Nationalbank to cease to continue as a going concern.
- Evaluate the overall presentation, structure and contents of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that gives a true and fair view.
- We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Copenhagen, 27 February 2024

PricewaterhouseCoopers
Statsautoriseret Revisionspartnerselskab
CRN (CVR) 33 77 12 31

Claus Christensen
State-authorized public accountant
mne33687

Per Rolf Larssen
State-authorized public accountant
mne24822

Signatures

These financial statements, which have been audited in accordance with the regulations of Danmarks Nationalbank, were approved by the Board of Directors at its meeting on 19 March 2024.

As at 1 March 2024, the Board of Directors consists of

Christian Schultz, Chairman

Anne Hedensted Steffensen, Deputy Chairperson

Alex Ahrendtsen

Hans Andersen

Jens Bjørn Andersen

Connie Astrup-Larsen

Lisbeth Bech-Nielsen

Morten Skov Christiansen

Michael Dithmer

Asger Enggaard

Kathrine Forsberg

Preben Bang Henriksen

Kristian Hundebøll

Claus Jensen

Johan Legarth

Samira Nawa

Anne Paulin

Marianne Lyngby Pedersen

Thorsten Schack Pedersen

Jesper Petersen

Anja Philip

Elisa Rimpler

Philipp Schröder

Christian Woller

Gitte Pugholm Aabo

Applied Accounting policies

General

The financial statements of Danmarks Nationalbank for 2023 are presented in accordance with the Danmarks Nationalbank Act. In all significant respects, these accounting policies are in accordance with the sound policies of European central banks in the euro area. The main differences relate to unrealised gains on foreign exchange and securities, which are recognised in the income statement in Danmarks Nationalbank's financial statements.

The basic principle is that the financial reporting should reflect economic reality. The effects of transactions and events are recognised when they occur and are stated and presented in the financial statements for the year which they concern. The financial statements include all material and relevant circumstances. Revaluations are shown irrespective of their impact on profits and net capital, and calculation and valuation methods are applied consistently within each category of information. When initially recognised, assets and liabilities are stated at cost price. Subsequently, assets and liabilities are valued as described under each accounting item.

Transactions in foreign currency are converted to Danish kroner at the exchange rate applying on the transaction date. On the balance sheet date, financial assets and liabilities in foreign currencies are converted at the exchange rates most recently published by Danmarks Nationalbank. Both realised and unrealised gains and losses are recognised in the income statement.

The principles for and the classification of the individual items in the financial statements remain unchanged from the previous year.

Income statement

Net interest, etc.

Besides interest on interest-bearing assets and liabilities, interest income and expenses comprise maturity reductions of the bond portfolios, fees, premiums and discounts on T-bills and certificates of deposit, and income from Exchange Traded Funds, as well as premiums on forward securities and forward exchange contracts.

Value adjustments, etc.

Value adjustments comprise market value adjustments and exchange rate adjustments concerning financial assets and liabilities and gold. Both realised and unrealised gains and losses are recognised in the income statement.

Income from financial fixed assets, etc.

Dividends and gains from financial fixed assets, etc. comprise share dividend received, net gains from the sale of financial fixed assets, etc., as well as revaluations and impairment charges. Dividends are recognised in the year in which they are announced.

Other income

Other income comprises income from Danmarks Nationalbank's sale of coin sets, etc., recognition of income regarding banknotes and coins no longer

redeemed by Danmarks Nationalbank, as well as other income that does not relate to Danmarks Nationalbank's primary activities or that is not annually recurring.

Expenses

Staff expenses comprise salaries and remuneration, including pension contributions, etc., training costs and other staff expenses. Expenses concerning banknote and coin production services comprise the costs of purchase of banknotes and coins produced by external suppliers. Other expenses concern the operation of Danmarks Nationalbank's properties, IT operations and other operating expenses.

Other expenses

Other expenses comprise expenses that are not related to Danmarks Nationalbank's primary activities or that are not annually recurring.

Balance sheet

Gold

Gold is valued at the gold price at the balance sheet date in US dollars, converted to Danish kroner.

Financial assets and liabilities

Financial assets and liabilities traded in active markets are stated at the fair value on the balance sheet date. Holdings of Exchange Traded Funds and stock futures which are included in 'Foreign assets' are traded on an active market, so that the fair value is based on quoted prices. For bond portfolios in less active or inactive markets which are included in 'Foreign assets' and 'Domestic bonds', the fair value on the balance sheet date has been calculated using a model based on estimation and assessment techniques which take account of recent transactions in similar instruments, the discounted payment flows for the portfolios and the relevant term structure based on the market conditions existing on the balance sheet date. Monetary policy accounts, including certificates of deposit and other lending and deposits, are stated at nominal value.

Repurchase agreements and securities lending, etc. Securities sold in connection with simultaneous repurchase agreements and securities made available for lending are included in Danmarks Nationalbank's respective holdings.

Financial fixed assets, etc.

Financial fixed assets and similar investments are valued at the lower of acquisition value and fair value.

Tangible and intangible fixed assets

Tangible and intangible fixed assets comprise Danmarks Nationalbank's properties (land, buildings and building renovations), leasehold improvements, technical building facilities (lifts, special cooling in server rooms, etc.), technical production facilities (for banknote and coin sorting), office equipment and vehicles, hardware and software, and fixed assets in the course of construction.

