Nykredit

Risk and Capital Management

2022.

Contents

1 2022 in brief	2
	2 5
1.1 Financial highlights	Ũ
1.2 Board declaration and risk statement	6
2 Governance and management	7
2.1 Risk profile	8
2.2 Risk governance and culture	9
2.3 Management	10
2.4 Risk policy	14
2.5 Risk monitoring	16
2.6 Reporting and communication	16
3 Capital	17
3.1 Capital policy and guidelines	18
3.2 Current own funds and development	19
3.3 Risk exposure amount	21
3.4 Capital requirements	23
3.5 Stress tests and capital projections	24
3.6 Consolidation methods	26
3.7 Leverage ratio	26
3.8 Debt buffer and MREL requirements	27
3.9 FSA Supervisory Diamonds	28
4 Credit risk	29
4.1 Credit policy	30
4.2 Lending guidelines and process	31
4.3 Control and reporting	32
4.4 Current risk profile and development	36
4.5 Security	40
4.6 Models for determination of credit risk	42
4.7 Counterparty risk	44

5 Non-financial risks	46
5.1 Operational risk	47
5.2 Conduct risk	49
5.3 Compliance risk	49
5.4 IT risk and IT security	50
5.5 Model risk	51
6 Market risk	52
6.1 Market risk policy and guidelines	53
6.2 Control and reporting	53
6.3 Current risk profile and development	54
6.4 Trading book risk	54
6.5 Banking book risk	55
6.6 Models for determination of market risk	57
7 Liquidity risk and funding	59
7.1 Liquidity risk policy and guidelines	60
7.2 Control and reporting	60
7.3 Current risk profile and development	60
7.4 Balance principle and match funding	61
7.5 Regulatory requirements	62
7.6 Funding	64
7.7 Credit ratings	67
7.8 Encumbered assets	68

Disclosure requirements

This report has been prepared in accordance with the legal disclosure requirements laid down in the EU's Capital Requirements Regulation (CRR) and, combined with supplementary data material, it meets the requirements. The supplementary data material is available at <u>nykredit.com/reports</u>.

Disclaimer

This document is an English translation of the original Danish text. In the event of discrepancies between the original Danish text and the English translation, the Danish text shall prevail.



1.1 Financial highlights

1.2 Board declaration and risk statement

Nykredit's business activities involve certain risks that have an impact on society as well as on our business. Being a systemically important financial institution (SIFI), and a mutual company, Nykredit has a special responsibility. Our risk management therefore focuses on providing financial solutions that are sustainable for Nykredit, for our customers and for society in the short, medium and long term.

2022 was a year marked by war in Ukraine and global economic change

Although the year started with yet another lockdown to stave off the pandemic, the Danish economy was perceived to be strong. Inflation had begun to rise, but the consensus believed the rise to be temporary. Interest rates were low, and markets expected no monetary policy tightening in Europe before 2023. Also, the year before had seen unprecedented economic growth. So, optimism was high at the beginning of the year.

When Russia invaded Ukraine, the outlook turned gloomier. Even though the war had limited direct impact on the Danish economy, it prompted massive energy price rises, leading to inflation that was far higher and far more persistent than had been expected. During spring it became increasingly obvious that the European Central Bank (ECB) would have to hike interest rates in an attempt to counter inflation. Not least in June when Russia started reducing natural gas supplies to Germany, which drove up energy prices. In H2 interest rates were hiked at a record pace, and the latest announcements by the ECB indicate that more is in store for 2023.

The significant interest rate increases combined with the financial challenges faced by consumers because of inflation had an adverse impact on the housing market. Generally, sales activity declined over the year, and the supply of listed homes grew. This was reflected in prices, which started coming down already in early summer. However, housing prices are still higher than before the covid-19 pandemic. Nykredit expects a continued decline in housing prices next year and a total peak-to-trough fall of just over 10% for houses and up to 15% for flats.

Despite the challenges, growth has been surprisingly resilient. Apart from Q1, which was marked by the latest lockdown, the Danish economy grew steadily in Q2 and Q3. However, Nykredit foresees a decline in activity over the next quarters and subsequently moderate growth for the rest of 2023 and in 2024. Unemployment is at levels not seen lower since the years leading up to the financial crisis, while employment continues to rise month after month. The lower activity and subdued growth are expected to ease labour market pressures, however, and this will curb wage pressures somewhat, even if higher wage growth is expected.

Given that global economic turmoil is expected to affect Nykredit's customers through lower economic growth, rising energy prices, higher interest rates, property price declines, inflation and value chain disruption, Nykredit has taken provisions to cover any future resulting losses. Nykredit saw no increases in arrears and losses in 2022.

Risks related to sustainability

In 2022 Nykredit's sustainability activities were expanded and brought together under one programme for the purpose of clarifying, coordinating and ensuring progress in Nykredit's contribution to the sustainable transition, not least in relation to risk management, customers, and how we prepare for upcoming regulation. This work will continue into 2023.

In 2022 Nykredit set specific emissions targets and joined the SBTi (Science Based Target initiative), a set of established rules for setting science based reduction targets. These new targets will be implemented across the organisation, also in risk management operations and in monitoring and reporting activities, and adaptation will continue into 2023.

Products with a green profile and financing of sustainable activities in general remain a focus of Nykredit's attention. This applies in the product approval process and in the upskilling of customer advisers through training.

The integration of sustainability in risk management entails a data challenge that Nykredit came far in addressing in 2022 and which will remain a priority in 2023. We will develop and expand this area together with customers as well as internal and external business partners. Data procurement is a necessity, also for business purposes, to get a clear picture of the sensitivity of the loan portfolio to climate risks and risks deriving from other sustainability factors. For example, credit assessments include an initial assessment of physical and transition risks related to climate change as well as other ESG factors where relevant to individual customers.

Risks related to climate change are considered to be a driver behind the traditional risk types, and risk management and governance in the area therefore adhere to principles and working procedures already established. A significant element of this work is the general training of colleagues to provide them with the required skills in the area of sustainable transition. In 2022 sustainability training was launched for all colleagues. In addition, individual training programmes were tailored to colleagues who needed specialist knowledge.

Nykredit's Corporate Responsibility Report contains more details on ESG factors.

Cybercrime

Cyberthreats against Nykredit and general society are high. It requires a constant effort to avoid incidents. During the year Nykredit remained focused on maintaining and further developing a high protection level through the use of advanced security software, enhanced network protection, awareness campaigns, emergency exercises and optimised processes for efficient security incident responses. Organisational initiatives have also been implemented to improve IT security monitoring in the second line of defence, and this work will continue in 2023. Nykredit did not experience any significant breaches in 2022.

Focus on a sound risk culture

A sound risk culture remains an area of importance to Nykredit. In 2022 all Nykredit's managers and executives attended a specialised management academy, one of the themes being responsibility and the ability to assess and respond if something is perceived as irresponsible. For our day-to-day work, the Group's Corporate Culture Policy and Code of Conduct set out guidelines for the desired behaviour in Nykredit as promoted by Management. Elements from Nykredit's Corporate Culture Policy were integrated into internal policies and working procedures in 2022.

Part of a sound risk culture is clear processes that can help uncover the risks involved in operations and activities. In 2022 Nykredit launched a Group-wide project to map key processes according to a Group standard, defining their inherent risks and the controls established to mitigate them. This work will continue in 2023. To support the continued visibility of risk management, Nykredit continued its implementation of an online risk management platform in 2022. All of the Group's day-to-day management of non-financial risks and related controls takes place using this platform according to a Group standard.

Capital requirement

The Board of Directors has set a Common Equity Tier 1 (CET1) capital target of 15.0-16.0% of the risk exposure amount (REA), whereas the total capital target has been set at 19.5-20.5%. With a total capital ratio and a CET1 capital ratio of 23.3% and 19.5%, Nykredit is comfortably above these capital targets. In addition, Nykredit may obtain new CET1 capital from its owners through Forenet Kredit's capital resources and investment commitments from a number of Danish pension companies. Consequently, Nykredit has the same access to capital as a listed SIFI. Also, Nykredit holds CET1 capital to meet the new Basel requirements when implemented in the EU.

1.1 Financial highlights

Nykredit Realkredit Group

Year-end			
DKK billion/%	2022	2021	2020
Capital adequacy and capital			
CET 1 capital ratio, %	19.5	20.6	20.2
Total capital ratio, %	23.3	24.7	24.3
Leverage ratio, %	5.1	4.8	4.8
Internal capital adequacy requirement, %	11.6	11.2	11.0
Total risk exposure amount, DKK billion	438	402	402
Funding and liquidity			
Liquidity Coverage Ratio (LCR), %	283	591	756
S&P long-term Issuer Credit Rating/outlook	A+/stable	A+/stable	A+/stable
Fitch long-term Issuer Credit Rating/outlook	A/stable	A/stable	A/stable
Net Stable Funding Ratio (NSFR), %	149	157	169
Credit ratios and key figures			
Credit exposures, DKK billion	1,669	1,692	1,683
Total provisions for loan impairment and guarantees, DKK billion	9.4	9.6	9.9
Impairment charges for the year, %	-0.01	-0.01	0.15
Credit exposures in default ¹ , DKK billion	20	23	24

¹ Credit exposures in default are exposures to customers who have defaulted on their payment obligations. The exposure includes loans and advances, but also off-balance sheet items. The exposure is stated before loan impairments.

Nykredit

Group chart



1.2 Board declaration and risk statement

- It is the Boards' assessment that Nykredit has adequate and effective risk management arrangements and controls in place with regard to Nykredit's risk profile and strategy.
- It is furthermore the Boards' assessment that the description of Nykredit's risk profile and key figures and ratios gives a true and fair view of Nykredit, including Nykredit's overall risk appetite.

The Boards of Directors of Nykredit A/S and Nykredit Realkredit A/S have on 7 February 2023 approved this report.

The Boards' assessment is based on the continuous risk reporting and the risk policies, the internal capital adequacy requirement (ICAAP), the liquidity position (ILAAP), Internal Audit's assessment of the control environment and the adopted strategy, Winning the Double 2.0, as approved by the Boards of Directors, the Executive Boards and the Chief Risk Officer. The Executive Boards are responsible for the day-to-day risk management and compliance with the policies and guidelines adopted by the Boards of Directors. The Chief Risk Officer is responsible for the monitoring, control and reporting of risks. Nykredit works consistently to further develop its risk management and control environment. For information and key figures and ratios concerning Nykredit's risk profile, please refer to the relevant sections of this report.

Risk assessment

- 83.5% of the Group's REA derives from credit risk, which mainly relates to mortgage and bank lending. Credit risk is managed in accordance with the credit policy, including requirements for credit risk concentrations on single names, industries and geographical regions. At end-2022, DKK 9.4 billion had been provided for loan losses. Loan impairment charges for the year were a negative DKK 0.1 billion, equivalent to a negative 0.01% of lending. The credit risk exposure falls within the Group's risk appetite.
- Market risk mainly relates to the activities of Nykredit Markets and the Group's investment function. 9.7% of the Group's REA derives from market risk. Market risk is managed in accordance with the market risk policy, including detailed limits and guidelines for various types of market risk prescribed by the Board of Directors. The market risk exposure falls within the Group's risk appetite.
- Liquidity risk is managed in accordance with the liquidity policy, including detailed limits and guidelines prescribed by the Board of Directors. At end-2022 the LCR was 283%, and the NSFR was 149%.
- Operational risk is managed in accordance with the operational risk policy and pertaining guidelines. 6.8% of the Group's REA derives from operational risk.
- Nykredit's total risk is reflected in the internal capital adequacy requirement, which represents 11.6% of REA.
- Based on the internal capital adequacy requirement, stress tests, guidelines and expectations for the capital position, the Board of Directors has set the CET1 capital requirement at 15.0-16.0% of REA. In addition to this, Nykredit has set aside capital to meet the upcoming Basel IV requirements. Nykredit's CET1 capital represented 19.5% of REA at end-2022, while the total capital ratio was 23.3%.

Board of Directors of Nykredit A/S

Merete Eldrup Chairman	Preben Sunke Deputy Chairman	Jørgen Høholt	Inge Sand	Olav Bredgaard Brusen	Michael Demsitz	
Per W. Hallgren	Kristina Andersen Skiøld	Hans-Ole Jochumsen	Vibeke Krag	Allan Kristiansen	Mie Krog	
Ann-Mari Lundbæk Lauritsen	Lasse Nyby	John Christiansen				
Board of Directors of Nykredit Realkr	redit A/S					
Merete Eldrup	Preben Sunke	Jørgen Høholt	Inge Sand	Olav Bredgaard Brusen	Michael Demsitz	
Chairman	Deputy Chairman					
Per W. Hallgren	Kristina Andersen Skiøld	Hans-Ole Jochumsen	Vibeke Krag	Allan Kristiansen	Mie Krog	
Executive Board of Nykredit A/S and	Nykredit Realkredit A/S					
Michael Rasmussen	Tonny Thierr	y Andersen	David Hellemann	Anders Jen	sen	
Group Chief Executive	Group Manag	ging Director	Group Managing Director	Group Mana	aging Director	

Risk and Capital Management 2022 - Nykredit Realkredit Group and Nykredit Group 6/68

2 Governance and management

2.1 Risk profile

2.2 Risk governance and culture

2.3 Management

2.4 Risk policy

2.5 Risk monitoring

2.6 Reporting and communication

The Nykredit Realkredit Group is a Danish financial services group serving mainly personal customers, business customers and institutional customers in Denmark. The Group carries on banking and mortgage lending as well as activities within estate agency services, administration and management of investment funds, leasing and insurance mediation.

The Nykredit Realkredit Group's core business is matchfunded mortgage lending secured by mortgages on real estate. Mortgage lending is carried out through Nykredit Realkredit A/S and its subsidiary Totalkredit A/S. Mortgage lending to personal customers is provided only through Totalkredit A/S, while lending to business customers is provided through both Totalkredit A/S and Nykredit Realkredit A/S.

Mortgage lending in Totalkredit is based on a strategic alliance currently comprising 44 Danish banks. The partner banks are responsible for serving customers, and Totalkredit A/S undertakes the funding of the mortgage loans. Totalkredit A/S and the arranging bank share the risk of loss on the loans, and the partner bank receives regular payments. At end-2022 mortgage lending to personal customers in Totalkredit A/S made up around half of the Nykredit Realkredit Group's total mortgage lending. The Totalkredit alliance is described in more detail in *4 Credit risk*.

Nykredit Bank is in itself an important part of the Nykredit Realkredit Group, but it also widely underpins the Group's mortgage business. For example, Nykredit's customer centres provide customer and investment advisory and loan services for a large part of the mortgage business. Also, Nykredit Bank undertakes market making in Danish covered bonds and thereby contributes to market liquidity. Nykredit Bank's risk profile mainly relates to loans and credit facilities provided to personal and business customers. Other activities include administration and management of investment funds through Nykredit Bank's subsidiaries Sparinvest and Nykredit Portefølje Administration.

2.1 Risk profile

Nykredit's business activities, including management of the investment portfolio, involve exposure to credit risk, market risk, liquidity risk and non-financial risks, including operational risks, conduct risk, as well as IT and compliance risks. Regulatory and strategic matters also involve risks. Risks related to climate change are a high-priority area under continued development, which is managed in the context of the traditional types of risk, primarily credit risk and operational risk.

As Nykredit mainly provides mortgage lending, Nykredit's primary risk is credit risk. Mortgage lending and the underlying funding are regulated by the balance principle, which means that Nykredit incurs limited market and liquidity risk on its mortgage lending and the underlying funding. The mechanisms behind the balance principle are described in detail in *7.4 Balance principle and match funding*. Liquidity and market risks are further reduced by the Danish act regulating refinancing risk, which provides for the refinancing of mortgage loans under special circumstances.

Credit risk, market risk and operational risk are countered by holding adequate capital, while liquidity risk is mitigated through a sufficient stock of liquid assets. A few outstanding regulatory measures are addressed through capital targets, the Pillar II add-on to the internal capital adequacy requirement or capital held under Pillar I. The Board of Directors regularly assesses the current risk levels and risk appetite on the basis of internal risk reporting and policies.

The principles of all of the Group's risk management activities are based on four elements:

- Risk governance, and risk and compliance culture
- Risk policies
- Risk monitoring
- Risk communication and reporting

For each element, a number of principles guide the risk management practices across the organisation. This ensures a uniform and holistic approach to risk management and a close link between strategy and risk taking.

ESG factors

Risks relating to environmental, social and governance (ESG) factors impact on customers and counterparties as well as on invested assets. Risks relating to ESG factors affect the business, in the short and long term, through traditional types of risk, primarily credit risk and non-financial risks, but also market risk, liquidity risk and funding risk. Risk management of ESG factors therefore generally adheres to the governance principles already established in Nykredit. ESG risks are addressed thematically in the internal risk reporting, but focus on these risk will be strengthened and systematised in 2023.

Risks arising from climate change include physical risks and transition risks. Physical risks pertain to the costs and losses arising from extreme weather conditions or long-term changes brought about by climate change. Transition risks pertain to customers' risk of incurring costs and losses as a result of new regulation, technological advances and changes in consumer behaviour arising in the wake of the transition to a more sustainable economy. Nykredit has conducted forward-looking sensitivity analyses to assess the impact of these risks on the customer portfolio, and some of the results can be found in the chapter on credit risk.

Nykredit has set out limits and requirements related to ESG factors that must be considered in the lending process. On the investment side, focus is on sustainable investing, including through limits applying to companies and activities, based on international standards and sustainability analyses.

Moreover, Nykredit supports various initiatives in the business and personal customer segments, including for assessing customers' potential contribution to, and activities aimed at, sustainable transition, for example in the form of tools for assessing and reporting on ESG issues and products designed specifically to reduce energy consumption.

The integration of ESG risks into Nykredit's risk management practices and in all relevant Nykredit policies is an ongoing process. ESG factors are incorporated into Nykredit's policies in the areas of, for instance, property valuation, credit granting, investment and risk management. The assessment of ESG factors is improved continuously, and the Group's specialists receive ESG training; also, a structured approach is applied to the collection and capturing of data.

Nykredit's risk management

To ensure a suitable risk profile, Nykredit applies a number of basic risk management principles. These principles make up the practice and culture that guide us in managing risks in relation to Nykredit's values, strategy and performance for the purpose of preserving, creating and realising value.

Nykredit's overall risk policy reflects Nykredit's overall tolerance for assuming risk in the context of Nykredit's business model and strategy. Further, a policy has been laid down for each type of risk with specific limits and guidelines for risk taking.

2.2 Risk governance and culture

The Board of Directors is the supreme management body. The Board of Directors makes strategic and policy decisions and lays down guidelines for the day-to-day management undertaken and implemented by the Group Executive Board. The Board of Directors oversees the establishment of risk management procedures and monitors risks through the Board Risk Committee and the Board Audit Committee. All policies are approved at least once a year by the Boards of Directors, which receive regular reports on compliance with limits and guidelines set out in the policies. The Executive Boards oversee that risks are managed and controlled as determined by the Boards of Directors. The Executive Boards monitor risks through various committees.

The day-to-day risk management, monitoring and reporting activities are based on the three lines of defence.

First line of defence: The operational business units, which basically take, and are responsible for managing, the risk. The management of each business division is responsible for identifying, assessing and managing the risks arising in

Nykredit Group: Risk management and governance



connection with the performance of its duties and for ensuring that satisfactory internal controls are in place at all times in respect of the risks related to the handling of business operations and processes. Further, the first line of defence is to ensure that risk management is performed in compliance with current legislation and the Group's business model, policies, guidelines and business procedures, and that it meets the overall principles of risk management.

The management of each business division documents its risk management activities according to the Executive Board's guidelines for internal documents, see below, and submits a statement annually to the Executive Board on compliance with applicable rules as prescribed by the Executive Order on Management and Control of Banks etc.

Second line of defence: The risk management function and the compliance function, which are responsible for the independent monitoring, controlling and reporting of risks. These functions regularly assess whether the first-line activities are sufficient according to Management's instructions and meet the risk profile.

The risk management function and the compliance function report to the head of the CRO division. The duties in the second line of defence, including their performance and delegation, are specified in annual schedules and role descriptions for the Chief Risk Officer and the Chief Compliance Officer. Schedules and role descriptions must be approved by the Executive Boards and submitted to the Boards of Directors for information. The role descriptions explicitly set out how to handle conflicts of interest, as business units in the first line of defence also report to the head of the CRO division. As an additional compensatory measure, a report on conflicts of interests involving the head of the CRO division is prepared annually and submitted to the Board of Directors.

The credit control function undertakes control and monitoring activities in relation to the credit policy and processes.

To ensure more resilient IT risk management for the purpose of mitigating the risk of cyberattacks and breakdown of important systems, Nykredit has decided to enhance monitoring by increasing resources and upskilling. We will continue building our second line of defence structure stronger in 2023.

Control and monitoring for the second line of defence may be carried out in the first line of defence provided the requisite segregation of functions has been established.

To strengthen the organisation's efforts to address and mitigate risks, including operational and compliance risks, one or more Assistant Risk and Compliance Officers (ARCOs) have been appointed in the individual business divisions. Their primary duty is to assist the managements of the individual business divisions in executing compliance- and risk-related tasks and to strengthen awareness of Nykredit's risk culture. ARCOs serve as links between the first line of defence and the compliance and risk control functions. However, ARCOs are also found in functions in the second line of defence.

Third line of defence: Internal Audit, which provides independent assurance over the overall management of risks and internal controls in the Group and reports on its work to Boards of Directors and the Board Audit Committee. Internal Audit is responsible for testing and providing an opinion on whether Nykredit's overall risk management approach, risk management framework, business procedures and internal controls established in all material areas and risk areas have been organised and are working satisfactorily.

The three lines of defence are mutually independent; the functions in the second line of defence are independent of the first line of defence and do not take part in business operations. Similarly, Internal Audit is independent of both the first and second lines of defence, but may base its assurance on the work performed in the second line of defence. Both the second and third lines of defence may report independently on any conflicts of interest to the Executive Board and the Board of Directors.

Nykredit has established a framework for remuneration of material risk takers etc, with a focus on accountability and risk management and supporting Nykredit's aim of contributing to financial stability. The remuneration policy also factors in compliance with ESG-related targets. Details on remuneration in 2022 can be found in Nykredit's remuneration report.

2.3 Management Board of Directors

The Boards of Directors of Nykredit A/S and Nykredit Realkredit A/S must be composed so that they possess the mix of skills required to undertake the overall and strategic management of the business and to take any measures to ensure prudent business management. Furthermore, Board members must possess the knowledge and experience required to be able to critically assess and challenge the work and proposals of the Executive Board.

The Board of Directors of Nykredit A/S counts 15 members, of whom 10 are elected by the Annual General Meeting for a term of one year and five are elected by and among the staff for a term of four years.

The Board of Directors of Nykredit Realkredit A/S counts 12 members, of whom eight are elected by the Annual General Meeting for a term of one year and four are elected by and among the staff for a term of four years.

Further details on the composition, size and diversity of the Boards of Directors as well as the CVs of the individual Board members are available at

The Boards of Directors review their skills profiles on an ongoing basis and have decided in this respect that they should have special skills and knowledge as regards:

- Strategy
- Sector and real estate expertise
- Economics, finance and accounting
- Capital markets, securities and funding
- Politics, public administration and associations
- Financial regulation
- Corporate governance
- Digitisation, IT and processes
- Market conditions, customer relations and sales
- Organisation/HR and processes

Sustainability is an increasingly important factor in society, including in the financial sector. Board members receive regular training in relevant issues through thematic programmes and targeted reporting in the different areas.

Executive Board

The Executive Board is composed of four members. The Executive Board implements the Group strategy and is responsible for the day-to-day management and for implementing policies and guidelines laid down by the Board of Directors. The Executive Board has set up a number of committees at Group level, which support and assist with compliance with and implementation of risk policies, guidelines etc. The Executive Board has issued committee governance guidelines, which ensure, among other things, that decisions of importance to a Group company can only be made if explicitly endorsed by the company's Executive Board representative, as well as guidelines for internal documents, which ensure a uniform approach to the preparation, maintenance and use of internal documents in Nykredit, including policies, guidelines, mandates, role descriptions and business procedures.

Chief Risk Officer

The duties of the Chief Risk Officer are laid down in the Danish Executive Order on Management and Control of Banks, etc. A separate role description has been prepared for the Chief Risk Officer, approved by the Board of Directors. The Chief Risk Officer must have a general overview of the company's activities, operations and risk exposures in order to assess whether risk management operations are satisfactory. The Chief Risk Officer also assesses whether the decision-making basis of the Executive Board and the Board of Directors is sufficient in risk-related matters.

The head of Nykredit's risk management function is designated as Chief Risk Officer. Nykredit's organisational structure ensures that the risk management function is segregated from all risk-taking units and thus independent in relation to risk-related decisions. Nykredit's central risk management function performs Group-wide controls, monitors Group risks and prepares risk reports for the Boards of Directors on all risk areas. In the organisational structure, the risk management function falls within the CRO division, but with separate and independent reporting to, for instance, all relevant Executive Boards and Boards of Directors of Group companies.

Chief Compliance Officer

The duties of the Chief Compliance Officer are laid down in the Danish Executive Order on Management and Control of Banks, etc. A separate role description has been prepared for the Chief Compliance Officer, approved by the Board of Directors. The Chief Compliance Officer assists Nykredit's Management in identifying, assessing, advising on, controlling, monitoring and reporting on Nykredit's compliance risks.

The head of Nykredit's compliance function is designated as Chief Compliance Officer. The compliance function assesses whether Nykredit meets the compliance rules applicable to the individual risk areas and oversees and determines whether the methods, procedures and controls implemented by Nykredit in the risk areas are adequate and effective in terms of identifying and mitigating compliance risks. In the organisational structure, the compliance function falls within the CRO division, but with separate and independent reporting to, for instance, all relevant Executive Boards and Boards of Directors of Group companies.

Responsible for anti-money laundering

The Group Executive Board and the Executive Boards of the Group companies have each appointed a Chief Anti-Money Laundering (AML) Officer at the executive level charged with delegating and ensuring managerial responsibility and focus on measures to prevent financial crime throughout the Group.

Moreover, an AML Responsible Officer has been appointed who is tasked with approving Nykredit's anti-money laundering policies, procedures and controls and approving business relationships with politically exposed persons (PEPs) and correspondent relationships.

Data Protection Officer (DPO)

The Group Executive Board and the Executive Boards of the Group companies have appointed a Data Protection Officer, who assists Management in ensuring that Nykredit complies with applicable data protection legislation at all times.

The Data Protection Officer's primary responsibilities are to monitor, assess, control and report on Nykredit's compliance risks relating to personal data processing. In the organisational structure, the Data Protection Officer falls under the compliance function, but with separate and independent reporting to, for instance, all relevant Executive Boards and Boards of Directors of Group companies.

Chief Outsourcing Officer

The Executive Boards of the Group companies have appointed a Chief Outsourcing Officer, who assists the Executive Boards and the Boards of Directors in ensuring Nykredit's compliance with the Danish Executive Order on Outsourcing for Credit Institutions, etc. in force from time to time. The overall responsibility is vested in the Boards of Directors, however. In the organisational structure, the Chief Outsourcing Officer falls under Group Legal & Tax, but reports directly to the Executive Board.

2.3.1 • Committees

Board committees

The Board of Directors of Nykredit Realkredit A/S has appointed a Board Risk Committee, a Board Audit Committee, a Board Remuneration Committee and a Board Nomination Committee. These Board committees advise the Board of Directors on particular matters and prepare cases for review by the entire Board of Directors, each within their field of responsibility. The committees are described below.

Group committees

The Group Executive Board has set up committees in Nykredit, to which it has delegated specific responsibilities. Each committee must report to the Group Executive Board, and the individual members may at any time resolve to have the relevant Executive Board of a Group company decide on a case.

As the committees are all part of the first line of defence, the Chief Risk Officer and the Chief Compliance Officer may attend committee meetings as observers. The Chief Risk Officer is a permanent observer at meetings of the Group Risk Committee, the Products Committee and the Asset/Liability Committee, and attends Credits Committee meetings when and as required. The Chief Compliance Officer is also a permanent observer at meetings of the Group Risk Committee and the Products Committee, and attends Asset/Liability Committee meetings when and as required. The Chief Risk Officer and the Chief Compliance Officer may always request that a matter be resolved by the relevant Executive Board or Board of Directors, if deemed relevant. The committees are described below.

Nykredit's Board committees

Board Risk Committee	The function of the Board Risk Committee is to oversee Nykredit's overall risk profile and strategy, including to assess the long-term capital requirement and the capital policy. It also assesses risks related to products, business model, remuneration structure and incentives as well as risk models and methodological basis. The Board Risk Committee also assists the Board of Directors in overseeing that the risk appetite defined by the Board of Directors is implemented correctly in the organisation.
Board Audit Committee	The principal tasks of the Board Audit Committee are to inform the Board of Directors of the results of the statutory audit, to oversee the financial reporting process and the effectiveness of Nykredit's internal control systems, internal audit and risk management, to oversee the statutory audit of the financial statements etc, to monitor and verify the independence of the auditors, and to be responsible for the procedure for selecting and submitting a recommendation for the appointment of auditors.
Board Remuneration Committee	The principal tasks of the Board Remuneration Committee are to qualify proposals for remuneration prior to consideration by the Board of Directors and to make recommendations in respect of Nykredit's Remuneration Policy, including guidelines on incentive pay, for the approval of the Board of Directors, as well as to assist in ensuring that these are observed. Moreover, the Board Remuneration Committee reviews and considers the criteria for and process of designating risk takers, and it assesses whether the Group's processes and systems relative to remuneration are sufficient, including whether they take into consideration the Group's risks and ensure that the remuneration policy and practices are in alignment with and promote sound and effective risk management in accordance with the Group's business strategy, objectives, values and long-term interests. Finally, the Board Remuneration Committee ensures that the information in the Annual Report about remuneration of the Board of Directors and the Group Executive Board is correct, fair and satisfactory. Details on bonuses to risk takers and on the remuneration policy and practices can be found in Nykredit's remuneration policy.
Board Nomination Committee	The Board Nomination Committee is tasked with making recommendations to the Board of Directors on the nomination of candidates for the Board of Directors and the Executive Board. The Committee also advises the Board of Directors with respect to targets for the under-represented gender on the Board of Directors and laying down a diversity policy applying to the same. In addition, the Board Nomination Committee, reporting to the Board of Directors, is ultimately responsible for defining the skills profiles of the Board of Directors and the Executive Board and for the continuous evaluation of their performance and achievements.
Nykredit's Group committees	
Group Risk Committee	The Group Risk Committee is charged with overseeing the Nykredit Group's overall risk outlook, assisting the managements of the respective companies in ensuring compliance with current legislation and risk management practices as well as supporting responsible business practices. The Group Risk Committee further oversees that the risk policies and guidelines defined by the Board of Directors are implemented correctly in the organisation. The Committee is also responsible for monitoring and assessing the required own funds and internal capital adequacy requirement.
Credits Committee	The Credits Committee is charged with ensuring adequate credit risk management and approving and/or deciding credit applications and loan impairments as well as overseeing the management of risks in Nykredit's credits area. The Committee manages the Group's loan portfolio and submits recommendations on credit policies to the individual Executive Boards and Boards of Directors. The Committee lays down business procedures for the granting of credits within the limits of the guidelines laid down by the Group Executive Board and the Board of Directors.
Asset/Liability Committee	The Asset/Liability Committee undertakes the day-to-day responsibilities and tasks of the Executive Boards in the areas of capital, funding, liquidity and market risk according to guidelines approved by the Boards of Directors. The Committee has a governance mandate in these areas at Group as well as at company level. The Asset/Liability Committee has delegated responsibility to the Green Bond Committee for ensuring that the types of assets used to back green bonds comply with Nykredit's Green Bond Framework. The Green Bond Committee is composed, at a minimum, of the members of the Asset/Liability Committee, which is represented at meetings.
Products Committee	The Products Committee's objective is to ensure that the Nykredit Group's products and services meet applicable business and regulatory requirements and are provided to the right target groups. The Commit- tee must ensure that any development and launch of new or changes to existing products and services involving material risks for customers, the Group, the individual companies and/or counterparties are in alignment with the business models of the individual companies and comply with the current product policy and the Executive Boards' guidelines for development and approval of new products and services.
Contingency Committee	The Contingency Committee has the overall responsibility for compliance with IT security policy rules in relation to contingencies (major accidents or catastrophes) and the Group's entire spectrum of contin- gency plans covering IT as well as business aspects.
Corporate Responsibility Com- mittee	The Corporate Responsibility Committee implements the Group strategy as laid down by the Board of Directors and is responsible for the corporate responsibility strategy, including Group-wide targets and the progress of such targets. The Committee prioritises corporate responsibility themes and initiatives based on analyses of materiality, impact and sustainability-related risks, delegates responsibility for prioritised initiatives and is responsible for the implementation of the UN Principles for Responsible Banking. The Committee receives regular reports from a number of committees to which powers have been delegated and approves the annual corporate responsibility reporting.

Risk reporting to the Board of Directors

Reporting	Description	Frequency	Recipient
Internal risk reporting	Complete review of the Group's risk outlook covering both financial and non-financial risks. Also includes reporting on compliance with risk policies and pertaining guidelines.	Quarterly	Group Risk Committee, Board Risk Commit- tee, Boards of Directors
External risk reporting	Description of the Group's risk profile, capital management, risk management, organisation, risk limits and policies. The report is published on Nykredit's website together with a number of Pillar III spreadsheets with detailed data.	Annually	Group Risk Committee, Board Risk Commit- tee, Boards of Directors, general public
ICAAP	Assessment of the Group's required own funds and internal capital adequacy requirement. The Group's capital targets are assessed against the risk profile and business strategy. The assessment includes stress testing of REA, impair- ment charges etc.	Annually	Asset/Liability Committee, Board Risk Commit- tee, Danish FSA
ILAAP	Assessment of the Group's liquidity position and liquidity management, including its funding profile. Reporting includes assessment of the liquidity risk exposure through stress testing and similar analyses and describes internal limits for liquidity reserves.	Annually	Asset/Liability Committee, Board Risk Commit- tee, Boards of Directors, Danish FSA
Market and liquidity risk	Review of internal limits for market and liquidity risk.	Monthly	Asset/Liability Committee, Board Risk Commit- tee, Boards of Directors
Compliance reporting	Overall assessment of the Group's compliance and control environment. The risk assessment is based on the compli- ance function's regular reviews and status updates on agreed measures.	Quarterly	Group Risk Committee, Board Risk Commit- tee, Boards of Directors
Credit portfolio reports	Detailed review of credit risk exposures by segment, including industries and sub-industries, and evaluation of the credit policy. The reports cover segments such as personal customers, industry, trade, agriculture, transportation, property rental, cooperative housing, public housing etc.	Annually	Credits Committee, Board Risk Committee, Boards of Directors
Thematic analyses	Ad-hoc analyses selected according to risk, for example related to types of risk in individual segments or current topics such as covid-19, economic trends etc.	Ad hoc	Varies
Impairment reporting	Review of impairment basis and methodology.	Quarterly	Credits Committee, Board Risk Committee, Boards of Directors
Recovery plans	Determination of trigger levels, scenarios and possible scope for action as well as a description of the organisation for the purpose of capital and/or liquidity recovery of the Nykredit Realkredit Group and the Nykredit Bank Group.	Annually	Asset/Liability Committee, Board Risk Commit- tee, Boards of Directors

2.4 Risk policy

The risk policy sets out the overall risk appetite as well as risk appetites for the individual types of risk. Nykredit's risk management is aimed at ensuring agreement between risk profile, risk appetite and current legislation in the context of a robust capital structure and stable earnings. Risk management should contribute to ensuring financial solutions that are viable in the short, medium and long term.

2.4.1 Risk appetite

The overall risk appetite is determined on the basis of Nykredit's strategy, regulatory and credit rating agency capital requirements and the internal capital targets. The risk appetite is determined by the Board of Directors following consideration of the risk policy and the underlying policies, and it reflects Nykredit's overall tolerance for assuming risks in the context of its business model and the Group strategy. In some areas, it is directly measurable, while in other areas the risk appetite is expressed through general objectives.

The tolerance limits for the individual risks vary according to risk type, customer exposure, product type, strategy, targets etc. These factors are described and incorporated in relevant risk policies and guidelines according to Executive Board guidelines. The specific risks related to business unit activities are assessed in the context of the financial importance of the individual unit. Nykredit manages its capital usage on an ongoing basis and prepares a capital budget annually. The budget should be seen in the context of the overall capital and strategy plan. Capital is allocated and prioritised among the business divisions according to risk profile, business returns and strategic considerations.

Nykredit's risk appetite aims to ensure a responsible and sustainable approach to development and maintenance of products and services. Nykredit's products and services should be seen in the context of Nykredit's commitment to actively support stable and sustainable development of society in an economic, social, climate and environmental sense, in the short as well as in the long term. Further, Nykredit's products and services must be responsible from a societal perspective and must secure responsible solutions for our customers. Nykredit further ensures that risks to the Group and customers are minimised to the extent possible, that products are only distributed to customers whose interests, purpose and characteristics are compatible with the product and that the processes serve to support efficient and customer-friendly service. Product evaluations are made initially and regularly across the Group, including in relation to green products, to ensure that the products continue to be sustainable as defined by applicable law. Also, Nykredit has set up a sustainability programme to ensure that Nykredit is prepared for new regulation and able to meet other requirements and provide product and advisory services in relation to sustainability.

When it comes to investment, Nykredit's investment advisers identify and assess, initially as well as regularly, the sustainability preferences of the individual customer in accordance with MiFID II, thereby ensuring a product match between the sustainability preferences of customers and Nykredit's product recommendation. This is monitored closely to ensure an effective process in relation to customers as well as compliance with applicable law. Nykredit has developed training modules to be used internally and by Totalkredit partner banks to provide advisers with the skills necessary to assess customer sustainability.

The product policy serves to support Nykredit's governance structure as well as Nykredit's risk appetite and handling of risks.

Risk policy						
Capital policy						
Financial risks Non-financial risks						
Oreditediau		Liquidity policy	Operational risk policy			
Credit policy	Market risk policy		Compliance policy			
Valuation policy			Model risk policy	IT risk policy and IT security policy	Policy for the prevention of money laundering, terrorist financing and breach of financial sanctions	Personal data policy
			Outsourcing policy	Insurance policy	Data governance policy	Tax policy

Risk policy and risk appetite

Nykredit's overall risk appetite

The objective is to be able to maintain active lending to core customer segments, including the Group's full-service customers and personal customers of Totalkredit, also in a challenging economic climate.

Capital	In accordance with its business model, Nykredit aims to have stable earnings, a strong capital structure and competitive credit ratings. The capital requirement determined by Nykredit must therefore be signifi- cantly above the minimum regulatory level, ensuring that Nykredit can withstand an economic downturn and any consequent losses and meet new regulatory requirements. Lower capital thresholds are set for purposes of the ongoing capital management. Leverage limits and requirements for eligible liabilities (MREL) and debt buffer have been laid down.
Financial risks	
Credit risk	Creditworthiness is the core element of credit granting. Credit granting must reflect Nykredit's strategy and factor in aspects such as sustainable transition and climate risks, and the credit portfolio is structured around guidelines and portfolio targets. Nykredit focuses on long-lasting and sound relationships with customers who have the ability and will to meet their obligations. The objective is that physical assets used in the Group's business and management activities be valued at long-term and robust values, thereby ensuring the necessary security for the Group's bond issues. Valuation activities include addressing climate and environmental aspects such as physical risks and energy efficiency.
Market risk	Nykredit's market risk management is to ensure that the Group's financial stability cannot be compromised as a result of losses related to market risk. The overall risk appetite is expressed as the maximum potential loss relative to budgeted earnings which Nykredit is willing to incur if market conditions become unfavourable for Nykredit's portfolios related to market risk.
Liquidity and funding risk	Nykredit's liquidity management supports its mortgage lending business and ensures competitive prices for customers and Nykredit, regardless of market conditions, while also ensuring that all financial obliga- tions and regulatory requirements are met in the short, medium and long term. It is Nykredit's policy to obtain inexpensive funding involving limited funding risk. Nykredit funds its mortgage lending through the issuance of covered bonds (SDOs and ROs), but raises additional market funding to ensure sufficient liquidity and capital resources during stressed periods. Bank lending is funded by deposits, but additional market funding is raised as required to ensure compliance with regulatory requirements and sufficient liquidity for Nykredit to be able to provide financing to customers, even in various stress scenarios.
Non-financial risks	
Operational risk	Non-financial risks must be low relative to financial risks so as to ensure that they cannot compromise Nykredit's financial stability. Tolerance thresholds have been determined for annual accumulated losses resulting from operational risk events, which supplement and specify the risk appetite of the individual companies. Nykredit's objective for operational risk is to support and develop an organisation where operational risk management is an integral part of both day-to-day operations and long-term planning. Operational risk management also encompasses conduct risk.
Compliance	Nykredit has laid down objectives, principles and standards that serve to ensure compliance with regulatory requirements and support the aim of promoting honest and ethical conduct in Nykredit and among its staff and a culture where openness and awareness of compliance risks and their management is a matter of course.
IT risk and IT security	Nykredit has established a framework for risk management in this area to ensure effective management of IT risks according to the objectives of the Boards of Directors and the risk appetite defined. The nature of IT risks must not be such as to potentially jeopardise the financial stability of Nykredit and/or the individual subsidiaries.
Data quality	Principles and standards have been laid down for Nykredit's data management to ensure that Nykredit complies with current legislation in this area and to support existing and future business processes and professional and effective development of such processes.
Model risk	Nykredit aims to have a stable, common foundation for using models to provide input for business decisions and for determining risk limits, capital, capital adequacy etc. Risk management must meet regulatory requirements and expectations for model risk management.
Prevention of money laundering and terrorist financing	Based on its business model and risk policy, Nykredit has defined a set of principles and attitudes aimed at preventing any misuse of Nykredit for financial crime purposes.
Other	Nykredit's risk appetite for other risks is continuously reviewed and monitored through various forums. The Board of Directors also regularly assesses these risks.

2.5 Risk monitoring

The Board Risk Committee and the Board Audit Committee oversee the effectiveness of Nykredit's internal control systems, financial reporting, internal audit and risk management. Nykredit's Group committees perform the ongoing risk management and reporting on behalf of the Executive Boards. The committees ensure a continuous overview of relevant risks and oversee that the risk policies and guidelines defined by the Boards of Directors are implemented in the business units.

The second line of defence monitors, controls and reports on risks independently of the risk-taking units. The frequency of risk monitoring by the second line of defence is adapted to the type of risk concerned, which means that some risks are monitored daily, including through intraday controls, while others are monitored less frequently. Similarly, the monitoring approach is adapted to the type of risk; for example, the credit portfolio is monitored systematically by means of an overall credit portfolio overview and portfolio targets, whereas particularly material risks are monitored on the basis of specific limits or through scenario analyses on the basis of the probability of a given event occurring and its potential consequences.

Business procedures have been laid down and controls implemented for all material areas and risk areas according to the Executive Board's guidelines for internal documents. The controls comprise manual controls and physical valuations as well as general IT controls and automatic controls in the IT systems applied.

Plans are prepared annually for risk management in the second line of defence, including specification of methods, approach and resource allocation, which are subject to approval by the Executive Boards.

2.6 Reporting and communication

The Board of Directors and the Executive Board receive a report covering all relevant risks quarterly. The risk reporting complies with current legislation and is aimed at describing the current risk outlook on the basis of quantitative data and analysis of special focus areas.

At a minimum, the risk reporting covers the areas of credit risk, market risk, liquidity risk and non-financial risks, including operational risks, conduct risk, as well as IT and compliance risks. Moreover, regulatory and strategic risks are areas of special focus. Climate-related risks are a high-priority area under continued development, which is managed in the context of the traditional types of risk, currently credit risk in particular.

The implementation of the policies is regularly assessed together with the relevant business units to obtain a continuous assessment of the risk outlook and the contents and messages of the reporting.

Identification, monitoring, control and reporting of risks





- 3.1 Capital policy and guidelines
- 3.2 Current own funds and development
- 3.3 Risk exposure amount
- 3.4 Capital requirements
- 3.5 Stress tests and capital projections
- 3.6 Consolidation methods
- 3.7 Leverage ratio
- 3.8 Debt buffer and MREL requirements
- 3.9 FSA Supervisory Diamonds

The objective of Nykredit's capital management is to support the Group's business model, strategy and objectives. On that basis, Nykredit aims to have stable earnings, a strong capital structure and competitive ratings.

Based on a structured capital management framework, the Group aims to be able to maintain its business activities throughout Denmark regardless of fluctuations in economic trends. This implies having continued access to funding to meet new regulatory requirements and be able to withstand a severe recession.

At the same time, Nykredit wants to ensure sufficient own funds to generate dividend for its owners and to meet regulatory requirements and the expectations of the Danish FSA.