Danmarks Nationalbank's properties are the fixed asset groups comprising bank properties, other properties and building renovations. Building renovations include capitalised replacement of entire building components in order to extend their lifetime, major renovation projects to improve buildings, cost-saving building renovations and costs defrayed in order to expand the use of the properties. Leasehold improvements are entered under the relevant fixed asset group.

Fixed assets are stated in the balance sheet at acquisition prices less accumulated depreciation, amortisation and impairment charges. Assets with an acquisition value of less than DKK 100,000 per unit are carried as expenditure in the year of acquisition. Depreciation and amortisation on a linear per-annum basis take place over the expected useful lives of the fixed assets. The useful lives are assessed as follows:

- Bank properties 100 years
- Other properties 25-50 years
- Building renovations 10-25 years
- Technical building facilities 10-25 years
- Technical production facilities 5-10 years
- Hardware and software 3-5 years
- Other machinery and equipment 3-5 years

Leasehold improvements are depreciated over the expected lease term unless another useful life is stated. Fixed assets under construction comprise expenses incurred for tangible fixed assets and intangible development projects in the course of construction. Expenses are transferred to the relevant fixed asset groups when the assets are ready for use. Under section 17 of the Danmarks Nationalbank Act, the value booked, including building improvements and related assets under construction, must not exceed the public property valuation. In such case, any excess amount will be recognised as an expense.

Profit/loss on the sale of fixed assets is recognised in the income statement under depreciation, amortisation and impairment charges and is stated as the difference between the selling price and the book value at the time of sale.

Other assets

The item includes other assets not covered by other asset items. The item includes positive net value of hedging instruments in the form of unsettled currency transactions and other financial derivatives. Also included is income falling due after the end of the financial year, including receivable interest.

Financial derivatives such as forward securities and forward exchange contracts, interest rate and currency swaps, etc. are measured at fair value on the balance sheet date. Other items are measured at cost.

Accruals

Prepayments and accrued income recognised under assets include incurred costs relating to subsequent fiscal years. Accruals are measured at cost.

Banknotes and coins in circulation

Banknotes and coins in circulation are measured at their nominal value.

Other liabilities

The item includes liabilities not covered by other liability items. The item includes the negative net value of hedging instruments in the form of unsettled currency transactions and other financial derivatives, as well as uncovered pension commitments, commitments in the form of benefit and severance payments and other provisions for guarantees issued. Also included are expenses falling due after the end of the financial year, including payable interest and holiday pay.

Financial derivatives such as securities and forward exchange contracts, interest rate and currency swaps, etc., are measured at fair value at the balance sheet date. Other items are measured at cost.

Contingent liabilities and other financial commitments

Other liabilities concerning guarantees provided are stated at the estimated value of the payment obligation. Contractual obligations relating to rented premises, including any re-establishment obligation, have been stated as the total contractual obligation during the period of non-terminability per lease that extends beyond normal contractual terms.

Pension commitments

For defined-contribution pension plans, the current premium payments to the pension companies are carried as expenditure in the income statement, and the pension commitment hereafter passes to the pension companies. For defined-benefit pension plans, provisions are made in the financial statements of Danmarks Nationalbank for uncovered pension undertakings compiled according to actuarial principles.

Income statement

DKK 1,000	Note	2023	2022
Net income from interest, etc.:			
Interest, etc. on net foreign assets	1	16,166,102	-681,028
Income from Exchange Traded Funds		220,284	51,910
Interest on monetary policy lending and deposits and certificates of deposit	2	-8,204,696	-194,550
Interest on domestic bonds		1,017,236	-6,405
Interest on central government deposits	3	-4,759,964	100,412
Interest, etc., on other domestic loans and deposits	4	-346,761	-937
Net income from interest, etc., total		4,092,201	-730,598
Value adjustments, etc.:			
Value adjustment of gold	5	2,726,312	1,466,783
Value adjustment of foreign exchange positions	6	4,448,530	-6,679,517
Value adjustment of domestic bonds		396,102	-1,251,589
Value adjustments, etc., total		7,570,944	-6,464,323
Profit/loss from financial portfolios		11,663,145	-7,194,921
Income from financial fixed assets, etc.	7	22,182	22,169
Other income	8	39,842	42,164
Expenses:			
Staff expenses	9	439,829	405,372
Expenses related to banknotes and coins	10	15,879	35,810
Other operating costs	11	632,499	731,066
Total expenses		1,088,207	1,172,248
Depreciation, amortisation and impairment charges on tangible and intangible fixed assets	12	61,965	142,219
Other expenses	13	-	19,000
Net profit/loss for the year		10,574,997	-8,464,055
Distribution of profit/loss for the year:			
Allocation to/transfer from the General Reserves		10,574,997	-8,464,055
Payable to the central government		-	-
		10,574,997	-8,464,055