The Board of Directors has set a Common Equity Tier 1 (CET1) capital target of 15.0-16.0% of the risk exposure amount (REA), whereas the overall target for own funds has been set at 19.5-20.5%. At end-2022, the Nykredit Realkredit Group's total capital ratio was 23.3% and the CET1 capital ratio was 19.5%.

The headroom against the targets is due in part to Nykredit already having set aside CET1 capital to meet new, upcoming EU capital requirements (CRD6/CRR3). The European Commission presented its proposal in October 2021, starting the current political process in the EU regarding the final versions of the rules for implementing the final Basel standards (Basel IV). Nykredit has based its CET1 capital level on full implementation of the original recommendations of the Basel Committee. When a political agreement has been reached in the EU, adjustments may be made if necessary.

Nykredit may obtain new CET1 capital from its owners through Forenet Kredit's capital resources and investment commitments from a number of Danish pension companies. Given its access to funding, Nykredit ranks on a par with a listed SIFI in terms of capitalisation, which is reflected in the determination of its capital targets.

3.1 Capital policy and guidelines

Nykredit's capital policy is laid down by the Board of Directors and defines the Nykredit Realkredit Group's consolidated capital needs, maximum leverage and targets for eligible liabilities (MREL), debt buffer etc.

Nykredit's capital targets are determined on the basis of the Danish FSA stress testing approach and are comprised of regulatory capital requirements and buffers, and a stress buffer reflecting the impact on Nykredit's capital position of a severe recession. Nykredit furthermore applies internal capital buffers. Consequently, our capital targets are considerably higher than the regulatory minimum requirement. The Board of Directors will reassess the Group's capital targets in case of major unexpected events.

In addition to the capital policy, Nykredit's Board of Directors has issued guidelines on day-to-day capital management to the Executive Board, which may in turn delegate guidelines and limits to Nykredit's Asset/Liability Committee.

The guidelines set out the scope for Nykredit's capital ratios, leverage ratio, eligible liabilities and debt buffer, and specify the governance structure, delegation scope, escalation procedures etc.

The need for capital is assessed regularly as part of our capital planning which is based on balance sheet, earnings and risk exposure projections. Nykredit's capital planning allows for factors such as maturity profiles of existing issues, adopted upcoming regulation and stress tests.

The capital policies of Group companies are determined by the individual Boards of Directors on the basis of the Group's capital policy and recommendations from the Asset/Liability Committee.

Capital ratios of Nykredit Group companies

% of REA		Total regulatory
End-2022	Capital ratio	requirement ¹
Nykredit Realkredit Group		
CET1 capital	19.5	13.1
Tier 1 capital	20.4	15.2
Own funds	23.3	18.1
Nykredit Realkredit A/S		
CET1 capital	15.6	12.1
Tier 1 capital	16.2	13.9
Own funds	18.5	16.3
Nykredit Bank Group		
CET1 capital	23.9	13.1
Tier 1 capital	24.0	15.2
Own funds	24.4	18.1
Totalkredit A/S		
CET1 capital	23.3	12.9
Tier 1 capital	26.1	15.0
Own funds	27.9	17.8

¹ The regulatory requirement includes requirements under Pillar I and Pillar II and the combined capital buffer requirement.

Capital management governance

Board of Directors and Board Risk Committee: Lay down the capital policy and capital management guidelines, including capital targets, maximum leverage and targets for eligible liabilities (MREL) and debt buffer. Receive quarterly reports on capital policy compliance. Receive separate reports in case of non-compliance with the policy or guidelines, including an action plan for approval.

Executive Board and Asset/Liability Committee: Approve and implement the capital policy and regularly review compliance based on quarterly reports. Receive separate reports in case of non-compliance with the policy, including an action plan for approval. In addition, the Asset/Liability Committee receives monthly reports on REA, own funds and capital planning.

Control functions (second line of defence): Perform continuous control and monitoring independently of the risk-taking units. Prepare independent reports for the Board of Directors and the Executive Board.

ICAAP

Nykredit prepares an annual ICAAP report on the Internal Capital Adequacy Assessment Process (ICAAP), which determines its capital requirement. The report is submitted to the Board of Directors for approval and to the Danish FSA for review.

3.2 Current own funds and development

The Nykredit Realkredit Group's own funds totalled DKK 102.3 billion at end-2022, against DKK 99.5 billion at end-2021. With a risk exposure amount (REA) of DKK 438.3 billion, this corresponds to a total capital ratio of 23.3% at end-2022, against 24.7% at end-2021. The table below shows Nykredit's own funds and REA.

Nykredit's Tier 1 capital of DKK 89.4 billion consists mainly of Common Equity Tier 1 (CET1) capital, which is the main type of capital as this is the capital required to comply with most of the regulatory capital requirements. Additional Tier 1 (AT1) capital totalled DKK 3.6 billion (EUR 500 million) at end-2022 and was issued by Nykredit Realkredit A/S in October 2020.

CET1 capital came to DKK 85.8 billion at end-2022, corresponding to a CET1 capital ratio of 19.5%, against 20.6% at end-2021. The Nykredit Realkredit Group's CET1 capital increased by a total of DKK 2.8 billion in 2022, mainly driven by the net profit for 2022.

In 2022, Nykredit distributed ordinary dividend of DKK 4.35 billion, corresponding to about 50% of profit after tax for 2021, and extraordinary dividend of DKK 1.55 billion. With the extraordinary dividend distributed in 2022, the dividend policy target of around 50% has also been met for 2019 and 2020, when Nykredit followed the Danish FSA's recommendation on restriction of distributions during the covid-19 pandemic. The Board of Directors recommends to the Annual General Meeting convening in March 2023 that dividend for 2022 be distributed in the amount of DKK 4,650 million, corresponding to about 50% of profit after tax for 2022.

The Nykredit Realkredit Group's Tier 2 capital including regulatory adjustments totalled DKK 12.8 billion at end-2022. On 17 November 2022, Nykredit Realkredit A/S redeemed capital notes in the form of Tier 2 capital of EUR 800 million (DKK 5.9 billion). In the period from September to October 2022, Nykredit Realkredit A/S issued new Tier 2 capital of a corresponding amount.

At end-2022, Nykredit Realkredit A/S had furthermore issued about DKK 42.3 billion-worth of senior non-preferred debt. This does not count towards own funds, but is eligible for meeting the Danish minimum requirement for own funds and eligible liabilities (MREL) applying to the Group, the debt buffer requirement for mortgage banks as

well as S&P's Additional Loss-Absorbing Capacity (ALAC) criterion for credit rating purposes. Senior non-preferred debt serves to protect unsecured creditors in case of the issuer's resolution or bankruptcy.





3.2.1 Capital adequacy differences between the Groups

Although the sole activity of Nykredit A/S is its ownership of Nykredit Realkredit A/S, the determination of own funds and total REA is not entirely identical for the Nykredit Group and the Nykredit Realkredit Group. The differences are due to four factors:

1. Common Equity Tier 1 (CET1) capital

CET1 capital totalled DKK 85.5 billion in the Nykredit Group and DKK 85.8 billion in the Nykredit Realkredit Group at end-2022. The difference is caused by a deduction from the CET1 capital of the Nykredit Group for intercompany balances with PRAS A/S and the ownership interest of PRAS A/S in Nykredit A/S.

2. Additional Tier 1 (AT1) capital in subsidiaries

AT1 capital was issued by Nykredit Realkredit A/S and therefore cannot be included 100% in the Nykredit Group according to the rules on minority interests in the Capital Requirements Regulation (CRR), which stipulate that AT1 capital may only be included at an amount corresponding to the regulatory requirement for the group concerned, in this case the Nykredit Group.

3. Tier 2 capital in subsidiaries

Tier 2 capital was also issued by Nykredit Realkredit A/S and is subject to the rules on minority interests described above for AT1 capital.

4. Risk exposure amount (REA) - credit risk:

As mentioned in 1 above for CET1 capital, intercompany balances and indirect ownership interests are eliminated in the Nykredit Group. This reduces total REA for credit risk in the Nykredit Group.

	Nykredit F	Nykredit Realkredit-		
DKK billion	Gro	pup	Group	
Year-end	2022	2021	2022	
Equity for accounting purposes	96.8	93.6	96.9	
AT1 capital etc	-3.8	-3.7	-3.9	
Proposed dividend	-4.7	-4.4	-4.	
Other CET1 regulatory adjustments				
from CET1 capital	-2.5	-2.5	-2.	
CET1 capital	85.8	83.0	85.	
AT1 capital	3.7	3.7	2.7	
AT1 regulatory deductions	0.0	0.0	0.0	
Total Tier 1 capital	89.4	86.6	88.	
Tier 2 capital	10.7	10.8	8.	
Other Tier 2 regulatory adjustments	2.1	2.0	2.	
Own funds	102.3	99.5	98.	
REA				
Credit risk	366.1	350.3	365.	
Market risk	42.4	24.1	42.	
Operational risk	29.7	27.2	29.	
Total REA	438.3	401.6	437.	
Capital ratios				
CET 1 capital ratio, %	19.5	20.6	19.	
Tier 1 capital ratio, %	20.4	21.5	20.	
Total capital ratio	23.3	24.7	22.	

Nykredit Realkredit Group

Loan capital, end-2022

	Interest rate	Call date	Maturity	Capital
AT1 capital	4.125%			
Tier 2 capital	0.875%	15 April 2026	Perpetual	EUR 500 million
Tier 2 capital	3M Stibor + 1.25%	28 April 2026 to 28 July 2026 inclusive	28 July 2031	EUR 500 million
Tier 2 capital	6M Euribor + 1.71%	31 March 2026	31 March 2031	SEK 1,000 mil- lion
Tier 2 capital	5.50%	-	28 October 2030	EUR 50 million
Tier 2 capital	6.88%	29 September 2027 and 29 December 2027	29 December 2032	EUR 500 million
Tier 2 capital	3M Nibor + 3.65%	18 October 2027	18 October 2032	SEK 280 million
Tier 2 capital	3M Cibor + 3.9%	26 October 2027	26 October 2032	DKK 950 million

3.3 Risk exposure amount

Nykredit's risk exposure amount (REA) forms the basis of the calculation of the capital requirement. The Nykredit Realkredit Group's total REA increased by DKK 36.6 billion during 2022 to 438.3 billion at year-end, representing a 9.1% increase.

REA for credit risk increased by DKK 15.8 billion in 2022. Looking at credit risk excluding counterparty credit risk, REA increased from DKK 30.2 billion at end-2021 to DKK 359.6 billion at end-2022, equal to a 9.2% increase. The increase was mainly due to lending growth and the effect of new IRB regulation. However, other factors have caused REA to decrease. Increasing interest rates during the year have reduced the value-adjusted debt outstanding of mortgage lending. Moreover, recent years' low arrears and overdrafts as well as rising property prices have contributed to lower risk weighting of lending and consequently lower REA.

Total REA
DKK 438.3 billion
(2021: DKK 401.6 billion)

Nykredit holds capital under Pillar I to handle the effect of new legislation and regulation, which is implemented as part of IRB model development. For example, credit risk models must be developed and approved according to the new EBA guidelines on model estimation as well as the guidelines on default definition, which took effect the year before. In this process, Nykredit sets aside capital to cover the expected effect on REA of the model changes. The EBA's new guidelines for model estimation of PD, LGD etc entered into force at 1 January 2022, and Nykredit consequently set aside capital under Pillar I for a REA increase of DKK 33.0 billion. Once the models have been approved and implemented, such capital will be released.

At end-2022, the Nykredit Realkredit Group held capital under Pillar I in the amount of DKK 79.2 billion.

REA for counterparty risk reduced by DKK 14.5 billion to DKK 6.5 billion at end-2022.

REA for market risk increased by DKK 18.4 billion, or 76.3%, during 2022, mainly driven by high volatility in financial markets for most of the year. For details on changes in REA for market risk, see *6.4.3 Market risk*.

Operational risks caused a REA increase of DKK 2.5 billion, or 9.2%, to DKK 29.7 billion, REA for operational risk is calculated using the standardised approach, which means that the capital requirement is calculated as 15% of average gross earnings of the past three years. The capital requirement corresponds to 8% of REA for operational risk.

Nykredit expects a reversal of economic trends and declining housing market prices going forward, which will further contribute to increasing REA for credit risk. This is integrated into Nykredit's capital planning process for the coming years.

Nykredit Realkredit Group

REA summary

	Risk e	posure amount	Minimum capital requirement (8%)
DKK million	Q4/2	022 Q4/20	Q4/2022
Credit risk (excluding counterparty risk)	359	595 329,3	56 28,768
Of which the standardised approach	13	768 15,5	73 1,101
Of which the advanced IRB (AIRB) approach	253	700 245,1	18 6,597
Of which equities under the simple risk weighted approach	9	.669 10,6	76 774
Of which the foundation IRB approach (FIRB) ¹	82	457 54,9	89 20,296
Counterparty risk	6	488 20,9	70 519
Of which the standardised approach	5	.084 19,1	34 407
Of which exposures to a CCP		265 2	29 21
Of which CVA		467 7	81 37
Of which other counterparty credit risk		672 8	54
Settlement risk		0	0 0
Market risk	42	,443 24,0	75 3,395
Of which the standardised approach	8	276 8,4	97 662
Of which the internal model approach (IMA)	34	167 15,5	2,733
Operational risk	29	738 27,2	2,379
Of which the basic indicator approach	29	738 27,2	2,379
Amounts below the thresholds for deduction (subject to 250% risk weight)		0	0 0
Total	438	.263 401,6	44 35,061

¹ Includes Nykredit's capital held under Pillar I.

3.4 Capital requirements

Nykredit's total regulatory capital requirement is composed of required own funds (internal capital adequacy requirement) and the combined capital buffer requirement.

3.4.1 Required own funds

Pursuant to the Danish Financial Business Act, it is the responsibility of the Board of Directors and the Executive Board to determine the required own funds. The required own funds are the minimum capital deemed to be required to cover all material risks. The determination takes into account the business objectives and capital policy targets by allocating capital for all relevant risks, including calculation uncertainties.

Required own funds are determined as the sum of Pillar I and Pillar II capital. Required own funds totalled DKK 50.5 billion at end-2022, equal to an internal capital adequacy requirement of 11.6%.

Pillar I

Under the Pillar I requirement, financial institutions must hold capital corresponding to 8% of total REA. See 3.6 for the determination of REA for credit risk, market risk, counterparty risk and operational risk.

Pillar II

Pillar II comprises Nykredit's assessment of various risks not covered by the Pillar I capital requirement. The calculation of Pillar II capital thus supports the aim of maintaining a stable capital level even if the economic climate deteriorates.

Pillar II capital includes a buffer that factors in a weaker economic climate with changes in customer credit quality, falling property prices, etc.

In addition to the buffer to meet cyclical changes, various other assessments are made of other risks that may lead to a Pillar II addon. Other risks include, for example, effects of model updates, model risk, operational risks, validation and backtest results, data quality, concentration risk and interest rate risk.

Nykredit applies an additional management buffer to allow for the fact that the capital determination depends on statistical methods, choice of model, model properties, unforeseen events, etc.

Our risk management procedures include the identification and assessment of ESG risks through, for instance, flooding analysis. The risks are currently deemed to be identified in the process of assessing elements of traditional risks, such as stability of property values and rating considerations in relation to customers. Also, the buffer to meet cyclical changes and the management buffer are available, should climate risks materialise in the short term. The area is monitored closely to ensure alignment with upcoming regulation and stress tests.







3.4.2 Capital buffers

Nykredit is subject to a number of capital buffer requirements in addition to the capital requirements under Pillar I and Pillar II. The combined capital buffer requirement is currently 6.5% of Nykredit's REA and must be met with CET1 capital. The requirement is expected to rise to 7.0% at end-Q1/2023 due to the full phase-in of the countercyclical capital buffer.

As a systemically important financial institution (SIFI), Nykredit is subject to a special and institution-specific SIFI buffer requirement of 2%. Nykredit is also subject to a capital conservation buffer of 2.5%, which is applicable to all financial institutions.

After the covid-19 outbreak, the countercyclical buffer rate was reduced to 0% by the Danish Minister for Industry, Business and Financial Affairs upon the recommendation of the Danish Systemic Risk Council. Given the subsequent favourable economic conditions in Denmark, the countercyclical buffer rate from 2021 is being reintroduced. The buffer is currently at 2% at 31 December 2022 and is expected to be fully phased in at 2.5% by 31 March 2023. In 2021, it became possible for the Danish authorities to set a systemic risk buffer to be applied if general systemic risks are identified that cannot be addressed by existing macroprudential instruments. At end-2022, the systemic risk buffer had not been activated.

Besides the Danish capital buffer requirements, Nykredit must hold CET1 capital for lending in countries where the countercyclical buffer has been implemented and where Nykredit has activities. However, lending in such countries is very limited.

3.4.3 Total capital requirement

The total capital requirement including capital buffers was 18.1% at end-2022, of which the minimum CET1 capital requirement represented 13.1%, including Pillar II. With a total capital ratio and a CET1 capital ratio of 23.3% and 19.5%, respectively, the capital levels are well above the capital requirements applicable to Nykredit.

Besides the specific capital requirements, the results of the stress test exercises of the European Banking Authority (EBA) and the Danish FSA must be incorporated in Nykredit's capital planning.

Nykredit's capital targets, which are described in detail in 3.1 Capital policy and guidelines, allow for the capital requirements combined with a deteriorating economic climate corresponding to the severe recession scenario in the Danish FSA stress test or a similar scenario.

3.5 Stress tests and capital projections

In addition to the regulatory capital requirements, Nykredit holds additional capital to be applied in particularly stressed economic circumstances. Accordingly, a stress buffer is determined in connection with the annual adoption of Nykredit's capital targets, which is based on a cross-section of adverse impacts on capital in both internal and external stress test exercises over a number of years.

Model-based stress tests and capital projections are permanent elements of Nykredit's capital management.

The stress tests are used to assess the impacts of different macroeconomic scenarios. The results are applied at both Group and company levels and are included in the annual assessments by the individual Boards of Directors of the internal capital adequacy requirement as well as in the determination of capital targets.

The stress test calculations include the macroeconomic factors of greatest importance historically to Nykredit's customers.

The capital requirement for credit risk builds primarily on correlations between the macroeconomic factors, the Probability of Default (PD) and Loss Given Default (LGD). These correlations are an essential element of the capital projection model. Operating losses in a stress scenario increase the capital requirement, while operating profits are not included. The impacts of both rising and falling interest rates are tested in the projection scenarios to determine the greatest stress impacts.

Nykredit applies a wide range of macroeconomic scenarios taken from its catalogue of scenarios, including at a minimum a baseline scenario, which is a neutral projection of the Danish economy based on Nykredit's assessment of the current economic climate. The baseline scenario is supplemented with recession scenarios of varying severity, ranging from a weaker economic climate to a severe recession. Other relevant scenarios from external parties such as the Danish FSA, current risk scenarios or company-specific scenarios for Nykredit Bank and Totalkredit are also considered.

Stress scenario: Weaker economic climate

This stress scenario is designed to illustrate a weaker economic climate. The stress scenario is applied to determine a Pillar II add-on that reflects how much Nykredit's capital requirement would increase if this scenario were to occur. The results are included in the determination of Nykredit's internal capital adequacy requirement.

The most important macroeconomic factors identified are:

- Property prices
- Interest rates
- Unemployment
- GDP growth

Nykredit regularly assesses which scenario to apply to determine the Pillar II add-on. As the scenario must reflect a weaker economic climate, it may coincide with the baseline scenario if the current macroeconomic projection is deemed to reflect exactly that. Alternatively, the scenario applied may be a specially designed recession scenario or a current risk scenario, for instance an inflation scenario.

Stress scenario: Severe recession

Nykredit's capital policy aims at ensuring a robust capital level, also in the long term and in a severe recession. Therefore, Nykredit regularly evaluates the impact of severe recession. This stress scenario reflects an exceptional, but plausible macroeconomic stress scenario. The calculations are factored into the annual determination of the stress buffer included in the capital targets.

The results of the stress scenario reflect how much Nykredit's capital requirement would increase in case of plunging housing prices, falling or rising interest rate levels and high unemployment.

Other stress scenarios

As part of the Group's capital policy, in addition to calculating its own stress scenarios, Nykredit also assesses the stress scenarios prepared by the Danish FSA. The results are compared regularly. The macroeconomic situation in H2/2022 have made economic projections uncertain. Risk scenarios with rising interest rates and inflation have become relevant as supplementary scenarios for determining the buffer to meet cyclical changes in the internal capital adequacy requirement.

Nykredit participated in the stress test exercises of the European Banking Authority (EBA) in 2021 and will do so again in 2023. The stress test in 2021 showed that Nykredit can withstand an even very severe macroeconomic downturn where large property price declines have a significant adverse impact on both personal and business lending.

The results of the stress tests conducted in recent years have shown that Nykredit's CET1 capital ratio will drop by approximately 4 percentage points in a severe recession. The decrease is within the scope set out in Nykredit's capital policy, thus indicating that Nykredit is sufficiently resilient to withstand a severe macroeconomic stress.

Internal Capital Adequacy Assessment Process (ICAAP)

Through the ICAAP process, the Board of Directors annually assesses Nykredit's required own funds and internal capital adequacy requirement, reflecting the capital requirements under Pillar I and Pillar II. The internal capital adequacy requirement is determined to reflect a cautious and forward-looking approach that supports the overall risk tolerance according to Nykredit's risk policy.

Despite macroeconomic uncertainties caused by rising interest rates and inflation, the conclusion of the ICAAP process is that Nykredit has sufficient capital to withstand these risks, as well as far more severe downturns, and takes these risks into consideration in both its risk management practices and the capital policy.

Based on the ICAAP and other aspects, Nykredit's Board of Directors determines at least annually the company's capital policy and the pertaining capital requirements, capital targets and capital plan.

Nykredit Realkredit Group

Structure of stress tests and capital projections



Nykredit Realkredit Group

Stress scenarios to determine the capital need

	2023	2024	2025
Baseline scenario			
Interest rates ¹	2.2%	2.5%	2.7%
Property prices, growth	-5.6%	-1.5%	3.2%
GDP growth	0.2%	1.5%	1.7%
Unemployment	4.8%	4.9%	4.9%
Weaker economic climate (scenario applied under Pillar II)			
Interest rates ¹	2.2%	2.5%	2.7%
Property prices, growth	-5.6%	-1.5%	3.2%
GDP growth	0.2%	1.5%	1.7%
Unemployment	4.8%	4.9%	4.9%
Severe recession (scenario applied for capital policy)			
Interest rates ¹	0.7%	0.8%	0.8%
Property prices, growth	-12.0%	-10.0%	-5.0%
GDP growth	-3.0%	-2.0%	0.0%
Unemployment	6.4%	8.1%	8.7%

¹ Average of 3-month money market rates and 10-year government bond yields.

3.6 Consolidation methods

REA is determined according to the rules of the Danish Financial Business Act and the Capital Requirements Regulation. The determination comprises Nykredit Realkredit A/S (the Parent) and the enterprises in which Nykredit Realkredit A/S exercises direct or indirect control of the enterprises' financial and operational management.

As at end-2022, the consolidated risk exposures concerned:

- Nykredit Realkredit A/S
- Totalkredit A/S
- Nykredit Bank A/S
- Nykredit Leasing A/S
- Sparinvest Group
- Nykredit Portefølje Administration A/S
- Nykredit Mægler A/S
- Kirstinehøj 17 A/S
- Kalvebod Ejendomme I A/S

Together with other enterprises, Nykredit controls an enterprise which is not included in the Consolidated Financial Statements. This enterprise, JN Data, is recognised according to the equity method.

3.6.1 Differences compared with Financial Statements

There are differences between the Financial Statements and determinations under the CRR. This means that the figures in this report are not directly comparable with the determination of exposures in the Annual Report. This report has been prepared in accordance with Part 8 of the CRR, which defines the disclosure requirements.

Unexercised loan offers and undrawn credit and loan commitments, as well as potential future credit exposures to financial instruments are included in exposures used for the determination of REA. The same applies to guarantees. REA for securities is calculated at ISIN level. Detailed disclosures are available at nykredit.com/reports

3.6.2 Credit risk

Nykredit has obtained the approval of the Danish FSA to use the advanced IRB approach to determine REA for credit risk in relation to:

 Retail and business exposures of Nykredit Realkredit A/S, Totalkredit A/S and Nykredit Bank A/S.

The standardised approach is applied to determine REA for credit risk in relation to:

- Sovereign and credit institution exposures
- A few minor portfolios and remaining companies.

3.6.3 Market risk

For the determination of REA for market risk, Nykredit Realkredit A/S has obtained FSA approval to apply a Value-at-Risk (VaR) model to calculate the general risk related to:

- Equities
- Debt instruments
- Foreign exchange.

Nykredit Bank A/S has obtained FSA approval to apply a VaR model to calculate the general risk related to:

- Debt instruments
- Foreign exchange.

For market risk in the remaining companies and the parts of the portfolio for which REA is not determined using VaR, the standardised approach is applied.

Nykredit has a number of procedures in place ensuring that the tradability of positions in the trading book is satisfactory, see 6 Market risk. All positions in the trading and banking books are tested regularly for uncertainty related to applied prices against observed prices. These tests are applied in the prudent valuation calculations. A deduction is made from Nykredit's CET1 capital for prudent valuation.

The new reporting requirements, FRTB, are described in more detail in 6.6.3 *Regulatory capital requirements*.

3.6.4 Operational risk

For all Group companies, the capital requirement for operational risk is determined using the basic indicator approach. This means that the capital requirement is calculated as 15% of average gross earnings of the past three years.

3.7 Leverage ratio

The leverage ratio is defined as the relationship between Tier 1 capital and the balance sheet total (including off-balance sheet items). The lower the leverage ratio, the higher the leverage level. Under the applicable rules, the ratio does not factor in any collateral. The minimum regulatory leverage ratio is 3.0%. The leverage ratio is calculated separately for each company and included in their capital management.

In the capital policy, the Board of Directors of Nykredit Realkredit and the Boards of Directors of the individual subsidiaries have set targets for their respective leverage levels. The target is reviewed annually and determined based on a stressed scenario, factoring in other impacts on earnings and own funds as well as balance sheet movements, which may ultimately affect the leverage ratio.

Nykredit's balance sheet mainly consists of match-funded mortgage loans. Match funding ensures a match between the interest and principal payments of a loan and the underlying funding. Because of the structure of Nykredit's balance sheet with stable a development in mortgage lending, the risk of excessive leverage is limited. Moreover, stress tests show that the leverage ratio remains largely unaffected in stressed scenarios, which mainly affect Nykredit's REA.

Nykredit continuously monitors leverage ratio movements. The leverage ratio is determined on a quarterly basis and projected based on the expected balance sheet and Tier 1 capital development. The results are submitted to the Asset/Liability Committee, which considers any required action. If the leverage ratio becomes too low, the Asset/Liability Committee will reassess the capital planning and, if required, recommend an increase in Tier 1 capital to the Board of Directors.

The Boards of Directors receive regular reports on the leverage ratio measured against the internal leverage targets. Leverage ratios are also included in recovery plans and the ICAAP documentation, which are also submitted to the Boards of Directors and the Danish FSA.

At end-2022, the leverage ratio of the Nykredit Realkredit Group had increased to 5.1% from 4.8% at end-2021, see the table below. Nykredit recorded business growth in 2022, but at the same time higher interest rates reduced the value-adjusted debt outstanding of mortgage lending, which represented about 81% of the total assets at end-2022. Tier 1 capital increased as a result of profit for the year and other factors.

Nykredit Realkredit Group

Leverage ratio, %

Leverage ratio			
DKK million			
Year-end	Regulatory requirement	2022	
Tier 1 capital		89	
Leverage ratio exposures		1,740	
Leverage ratio %	Min 3.0	5 1%	

3.8 Debt buffer and MREL requirements

Nykredit Bank must comply with the Danish minimum requirement for own funds and eligible liabilities (MREL). The purpose of the MREL requirement is to ensure that Nykredit Bank can be recapitalised and restructured through a principal write-down or conversion of capital and debt instruments in the event of a situation where the Bank meets the conditions for resolution.

At end-2022, Nykredit Bank's own funds and eligible liabilities corresponded to 39.6% of REA. The MREL requirement for 2023 set by the Danish FSA is 32.8%, to which must be added the combined capital buffer requirement of 6.5% of REA based on a countercyclical buffer rate of 2.0%. As from 31 March 2023, the countercyclical buffer rate is expected to rise to 2.5%, increasing the combined capital buffer rate to 7.0%, which must be added to the MREL requirement, see 3.4.2.

As Danish mortgage banks, Nykredit Realkredit and Totalkredit are exempt from the MREL requirement, but must meet the regulatory

debt buffer requirements. The debt buffer serves to bolster the lossabsorbing capacity of a failing mortgage bank without impairing its lending capacity.

The debt buffer must equal at least 2% of total mortgage lending and may consist of excess capital or senior non-preferred debt. The debt buffer requirement applies to Nykredit Realkredit and Totalkredit taken together.

From the beginning of 2022, the level of the debt buffer must also be such that the Group's own funds, eligible liabilities and debt buffer together amount to at least 8% of the consolidated balance sheet total (revised debt buffer). At end-2022, Nykredit's debt buffer was 4.4%, and the revised debt buffer was 9.8%, see the table below.

Liabilities applied to meet the debt buffer requirement are determined after liabilities have been reserved to meet the Bank's MREL requirement, as the same liabilities cannot be applied to meet both requirements at the same time. Accordingly, by observing the debt buffer requirement, the resolution group will have sufficient MREL funds to meet the MREL requirement. The capital structure and planning must ensure that the MREL and debt buffer requirements can be met across economic cycles.

Nykredit Realkredit Group

2021

1,787

4.8%

5.1%

87

Debt buffers and MREL requirements				
%				
Year-end	Regulatory requirement	2022	2021	
MREL funds	32.8	39.6	40.6	
Debt buffer	2.0	4.4	5.1	
Revised debt buffer	8.0	9.8	9.3	

Note: MREL funds were calculated at the level of Nykredit Bank A/S. The debt buffer and the revised debt buffer were calculated at the aggregate level of Nykredit Realkredit A/S and Totalkredit A/S.







3.9 FSA Supervisory Diamonds 3.9.1 Banks

The Supervisory Diamond for banks applies to all Danish banks. It is a strictly Danish initiative and does not stem from EU legislation. In 2021 the calculation of the funding ratio was taken out of the Supervisory Diamond, and the NSFR requirement was introduced.

The Supervisory Diamond model sets out the following benchmarks for four key ratios that indicate when a bank is operating at an elevated risk:

- The sum of large exposures should be less than 175% of own funds.
- Lending growth should be less than 20% year-onyear. The limit value is determined exclusive of reverse repurchase lending and after impairments.
- Total exposure to the property segment should be less than 25% of total lending.
- The liquidity benchmark should be more than 100%. The liquidity benchmark indicates a bank's ability to withstand a liquidity stress for a period of at least three months.

The current benchmark values of the Supervisory Diamond model are shown in the table below. In Q2 and Q3/2022, Nykredit Bank A/S's lending growth exceeded the benchmark limit, but in Q4 it was again below the limit. Accordingly, Nykredit Bank A/S operates within all benchmark limits.

3.9.2 Mortgage lenders

The Supervisory Diamond for mortgage lenders is a strictly Danish initiative and does not stem from EU legislation. In parallel to the Supervisory Diamond, bank loans resembling mortgage loans will be subject to special supervision.

The Supervisory Diamond model sets out the following benchmarks for five key ratios that indicate when a mortgage bank is operating at an elevated risk:

- Annual lending growth may not exceed 15% in each of the segments personal customers, commercial residential property, agriculture and other business.
- The sum of the 20 largest exposures must not exceed Nykredit's CET1 capital.
- Borrower's interest rate risk relating to residential properties: The proportion of lending where the LTV ratio exceeds 75% of the LTV limit and where the loan rate is fixed for up to 2 years only may not exceed 25% of the total loan portfolio.
- Interest-only (IO) loans to personal customers: The proportion of IO loans for owner-occupied and holiday homes with an LTV ratio above 75% of the statutory LTV limit may not exceed 10% of total lending.
- Limitation of short-term funding: The proportion of loans to be refinanced must be below 12.5% per quarter and 25% per year.

The current benchmark values of the Supervisory Diamond model are shown in the table below. Nykredit operates within all benchmark limits.

Nykredit Bank A/S

Supervisory Diamond for banks

Benchmark	2022	2021
Large exposures (limit value <175%)	115.7%	109.6%
Lending growth (limit value <20%)	13.7%	4.6%
Property exposure (limit value <25%)	12.1%	11.1%
Liquidity benchmark (limit value >100%)	272.0%	256.4%

Nykredit Realkredit Group

Supervisory Diamond for mortgage lenders

Benchmark	2022	2021
Lending growth in segment		
Personal customers (limit value <15%)	-0.1%	6.3%
Commercial residential property (limit value <15%)	0.9%	7.7%
Agriculture (limit value <15%)	-3.0%	-1.3%
Other business (limit value <15%)	10.0%	2.0%
Borrower's interest rate risk		
Loans to private individuals and for residential rental (limit value <25%)	12.3%	9.4%
Interest-only loans		
Personal customers (limit value <10%)	5.2%	6.4%
Loans with short-term funding		
Refinancing (annually) (limit value <25%)	10.1%	10.0%
Refinancing (quarterly) (limit value <12.5%)	2.3%	2.9%
Large exposures		
Loans and advances:equity (limit value <100%)	49,4%	39.0%

4 Credit risk

- 4.1 Credit policy
- 4.2 Lending guidelines and process
- 4.3 Control and reporting
- 4.4 Current risk profile and development
- 4.5 Security
- 4.6 Models for determination of credit risk
- 4.7 Counterparty risk

It is Nykredit's policy to always offer responsible, sustainable and transparent financial solutions that match customers' financial position and risk appetite. This approach serves to contain Nykredit's overall credit risk.

Nykredit's credit risk stems from mortgage and bank lending, but also from financial products. Most of the credit exposure derives from mortgage loans secured by real estate, which also serves to keep credit risk low.

2022 was significantly impacted by growing inflation, increasing interest rates and high energy prices, one of the reasons being the war in Ukraine. Despite this, the Danish economy performed strongly over the year, and Nykredit's personal and business customer portfolios remain characterised by generally high customer credit quality. However, Danish economic growth is expected to recede in 2023, leading to an increase in unemployment.

In the housing market, rising mortgage rates and energy prices caused sales activity to decrease, and housing prices dropped in H2. The decline in housing prices was from a high level, however, and loan-to-value (LTV) ratios remain relatively low. Combined with the low level of unemployment, the low LTV ratios help to contain expected credit losses, even in a severe stress scenario.

Impairment provisions have been made for any losses in the business loan portfolio resulting from economic developments. However, write-offs are still at a low level. According to sensitivity analyses, Nykredit's customers are generally resilient.

4.1 Credit policy

Nykredit has a nationwide presence across Denmark and a comprehensive distribution network, and customers are served by certified advisers at Nykredit's customer centres and advisers at local Totalkredit partner banks.

Nykredit's credit risk profile and risk appetite are laid down in the credit policy. The credit policy is laid down by the Boards of Directors and is based on the Nykredit Group's strategy and the aim that customers should perceive Nykredit as a reliable, qualified and long-term financial partner. All credit applications are assessed against the credit policy by financially trained colleagues. The cornerstone of such assessment is a customer's creditworthiness, which reflects their ability and willingness to meet their obligations. An overall evaluation is made of the customer's financial circumstances and other risk elements, taking into account Nykredit's total exposure to the customer and any mortgage security provided. The credit policy includes guidelines and specifies compensatory measures in case of non-compliance with the guidelines.

Also, the credit policy ensures that credit is granted in accordance with the framework of the Totalkredit alliance, Danish mortgage legislation, the Danish Financial Business Act, good business practice, the guidelines on prudent credit assessment and any other relevant rules and regulations. A key focus area is sustainability. The aggregate credit granting by the Group companies is undertaken within the credit policy limits for large exposures as well as limits for portfolio distribution by industry, geography and other risk types.

Nykredit wants to maintain close relationships with its customers to be able to prevent potential payment difficulties from arising. Prompt action benefits both the customer and Nykredit and limits arrears etc, making it more likely that the customer will recover. Alternatively, losses will be minimised to the advantage of both Nykredit and the customer, which will be liable for any unpaid debt.

Totalkredit's mortgage lending is based on a strategic alliance with 44 Danish local and regional banks undertaking the distribution of loans, customer advisory services, creditworthiness assessments

and case processing. Totalkredit loans are subject always to final approval by Totalkredit.

Reviews of credit policy compliance are undertaken by the credit control function, whose duties are segregated from those of the credit approving units and which reports to the Chief Risk Officer.

Sustainable transition

Climate change is a challenge that requires sustainable transition in many parts of society. Nykredit wants to contribute to society's goals of reducing greenhouse gas emissions and adapting to the new climate conditions. For many businesses, this development will bring new opportunities, but at the same time many customers are facing substantial risks. Climate change and the necessary transition to more sustainable solutions will challenge the business models, production and markets of many of Nykredit's business customers. Nykredit is dedicated to being a constructive partner to all its customers in the green transition.

The credit policy describes a number of ESG factors to be considered as part of customer assessments. They include, in particular, physical risks and transition risks, but also other elements of a customer's individual ESG factors will be considered where relevant. The aim is to identify relevant risks and opportunities, which will then form part of the overall credit assessment and customer advisory services. Nykredit's ESG assessments are based in part on recognised concepts (taxonomies) and available data and will develop as such concepts and data mature. Nykredit is working to strengthen the data serving as the basis for dialogue with customers about their sustainability transition plans.

Credit risk governance

Board of Directors and Board Risk Committee: Lay down the credit policy, including risk appetite and limits for portfolios, and credit guidelines. Receive quarterly reports on credit policy compliance.

The Board of Directors receives separate reports in case of non-compliance with the policy, including an action plan for approval.

Executive Board and Credits Committee: Approve and implement the credit policy and regularly review compliance based on quarterly reports.

The Executive Board receives separate reports in case of non-compliance with the policy, including an action plan for approval.

Control functions (second line of defence): Perform continuous control and monitoring independently of the risk-taking units. Prepare reports for the Board of Directors and the Executive Board. Particularly the risk control and credit control functions play an important role in this respect. The credit control function also regularly reviews credit policy compliance by spot checking credit approvals from all Group companies.

4.2 Lending guidelines and process

Nykredit's customer centres have been authorised to process most credit applications independently. The authority comes with a requirement of credit policy and business procedure certification every three years, in addition to the statutory certification. It is Nykredit's aim that most credit decisions should be made locally.

Which level of Nykredit's credit approval hierarchy determines a business customer's credit application generally depends on the size of the exposure. Nykredit has five regional credit units that process business customers' credit applications exceeding the authority assigned to the customer centres. Applications exceeding the authority of the regional credit units are processed centrally by Group Credits, unless they involve exposures requiring escalation to Nykredit's Credits Committee, the Executive Boards or the Boards of Directors.

Which level of the credit approval hierarchy determines the credit applications of personal customers of Nykredit depends on a combination of the size of the exposure and any credit circumstances requiring particular attention (credit approval rules). The level of the credit approval hierarchy determines whether credit applications are processed by the customer centres or centrally by Group Credits.

Which level of the credit approval hierarchy determines the mortgage loan applications of personal customers of Totalkredit depends on the value of the property serving as security for the loan in combination with the size of the loan applied for. If credit circumstances requiring particular attention are present, these will be considered too. As regards credit applications of business customers of Totalkredit, the level is determined by the size of the exposure, in the same way as for customers of Nykredit.

The Groups' largest exposures are presented to the Boards of Directors of the Groups on an ongoing basis. They are also briefed quarterly about the largest write-offs and impairments.

Approvals are made in compliance with applicable rules and practices, including the Danish Executive Order on Management and Control of Banks, etc, the Danish Executive Order on good practice for residential mortgage agreements, guidelines on prudent credit assessment when granting housing loans in growth areas etc and guidelines on creditworthiness assessments.

4.2.1 Nykredit's credit approval process

Nykredit's approval of loans is based on the customer rating together with an assessment of the customer's current financial position and resilience as well as other circumstances where relevant, such as, for businesses, their managerial strength and ESG factors. This assessment is based on credit approval rules and guidelines in the credit policy. The assessment also considers the quality of security provided. Security by way of mortgages on real estate is assessed by valuers.

Nykredit applies its own internally estimated ratings to the vast majority of its customers. Customer ratings are based on an estimation of the customer's Probability of Default (PD), which indicates the probability of the customer defaulting on its obligations. Customer ratings are used for credit assessments and other purposes.

The approval of financial products is based on a customer's creditworthiness, the life of the product, the contractual basis and an assessment of the quality of the security provided etc.





Note: For the Group, Maximum applies to the total exposure, and for Nykredit Bank, it appli to the total banking exposure.

4.2.2 Totalkredit's credit approval process

As regards Totalkredit loans, assessments of personal customers are mostly carried out by the regional and local banks, while the final approval of credit applications is undertaken by Totalkredit. Assessments of business customers and approval of business credit applications are carried out centrally by Totalkredit on the basis of a credit assessment by the partner bank.

A model is used for Totalkredit personal mortgages where the loss risk relating to the loans is shared according to principles set out in the collaboration agreement with the partner banks. The partner banks provide security to Totalkredit by way of a right of set-off and/or guarantees for the loans distributed by them. In return, Totalkredit passes on part of the administration margin payments from customers to the partner banks. This motivates the partner banks to carry out a thorough and comprehensive assessment of customer creditworthiness to minimise expected losses on customers. In case of high-risk loans where the ordinary business procedures are derogated from, the partner banks must provide a guarantee exceeding the security provided for ordinary loans. The security model reduces Totalkredit's credit risk.

4.3 Control and reporting

Group Credits is responsible for managing and monitoring credit risk in accordance with guidelines laid down by the Board of Directors and the Group Executive Board. The unit is also responsible for reviewing certain individual exposures as well as credit policy limits for large exposures and limits for portfolio distribution at Nykredit and Totalkredit.

Credit risk review is based on a portfolio management approach categorising customers according to industry and monitoring them against a number of credit parameters. Furthermore, individual exposures are reviewed to assure the quality of lending. Also, credit approvals are subject to review, as are weak exposures. The controls are organised to be independent of the approving units.

The risk control function oversees the ongoing control and review of credit quality, portfolio limits etc and monitors the quality of credit processes. In its reports to the Board of Directors, the risk control function also explains the credit risk outlook.

4.3.1 Portfolio management

The mix and trends of portfolios are monitored by means of portfolio reports, sector and thematic analyses as well as the regular risk exposure reporting to the Boards of Directors. This enables the Boards of Directors to evaluate the credit policy and make the required adjustments in relation to lending at single-name level (guidelines) and portfolio level (portfolio limits and size requirements). The aim is to avoid any single-name risk or concentration of risk which may have a material impact on the Group in the event of default.

In addition to the above, a number of other elements are part of dayto-day credit management based on, for instance, the limits for large exposures and for portfolio distribution. This is supplemented with central credit instructions with respect to individual portfolios and industries, which advisers should allow for in their customer assessments.

In addition to the above, the credit control function performs portfolio controls in terms of data-driven monitoring of selected portfolio metrics for early detection of red flags.

Totalkredit A/S Credit approval structure, Totalkredit – personal mortgages



Totalkredit A/S Credit approval structure, Totalkredit – business mortgages



¹ Valuation can approve properties with values of up to and including DKK 12 million in su

Note: Maximum applies to the total exposure.

4.3.2 Control of individual exposures

Individual exposures are controlled at decentralised and central levels in several areas. In case of any inconsistency between the controlling and approving units, controls and reviews will include dialogue. One purpose of such dialogue is to enhance the exchange of experience and knowledge across units.

New approvals

With respect to decentralised reviews, the heads of Nykredit's customer centres are responsible for local day-to-day credit management, comprising spot checks as well as reviews. Controlling new approvals at individual exposure level is also part of the decentralised review procedure. The same applies to Totalkredit's business exposures. Totalkredit's personal exposures are reviewed at decentralised level by the individual partner bank.

Central reviews are performed by the Group's credit control function, which is responsible for credit controlling in all the Group's companies, assessing new approvals against the credit policy, including risk appetite and basis for decision. As regards Nykredit Bank, Nykredit Realkredit and Totalkredit's business exposures, monthly spot checks are carried out for each approving unit. Totalkredit's personal exposures and Nykredit Leasing are subject to quarterly controls, and spot checks are carried out for each Totalkredit partner bank. The samples must be large enough to ensure that they are representative of the entire population or a specific risk group. It is a requirement that the results describe, at a high confidence level, the risk appetite of each approving unit and partner bank in relation to new approvals. Credit controlling is aimed at detecting, for instance, any breaches of approvals, processing errors and derogations from the credit policy guidelines. It is assessed whether the overall level of approvals is within the credit risk appetite.