Balance

DKK 1,000	Note	2023	2022
Assets			
Gold	14	29,762,723	27,036,411
Foreign assets	15	543,935,896	501,646,064
Claims on the IMF, etc.	16	56,800,097	57,352,305
Claims regarding banks' and mortgage credit institutions' Target accounts with the ECB		23,102	29,077
Monetary policy lending	17	-	-
Other lending	18	1,553,077	1,902,692
Domestic bonds	19	33,068,390	31,801,956
Financial fixed assets, etc.	20	131,056	131,056
Tangible and intangible fixed assets	21	642,453	612,206
Other assets	22	1,887,395	4,811,818
Prepayments and accrued income		109,496	100,946
Total assets		667,913,685	625,424,531
Liabilities			
Banknotes in circulation	23	62,071,492	68,872,927
Coins in circulation	23	6,149,615	6,251,635
Monetary policy deposits	24		
Net current accounts		290,457,551	247,779,329
Certificates of deposit		-	100,000
Other deposits	25	14,204,576	13,504,223
Central government	26	160,461,188	161,779,101
Foreign liabilities	27	4,612,204	7,959,627
Counterpart of Special Drawing Rights allocated by the IMF	28	43,743,945	44,941,285
Other liabilities	29	2,506,134	1,104,421
Total liabilities		584,206,705	552,292,548
General Capital Fund		50,000	50,000
Statutory Reserves		250,000	250,000
General Reserves		83,406,980	72,831,983
Total net capital	30	83,706,980	73,131,983
Total net capital and liabilities		667,913,685	625,424,531
Financial derivatives used for conversion of currency exposure	31		
Other financial derivatives	32		
Contingent liabilities and other financial commitments	33		
Loan and purchase commitments to the IMF	34		
Pension commitments	35		

Notes

Note 1 – Interest, etc. on net foreign assets

DKK 1,000	2023	2022
Interest on foreign bonds	4,023,720	240,067
Interest, etc., on demand deposits and other short-term deposits	12,451,282	155,428
Forward premiums	-782,746	-1,213,673
Interest on outstanding accounts with the IMF	473,846	137,151
	16,166,102	-681,028

Note 2 – Interest on monetary policy lending and deposits and certificates of deposit

DKK 1,000	2023	2022
Interest on current accounts	-8,203,946	-189,278
Interest on certificates of deposit	-752	372
Interest on monetary policy lending	2	-5,644
	-8,204,696	-194,550

Since 2021, when the current account limits were suspended, the certificate of deposit rate and the current account rate have been aligned.

Monetary policy interest rates have been increased six times in 2023. At the end of 2023, the current account rate, discount rate and interest rate on certificates of deposit was 3.60 per cent, while the lending rate was 3.75 per cent. The most recent interest rate change took effect on 15 September 2023.

In 2023, the average net deposits from monetary policy counterparties totalled DKK 272 billion, which is DKK 59 billion more than in 2022.

Compared to 2022, the above factors resulted in a total increase in interest expense of DKK 8,010 million to a total net interest expense of DKK 8,205 million.

Note 3 – Interest on central government deposits

In 2023, Danmarks Nationalbank had a net interest expense on government deposits of DKK 4,760 million.

Government deposits earn interest at the Denmark Short-Term Rate, DEST, which in 2023 has been positive on average compared to 2022.

In 2023, the average balance on the central government's current account with Danmarks Nationalbank totalled DKK 164 billion, compared to DKK 149 billion in 2022.

Notes

Note 4 – Interest, etc., on other domestic loans and deposits

DKK 1,000	2023	2022
Interest on deposits from current account customers	-347,035	-1,332
Other minor income, fees, etc.	274	395
	-346,761	-937

Note 5 – Value adjustment of gold

Value adjustment of gold contributed an income of DKK 2,726 million in 2023 compared to an income of DKK 1,467 million last year.

This development can be attributed to the fact that the gold price converted into Danish kroner in 2023 increased

by a total of 10.1 per cent from the end of 2022 to the end of 2023, of which the development of the US dollar exchange rate against the Danish krone represents a decrease of 3.3 per cent, while the gold price in US dollar increased by 13.8 per cent.

Note 6 – Value adjustment of foreign exchange positions

DKK 1,000	2023	2022
Market price adjustment of foreign bonds	1,001,236	-4,404,152
Market price adjustment of equity and bond futures	1,251	-19,915
Market price adjustment of Exchange Traded Funds, etc.	2,912,504	-2,161,215
Market price adjustment of interest rate swaps	-619,515	156
	3,295,476	-6,585,126
Exchange rate adjustment	1,153,054	-94,391
	4,448,530	-6,679,517

Exchange rate adjustment of foreign exchange positions comprises all of Danmark Nationalbank's receivables in foreign currency. In addition to the foreign exchange reserve, this includes balances with Danish residents in

foreign currency, value adjustment of unsettled foreign exchange transactions and "Counterpart of Special Drawing Rights allocated by the IMF".

Note 7 – Income from financial fixed assets, etc.

The income relates to dividends from equities in Bank for International Settlements.

Note 8 – Other income

DKK 1,000	2023	2022
Income from termination of redemption obligation for discontinued banknotes	7,051	-
Dividend on and gains from sales of equity investments in commercial	31,241	40,670
Sales of coin sets, etc.	1,550	1,494
	39,842	42,164

In 2023, Danmarks Nationalbank recognised income of DKK 7.1 million from the termination of the redemption obligation regarding discontinued banknotes. The banknotes include specific Danish 5- and 10-krone banknotes and a Faroese 1-krone banknote, which have been discontinued according to BEK 345 of 14 October 1952, BEK 64 of 15 March 1954 and BEK 146 of 4 May 1954.