Renegotiations

Decentralised reviews of renegotiations are part of the monitoring of credit exposures, and large business exposures are reviewed by the account manager at least annually. The review is based on financial statements, ratings and customer data and is a key element of the control environment. In addition, the heads of the customer centres conduct regular spot checks of the frequency and quality of renegotiations as part of the decentralised review procedure. Central reviews and control of the frequency and quality of renegotiations are performed by the central credit control function on an ongoing basis.

Review of weak exposures

Nykredit identifies weak exposures based on the rating categories with the highest probability of default, with or without objective evidence of credit impairment. Objective evidence of credit impairment is determined on the basis of a number of statutory indicators of credit-impaired exposures. If Nykredit identifies objective evidence of credit impairment, the exposure will be assigned the lowest possible rating.

If supported by additional objective data, an override of the customer's rating may be performed. Customer exposures involving rating overrides are reviewed at least once a year. As a result, the customer rating may be maintained or adjusted, or the override may be removed. The use of overrides is assessed in connection with the regular validation of rating models performed by the validation unit.

Weak exposures are reviewed by units that are specialised in handling weak exposures. Weak exposures are reviewed at least annually, except for personal customers with a rating of 2 (the highest possible rating in the category of weak exposures) where review is part of the daily customer relationship management. Business bank exposures are reviewed quarterly, with a few exceptions. The reviewing units are responsible for preparing a credit strategy including an action plan for the purpose of implementing loss control measures and restoring the customer's financial strength. The account manager is responsible for executing the credit strategy. Weak exposure reviews also include assessment of the customer's creditworthiness and consequently rating, data control and, in some cases, impairment calculations. Regular spot checks are made of the quality of weak exposure reviews conducted.

For Totalkredit mortgage loans, exposures are designated as weak if there is reasonable doubt as to whether the customers are able and/or willing to honour their obligations to Totalkredit. For Totalkredit business mortgages and Totalkredit personal mortgages arranged by the Nykredit Group, ratings are also used to identify weak exposures.

Central reviews and control of the frequency and quality of the weak exposure reviews conducted are performed by the central credit control function on an ongoing basis. The central credit control function controls Nykredit's reviews of weak exposures and Totalkredit's reviews of weak business exposures. The purpose of the spot checks is to ensure that the weak exposure reviews comply with relevant business procedures and process descriptions. This credit control serves to support the approving units' handling of weak exposures through ongoing dialogue about the results of controls performed.

The credit control function verifies that impairments and write-offs comply with the accounting rules.

Controls in respect of impairments are performed as spot checks of Nykredit's impairment of stage 2 (weak) and stage 3 exposures including expert recalculation of impairments and comparison of the results with the level of current impairments.

Controls in respect of write-offs are performed as timeliness assessments of a sample of write-offs.

Finally, spot checks are made to verify the timely identification of objective evidence of credit impairment and the correct stage categorisation of weak exposures. This includes verification of timely identification of objective evidence of credit impairment by the case officer.

For the purposes of both financial reporting and capital determination, Nykredit applies IFRS 9 to calculate impairments. The calculations are divided into four parts:

- A statistical model is used for impairment of all exposures without objective evidence of credit impairment, irrespective of exposure size.
- A mechanical model is used for impairment of personal exposures with objective evidence of credit impairment and business exposures below DKK 5 million at Group level with objective evidence of credit impairment.
- Expert judgement is used for impairment of large business exposures based on the customer's financial position in an improved, an adverse and a baseline scenario.
- Management judgement (post-model adjustments) is used for impairment of loan portfolios based on factors not reflected in the above impairment calculations. Underlying reasons may be expected credit losses that are difficult to quantify due to a changeable global environment. Management judgement may generally affect credit risk beyond the outcome derived on the basis of model-based impairments. The estimates are adjusted and evaluated on a regular basis. Management judgement is distributed at loan and credit facility level.

Nykredit's impairment model calculations include forward-looking macroeconomic scenarios. The scenarios must reflect uncertainties relating to the economy as well as both improved and deteriorating outlooks. At end-2022 the scenarios had been updated to reflect the expected economic environment caused by geopolitical tensions and the covid-19 crisis and other resulting market conditions. In addition to these scenarios, stress tests are performed on specific industries and groups of customers with characteristics that cannot be captured by the models. The results of these tests may lead to a change of stage categorisation.

Also according to IFRS 9, impairments are divided into three stages:

Stage 1 covers loans and advances etc without significant increase in credit risk since initial recognition. For this category, impairment provisions are generally made corresponding to the expected credit losses over a 1-year period.

Stage 2 covers loans and advances etc with significant increase in credit risk since initial recognition. For this category, impairment provisions are made corresponding to the expected credit losses over the remaining life of the asset. Stage 2 is subdivided into the categories of "strong" and "weak", "weak" designating the highest-risk exposures where customers' ability to pay is characterised by significant signs of weakness.

Stage 3 covers credit impaired loans etc, which have been subject to individual provisioning based on a specific assessment that the customers will default on their loans.

All mortgage and banking exposures above a certain limit as well as all weak exposures are reviewed individually on a regular basis for the purpose of identifying any objective evidence of credit impairment.



If a customer is deemed to be in financial difficulties, impairment provisions will be made for the exposure in accordance with IFRS 9, and the exposure will be transferred to stage 3 or stage 2 (weak).

Geopolitical tensions

Geopolitical tensions are expected to impact customers through lower economic growth, rising energy prices, higher interest rates, property price developments, inflation and value chain disruption.

Loan impairments relating to geopolitical tensions consist of two factors. Firstly, stress simulations have been performed for stage 1 and stage 2 personal and business customers. A decline in the discretionary income of personal customers is expected, based on rising inflation and energy prices. Impairment provisions totalling DKK 765 million have been taken to cover these risks. Secondly, business customers dependent on energy for their production and manufacturing are expected to be affected. Impairment provisions of DKK 815 million have been taken in respect of the affected sectors. Also, DKK 300 million has been provided to cover general uncertainty caused by geopolitical tensions. Impairment provisions relating to elevated risk as a result of geopolitical tensions total DKK 1,880 million, including DKK 12 million concerning Nykredit Leasing A/S.

Handling of covid-19 impact for impairment purposes

Many of Nykredit's customers were affected by covid-19 lockdowns. For those customers, impairments are based on stress test calculations of three different factors. Firstly, stress simulations have been performed for stage 1 and stage 2 personal customers and sectors deemed to be particularly exposed. Secondly, the property values of stage 3 customers have been stressed to simulate a reduction in collateral values. At stage 3 the probability of the adverse scenario occurring for customers in exposed sectors has been raised further. Thirdly, the macroeconomic scenarios of the impairment provisioning model for stage 1 and stage 2 customers have been updated to allow for the covid-19 impact.

Of the total loan impairment provisions of DKK 2.1 billion taken in 2020 to cover the loan losses arising from covid-19, Nykredit has reversed DKK 1.6 billion owing to lower risk assessment. The remaining provisions for covid-19-induced losses comprised DKK 349 million related to property values and DKK 191 million related to exposed sectors. Provisions totalled DKK 540 million.

For further information about the impact of covid-19 on impairment charges for loans and advances and lending mix, please refer to Nykredit's Fact Book Q4 2022, which is available at <u>nykredit.com</u>. A detailed description of impairment rules is provided in the Nykredit Group's Annual Report available at <u>nykredit.com/reports</u>. For a more detailed description and definitions of model parameters relating to credit risk, including default, see *4.6 Models for determination of credit risk*.

4.3.4 Debt collection

Nykredit's lending business inevitably involves arrears. In a minor number of these cases, the customer's inability to pay becomes long-term, while at the same time the security provided for the loan is insufficient to cover Nykredit's risk of loss. In these cases, the debt is written off when all possibilities of collection or recovery have been exhausted.

Customers with debt that has been written off will remain personally liable for this debt, and Nykredit will continue to pursue its claims to ensure that the customers will settle their debt should their financial situation so permit at a later date. At end-2022 Nykredit had approximately 20,500 of such cases where claims against personal customers of Nykredit Realkredit, Totalkredit or Nykredit Bank are being pursued, involving a total amount outstanding of about DKK 6.1 billion, which has been written off in full.

Nykredit has engaged an external debt collection agency to collect these personal debts. Immediately after writing off a non-performing loan, Nykredit transfers its claim to the external business partner, which will attempt to collect the debt from the debtor on behalf of Nykredit. The debt collection agency is specialised and experienced in this area and has in-depth knowledge of debt collection law, statutes of limitation, legal processing of cases etc. Nykredit is in close dialogue with the debt collection agency about the cases transferred.

Since 2020 Nykredit has systematically been reviewing its debt collection processes to identify any systemic errors or sources of error. Nykredit has reviewed the Group's debt collection systems and its procedure for determination of claims written off in Nykredit's systems and transferred to Nykredit's external business partner for collection. Mortgage and bank exposures dating back to 2016 have been thoroughly reviewed, and the outcome has also been used to clarify whether the issues identified could also be relevant in relation to the Group's other exposures not subject to debt collection.

No systemic errors have been identified, but the review identified a few possible sources of error that have now been eliminated, ensuring that the processes will not lead to additional errors going forward. Customers affected have been compensated or their debt has been corrected, and all customers have been notified by letter. The relevant tax corrections have been made following dialogue with the Danish Tax Agency, with no negative financial consequences for customers. However, a few cases of a particular complex nature, involving eg debt rescheduling, bankruptcies and a few decedent's estates, are still pending, awaiting dialogue between Finance Denmark and the Danish Court Administration about their processing.
4.4 Current risk profile and development 4.4.1 Credit portfolio characteristics

Nykredit's loan portfolio mainly consists of mortgage lending, which represents 73% of the total credit exposure. The rest of the loan portfolio primarily consists of bank loans and financial instruments.

At end-2022 Nykredit Realkredit accounted for 32.8% of the Group's lending and guarantees, concerning mainly business customers. To-talkredit's lending, mainly to personal customers, accounted for 54.5%. Nykredit Bank's lending represented the last 12.7% of Nykredit's total lending and guarantees.

The customer portfolio is characterised by low LTV ratios and a low proportion of loans in default. At end-2022 the average LTV was 51.0% and the proportion of loans in default was 1.4%. Customers' internal ratings are predominantly at the high end of the scale and consequently considered good. The calculated ratings are based on customers' financial positions and payment behaviour, see *4.6 Models for determination of credit risk*.



Economic developments

The Danish economy performed strongly over the year. Growth was hampered by the lockdown in Q1, but was robust in both Q2 and Q3, suggesting that the potential challenges for Denmark as a result of factors such as the European gas crisis and rising interest rates had not quite materialised in Q3. Towards end-Q1/2023 economic growth is expected to become negative, and after that we will see a period of below-trend growth. Full-year growth is expected to be a negative 0.2% in 2023 and 1.1% in 2024.

The downturn will also impact on the labour market, which has shown no significant signs of weakness so far. Specifically, a gradual rise in unemployment is expected, from just over 77,000 to just under 100,000 towards the end of 2023, followed by stabilisation in 2024. In other words, the labour market will move from tight to more or less neutral. High inflation combined with a currently tight labour market is expected to lead to higher wages. However, pressures are expected to be moderate, meaning that inflation could drop quite sharply going forward. But in the slightly longer term, inflation will be somewhat higher than in the eurozone because of higher wage growth.

Housing market trends

Housing market activity plummeted in 2022 and is now at a level corresponding to that of the years 2012-2014. The lower activity has made the number of homes for sale rise considerably.





The main reason for the decline in activity is the soaring interest rates since the end of 2021, combined with the current energy crisis and the resulting higher energy prices. Both factors have made buying and owning a home more expensive, and many potential home-owners cannot or will not buy at the current prices. National housing prices have therefore fallen since July 2022 but are still at a level that is considerably higher than before the pandemic.

Personal loan portfolio

Nykredit's personal lending exposure accounted for 48.7% of the Group's total credit exposure at end-2022. The personal customers in Nykredit's loan portfolio are generally of high credit quality, which should be seen in the light of factors such as the record-high level of employment and a high level of savings. Personal customers are facing rising costs of heating, electricity and other consumer goods, and their incomes are not rising accordingly. Consequently, some customers are expected to get into payment difficulties. However, Nykredit's personal customers are mainly homeowners, and on average, they are financially stronger than tenants. Also, the housing price rises up to early 2022 and reduced debts outstanding on fixed-rate loans caused LTVs to decline over the past year. This helps to keep the expected risk of losses from personal exposures at a level far below the loss rates seen after the financial crisis.

Nykredit Realkredit Group Private residential lending by loan type, EAD-weighted



Note: Other ARMs includes capped floating-rate loans and adjustable-rate mortgages with interest periods longer than 5 years. The rising interest rates have increased borrowers' appetite for variable-rate loans, as their rates are generally lower than those of fixed-rate loans. About half of gross new lending in both Q2 and Q3 was variable-rate. If we look at the entire loan portfolio, the combination of a lower-value debt outstanding on fixed-rate loans as a result of interest rate increases and the higher demand for variable interest rates has increased Nykredit's exposure to variable-rate loans (excluding capped loans) to 47% of the total credit exposure from 35% at end-2021. The rising interest rates also led to high mortgage refinancing activity in 2022. Most of the refinancing in 2022 was from fixed to fixed interest rate, but about one third was from fixed to variable interest rate, and especially floating-rate loans (F-kort) with semi-annual interest rate sensitivity of personal customers, and the interest rates of 50% of variable-rate loans are likely to rise in 2023.

The proportion of gross new lending with interest-only periods declined steadily during 2022. At end-2022 it was 32%, compared with about 50% at end-2021. This is an appropriate trend given an expected housing price decline.



Business loan portfolio

So far, the business loan portfolio has proved resilient to the mounting cost pressures and the higher interest rates resulting from high energy prices, high demand and supply problems. No signs of deteriorating customer credit quality, reflected in PD (Probability of Default) or LGD (Loss Given Default), have been observed yet. Thus, the business loan portfolio remains characterised by generally high credit quality and is diversified across sectors.

Nykredit has made impairment provisions to prevent any losses resulting from, for instance, geopolitical tensions. However, write-offs are still at a very low level. The residential and commercial rental sectors represent Nykredit's highest business credit exposures, and this portfolio is sensitive to rising interest rates. About half the portfolio consists of variable-rate loans without interest rate hedging, and soaring interest rates push up return requirements and drive down property values. According to sensitivity calculations, Nykredit's customers are generally resilient, but equity and debt servicing ratios are sensitive to interest rate rises and increasing return requirements. Customers of low credit quality are less resilient. Nykredit is also exposed to property market in particular is affected by rising interest rates, and the funding structures of Swedish companies currently involve substantial refinancing risk. Also, during H2/2022 Swedish property values started to decline. It was therefore decided that all Swedish properties mortgaged will be subject to extraordinary monitoring in Q1/2023.



Also the agricultural loan portfolio is characterised by high leverage levels and considerable interest rate sensitivity. Stress test calculations show that the share of exposures with operating losses grows significantly at a 4 percentage point rise in short-term interest rates. However, the vast majority of agricultural customers, except for pork producers, benefitted from rising output prices in 2022, which had the opposite effect.

Another key theme for agriculture in 2022 was sustainability, as the agricultural sector is among the largest CO_2e emitters in Nykredit's portfolio. Agriculture is already feeling the increased focus on greenhouse gas emissions. From 2023 EU subsidies will be reduced and will become subject to more extensive green requirements. Also, Denmark has set a binding carbon emission reduction target for the sector of 55-65% by 2030 against a 1990 baseline. Nykredit has set an internal carbon emission reduction target of 45-55% by 2050 against a 2021 baseline. An expert group is expected to present a proposal for a green tax reform for the agricultural sector in

Q1/2023, and there is broad-based political support for the introduction of an agricultural CO_2e tax.

The increased cost pressures on businesses throughout 2022 also involve risks. In early 2022, cost pressures mainly stemmed from rising energy costs, but during the year they spread to other areas as well. To some extent businesses can pass on cost rises to their customers, but part of such rises will lead to lower margins. Small businesses in particular have been hit, as market competition limits their ability to raise prices. Also, liquidity in this segment may be scarce.

Economic trends are about to reverse, and we are facing a period of declining demand. A review of economic crises since the 1970s shows that historically, construction, trade and industry have been among the sectors hardest hit in times of crisis in terms of employment growth and gross value added. Nykredit's exposure to highly cyclical industries accounts for 19% of the total business credit exposure, while Nykredit's lending to less cyclical industries, such as the agricultural and private residential rental sectors, is somewhat higher, making up 45% of business credit exposures.

Transition risks related to climate change

Businesses are facing increasing climate requirements, from consumers, investors and regulators. Nykredit's customers may incur costs and losses as a result of new regulation, technological advances and changes in consumer behaviour arising in the wake of the transition to a more sustainable economy.

A political agreement has been reached on a Danish Climate Act to reduce Denmark's greenhouse gas emissions by 70% by 2030 against a 1990 baseline. Based on this target, an agreement to reduce agricultural carbon emissions was completed in 2021. It is an ambitious target that will require extensive transition in the agricultural sector. In addition, from 2023, EU agricultural subsidies will be restructured towards lower direct payments, and a larger proportion will be earmarked for green purposes. Nykredit has trained its agricultural advisers to support customers in their green transition, and a training programme has been launched for farmers, providing them with more knowledge about climate targets and measures.

The Danish government has also reached an agreement on the first phase of a green tax reform including a broader-based and more uniform carbon tax for industry sectors. The tax model implies an almost uniform tax, with a few special terms for particularly exposed sectors. Today, industry emissions are widely concentrated on a few, very large emitters.

Most of Nykredit's lending is to segments with relatively low average $\mbox{CO}_2\mbox{e}$ emissions.



To consolidate its strong sustainability profile and reduce future sustainability risks, Nykredit joined the Net Zero Banking Alliance (NZBA) in 2022 with an ambition of reaching net zero carbon emissions by 2050. Similarly, Nykredit joined the Science Based Target initiative (SBTi) for the purpose of setting relevant, ambitious and validated loan portfolio targets. Nykredit's new loan portfolio targets include a 75% reduction of carbon emissions from private residential and private rental residential properties by 2030. This reduction in carbon emissions from the building stock will to a high degree be driven by a shift in energy sources towards greener electricity and heat production, which aligns with current trends as well as political ambitions in Denmark.

4.4.2 Concentration risk

Concentration risk is the risk of being particularly exposed to credit events in groups of customers with identical or similar credit risks.

Nykredit's largest credit exposure consists of mortgage lending in Denmark. At end-2022 94.6% of Nykredit's total credit exposure was in Denmark, consisting mostly of mortgage loans. Historically, the Danish mortgage market has proved robust and stable, involving limited risk. This was evident during the years of the financial crisis when Nykredit's mortgage lending grew by 5-9% a year, and loss ratios were consistently low at levels not exceeding 1.9%.

48.7% of the total credit exposure is loans granted to personal customers in Denmark, the vast majority of them homeowners, and 31.2% is to business customers. 5.4% of the total credit exposure is mortgage loans financing properties abroad, most of them granted to customers with ties to Denmark. The remaining risk exposures are exposures to, for example, sovereigns and financial institutions.

Private residential lending is broadly diversified across loan type, age, region, maturity and size of debt outstanding. Most foreign exposures are mortgage loans to property companies in Sweden and Germany, and mortgage loans have also been granted to personal customers in Scandinavia with homes in Spain and France.

The commercial and residential rental segment represents by far the largest part of Nykredit's business mortgage lending, accounting for 38.6% of total business mortgage lending at end-2022. The loan portfolio is diversified across different property types, and property uses are diversified across industries. Agriculture represents the second-largest segment, at 13.7% of total business mortgage lending, while industrial lending account for 10.6%. Other segments all represented less than 10% of total mortgage lending.

Nykredit Realkredit Group Breakdown of business lending



Pursuant to the Capital Requirements Regulation (CRR), credit exposures to a single customer must not exceed 25% of Tier 1 capital in the three Nykredit Group companies Nykredit Bank A/S, Nykredit Realkredit A/S and Totalkredit A/S, see the rules on large exposures. Nykredit had no exposures exceeding this limit in 2022.

Nykredit Bank's largest single exposure to a non-financial counterparty amounted to 12.4% of the Bank's Tier 1 capital at end-2022. Nykredit Realkredit's largest exposure amounted to 10.8% of Tier 1 capital, and Totalkredit's largest exposure amounted to 1.4% of Tier 1 capital at end-2022.

DKK 1.3 billion of risk exposures have been allocated under Pillar II to cover concentration risk in accordance with the Danish FSA's guidelines.

4.4.3 Exposures in default

Nykredit's impairment provisions for potential future losses on mortgage and bank lending totalled DKK 9.4 billion at end-2022, equivalent to 0.4% of total lending. Provisions for mortgage loan impairment totalled DKK 5.9 billion of total impairment provisions (0.4% of mortgage lending). Provisions for bank loan impairment totalled DKK 3.1 billion (3.6% of bank lending).

Nykredit Realkredit Group Impairment provisions and write-offs, mortgage lending



About 20% of exposures in default have been provided for, equivalent to DKK 4.1 billion. The proportion of exposures provided for relative to exposures in default was lower for Nykredit Realkredit and Totalkredit than for Nykredit Bank, as mortgage exposures are secured by mortgages on real estate, which may be enforced in the event of default.

Total write-offs on the Group's exposures in 2022 were DKK 0.3 billion. Of this amount mortgage activities represented approximately DKK 0.2 billion and banking activities DKK 0.1 billion. About 92% of write-offs on mortgage loans concerned private residential lending, while 8% concerned business lending.

The average 75-day arrears ratio is still low, at 0.2%. The portfolio of properties acquired by foreclosure counted four properties at end-2022 and is consequently still at a very low level. The portfolio has reduced significantly since 2012 when it counted 246 properties.

The share of non-performing loans is subject to ongoing monitoring. For this purpose, the determination of non-performing loans is based on financial statement data, as provided by legislation.

The share of non-performing loans in the portfolio is relatively low, amounting to 1.4% of total lending at the end of the year.

> Nykredit Realkredit Group Arrears ratio, 75 days past due









4.4.4 Customer ratings

In 2022 Nykredit's customers were still characterised by strong key figures and good ratings. The credit quality of 89.2% of Nykredit's exposures was in the range of ordinary to high (ratings 6-10) at end-2022. These customers typically have robust finances and savings, and meet their payment obligations.

This type of customer made up 90.7% of Nykredit's personal customers, and for business customers, excluding Corporates & Institutions (C&I), the percentage was 77.5%. In the C&I segment, comprising the largest customers with which Nykredit maintains particularly close contact, the credit quality of 95.9% of the customers was in the range of ordinary to high.

At end-2022 8.1% of Nykredit's customers were considered "ordinary exposures with minor signs of weakness" (ratings 3-5). These customers typically have less robust finances, but make timely payments. They made up 6.9% of personal customers, and for business customers, excluding C&I, the percentage was 16.7%. The percentage for C&I was 3.3%.

The remaining customers were weak exposures (ratings 0-2), accounting for 1.3%, and exposures in default, accounting for 1.4%. This category primarily consists of customers that have defaulted on their payments, customers with a negative net worth or negative equity, and customers with low or negative earnings. Customers with objective evidence of credit impairment are in this group.

Share of high credit quality exposures

89.2% (2021: 89.5%)



4.5 Security

The approval of loan applications is based on the customer's creditworthiness but supported by the security provided. The greater part of Nykredit and Totalkredit's lending is secured by mortgages on real estate. Other types of security are guarantees and financial collateral.

4.5.1 Real estate

Mortgages on real estate reduce credit risk substantially. The mortgageable value of a property is determined initially at the time of loan granting. Valuations are based on the marketability, price volatility, alternative use, letting potential etc of the property. As a general rule, properties are valued by a valuer based on a physical inspection. In addition, a statistical model is used for the valuation of detached and terraced houses and owner-occupied flats where statistical valuation is particularly reliable and where the Danish FSA has approved the use of a property value model for the purpose of determining loan amounts. Such valuations are subject to approval by the valuer in the relevant geographical area and are monitored centrally.

ESG factors have been integrated into Nykredit's valuation policy with a special focus on the impact of climate change on the valuation of a property. Consequently, ESG factors are part of property valuations, as they allow for climate-related risks. In some geographical areas, the Danish climate involves risks of storm surges, flooding and erosion. Valuations of properties in exposed geographical areas therefore focus on whether the property has been protected from future climate change impacts and on the property's marketability in view of its exposed location. Energy improvements and green transition will be taken into consideration, provided that the added property value can be documented.

In coming years Nykredit will be improving property valuations and training the Group's valuers in including any physical risks relating to individual properties.

Following the initial valuation, the market value of a property is monitored regularly. Nykredit's Group Risk Committee has set up a committee to monitor market trends and the quality of valuations, including valuations based on the Group's property value model. The committee is also responsible for identifying segments requiring special supervision. The LTV ratio denotes the debt outstanding relative to the property value. LTV ratios play a significant role in several contexts and are used for:

Nykredit Realkredit Group LTVs – property segments



- Determining maximum loan amounts for the purpose of loan approvals
- Monitoring Nykredit's mortgage lending
- Calculating customers' credit risk for the purpose of, for instance, credit assessment and capital calculations
- Calculating supplementary collateral for properties with SDO-funded loans
- Calculating IFRS impairments, stages 1 and 2
- Calculating returns on individual customer exposures.

At end-2022 the average LTV level of the Group's total loan portfolio was 51%, compared with 56% at end-2021. The average LTV level of the Group's private residential lending was 54% at end-2022, against 60% at end-2021. The LTV levels of sectors comprised in total business lending were in the range between 45% and 56% at end-2022, compared with a range between 44% and 60% in 2021.

LTVs have trended down over the past years as a result of rising property prices and favourable economic trends.

Physical risks related to climate change

Almost 94.6% of Nykredit's mortgage lending is secured by properties located in Denmark where the main physical climate-related risk is the risk of flooding. Climate change is impacting society already now, and the consequences will grow going forward. One of the consequences of climate change is more frequent, more intense storm surges, which will be aggravated by generally rising sea levels.

The IPCC (Intergovernmental Panel on Climate Change), a UN body for assessing the science related to climate change, projects a general sea level rise of up to 1 metre by 2100 in an extreme stress scenario. According to analyses, sea level rises of up to 1 metre will cause relatively modest flooding of properties mortgaged to Nykredit, as only just under 0.8% of Nykredit's mortgage security is below 1 metre above sea level. Also, in most exposed sectors coast protection, dikes etc are being built for the purpose of hydrological adaptation.

In case of acute flooding such as in connection with the storm Bodil in 2013 when we observed sea level rises of up to 2 metres above normal, up to 7% of properties mortgaged to Nykredit may be sensitive to flooding due to their low-lying position. Again, hydrological adaptation and waterproofing of buildings using, for instance, membranes or pumps will reduce this risk considerably. Finally, a large part of any damage will be covered by insurance.

4.5.2 Guarantees and financial collateral

Nykredit mainly receives guarantees from public authorities and other banks. Guarantees issued by public authorities mitigate credit risk; for instance the Danish government guarantees mortgage lending for public housing, against payment of commission.

The bank guarantees include land registration guarantees, guarantees for interim loans and loss guarantees.

Guarantees are widely applied in the day-to-day management of Nykredit's credit risk, particularly in customer relationships where a parent company supports the capitalisation of group companies.

The Totalkredit partner banks provide security by way of a right of set-off and guarantees to Totalkredit for the loans distributed by them, see *4.2.2 Totalkredit's credit approval process*.

Financial collateral includes deposits in DKK or other currencies, positions in listed Danish government and covered bonds, other highrated liquid Danish and foreign bonds, and listed equities.

Nykredit assigns an internal value to the different types of financial collateral depending on the risk involved. For the purpose of calculating the risk exposure amount (REA), Nykredit assigns internal collateral values based on internal estimates of the reduction in the value of the collateral in case of enforcement.

4.6 Models for determination of credit risk

The determination of credit risk using the advanced IRB approach is based on three key parameters: Probability of Default (PD), expected Loss Given Default (LGD) and expected Exposure at Default (EAD). These three key parameters are referred to as risk parameters. Nykredit estimates risk parameters on the basis of Nykredit's default and loss history.

4.6.1 Modelling principles

According to the CRR, PDs must be estimated on the basis of historical 1-year default rates while at the same time reflecting a suitable weighting between the long-term average and the current level. For the purpose of determining capital requirements, LGD estimates must always reflect an economic downturn.

The above principles applied to estimate the risk parameters ensure that the Group's REA remains more stable throughout an economic cycle than if the calculations had exclusively reflected the current economic climate.

4.6.2 Probability of Default (PD)

PD expresses the probability of a customer defaulting on an obligation to Nykredit within a period of one year. Nykredit calculates a PD for each individual customer.

PDs are calculated using statistical models. These models are based on, for instance, data on the customer's financial position and payment behaviour as well as any impairment. Corporate and institutional clients and farming businesses are also required to submit financial statements regularly, which will be applied in the determination of their PDs.

4.6.3 Ratings

The PDs of individual customers are translated into ratings from 0 to 10, 10 being the highest rating. Exposures in default are placed in a category of their own, outside the rating scale, while exposures with objective evidence of credit impairment are assigned a rating of 0. The individual rating categories have been defined based on fixed PD ranges, which means that, during an economic upswing, a high rating will be assigned to relatively more customers, while the opposite will apply during an economic downturn.

A rating reflects the customer's financial position and creditworthiness, and besides being included in the determination of capital requirements, the customer rating is also a key element of any customer assessment.

4.6.4 Loss Given Default (LGD)

For each customer exposure, Nykredit calculates an LGD, reflecting the percentage share of the exposure which is expected to be lost in case of customer default.

The LGD calculations factor in any security provided, including the type of security (typically mortgages on real estate), geography, the quality of the security etc.

Expected LGDs vary with economic trends. In periods of high business activity, default will often not lead to any loss, as the value of the security will typically exceed the value of the loan. This applies in particular to loans secured by mortgages on real estate. Conversely, more and greater losses would be expected during an economic downturn.

For the determination of capital requirements, LGDs are calibrated to reflect losses during a severe economic downturn.

4.6.5 Exposure at Default (EAD)

Nykredit estimates an EAD for all exposures relating to a customer, reflecting the total expected exposure to the customer at the time of default, including any additional drawn parts of approved credit commitments. The latter is factored in using conversion factors (CF).

4.6.6 Other models

Besides rating, loss and credit exposure models, Nykredit has a variety of other credit-related models.

The property value model calculates the value of properties serving as security for the Group's lending. The results are used to determine the need for supplementary security, as inputs in rating and loss models and as a substitute for physical inspections of detached and terraced houses and owner-occupied flats that are subject to an exemption granted by the Danish FSA.

For the purpose of calculating impairments under the accounting standard IFRS 9, the Group uses internal models for determination of credit risk and methods developed particularly for impairment calculations.

Elements of cred	lit risk determination
PD	Probability of Default (PD) is the probability of a customer defaulting on an obligation to Nykredit within a year.
LGD	Loss Given Default (LGD) is the expected loss rate of an exposure in case of the customer's de fault.
EAD	Exposure at Default (EAD) is the total estimated exposure to a customer in DKK at the time of de fault, including any drawn part of a credit com- mitment.
REA	Risk Exposure Amount (REA) is credit risk expo- sures factoring in the risk relating to the individ- ual customer. REA is calculated by risk- weighting credit exposures. The risk weighting is calculated on the basis of, for instance, PD and LGD levels.
Default	For both mortgage and bank customers, a num- ber of events have been defined that make it un- likely that a customer will be able to pay its credi obligations without realisation of collateral. The main ones are: events leading to IFRS 9 stage 3, bankruptcy, distressed restructuring and sig- nificant arrears/overdrafts (90 days past due).

4.6.7 Approval, validation and testing of credit risk models

Nykredit develops and improves its credit risk models on an ongoing basis. Focus is on achieving models that are accurate and yield consistent and stable parameters.

Nykredit's credit risk models are subject to Nykredit's general model risk management, implying limits and a division of responsibilities as well as a structure of governance with respect to models and model changes.

Nykredit's Group Risk Committee, set up by the Group Executive Board, monitors and manages Nykredit's model risks. The Group Risk Committee has established domain-specific model committees, which are in charge of the current monitoring and management of model risks and also responsible for governance in respect of model approval and model changes. The overall conclusions on model risks and validation are also reported to the Board of Directors and the Executive Board.

To ensure a good forecasting ability and consistent estimates, all credit risk models are validated annually. The credit risk models are validated independently of Nykredit's risk modelling and credit approval units. The validation results are used in the ongoing internal capital adequacy assessment process (ICAAP). If validation shows that a model contains significant inaccuracies, mitigating actions will be taken by way of a capital charge under Pillar II or by setting aside capital under Pillar I until the model has been adjusted to reflect the actual risk.

In addition to the annual validation, the models are monitored quarterly. Quarterly monitoring includes the models' customer ranking, the accuracy of model estimates compared with actual observations, rating distributions, migration, segmentation etc.

Annual validation includes more in-depth analysis of the functioning of a model, including its accuracy, the data applied, follow-up on observations from the quarterly monitoring and a qualitative review of the model and its elements, documentation, implementation, use etc.

Monitoring and validation of rating models include model-based PDs as well as PDs adjusted by overrides. In addition, the use of overrides for manual ratings adjustment is subject to an annual general validation.

4.6.8 Implementation of upcoming regulation

Nykredit remains focused on adjusting and developing new models, ensuring that Nykredit's credit models are always in compliance with relevant regulatory requirements and performing as intended. By way of example, Nykredit's updated default definition was implemented in 2021. Also, new models are under development to ensure that, in the long term, all models comply with the European guidelines on PD and LGD estimation.

Nykredit operates under a precautionary principle and holds capital under Pillar I to cover the impact of new models that have not yet been finally implemented. Therefore, the final implementation of new models and adjustments to existing models are not expected to have a notable impact on risk exposures, as such Pillar I capital and other capital charges may be released.

2022 IN BRIEF GOVERNANCE AND MANAGEMENT CAPITAL CREDIT RISK NON-FINANCIAL MARKET RISK

4.7 Counterparty risk

Nykredit applies financial instruments, such as interest rate derivatives and repurchase agreements (repo transactions), for serving customers. Liquidity and market risks are also managed internally by Nykredit using financial instruments.

The market value of a derivative changes with the underlying market parameters, eg interest rates and exchange rates. This may lead to market values in favour of both Nykredit and its counterparties.

In some cases, a counterparty is unable or unwilling to meet its payment obligations (default). This gives rise to counterparty risk. The counterparty risk exposure is affected by the market value of the financial instruments and the probability of customer default. Thus, counterparty risk involves both market and credit risk. Nykredit mitigates its counterparty risk through financial netting agreements as well as agreements on financial collateral. The contractual framework is based on market standards, such as ISDA or GMRA agreements. Nykredit uses central counterparties (CCPs) for professional derivatives clearing. Swaps and repo transactions are cleared.

Derivatives are subject to value adjustment (xVA) in financial statements. Value adjustments are affected by several factors, including the level of long-term interest rates, credit spreads, funding spreads, the maturities of contracts as well as customers' creditworthiness.

Nykredit Realkredit Group

Number of contracts



At end-2022 the Nykredit Realkredit Group had 9,847 derivatives contracts with counterparty risk. Customer derivatives traded by Nykredit Bank account for 9,230 of this amount (94%), thus representing the vast majority of the contracts. The aggregate principal of the customer derivatives is DKK 1,473 billion.

Interest rate swaps and interest rate futures together account for just over 70% of the business volume in terms of principal amount. This group also includes the pool of legacy derivatives.

Nykredit Realkredit Group

Principal by product type



4.7.1 Risk management Monitoring and reporting

Nykredit monitors counterparty risk on a daily basis by means of capital market systems (market data, calculation of market values etc). This task is performed by Nykredit's risk control function together with the credit control function and the individual risk-taking unit. More specifically, it is checked whether counterparty risk relating to the individual counterparties is within the approved limits. Any breach of limits must be reported to the unit that granted the authority to approve limits. Breaches exceeding the approval level of the Executive Board will consequently be reported directly to the Board of Directors.

Nykredit monitors xVA on a daily basis and reports on xVA sensitivity to interest rate movements, ie market risk. Furthermore, credit spreads and credit spread sensitivity are reported on in order to reflect market-implied credit risk, and funding spreads and funding spread sensitivity are reported on as well. Weekly reports are submitted to the Executive Board of Nykredit Bank, and monthly reports are submitted to the Board of Directors of Nykredit Bank. In addition, the Nykredit Realkredit Group, including the Board Risk Committee, receives quarterly counterparty risk reports.

LIQUIDITY

Approval of credit lines

The use of derivatives is governed by the general credit approval rules and credit policies, supplemented with a number of restrictions and guidelines. For instance, counterparties must be specifically approved to trade derivatives. Which level of the credit approval hierarchy determines an application depends on the amount of the credit line. In addition to limits to amounts and maturities, the approval of lines is subject to requirements relating to the type, exposure and creditworthiness of the customer.

Collateral management

Nykredit is subject to the requirements relating to risk-mitigation techniques, see the Regulation on OTC Derivatives, Central Counterparties and Trade Repositories (EMIR). Nykredit prevents any inconsistencies with non-cleared OTC derivatives transactions by daily monitoring and the implemented controls.

Nykredit's derivatives contracts do not include rating triggers, and therefore a credit rating downgrade would not trigger a requirement for additional collateral.

Nykredit Realkredit Group

Long-term credit ratings

Risk weight			
Credit quality step – rating	Institutions	Corpo- rates	Sovereigns
1 - AAA to AA-	20%	20%	0%
2 - A+ to A-	50%	50%	20%
3 - BBB+ to BBB-	50%	100%	50%
4 - BB+ to BB-	100%	100%	100%
5 - B+ to B-	100%	150%	100%
6 - CCC+ and below	150%	150%	150%

Nykredit Realkredit Group

Short-term credit ratings

Risk weight Credit quality step – rating	Institutions	Corporates
1 - A-1+	20%	20%
2 - A-1	50%	50%
3 - A-2 to A-3	100%	100%
4 - Below A-3	150%	150%

4.7.2 Methods

Determination of capital requirements

Nykredit Realkredit Group

For the purpose of determining capital requirements for financial instruments, counterparty risk exposures are calculated according to the standardised approach (SA-CCR), and risk-weighted assets are determined using both the IRB approach and the standardised approach. The IRB approach is used for business counterparties, while the standardised approach is used for institutions and sovereigns.

According to Articles 111 to 134 of the CRR, counterparties whose capital requirements for default risk are determined using the standardised approach must be risk-weighted based on their credit quality step. For this purpose, S&P Global Ratings and Moody's provide information to Nykredit about the credit ratings of sovereigns, counterparties and issues. These ratings are used as an integrated part of Nykredit's capital requirement calculations and are updated daily. If the external providers assign different ratings to a counterparty, Nykredit will use the lower rating. Mapping of credit ratings to credit quality steps is based on the EBA's mapping table, see below.

Besides determining the capital requirement for counterparty risk using the standardised approach (SA-CCR), Nykredit also determines the capital requirement for credit valuation adjustment (CVA) risk using the standardised approach according to the CRR.

Value adjustment of portfolio of customer derivatives (swaps)

Approved credit lines

For the purpose of monitoring approved credit lines, Nykredit determines exposures using other internal methods. These methods basically use the same components as the determination of capital requirements, estimating exposures on the basis of their current market values plus a charge for potential future exposure.

Value adjustment of derivatives in financial statements

Nykredit makes fair value adjustment of derivatives in accordance with the International Financial Reporting Standards (IFRS), which provide for CVA and FVA for accounting purposes. This includes individual value adjustments of customers showing objective evidence of credit impairment, CVA based on customers' current credit quality as well as management judgement.

The Danish FSA has encouraged the adoption of a prudent approach to the assessment of customers with swap contracts. This means that swap contracts with customers showing objective evidence of credit impairment (rating 0 and exposures in default) are value adjusted in full, whether or not these customers still make timely payments to Nykredit.

4.7.3 Current risk profile and development *Market value*

A large part of Nykredit's swap portfolio was established in the period 2005-2008 when business customers hedged the risk of rising interest rates on their variable-rate mortgage loans using swap contracts. From the perspective of the customers, the interest rate declines in the ensuing years caused the market values of the individual swap contracts to become negative.

In March 2015 the negative market value was DKK 23.3 billion, but since then the development in market values has generally been positive.

Nykredit Realkredit Group Net market value of derivatives contracts with business customers



At end-2022 the market value of derivatives relating to customer exposures was negative at about DKK 2.3 billion. During the year, credit value adjustments were affected by interest rate changes and widening credit spreads. Portfolio run-offs had an adverse impact. At end-2022 Nykredit's total provisions amounted to DKK 0.5 billion, of which credit value adjustments represented DKK 0.4 billion.

Part of Nykredit's swap portfolio is designated as legacy swaps. An example of legacy swaps is long-term interest rate swaps. The portfolio of legacy swaps is in run-off, and its market value will therefore approach zero over time.

At end-2022 legacy swaps represented 48% of the total market value of derivatives relating to customer exposures. The market value of legacy swaps has been value adjusted by 48%.

DKK million		CVA							
31.12.2022	Customers without objective evidence of credit impairment	Customers with objective evi- dence of credit impairment	Management judgement	Total CVA	FVA	Other	Total value adjustment	Market value	Value adjustment as % of market value
Derivatives offered	11	15	7	34	-100	68	2	-3,368	0%
Legacy derivatives	71	221	114	406	63	58	527	1,096	48%
Total	83	236	121	440	-37	127	529	-2,272	

5 Non-financial risks

5.1 Operational risk

5.2 Conduct risk

5.3 Compliance risk

5.4 IT risk and IT security

5.5 Model risk

Nykredit is exposed to a number of risks arising from internal or external factors that affect the core tasks, processes and regulatory obligations of the business. These risks are referred to as non-financial risks and can be divided into operational risk, conduct risk, compliance risk, IT risk and IT security, and model risk.

Nykredit monitors and manages non-financial risks as part of its day-to-day operations, keeping non-financial risks low relative to the Group's financial risks. Specific policies have been prepared for the individual types of risk, setting the framework for the underlying risk appetite. The relevant areas are described on the following pages. The Boards of Directors of Nykredit receive quarterly reports on the non-financial risk outlook.

In 2022, the non-financial risk outlook was marked by the geopolitical tensions that characterised the year. Accordingly, cybersecurity and the risk of breakdowns or power failures demanded particular focus, for instance in the form of additional contingency plan reviews and awareness training related to IT security. With respect to antimoney laundering procedures, frequent changes to sanctions lists required extra attention in day-to-day operations.

Also in 2022, measures were taken to render the Group's non-financial risk management more robust, focusing on three main areas:

- Processes. Mapping of the Group's core processes, including linkage to risks and assignment of controls to mitigate them
- System support. Continued system support of risk management. The Group's operational risk management in both the first and second lines of defence has been switched to a GRC system (Governance, Risk & Compliance)
- Controls. Stepwise implementation of common control standards for a continuously increasing focus on control efficiency.

These three focus areas will remain on the agenda throughout 2023 as well.

5.1 Operational risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people or systems or from external events, including legal risks.

5.1.1 Policy and guidelines

The operational risk policy stipulates that operational risks should be low relative to other types of risk to which Nykredit is exposed. The nature of operational risks must not be such as to potentially jeopardise the financial stability of Nykredit and/or the individual subsidiaries. Operational risks are mitigated through ongoing improvement of processes and business procedures as well as other mitigating actions. Operational risks are covered by holding the requisite capital.

Nykredit's objective is to support and develop an organisation where operational risk management is an integral part of both day-to-day operations and long-term planning, including to promote a culture where openness and awareness of operational risks are natural elements of the everyday work of all colleagues.

The Executive Board has delegated responsibility for the ongoing monitoring of operational risk to the Group Risk Committee. The Committee regularly reviews material risks, considers specific action plans and determines whether specific risks should be presented to the Board of Directors. Risks that fall outside Nykredit's risk appetite are always presented to the Board of Directors for consideration.

To strengthen the efforts to address and mitigate operational and compliance risks, one or more Assistant Risk and Compliance Officers (ARCOs) have been appointed in the individual business divisions. Their primary duty is to assist the managements of the individual business divisions in executing compliance- and risk-related tasks and to strengthen awareness of Nykredit's risk culture. ARCOs serve as links between the first line of defence and the compliance and risk control functions (second line of defence). ARCOs are also found in functions in the second line of defence.

5.1.2 Identification of operational risks

The Group's ongoing risk management activities include the identification of operational risks. All Nykredit business units must regularly, and at least quarterly, identify, assess and report on their operational risk outlook. Reports must describe the risk-mitigating activities and controls implemented, or expected to be implemented, to mitigate any identified risks. Operational risks are also identified in connection with approval of new products and major strategic and business decisions.

Operational risks are assessed in a heat map based on the probability of an operational risk event occurring and the consequences of such event. Identified risks are scored on a four-point scale from low to critical.

5.1.3 Managing operational risks

The responsibility for the day-to-day management of operational risks is decentralised and lies with the individual business divisions, which must, as part of their day-to-day work, manage operational risks, reducing the inherent risk to an acceptable level by means of controls and other measures. The risk function sets the framework for these activities to ensure coherence and consistency across the Group, for example through common systems and standards.