In 2023, dividends from and gains on the sale of investments in commercial companies include gains of DKK 31.2 million on the divestment of the remaining holding of Danmarks Nationalbank's shares in Visa Inc.

Notes

Note 9 – Staff expenses

DKK 1,000	2023	2022
Salaries and other remuneration	353,012	330,252
Pension contributions, etc.	64,280	52,555
Training and education expenses	7,706	6,906
Other staff expenses	14,831	15,659
	439,829	405,372
Of which management remuneration:		
Governors, salaries, etc.	11,259	10,905
Governors, pension contributions	2,190	2,120
Committee of Directors and Board of Directors	1,037	1,026
	14,486	14,051
Salaries and pension, etc., to the Governors are distributed as follows:		
Christian Kettel Thomsen, Chairperson from 1 February 2023	4,351	-
Lars Rohde, Chairperson until 31 January 2023	417	4,625
Per Callesen	4,339	4,199
Signe Krogstrup	4,342	4,201
	13,449	13,025
Remuneration of the Committee of Directors and Board of Directors is distributed as follows:		
Chairperson of the Committee of Directors and the Board of Directors	134	131
Deputy Chairperson of the Committee of Directors	101	98
Deputy Chairperson of the Board of Directors	40	38
Other members of the Committee of Directors, total (DKK 63k per member)	313	321
Other members of the Board of Directors, total (DKK 26k per member)	449	438
	1,037	1,026

The remuneration of the Board of Governors is determined by the Committee of Directors and consists of a fixed salary, a contribution-based pension scheme where a fixed percentage of the salary is paid to an independent pension company, as well as a company car and other benefits.

The collective agreement between Danmarks Nationalbank and Danmarks Nationalbank's Staff Association specifies the annual salary development for all employees and

managers of the bank. The same rate of salary increase is applied when adjusting the remuneration of the Committee of Directors and Board of Directors.

No bonus schemes or other incentive schemes have been established in Danmarks Nationalbank.

The bank had an average of 477 full-time equivalent employees in 2023 compared to 452 in 2022.

Note 10 – Expenses related to banknotes and coins

DKK 1,000	2023	2022
Coin procurement	3,109	11,059
Banknote procurement	12,770	24,751
	15,879	35,810

Note 11 – Other operating expenses

DKK 1,000	2023	2022
Property operations	117,211	128,197
IT expenses	428,868	528,357
Other expenses	57,472	62,096
	603,551	718,650
Expenses for renovation of Havnegade 5	28,948	12,416
	632,499	731,066

Note 12 – Depreciation, amortisation and impairment charges on tangible and intangible fixed assets

DKK 1,000	2023	2022
Properties	14,279	59,508
Machinery and other operating equipment	3,097	3,636
Hardware and software	44,490	68,806
Fixed assets in the course of construction	335	-
	62,201	131,950
Profit and loss from divestment of fixed assets	-236	10,269
	61,965	142,219

Depreciation, amortisation and impairment charges decreased by DKK 80 million compared to 2022 to a total of DKK 62 million.

In 2022, the item was particularly impacted by assets in Havnegade being written off or impaired due to the fact

that they were decommissioned and are not expected to be recommissioned upon return to the premises. In addition, a number of assets relating to IT infrastructure were transferred to Danmarks Nationalbank's new IT suppliers, why these were written off in 2022.

Note 13 – Other expenses

In 2022, Danmarks Nationalbank incurred an expense for proceeds in connection with the issuance of the

commemorative coin to mark the 50th anniversary of the reign of HM Queen Margrethe II on 14 January 2022.

Note 14 – Gold

The value of Danmarks Nationalbank's gold stock totalled DKK 29.8 billion at the end of the year, compared to DKK 27.0 billion the year before.

There have been no transactions in 2023, and the gold stock is thus unchanged at 66,550 kg.

An inventory of gold ingots is available on Danmarks Nationalbank's website.

Notes

Note 15 – Foreign assets

DKK 1,000	2023	2022
Foreign bonds	111,890,859	95,469,234
Exchange Traded Funds – Equities	16,148,441	7,730,144
Exchange Traded Funds – Corporate bonds	8,614,420	2,504,408
Reverse repos collateralised by foreign bonds	21,337,653	-
Claims on central banks and supranational institutions	385,376,222	395,931,598
Claims on foreign commercial banks	3,046	1,211
Claims regarding two-way cash collateral	563,290	6,693
Margin claims re. futures	1,965	2,776
	543,935,896	501,646,064

Foreign bonds mainly include government bonds, primarily issued in the euro area, the US and Japan.

The bank's holdings of Exchange Traded Funds, ETFs, include both equities and corporate bonds. All ETFs follow the EU's Paris-Aligned Benchmark requirements.

Claims on central banks, supranational institutions and foreign commercial banks include demand deposits and uncollateralised deposits.

Claims regarding to two-way cash collateral arise from collateral in euros on Danmark Nationalbank's currency agreements and interest rate swap agreements with foreign counterparties.

Claims re. futures include margin deposits, as well as margin outstandings in the underlying assets. Principals converted into market value are shown in Note 32.