Operational risks are mapped by each business division identifying and assessing, and considering the response to, its own significant risks on an ongoing basis (at least quarterly). Nykredit's risk control function holds regular risk meetings with selected business divisions for the purpose of reviewing the divisions' operational risks. The business divisions are selected according to a risk-based approach so that divisions with the largest risks are reviewed more often. Risk meetings are held with each business division at least annually. At the risk meetings, the operational risks of the division are reviewed, and it is assessed whether the risks are adequately managed through controls and other risk-mitigating actions, or whether additional measures are required to reduce risk.

Non-financial risk governance

Board of Directors and Board Risk Committee: Lay down policies and guidelines for operational risk, IT risk, model risk and data governance. In its guidelines to the Executive Board, the Board of Directors sets out tasks and responsibilities for ensuring that non-financial risks are mitigated and managed in accordance with the principles and limits of the policies.

Receive quarterly reports on compliance with the respective policies, as well as separate information about risks with critical risk scores and events with critical impacts and a description of the response to such risks or events.

Executive Board and Group Risk Committee: Approve and implement non-financial risk policies and reg-

ularly review compliance based on quarterly risk outlook reports.

Receive quarterly reports, in selected areas, on compliance with non-financial risk policies.

Receive separate information about risks with high risk scores and events with high impacts and a description of response and risk mitigation.

Control functions (second line of defence): Perform continuous control and monitoring independently of the risk-taking units and prepare independent reports for the Board of Directors and the Executive Board. Operational risk mapping enables identification of particularly risky processes, systems, products or conduct and therefore constitutes a general management tool.

5.1.4 Managing operational risk events

In addition to the identification of operational risks, all operational loss events of DKK 10,000 or more are systematically recorded, categorised and reported. Moreover, operational risk gain events, potential operational loss/gain events and events that did not lead to a loss/gain (near-miss events) are recorded.

The recording of operational risk events must include information about the type of product, process and risk concerned as well as about any insurance cover and the time spent dealing with the event. In relation to events that are significant in terms of size or number, an assessment will be made of the need to implement new risk-mitigating measures. Significant events are reported quarterly to the Board of Directors and the Executive Board as part of Nykredit's overall risk outlook. The reports also cover any measures taken to reduce the risk of recurrence of a given risk event.

5.1.5 Capital requirement for operational risk

Nykredit determines the capital requirement for operational risk using the basic indicator approach. This means that the capital requirement is calculated as 15% of average gross earnings of the past three years. REA for operational risk was DKK 29.7 billion in 2022.



Based on the reported operational risks and risk events, it is assessed whether the total internal capital adequacy requirement for operational risk is appropriate. This assessment is conducted quarterly in connection with the determination of the internal capital adequacy requirement and is documented annually in the ICAAP.

5.1.6 Nykredit's data governance

As a financial institution, the Nykredit Group is dependent on the quality of the data it uses, as they form the basis for business decisions made by Nykredit. A strong data governance set-up is therefore crucial to minimise the risk that data quality across the Group does not satisfy Nykredit's business needs and regulatory requirements in this area. Nykredit has stepped up its data governance efforts considerably in recent years.

Nykredit's data governance policy lays down the overall principles and standards for data governance at Nykredit. The purpose of the policy is to ensure that Nykredit complies with current legislation in this area and to support existing and future business processes as well as professional and effective data governance development.

Data have been divided into ten data domains, together comprising all data used by Nykredit. Ownership lies with data domain owners in the business, each holding overall responsibility for data governance and for defining and maintaining data standards in their respective areas.

Nykredit has made substantial investments in recent years to strengthen data governance of critical data across the Group.

5.1.7 Prevention of money laundering, terrorist financing and breach of financial sanctions

Nykredit works consistently to strengthen monitoring and control mechanisms, and processes in general, throughout the Group so as to have an effective safeguard at all times against misuse of the Group's products and services for purposes of money laundering, terrorist financing or breach of financial sanctions.

Activities are based on Nykredit's policy for the area, and responsibility for them has been broadly delegated across the Group. A member of the Group Executive Board has been charged with delegating and ensuring managerial responsibility and focus on the prevention of money laundering, terrorist financing and breach of financial sanctions throughout the Group. The Executive Boards of the Group companies have each appointed a Chief AML Officer at the executive level. The Nykredit Group also has a Chief Compliance Officer and an AML Responsible Officer covering all relevant Group companies. Prompted by the war in Ukraine, Nykredit intensified its focus on activities related to financial sanctions in 2022. The complexity and scope of the sanctions packages have multiplied. As a natural part of complying with the sanctions, Nykredit therefore decided in H1 to suspend the facilitation of transactions to and from Russia and Belarus.

In 2022 Nykredit further ramped up its efforts to reduce the risk of money laundering, terrorist financing and breach of financial sanctions. This included introducing a more extensive risk assessment method and implementing additional system support as well as new and improved processes and business procedures in the area.

Colleagues' awareness and vigilance are important elements of the defence against money laundering, terrorist financing and breach of financial sanctions. To ensure that all colleagues possess the requisite knowledge, a mandatory e-learning programme on preventing money laundering, terrorist financing and breach of financial sanctions has been introduced. All colleagues must complete the programme every year, and the programme ends with a test that must be passed.

5.1.9 Personal data protection

Nykredit focuses strongly on ensuring that personal data are treated as confidential and processed in compliance with the General Data Protection Regulation (GDPR) and the data protection legislation. Relevant policies and business procedures have been laid down, and processes have been established to ensure that personal data are processed in compliance with applicable law.

Responsibility for personal data processing is decentralised and supported by privacy leads in all units of the organisation. The local privacy leads are responsible for ensuring that data protection rules are complied with locally and for identifying possible challenges and solutions. Privacy leads also extend knowledge of Nykredit's policies and guidelines in this field locally in the organisation.

Data breaches must be reported and treated in compliance with the guidelines of the Danish Data Protection Agency. Nykredit continuously monitors for personal data breaches in the Group. Most data breaches in Nykredit have been related to procedural errors involving a few customers, for instance e-mails sent to the wrong recipient or with the wrong document attached.

Nykredit's compliance function includes a Data Protection Officer (DPO) tasked with assessing, monitoring and reporting on the effectiveness of Nykredit's methods and procedures relating to personal data processing.

All colleagues must complete an e-learning programme on personal data processing once a year. The programme ends with a test that must be passed.

5.2 Conduct risk

Nykredit's advice, products and services must be responsible relative to the individual customer, but also in a societal context. This requires an organisation that is well prepared in all areas to act responsibly and correctly, complying with not only the letter, but also the spirit of the law. It also requires a corporate culture where we can openly discuss and act on the business dilemmas that may arise even when operating within existing rules and regulations to ensure that we can explain and justify Nykredit's practices and conduct as a financial undertaking in all areas.

Conduct risk is the risk of reputational damage or financial losses as a result customers or the general public perceiving Nykredit's business practices as inappropriate or, at worst, irresponsible. Conduct risk management is particularly focused on risks related to products, conduct and third parties. Conduct risk is governed by the Group's operational risk policy and is mitigated through, for instance, initiatives to promote a safe and open culture.

Conduct risk is a fixed part of the Group's established risk management practices and is identified, assessed and dealt with on a par with other non-financial risks, for instance by adjusting practices or behaviours. Conduct risk is also reviewed at the meetings held at least annually by the Group's risk control function with all business units and the relevant managers. Nykredit's product development and evaluation procedures also include the assessment of new products in terms of conduct risk. Likewise, conduct risk assessment forms part of the credit approval process.

In addition to the ongoing risk management activities, all colleagues are responsible for contributing to and ensuring responsible business practices. Nykredit managers have a special responsibility for promoting a safe and open atmosphere and supporting a corporate culture where it is natural and safe for people to speak up if they experience something that does not live up to Nykredit's objective of being a responsible business.

As a new initiative in 2022, responsibility was included as one of the four behavioural skills that are the main focus of the Group's continuous people development. Also, Nykredit's corporate culture policy and Code of Conduct were updated in 2022 to ensure that all colleagues have an up-to-date and clear framework within which to act responsibly in their day-to-day work. Nykredit also adopted a data ethics policy in 2022.

5.3 Compliance risk

Compliance risk is the risk that legal or regulatory sanctions are imposed on Nykredit or that Nykredit suffers financial losses or reputational damage caused by non-compliance with legislation, market standards or internal rules.

5.3.1 Policy and Chief Compliance Officer

Nykredit's Board of Directors has adopted a compliance policy that defines the risk appetite in the compliance area.

The policy sets out a number of objectives and compliance principles, which management and all colleagues must observe at all times in relation to Nykredit's activities, including in particular the objective that Nykredit must comply with current legislation, market standards and internal rules applying to Nykredit's activities. Therefore, like other non-financial risks, compliance risks should be low relative to other types of risk of the Group. The policy is to support the aim of promoting honest and ethical conduct in Nykredit and a culture among its people where openness and awareness of compliance risks and their management is a matter of course.

Further, the compliance policy contains a description of the responsibilities, authority and organisation of the compliance function. Based on the policy, the Board of Directors has issued a role description for the Chief Compliance Officer, providing a detailed description and delimitation of the Chief Compliance Officer's tasks, authority, duties and responsibilities. The role description also specifies the compliance function's duties and organisation, including skills and resources, and the division of responsibilities relative to other relevant units of Nykredit.

The compliance function reports to Boards of Directors and Executive Boards on a quarterly basis. Management reporting covers:

- an assessment of compliance with the compliance policy
- an assessment of the Group's overall compliance risk
- a description of conclusions of completed compliance reviews in the period

5.3.2 Control and reporting

The primary purpose of the compliance function is to assist Management in ensuring that Nykredit meets the compliance rules and to assess whether Nykredit meets the compliance rules in the individual risk areas. Further, the compliance function controls, assesses and reports on the adequacy and effectiveness of Nykredit's methods and procedures for compliance with legislation. Lastly, the compliance function reports regularly to Management.

5.3.2 Compliance plan, reviews and follow-up

According to a risk-based approach, the compliance function every year selects a number of risk areas that will be included in the compliance plan for the coming year. The risk areas are selected on the basis of, for instance, input from the Executive Boards, the Chief Risk Officer and the business management as well as experience from previous reviews, etc.

The risk areas identified are reviewed during the year. Following its review of an area, the compliance function prepares a compliance report for the business management. The report provides a description of the results of the review and an assessment of whether appropriate and adequate measures have been taken to address the most significant compliance risks or whether additional measures have been agreed to reduce the risks in the area concerned. In conclusion, the report contains an assessment of the overall compliance risk in the area after the review. Compliance risk is assessed on the basis of the probability of a given event occurring and the potential

impact of such event. The compliance function thus uses the same risk classification model as for other non-financial risks.

As mentioned, the compliance reports also include any risk-mitigating measures agreed with the business and a deadline for their implementation. Agreed measures are recorded in a central system, and the compliance function regularly follows up on agreed measures not yet implemented.

5.4 IT risk and IT security

IT risks primarily include breakdowns or instability of Group systems, while IT security risks comprise eg cybercrime targeted at Nykredit or Nykredit's customers and phishing attacks or breakdowns of systems caused by external factors.

Nykredit's IT risk and IT security management activities are governed by its IT risk management policy and IT security policy. The policies lay down the Nykredit Group's general IT risk and IT security requirements on the basis of the desired risk profile and current threat levels. The purpose of the policies is to ensure that Nykredit's strategic objectives for applying electronic data processing, including legislative and regulatory compliance, are met.

The IT security policy was prepared on the basis of the ISO 27001/2 standard. The policy is to ensure that entities across the Group operate according to the same guidelines in the IT area.

Most of the operation of Nykredit's IT systems has been outsourced to external providers. Controls and close collaboration with these providers serve to ensure that they comply with service agreements and maintain a satisfactory IT security level.

To ensure more resilient IT risk management for the purpose of reducing the risk of cyberattacks and breakdown of important systems, Nykredit has decided to enhance second-line monitoring of the Group's mitigation of risk using, for instance, controls and penetration tests. We will continue building our second line of defence structure in this area stronger in 2023.

IT security activities

The war in Ukraine changed the threat landscape in 2022, and IT security activities therefore had an increasing focus on Nykredit's exposure during the year. Nykredit is still deemed to have an appropriate focus on IT security and to be resilient to the current threat level.

IT risks

Nykredit continuously develops and improves its IT risk management framework, and in 2022 efforts were made to make a more granular breakdown of IT risks to enable more targeted manage-

The following risks are deemed to be some of the most critical IT risks faced by Nykredit at end-2022:

- The risk of being unable to maintain vital services/functions due to a critical event affecting a key provider.
- The risk of cyberattacks from an organised hacker group or government, including ransomware attacks.

ment. IT risk assessments are conducted regularly to ensure that risks are identified and assessed as well as addressed according to a risk-based approach. Thanks to this approach, resources are utilised in the best possible way for Nykredit. The objective is not to eliminate all risks, but rather to identify risks and make the right decisions on how to manage them.

Self-checking and penetration testing

Regular checks are performed of whether Nykredit and relevant business partners comply with the IT security policy and guidelines. These checks are performed on the basis of selected security requirements set out in the IT security policy.

In addition, Nykredit conducts penetration testing and/or Red Team testing at least once a year, where professional hackers challenge Nykredit's cyberdefence, testing Nykredit's ability to handle security incidents in practice.

These tests are conducted by external business partners. Any potential risks identified are subsequently reduced through mitigating measures. Further, Nykredit participates in large-scale emergency preparedness exercises at sector level.

Awareness and training

To ensure that all colleagues have satisfactory knowledge of IT security, all new colleagues must complete an e-learning programme on IT security. The programme ends with a test that must be passed. Nykredit regularly provides e-learning and conducts phishing tests aimed at its people.

5.5 Model risk

Model risk is the operational risk of loss resulting from decisions based mainly on model results. Nykredit uses mathematical and statistical models for the purpose of business decisions and to determine risk limits, capital usage, capital adequacy, impairments etc.

Model risk occurs as a result of model weaknesses. Such weaknesses may result from operational errors or weak data in connection with the development or implementation of the models. They may also result from weaknesses in the data to which the models are applied or incorrect usage of model results.

Over the past few years, the focus of authorities on model risk as an independent risk area has increased significantly. In a Danish context, this is reflected, for instance, by the amendment in 2021 of the Danish Executive Order on Management and Control of Banks.

Nykredit's model risk policy, which is adopted by the Board of Directors, reflects the current Executive Order and defines Nykredit's risk appetite in this area. The policy lays down requirements for boundaries, structures and responsibilities, which ensures active management and monitoring of model risk and structured governance of models and model changes. The policy also lays down requirements for ongoing reporting and review of model risk.

Nykredit has a comprehensive model register that provides an overview and clear definitions of roles and responsibilities, and which is used as a tool for measurement and assessment of model risks.

Model risk is monitored closely by domain-specific model committees, which report to the Group Risk Committee. This includes governance in connection with the approval and change of models, ensuring that model risk is managed and assessed in a uniform way across the Group and that model risk becomes visible in Nykredit's overall risk landscape.



- 6.1 Market risk policy and guidelines
- 6.2 Control and reporting
- 6.3 Current risk profile and development
- 6.4 Trading book risk
- 6.5 Banking book risk
- 6.6 Models for determination of market risk

Market risk is the risk of loss as a result of movements in financial markets and includes interest rate, yield spread, foreign exchange, equity price and volatility risks etc.

Nykredit's aggregate market risk is divided into the trading book exposure and the banking book exposure. Assets that are frequently traded and held for trading are placed in the trading book, while assets of a long-term nature that are infrequently traded are placed in the banking book.

Nykredit has laid down guidelines defining criteria for the valuation of securities and financial instruments and their distribution between trading and banking books.

Nykredit's main market risks are yield spread risk on covered bonds in the trading book and equity price risk on equities held for business purposes in the banking book. Yield spread risk is the risk of movements in the spreads between yields of covered bonds/credit bonds and swap rates, which may lead to gains as well as losses. Equity price risk is the risk of movements in equity prices affecting the values of Nykredit's portfolios, which may lead to gains as well as losses.

The market risk relating to Nykredit's largest business area, mortgage lending, is, in practice, minimal. This is because mortgage lending is governed by a statutory balance principle and match-funded, see the description in *7. Liquidity risk and funding*.

Nykredit's investee companies are screened prior to investment to identify any breaches of international conventions etc. Such screening is based on Nykredit's Sustainable Investment Policy, which covers all Nykredit's portfolios, including alternative investments. The policy also serves to implement Nykredit's Corporate Responsibility Policy laid down by Nykredit's Board of Directors.

6.1 Market risk policy and guidelines

The Board of Directors has laid down a market risk policy setting out principles for the overall market risk in Nykredit's trading and banking books. The main principle of the policy is that the probability of losses from market risk exposures exceeding Nykredit's expected aggregate quarterly results must be low. This is monitored daily, for instance by measuring budgeted quarterly results against the estimated losses of a number of stress scenarios that may occur in the trading book or the banking book.

In addition to the market risk policy, Nykredit's Board of Directors has laid down market risk guidelines for the Executive Board, applicable to the trading book and banking book, respectively, which are used in day-to-day market risk management. In accordance with these guidelines, the Executive Board delegates specific limits for the different types of market risk to the Group companies through the Asset/Liability Committee. Read more about the Asset/Liability Committees.

The market risk guidelines lay down measurable limits on the total portfolio risk and also permit the use of financial instruments. However, it is a condition that the risk relating to the financial instruments can be measured and managed sufficiently accurately. Risk limits covering trading book as well as banking book portfolios are applied to all types of financial instruments involving market risk.

6.2 Control and reporting

The risk control function continuously reports on the Group's market risk profile to the Board of Directors, the Board Risk Committee, the Executive Boards, the Asset/Liability Committee and the Group Risk Committee.

On a daily basis, Nykredit's risk control function checks that the market risk policy and the Board of Directors' market risk guidelines are complied with. Also on a daily basis, the current utilisation of the limits set out in the guidelines is reported to the head of Nykredit's risk control function, the Asset/Liability Committee and the heads and dealers of the acting units. Any breaches of these limits are reported by the risk control function to the Asset/Liability Committee, Executive Boards or Boards of Directors depending on the nature of such breaches.

Nykredit's market risk, including VaR, is measured and monitored in internal systems through the collection and control of risk data from different source systems which are subsequently allocated to different company levels.

The current utilisation of risk limits is monitored and reported by Nykredit's risk control function and thus independently of the risk-taking units.

Nykredit's Executive Boards and Boards of Directors as well as the Asset/Liability Committee monitor and evaluate the current market risk and its elements at least quarterly. The risk outlook is described in the quarterly reports to the Board of Directors, the Board Risk Committee and the Group Risk Committee. Moreover, the market risk policy and the Board of Directors' market risk guidelines are subject to annual adjustment and approval.

Market risk governance

Board of Directors and Board Risk Committee:

Lay down the market risk policy and the Board of Directors' market risk guidelines, including risk appetite and risk limits for e.g. equities, bonds and financial instruments. Receive monthly reports on compliance with the market risk policy and on the risk outlook.

Receive separate reports, possibly including an action plan, in case of non-compliance with the market risk policy or the Board of Directors' guidelines.

Executive Boards and Asset/Liability Committee: Approve and implement the market risk policy and the Board of Directors' guidelines and regularly review compliance based on guarterly and monthly reports.

Receive separate reports and an action plan in case of noncompliance with the market risk policy or the Board of Directors' guidelines.

Risk control function (second line of defence): Performs continuous control and monitoring independently of the risk-taking units. Prepares independent reports for Boards of Directors and Executive Boards.

6.3 Current risk profile and development

Market risk is assessed on the basis of a range of different metrics that express sensitivity to movements in the financial markets combined with two VaR models for calculating an aggregate trading book exposure for both Nykredit Realkredit and Nykredit Bank.

VaR increased for both Nykredit Realkredit and Nykredit Bank in 2022, as market volatility trended upwards in 2022 and was generally higher than in 2021. Large market fluctuations were seen on a number of days in 2022, which contributed to a higher VaR. But towards the end of the year, Group-level VaR declined as a result of reduced exposure to yield spread risk and equities. For further details, see 6.6 Models for determination of market risk.

The metrics and market risk models are supplemented with a number of stress tests which, based on the current portfolios, quantify potential losses in financial markets using historical as well as forward-looking scenarios.

6.4 Trading book risk

Basically, Nykredit's market risk is determined based on calculations of a number of traditional metrics that may be regarded as portfolio sensitivity tests. They are used to calculate the effect on the value of the individual portfolios of market movements such as changes in

> Nykredit Realkredit Group Value-at-Risk in the trading book



interest rates, yield spreads, equity prices or volatilities. These calculations are made for the trading book and the banking book. Nykredit's main risks are interest rate, yield spread and equity price risks.

The traditional metrics do not indicate the probability of an event occurring, but rather how much the occurrence of the given event would affect the value of a portfolio. To incorporate the probabilities of different events in day-to-day risk measurement, Nykredit applies VaR models. In addition, stress tests and scenarios are used.

Value-at-Risk (VaR)

In day-to-day risk management, Nykredit uses VaR to calculate one risk measure covering most of Nykredit's trading book positions. VaR captures Nykredit's maximum potential losses in one day at a probability of 99%. The Nykredit Group's VaR totalled DKK 64 million at end-2022.

Daily VaR calculations are based on historical daily fluctuations in, for instance, yield spreads, equity prices and interest rates over the past 250 trading days. Since the beginning of 2022, daily VaR has increased by DKK 35 million. As mentioned above, this was mainly driven by a significant rise during 2022 in the volatility of a number of the risk factors to which the Nykredit Group is most exposed.

For a detailed description of VaR, see 6.6. Models for determination of market risk.

VaR in the trading book

DKK 64 million

(2021: DKK 27 million)



Yield spread risk

Yield spread risk is the risk of loss as a result of yield spreads between individual bonds and general interest rate levels widening by 1 percentage point. In historical terms, yield spread widening of 1 percentage point is much rarer than a general interest rate rise of 1 percentage point.



In the Group's trading book, the yield spread exposure on covered bonds was DKK 1.96 billion at end-2022, while the yield spread exposure on the credit bond portfolio was DKK 27 million. The chart below shows the development in yield spread risk in Nykredit's trading book.

Nykredit Realkredit Group Yield spread risk in the trading book



Interest rate risk

Interest rate risk is the risk of loss as a result of interest rate changes. Nykredit's interest rate risk is measured as the change in the market value of Nykredit's portfolios resulting from a general interest rate increase of 1 percentage point in respect of bonds and financial instruments. Nykredit's interest rate exposure in the trading book was DKK 327 million at end-2022.