Danmarks Nationalbank regularly undertakes short-term loans against collateral in the form of reverse repo transactions. These loans are made both against bilateral counterparties and with a central clearing counterparty, CCP, in which case they are collateralised by foreign government and government-guaranteed bonds and bonds included in the ECB's collateral framework.

The exchange rate risk has been converted so that it is primarily in euro.

Breakdown by credit rating

2023 (DKK million)	Total	EUR	USD	JPY	Other
- Of which AAA	330,446	329,152	1,269	-	25
- Of which AA+ to AA-	104,251	65,680	38,570	0	1
- Of which A+ to A-	71,615	12,426	-	59,187	2
- Of which BBB+ to BBB-	2,475	2,475	-	-	-
- Of which non-rated assets	35,149	20,238	13,258	1,635	18
	543,936	429,971	53,097	60,822	46

2022 (DKK million)	Total	EUR	USD	JPY	Other
- Of which AAA	407,488	371,888	27,385	-	8,215
- Of which AA+ to AA-	21,800	21,405	365	0	30
- Of which A+ to A-	33,716	3,346	-	30,371	0
- Of which BBB+ to BBB-	1,884	1,884	-	-	-
- Of which non-rated assets	36,758	10,102	25,721	798	136
	501,646	408,625	53,471	31,169	8,381

The exposure is ranked according to the middle credit rating from Fitch, Moody's and Standard & Poor's, respectively, converted to the Standard & Poor's scale.

Non-rated assets comprise securities issued by, and deposits at, the bank for International Settlements (BIS) and holdings of Exchange Traded Funds.

Note 16 – Claims on the IMF, etc.

	2023 (1,000 SDR)	2023 (1,000 DKK)	2022 (1,000 SDR)	2022 (1,000 DKK)
Denmark's quota in the IMF	3,439,400	31,162,684	3,439,400	32,015,655
Deposits in the IMF's account at Danmarks	-2,535,030	-22,968,640	-2,581,490	-24,029,800
Reserve tranche position	904,370	8,194,044	857,910	7,985,855
Holdings of Special Drawing Rights (SDRs)	5,043,816	45,699,498	4,924,689	45,841,469
Lending	320,794	2,906,555	378,684	3,524,981
	6,268,980	56,800,097	6,161,283	57,352,305

Claims on the International Monetary Fund, IMF, totalled DKK 56,800 million as of 31 December 2023, compared to DKK 57,352 million at the end of 2022. At year-end, the DKK/SDR exchange rate was 906.05 (year-end 2022: 930.85).

Denmark's quota in the IMF is Denmark's capital contribution to the IMF. Denmark's quota of SDR 3,439 million (DKK 31,163 million) has remained unchanged since the IMF's 2010 quota reform came into effect in 2016.

The part of Denmark's quota that has been paid to the IMF is referred to as the reserve tranche position and is equal to the difference between the quota and the balance on the IMF's account at Danmarks Nationalbank in Danish kroner.

The balance on the IMF's account represents the part of the IMF's drawing right on the quota that the IMF has not yet utilised. The account thus represents the part of Denmark's quota that the IMF can still draw on, e.g. to finance new loans.

In 2023, like in the previous year, the IMF has used its drawing right on the quota to finance lending programmes. The reserve tranche position has increased by SDR 46 million in 2023. As of 31 December 2023, the reserve tranche position totals SDR 904 million, corresponding to DKK 8,194 million.

As of 31 December 2023, Danmarks Nationalbank's holdings of Special Drawing Rights (SDR) totalled SDR 5,044 million (DKK 45,699 million). This is SDR 119 million more than in 2022. The increase is due to purchases of SDRs in connection with Danmarks Nationalbank's participation in the IMF's voluntary SDR trading system along with other transactions from the IMF received in SDRs. An amount equivalent to the IMF's accumulated allocation of SDRs to Denmark is included as a liability in the financial statements and is shown in Note 28 'Counterpart of Special Drawing Rights allocated by the IMF'.

Lending under the IMF

	2023 (1,000 SDR)	2023 (1,000 DKK)	2022 (1,000 SDR)	2022 (1,000 DKK)
Lending to the PRG Trust	311,398	2,821,426	363,088	3,379,809
Lending under the New Arrangements to Borrow	9,396	85,129	15,596	145,172
	320,794	2,906,555	378,684	3,524,981

Danmarks Nationalbank's lending to the IMF's Poverty Reduction and Growth Trust, PRGT, which provides loans to low-income countries on favourable terms, amounts to SDR 311 million (DKK 2,821 million). In 2023, SDR 51.7 million was repaid on existing loans. Danmarks Nationalbank has not provided any new PRGT lending in 2023.

Lending under the New Arrangements to Borrow, NAB, which is a voluntary multilateral loan agreement between

the IMF and a group of member countries, totalled SDR 9.4 million (DKK 85 million). In 2023, SDR 6.2 million was repaid on existing loans, and no new loans were granted as the NAB agreement was not activated in 2023.

In 2023, no loans were provided under the bilateral loan agreement of 2020.

Reference is made to Note 34 for an overview of loan and purchase commitments to the IMF.

Note 17 – Monetary policy loans

Monetary policy lending is one element of the monetary policy instruments available. There were no loans as of 31

December 2023 and the loan facility has only been used minimally in 2023.

Note 18 – Other loans

Other lending consists solely of loans to the banks' cash custody accounts against collateral.

Note 19 – Domestic bonds

DKK 1,000	2023	2022
Maturity distribution for domestic bonds		
Maturity in less than 1 year	11,069,462	12,290,575
Maturity of more than 1 year and less than 5 years	19,113,483	16,514,156
Maturity of 5 years or more	2,885,445	2,997,225
	33,068,390	31,801,956

Note 20 – Fixed assets, etc.

Danmarks Nationalbank's holdings of financial fixed assets, etc., is calculated at a total acquisition value of DKK 131 million and has an estimated market value of DKK 2.6 billion as of 31 December 2023.

Danmarks Nationalbank's portfolio of financial fixed assets and similar investments consists of capital subscriptions to the European Central Bank (ECB) and shares in the Bank for International Settlements (BIS) and SWIFT, to which the following special conditions apply:

In accordance with Article 28 of the Statute of the European System of Central Banks (ESCB), the national central banks in the ESCB are the sole subscribers to the ECB's capital. The capital subscriptions are determined by the weightings assigned in accordance with Article 29 of the Statute of the ESCB. As a result of Denmark's non-participation in the euro area, the transitional provisions of Article 47 of the Statute of the ESCB apply, and Danmarks Nationalbank consequently only deposited 3.75 per cent of its capital subscription to the ECB as a contribution to the

ECB's operating costs. As the central bank of a non-euro area member country, Danmarks Nationalbank does not participate in the distribution of profits or the allocation of losses in the ECB.

Danmarks Nationalbank's share of the ECB's capital is 1.7591 per cent as of 31 December 2023, equivalent to EUR 190.4 million. Of this, EUR 7.1 million has been paid up, corresponding to DKK 53.2 million. The capital weightings are adjusted every five years in accordance with the Statute of the ESCB. The next adjustment is on 1 January 2024, when Danmarks Nationalbank's share of the ECB's capital will be adjusted to 1.7797 per cent from this date.

The BIS shares have been paid up at 25 per cent of their nominal value. Danmarks Nationalbank has an obligation to pay up the remaining 75 per cent of the nominal value of its holding in the BIS, if requested to do so by the BIS. This payment obligation amounts to SDR 32 million, corresponding to DKK 291.0 million.

Note 21 – Tangible and intangible fixed assets

DKK 1,000	2023	2022
Properties	404,759	418,818
Machinery and other operating equipment	12,992	15,224
Hardware and software	56,416	88,745
	474,167	522,787
Fixed assets in the course of construction re. the renovation of Havnegade 5	156,848	84,588
Other fixed assets in the course of construction	11,438	4,831
	642,453	612,206

Of the above, the value of leasehold improvements amounts to DKK 17 million (2022: DKK 21 million), depreciated over the term of the individual leases.

According to the most recent public valuation, the total value of the bank's properties is DKK 927 million. (2022: DKK 850 million) The value of Danmarks Nationalbank's properties in Nyhavn and Havnegade in 2023 is based on the published temporary valuation.

Note 22 – Other assets

DKK 1,000	2023	2022
Market value of unsettled currency exposures	319,738	3,657,112
Market value of unsettled securities transactions	13,456	-
Equity investments in commercial companies	-	19,794
Interest receivable	1,499,375	1,076,150
Other receivables	54,826	58,762
	1,887,395	4,811,818

Equity investments in commercial companies include convertible equities in Visa Inc. received in conjunction with the sale of other financial assets.

During 2023, Danmarks Nationalbank has divested the remaining holdings and does not wish to hold ownership

interests in companies exposed to competition with commercial purposes in the future.

Net positions and principal amounts converted to market values for financial derivatives are disclosed in Notes 31 and 32.

Note 23 – Banknotes and coins in circulation

Banknotes in circulation (DKK 1,000)	2023	2022
1000-krone banknotes	19,217,867	25,236,877
500-krone banknotes	27,165,432	27,400,708
200-krone banknotes	7,157,877	7,300,804
100-krone banknotes	3,679,618	3,784,957
50-krone banknotes	984,220	1,002,301
Older series*)	3,362,048	3,610,715
Faroese banknotes	504,430	536,565
	62,071,492	68,872,927

*) Banknotes issued before the most recent series (2009).

Coins in circulation (DKK 1,000)	2023	2022
20-krone coins	2,596,936	2,642,967
10-krone coins	1,235,928	1,257,200
5-krone coins	621,911	639,154
2-krone coins	371,301	561,222
1-krone coins	551,681	376,830
0.50-krone coins	195,136	196,350
Older series*)	380,342	381,374
Thematic and commemorative coins with other nominal values	196,380	196,538
	6,149,615	6,251,635

*) Coins issued before current series.

Note 24 – Monetary policy deposits

Banks and mortgage credit institutions in Denmark hold accounts with Danmarks Nationalbank. Via these accounts, using the Kronos2 payment system, they settle inter-bank receivables and their receivables vis-à-vis Danmarks Nationalbank. The banks and mortgage credit institutions also use their accounts with Danmarks Nationalbank to settle payments in Danish and international payment and settlement systems. Danmarks Nationalbank grants credit against collateral to the banks and mortgage credit institutions to ensure that there is always sufficient liquidity in the financial system for payments to be settled.

During the monetary policy day, Danmarks Nationalbank provides Finance Denmark with a guarantee for the amounts reserved by participants in connection with the Intraday and *Sumclearing* systems and for the credit line

concerning *Straksclearing*. Furthermore, Danmarks Nationalbank guarantees to VP Securities A/S (Euronext) the amounts reserved by participants in connection with trade settlement, periodic runs and immediate settlements.

At the close of the monetary policy day on 29 December 2023, banks and mortgage credit institutions had a total deposits of net current accounts with Danmarks Nationalbank of DKK 290.5 billion compared to DKK 247.8 billion at the end of 2022. The development is mainly attributable to Danmarks Nationalbank's net currency purchases, of which Danmarks Nationalbank's net intervention purchases totalled DKK 13.2 billion in 2023.

The average total of net current account increased from DKK 214 billion in 2022 to DKK 272 billion in 2023.

Note 25 – Other deposits

DKK 1,000	2023	2022
Banks' and mortgage credit institutions' deposits in current accounts in euro	23,102	29,077
Two-way collateral in cash, banks	1,813,961	2,681,974
Deposits on current accounts from other account holders, etc.	12,367,513	10,793,172
	14,204,576	13,504,223

Note 26 – Central government

As of 31 December 2023, the central government deposits amounted to DKK 160.5 billion, which is in line with 2022.

The central government does not receive a share of the net profit for 2023.

Note 27 – Foreign liabilities

DKK 1,000	2023	2022
Deposits from the European Commission.	2,880,504	3,745,266
Deposits from other supranational institutions	93	97
Two-way collateral in cash for FX trades in euro	1,731,607	4,214,264
	4,612,204	7,959,627

Note 28 – Counterpart of Special Drawing Rights allocated by the IMF

This liability consists of the International Monetary Fund's (IMF) allocation of special drawing rights to Denmark. The accumulated allocation as of 31 December 2023 totals SDR

4,828 million. The current holdings of SDRs are specified in Note 16 'Claims on the IMF, etc.'.

Notes

Note 29 – Other liabilities

DKK 1,000	2023	2022
Market value of other financial derivatives in foreign currency	619,374	-
Market value of unsettled securities transactions	-	11,378
Interest payable	1,614,595	749,850
Payables regarding expenses	160,229	240,957
Salary-related payables	56,818	52,341
Other liabilities	55,118	49,895
	2,506,134	1,104,421

Net positions and principal amounts converted to market values for financial derivatives are stated in Notes 31 and 32.

Note 30 – Net Capital

DKK 1,000	General Capital Fund and Statutory Reserves	General Reserves	Total
Net capital as at 1 January 2023	300,000	72,831,983	73,131,983
Retained earnings	-	10,574,997	10,574,997
Net capital as at 31 December 2023	300,000	83,406,980	83,706,980

Note 31 – Financial derivatives for conversion of currency exposures

2023 (DKK million)	Total	EUR	USD	JPY	Other
Net positions at market value					
Forward exchange contracts:					
Purchases	241,434	167,155	54,131	5,226	14,922
Sales	-241,113	-43,526	-112,845	-67,489	-17,253
Unsettled spot currency trades:					
Purchases	93	93	-	-	-
Sales	-94	-	-79	-	-15
	320	123,722	-58,793	-62,263	-2,346

2022 (DKK million)	Total	EUR	USD	JPY	Other
Net positions at market value					
Forward exchange contracts:					
Purchases	171,657	123,292	22,036	6,214	20,115
Sales	-168,000	-13,571	-80,876	-38,477	-35,076
Unsettled spot currency trades:					
Purchases	8,797	8,738	37	-	22
Sales	-8,797	-59	-	-	-8,738
	3,657	118,400	-58,803	-32,263	-23,677

Note 32 – Other financial derivatives

2023 (DKK million)	Total	DKK	EUR	USD
Principals at market value				
Forward contracts, bonds:				
Purchases	1,663	1,663	-	-
Sales	-	-	-	-
Futures, bonds:				
Purchases	162	-	89	73
Sales	-	-	-	-
Net positions at market value				
Interest rate swaps:				
Pay	2,534	-	2,534	-
Receive	-3,153	-	-3,153	-

2022 (DKK million)	Total	DKK	EUR	USD
Principals at market value				
Forward contracts, bonds:				
Purchases	1,663	1,663	-	-
Sales	-	-	-	-
Futures, bonds:				
Purchases	161	-	86	75
Sales	-	-	-	-
Net positions at market value				
Interest rate swaps:				
Pay	0	-	0	-
Receive	0	-	0	-

Note 33 – Contingent liabilities and other financial liabilities

Danmarks Nationalbank's contractual obligations relating to rented premises and leasing include rent and other matters relating to rented premises as well as car leasing. In addition, there is a possible re-establishment cost when premises are vacated. The obligations at the end of 2023 totalled DKK 26 million, of which DKK 9 million is due in 2024.

In addition, Danmarks Nationalbank has entered into swap agreements with central banks, an intervention agreement with the European Central Bank, ECB, and has given confidentiality guarantees to suppliers and The European System of Central Banks, ESCB, regarding the cash supply.

Note 34 – Loan and purchase commitments to the IMF

Danmarks Nationalbank's maximum further loan and purchase commitments to the International Monetary Fund (IMF) are presented in the table below. The current credit exposure is stated in Note 16.

	2023 (1,000 SDR)	2023 (1,000 DKK)	2022 (1,000 SDR)	2022 (1,000 DKK)
The IMF's drawing right on the quota	2,535,030	22,968,640	2,581,490	24,029,800
Danmarks Nationalbank's obligation to purchase SDRs	9,440,134	85,532,337	9,559,261	88,982,386
Undrawn PRG Trust lending facility (2010)	107,187	971,163	107,187	997,746
Undrawn PRG Trust lending facility (2021)	450,000	4,077,225	300,000	2,792,550
Undrawn lending facilities for the IMF in connection New Arrangements to Borrow	3,250,124	29,447,752	3,243,924	30,196,070
Undrawn lending facilities for the IMF in connection the bilateral loan agreement (2021 agreement) *)	1,877,929	17,014,971	1,823,874	16,977,530
	17,660,404	160,012,088	17,615,736	163,976,082

*) Equivalent to EUR 2,283 million.

The IMF provides loans to countries in economic difficulties. IMF lending is funded by member countries' quotas and loan commitments. Danmarks Nationalbank's total claim on the IMF was DKK 56,800 million at the end of 2023, see Note 16.

The IMF's drawing right on Denmark's quota is the balance on the IMF's account at Danmarks Nationalbank in Danish kroner. The account constitutes the part of Denmark's quota that the IMF has not yet utilised and can therefore still draw on, e.g., to finance new loans. As of 31 December 2023, the account's balance was DKK 22,969 million (SDR 2,535 million), which is also disclosed in Note 16.

As part of the SDR system, Danmarks Nationalbank may be requested to increase its holdings of SDRs through purchases until the holdings amount to up to three times Danmarks Nationalbank's accumulated SDR allocation. At the end of 2023, Danmarks Nationalbank's maximum obligation to purchase additional SDRs totalled SDR 9,440 million.

The total loan commitment to the PRGT (Poverty Reduction and Growth Trust) consists of SDR 500 million from the 2010 loan agreement and SDR 450 million from the February 2021 loan agreement. At the end of 2023, the commitment on the 2021 loan agreement was increased by SDR 150 million from SDR 300 million in 2022. All loans under the PRGT are guaranteed by the Danish central government. As of 31 December 2023, unutilised loan commitments to the PRGT amount to SDR 107 million and SDR 450 million, respectively.

In 2023, Danmarks Nationalbank joined the IMF's encashment regime, which means that 20 per cent of the loan amount under Danmarks Nationalbank's PRGT loan agreements will be reserved to meet potential requests for early repayment of loans from other PRGT contributors. Similarly, Danmarks Nationalbank will be able to request early repayment in the event of balance of payments problems. The encashment agreement applies to the part of Denmark's PRGT commitments that were unused as of 19 December 2023.

The total credit commitments under the New Arrangements to Borrow (NAB) agreement are SDR 3,260 million, corresponding to DKK 29,533 million. The agreement runs until November 2025. At the end of 2023, Danmarks Nationalbank's unutilised credit commitments under the NAB agreement totalled SDR 3,250 million.

The unutilised lending facilities for the IMF in connection with the bilateral loan agreement were changed with effect from 2021, so that the IMF can draw EUR 2.283 million. At the end of 2023, the agreement has not been utilised.

On 15 December 2023, the IMF Board of Governors approved an agreement on the IMF's 16th quota review. The agreement includes an increase in each member country's quota of 50 per cent, a reduction of the lending resources in the NAB and a phasing-out of the bilateral loan agreements. Implementation of the quota agreement will begin in November 2024 at the earliest.

Note 35 – Pension commitments

Present and former employees of Danmarks Nationalbank have either defined-contribution or defined-benefit pension plans.

For defined-contribution pension plans, Danmarks Nationalbank carries the ongoing premium payments to the pension companies as expenditure. Once the pension contributions for these plans have been paid to the pension companies, Danmarks Nationalbank has no further pension commitments to these employees.

With regard to defined-benefit pension plans, Danmarks Nationalbank is obliged to ensure the policyholder a defined pension benefit. For these plans, Danmarks Nationalbank bears the risk concerning the future development in interest rates, wages, inflation, mortality,

etc. Danmarks Nationalbank is thus obliged to make the contributions necessary to ensure the fulfilment of the pension undertakings.

Pension commitments for the defined-benefit pension plans are calculated as the capital value of the future benefits payable under such plans. The pension undertakings are based primarily on the salary on retirement. The capital value is calculated on the basis of assumptions concerning the future development in, for example, wage levels, interest rates, inflation and mortality.

In principle, the defined-benefit pension plans are covered in Danmarks Nationalbank's Pension Fund subject to winding-up. Other defined-benefit pension plans are covered in a pension company.

Key figures for the financial statements of the Pension Fund:

DKK million	2023	2022
Pension commitments and other liabilities	2,731	2,850
Fair value of the assets of the Pension Fund	4,382	4,401
Equity of the Pension Fund	1,651	1,551
Solvency requirement of the Pension Fund	109	114

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