Equity price risk

Equity price risk is the risk of loss as a result of changes in equity prices, and it is expressed by the aggregate market value of Nykredit's equity portfolios. The Group's net equity price risk exposure in the trading book amounted to DKK 106 million at end-2022.

6.4.1 Daily stress tests

Systematic stress tests are performed on a daily basis to measure the risk of loss during turbulent market conditions. The tests are based on a number of forward-looking scenarios characterised by significant, but plausible, market movements and events that could occur during the next 3-5 years. In addition, a historical stress scenario is used, calculating portfolio losses for particularly stressed periods of the past approximately 12 years. Overall, the different stress tests are used to assess portfolio losses, should these events occur. The stress tests are also used for reporting on compliance with the Board of Directors' market risk policy, as losses estimated by the stress tests are measured against the market risk appetite set out in the policy. The stress tests are reviewed quarterly to ensure their adequacy and relevance to Nykredit's portfolios.

6.4.2 Other market risks

Besides the market risks addressed above, Nykredit is exposed to foreign exchange risk and volatility risk in relation to equity, foreign exchange and interest-bearing instruments, such as options. These risks only make up a minor part of the total market risk exposure.

Nykredit hedges its foreign exchange risk and has only minor foreign exchange positions held to achieve a gain. Therefore, Nykredit had only minor positions in currencies other than EUR in 2022.

Nykredit's volatility risk mainly relates to investments in, for example, callable covered bonds with implied call options, as these bonds may be prepaid. Interest rate expectations will affect market values

and may in consequence lead to gains as well as losses. However, the risk is limited and stems mainly from the portfolio of Danish callable covered bonds, but also from other interest rate and equity derivatives.



6.5 Banking book risk

The market risk exposure of the trading book can quickly be increased or reduced, as positions tend to be very liquid. This is not necessarily the case with the banking book. Basically, the same types of market risk are found in the banking book, but regulatory restrictions apply to the trading frequency in such positions.

The market risk in Nykredit's banking book mainly derives from equities held for business purposes, which include listed as well as unlisted equities in partner banks. The portfolio is concentrated on relatively few but large positions. Further, the banking book comprises a private equity portfolio and some long-dated, interest rate-hedged bond portfolios relating to the lending operations. Also, a number of short-dated credit and covered bond portfolios are included in the banking book.

Equity price risk

Equities in the banking book comprise Nykredit's equities held for business purposes and private equity holdings.

Equities held for business purposes comprise equities in regional and national banks with which Nykredit has business relationships as well as equities in property companies. The aggregate market value of these portfolios was DKK 7.0 billion at end-2022. Given the relatively large equity portfolio, equity price risk represents a substantial proportion of Nykredit's total market risk. For capital adequacy purposes, the risk associated with equities held for business purposes is determined as credit risk exposure.



Yield spread risk

Yield spread risk in the banking book mainly derives from the investment of proceeds from unsecured debt issued by Nykredit for purposes such as meeting the debt buffer and MREL requirements. Secondarily, it derives from portfolios containing bonds in all ISINs for loan redemptions, allowing customers to prepay their loans at any time.

In the banking book, the yield spread risk on covered bonds was DKK 982 billion net at end-2022.

IRRBB

Moreover, a number of specific regulatory requirements apply to interest rate risk in the banking book (IRRBB), and the Board of Directors' market risk policy lays down an annual maximum risk appetite for IRRBB. Two regulatory metrics are used to manage IRRBB: Economic Value of Equity (EVE) and Net Interest Income (NII), expressing estimated losses in terms of value adjustments and earnings impact, respectively, as a result of different interest rate change scenarios. At end-2022, EVE came to a loss of DKK 237 million under the flattener shock scenario, where short-term interest rates are up and long-term interest rates are down. NII came to a loss of DKK 821 million, driven by an interest rate decline of 2 percentage points. EVE has reduced from DKK 312 million at end-2021, while NII has increased from DKK 35 million at end-2021. The rise in NII is mainly due to Danmarks Nationalbank's interest rate hikes during Q4 where NII has been adjusted to reflect Nykredit's expected response to future interest rate increases or decreases. Utilisation of EVE is monitored daily and reported to Nykredit Realkredit's Board of Directors, the Executive Boards and the Asset/Liability Committee on an ongoing basis.

NII is calculated quarterly and includes gap risk and, for Nykredit Bank, also an option element allowing for deposits and lending with interest rate floors and caps in the banking book. NII is calculated assuming constant balances where positions are reinvested upon maturity.

Interest rate risk

Interest rate risk in the banking book is limited and derives mainly from Nykredit's lending operations. The interest rate risk of the mortgage banks is very limited due to the match-funding principle governing covered bond issues.

Any interest rate risk in the banking book is partly hedged using interest rate swaps in relevant currencies and maturities. Interest rate exposure in the banking book totalled DKK 185 million net at end-2022. Interest rate risk in the banking book is subject to daily market risk monitoring, see *6.1 Market risk policy and guidelines* and *6.2. Control and reporting*.



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Yield spread risk in the banking book

DKK 982 million (2021: DKK 994 million)

Interest rate risk in the banking book

DKK 185 million (2021: DKK 184 million)

6.6 Models for determination of market risk

In addition to the traditional risk metrics of interest rate risk and equity price risk etc, Nykredit uses market risk models to calculate VaR as described above. Nykredit Realkredit and Nykredit Bank use different models.

Both models are applied in day-to-day internal risk management and in the determination of the regulatory capital requirement for positions involving market risk. Use of the models to determine capital requirements is subject to the approval of the Danish Financial Supervisory Authority (FSA), which oversees the models.

Mark-to-market is applied in the valuation of financial instruments whenever possible. Where mark-to-market is not possible, ie no liquid market prices exist, positions are marked to model. When using mark-to-model, validated pricing models are applied which are within standard market practice. All pricing models used for mark-to-model valuation comply with Nykredit's internal model risk policy, including requirements of management reporting, assessment of model appropriateness by independent validation and frequent pricing model review.

Independent verification of market prices and model inputs is performed daily using closing prices. The verification includes prices and model input for the most frequently traded instruments. Verified market data are delivered daily to the source systems used for pricing and risk management. In addition, the most important calibrated yield curves and volatility surfaces that serve as input to pricing models are monitored daily.

The market risk models, including IRRBB, are subject to the same internal approval, validation and control procedures as credit risk models so as to assure their quality. Read more in *4.6.7. Approval, validation and testing of credit risk models.*

6.6.1 VaR for day-to-day management

VaR model results are reported on a daily basis against prescribed limits and are determined as the 0.99 fractile of the distribution of daily returns over a rolling 1-year period. Daily VaR limits have been laid down at Group, company and organisational unit levels.

6.6.2 Backtesting of market risk models

To measure VaR model performance, the model results are backtested against realised returns on Nykredit's portfolios on a daily basis. In the backtests, daily earnings (gains/losses) are compared with the model estimates of maximum losses.

As the models apply a 99% probability, there will likely be backtest overshootings, indicating losses exceeding the VaR model estimate, 2.5 times per year.

If losses exceed the model estimate of maximum losses five times or more within a year, an additional regulatory capital charge will be added to Nykredit's VaR capital requirement. VaR backtests for Nykredit Realkredit A/S and Nykredit Bank A/S are shown in the charts below. Nykredit Realkredit A/S recorded seven backtest overshootings in 2022, and Nykredit Bank A/S recorded one. As a result of the seven overshootings, an increased regulatory capital charge has been added to Nykredit Realkredit A/S's VaR capital requirement. For both companies, the overshootings took place on days with large interest rate movements and widened covered bond and credit bond yield spreads as well as large equity price drops.





6.6.3 Regulatory capital requirement

In determining the risk exposure amount (REA) for market risk, Nykredit uses a combination of market risk models and the standardised approach, and the risk exposures are furthermore divided into general risk and specific risk. General risk means risk affecting financial markets in general, and specific risk is the risk related to single-name issuers.

Nykredit applies the current VaR models for determination of the regulatory capital requirement for general market risk. These models have been approved for use on the trading books of Nykredit Realkredit and Nykredit Bank. Totalkredit only applies the statutory standardised approach, as the company does not have an approved internal VaR model. VaR for the Nykredit Realkredit Group is the total of VaR for Nykredit Bank and VaR for Nykredit Realkredit.

To determine the VaR capital requirement, the time horizon has been scaled up to 10 days instead of 1 day as used in day-to-day management and limit monitoring where approximations are used to assess sensitivity. Changes to model risk factors are determined in either relative or absolute terms, depending on the type of risk factor (interest rate, price, volatility, curve spread etc).Total REA for general market risk in the portfolio is calculated daily under current as well as stressed market conditions by including:

- The largest losses over the past 12 months based on the current portfolio (VaR)
- The largest losses over a historical 12-month period when markets were particularly distressed based on the current portfolio (stressed VaR).

The period used to calculate stressed VaR is under constant review. Until the covid-19 outbreak in March 2020, the period of the Lehman Brothers collapse in September 2008 was used to calculate stressed VaR for both Nykredit Realkredit and Nykredit Bank. The Lehman Brothers crisis was characterised by significant yield spread widening, particularly on short-dated bonds, which had a large impact on covered bond positions with maturities of up to 5 years. Correspondingly, the covid-19 period in March 2020 was characterised by substantial widening of credit and yield spreads of long-dated callable covered bonds. Due to Nykredit Realkredit's and Nykredit Bank's portfolio compositions, both periods are relevant for the calculation of stressed VaR for both companies. At the beginning of the year, the period serving as the basis for stressed VaR calculations for Nykredit Realkredit was the Lehman Brothers crisis, and this has not changed.

For Nykredit Bank, the period serving as the basis for stressed VaR calculations was changed for September 2022 from the Lehman Brothers crisis to the covid-19 period, mainly driven by increased holdings of callable covered bonds across coupons in Nykredit Bank's portfolios.

Total REA for market risk came to DKK 42.4 billion, equivalent to 9.7% of Nykredit's total REA, at end-2022. Nykredit's REA calculated using VaR models amounted to DKK 13.7 billion at end-2022, of which stressed VaR amounted to DKK 20.5 billion.

Thus, total REA for market risk was up DKK 18.4 billion on end-2021 when it amounted to DKK 24.1 billion. The rise is mainly due to increased holdings of callable covered bonds.

New reporting requirement (FRTB)

The new method for determining the capital requirement for market risk is based on the Basel Committee's Fundamental Review of the Trading Book (FRTB) introduced as a reporting requirement in 2021.

Nykredit Realkredit Group

REA for market risk in the trading book¹

			2022	2021
DKK million	Specific risk	General risk	Total REA	Total REA
Internal models (VaR):	-	34,167	34,167	15,578
Value-at-Risk (99%, 10 days²)	-	13,674	13,674	3,781
Stressed Value-at-Risk (99%, 10 days)	-	20,493	20,493	11,796
Standardised approach:	6,307	1,969	8,276	8,497
Debt instruments	5,657	1,938	7,595	7,146
Equities	650	16	666	1,256
Foreign exchange risk	-	-	-	-
Collective investment schemes	-	15	15	95
Settlement risk	-	-	-	-
Total market risk exposure			42,443	24,075

¹ REA for market risk in the banking book is addressed under Pillar II.

² The time horizon has been scaled up to 10 days from 1 day by multiplying by the square root of 10.



the trading book

(2021: DKK 24.1 billion)

REA for market risk in

The FRTB is changing the existing framework for calculating market risk. However, in many ways the new methodology is comparable to the existing internal models used for determination, management and capital adequacy purposes.

Initially, the FRTB has been introduced as a reporting requirement only. The FRTB is currently expected to take effect as an actual capital requirement from 1 January 2025. Therefore, capital requirements for market risk are still determined using the internal models described above. Total risk exposures determined under the FRTB amounted to DKK 39.0 billion at end-2022, so the level will not differ significantly from the current determination.

7 Liquidity risk and funding

- 7.1 Liquidity risk policy and guidelines
- 7.2 Control and reporting
- 7.3 Current risk profile and development
- 7.4 Balance principle and match funding
- 7.5 Regulatory requirements
- 7.6 Funding
- 7.7 Credit ratings
- 7.8 Encumbered assets

Nykredit's liquidity risk is the risk that Nykredit is unable to fulfil its financial obligations and meet regulatory requirements and rating criteria in the short, medium and long term. Liquidity risk is also the risk of funding shortages, preventing Nykredit from pursuing the adopted business model, or the risk that Nykredit's costs of raising liquidity become prohibitive.

The composition of Nykredit's liquidity and funding is affected by regulatory requirements and rating criteria. Liquidity management is subject to a substantial amount of regulation, including the Liquidity Coverage Ratio (LCR), Net Stable Funding Ratio (NSFR), Minimum Requirement for own funds and Eligible Liabilities (MREL), Additional Loss-Absorbing Capacity (ALAC), debt buffer and Supervisory Diamond benchmarks.

Throughout 2022 Nykredit maintained a high level of excess liquidity coverage, relative to regulatory requirements as well as to internal delegated guidelines and limits.

7.1 Liquidity risk policy and guidelines

Nykredit's liquidity policy is laid down by Nykredit's Board of Directors and defines Nykredit's overall risk appetite in relation to its liquidity risk profile and funding structure. One aim of the liquidity policy is to ensure that Nykredit's funding and liquidity management supports its mortgage business and ensures competitive prices for customers and Nykredit, regardless of the market conditions. Furthermore, the liquidity management framework must sustain Nykredit's ability to maintain high credit ratings and its status as issuer of covered bonds (SDOs).

In addition to the liquidity policy, Nykredit's Board of Directors has laid down guidelines on the day-to-day liquidity management. In accordance with the guidelines provided by the Board of Directors, the Executive Board delegates liquidity management limits to the Group companies through the Asset/Liability Committee.

The guidelines provide limits for Nykredit's day-to-day liquidity management and for short-, medium- and long-term management. Limits have also been set for the composition of the stock of liquid assets, the LCR, the NSFR, Nykredit Bank's deposits, the use and diversification of funding sources, leverage, MREL, the debt buffer, rating criteria as well as future regulatory requirements.

Nykredit annually prepares a report on areas such as liquidity management and the Internal Liquidity Adequacy Assessment Process (ILAAP), which is submitted to the Board of Directors and the Danish FSA for their review.

7.2 Control and reporting

The risk control function continuously reports on the Group's liquidity and funding risk profile to the Board of Directors, the Board Risk Committee, the Executive Boards, the Asset/Liability Committee and the Group Risk Committee.

The current utilisation of risk limits is monitored and reported by Nykredit's risk control function and thus independently of the acting units. Also, the current utilisation of the limits set out in the guidelines is reported daily to the head of Nykredit's risk control function, the chair of the Asset/Liability Committee and the heads and dealers of the acting units. Any breaches of these limits are reported by the risk control function to the Asset/Liability Committee, Executive Boards, the Board of Directors of Nykredit Realkredit or other Boards of Directors depending on the nature of such breaches.

Nykredit's Executive Boards and Boards of Directors as well as the Asset/Liability Committee oversee and evaluate the current liquidity and funding risks on a monthly basis, and this forms the basis for an annual review and approval of the liquidity policy and guidelines. The risk outlook is described in the quarterly reports to the Board of Directors, the Board Risk Committee and the Group Risk Committee.

7.3 Current risk profile and development

Nykredit's liquidity risk is limited, and measured against the Board of Directors' guidelines, the risk level is low.

Throughout 2022, Nykredit maintained liquidity reserves considered adequate to withstand financial turmoil and meet any increased loan demand. Nykredit has a high level of excess liquidity coverage, relative to regulatory requirements as well as to internal delegated guidelines and limits.

2022 was characterised by increased geopolitical uncertainty as a result of Russia's invasion of Ukraine. This caused financial market turmoil as well as high inflation, including soaring energy prices, and significant rises in both short-term and long-term interest rates. Also, in some periods investor appetite was focused on securities offering a high degree of security and with a status that makes them eligible as collateral for derivatives positions.

In 2022 Nykredit maintained its business activities despite market turmoil, including the sale and issuance of bonds for the purposes of ongoing lending and scheduled refinancing operations. However, at times investors were hesitant, indicating varying market depth that may materialise in connection with major bond issues.

Nykredit Bank has reduced its use of short-term funding sources over the past few years, replacing them by longer-term funding from the parent company and reducing the Bank's funding risk.

Liquidity and funding governance

Board of Directors and Board Risk Committee: Lay down the liquidity policy and the Board of Directors' liquidity risk guidelines, including risk appetite and limits. Receive monthly reports on compliance with the liquidity pol-

icy and on the risk outlook. Receive separate reports, possibly including an action plan,

in case of non-compliance with the policy or guidelines.

Executive Boards and Asset/Liability Committee: Approve and implement the liquidity policy and the Board of Directors' guidelines and regularly review compliance based on quarterly and monthly reports.

Receive separate reports and action plans in case of noncompliance with the policy or guidelines.

Risk control function (second line of defence): Perform continuous control and monitoring independently of the risk-taking units. Prepare independent reports for the Board of Directors and the Executive Board. Nykredit's liquidity portfolio, which consists mainly of central bank deposits and short-dated government and covered bonds denominated in DKK and EUR, have been invested in compliance with Nykredit's Sustainable Investment Policy. Currently, the liquidity portfolio's exposure to sustainability risks is deemed to be insignificant. Risks and applicable law are monitored continuously for the purpose of adapting the business and liquidity management accordingly.

7.4 Balance principle and match funding

Nykredit's mortgage lending is governed by the balance principle, which provides limits to the financial risks Nykredit may assume in relation to lending and funding.

Nykredit operates according to the general balance principle, which allows the use of derivatives for risk hedging under certain conditions. In practice, Nykredit's mortgage lending is match funded. As a result, Nykredit's lending and related funding activities only involve negligible financial risks. Nykredit currently does not apply derivatives in connection with mortgage lending. To eliminate interest rate risk and foreign exchange risk, the interest rate and foreign exchange terms of mortgage loans match those of the bonds funding the loans. Long-term fixed-rate loans maintain the same funding throughout their terms. Adjustable-rate mortgages (ARMs) and floating-rate mortgage loans are funded by bonds with maturities shorter than the terms of the underlying loans, which are refinanced on maturity of the bonds. The loan rate is adjusted upon refinancing according to the yield-to-maturity of the new bonds sold.

The outstanding funding is reduced by principal payments and loan redemptions. Borrowers cover Nykredit's costs of redemption.

The due dates of payment of interest and principal are fixed so that Nykredit receives the funds on or before the dates when the payments to bondholders fall due, if borrowers make timely payments.

Thus, match funding ensures a match between the interest and principal payments of a loan and the underlying funding. Nykredit's earnings margin consists of a separate so-called administration margin, which is most often calculated on the basis of borrowers' debt outstanding. In addition, various fees may be charged.

Balance principle and match funding



7.5 Regulatory requirements

Legislation lays down a number of requirements for the structure and amount of Nykredit's liquidity and funding in the short, medium and long term. At end-2022 all requirements had been met.

7.5.1 Liquidity Coverage Ratio (LCR)

The regulatory requirement of LCR is used to assess Nykredit's short-term liquidity risk. Nykredit's LCR reflects the share of liquid assets relative to net cash outflows over a 30-day period and must be at least 100%. Under this requirement, Nykredit must hold an adequate stock of liquid assets to withstand a liquidity stress for a period of at least 30 days.

As appears from the table below, Nykredit's LCR was 283% and the excess liquidity coverage was DKK 63.0 billion at end-2022. The aggregate LCR of Nykredit's mortgage banks was 529% (Pillar I), while Nykredit Bank's LCR was 205%. Liquid assets used to comply with the requirement of supplementary collateral in Nykredit Realkredit and Totalkredit are considered to be encumbered and consequently ineligible for the purpose of LCR determination. For more details, see 7.5.5 Supplementary collateral.



The Danish FSA has granted Nykredit permission not to include mortgage lending and its funding in the calculation of LCR for Nykredit Realkredit and Totalkredit. The permission was motivated by the fact that match funding limits liquidity risk in relation to mortgage lending and its funding. On 8 July 2022, a Pillar II requirement was introduced for the purpose of determining the LCR. Specifically, this means that, going forward, cash outflows must be added to the LCR as previously calculated (Pillar I) for Nykredit Realkredit and Totalkredit to cover a potential liquidity requirement resulting partly from remortgaging where borrowers terminate an existing loan for prepayment without raising a new loan and partly from the liquidity risk related to borrowers in arrears. The Danish FSA has developed a calculation method which Nykredit has implemented. Moreover, Nykredit must include a Pillar II liquidity add-on to cover refinancing risk. This requirement must also be met with liquid assets but is not included in the calculation of the LCR. The calculation of the LCR Pillar I liquidity requirement now also includes mortgage cash flows falling due within the next 30 days, which have been excluded from the calculation so far in accordance with the exemption granted by the Danish authorities.

At end-2022, the Pillar II requirement was DKK 10.2 billion. Refinancing risk exposures of DKK 15.5 billion at end-2022 were hedged with non-HQLA liquid assets, which are not included in LCR calculations. Total LCR (Pillar I and Pillar II) for Nykredit Realkredit and Totalkredit was 208% at end-2022, equal to excess coverage of DKK 18.1 billion.





The Danish FSA has introduced an additional liquidity requirement concerning foreign currencies. Under this requirement, an LCR-like requirement must be met in respect of significant currencies except for SEK and NOK. The currency requirement contributes to ensuring a suitable currency match between liquid assets and cash flows. This requirement, which for Nykredit only concerns EUR, applies to the Nykredit Realkredit Group. The LCR in foreign currencies must be 100% or more. At end-2022, Nykredit's LCR in EUR was 317%. Nykredit is under a statutory obligation to disclose derivatives exposures and their effect on the LCR. Nykredit uses derivatives to

hedge risks relating to the stock of liquid assets. The market value of the derivatives portfolio will vary over time, which will impact Nykredit's posting of collateral. Therefore, when calculating the LCR, an amount is allocated to cover any negative fluctuations in required collateral.

7.5.2 Liquidity reserves

Nykredit's liquidity reserves are exclusively made up of assets that can readily be converted into cash or which are eligible as collateral to obtain cash when required.

Nykredit's liquidity reserves may include:

- Ultra-liquid assets; ie assets placed with Danmarks Nationalbank or the ECB
- Highly liquid assets; ie assets such as Danish and European government and covered bonds
- Assets not eligible for use as collateral with a central bank; ie negotiable securities with longer realisation periods. Securities in this group are mainly bonds not qualifying for the highly liquid category, credit bonds and equities.

In its liquidity policy, Nykredit has an overall policy for the size and quality of the liquidity buffer, based on the balance sheet structure and risk profile of the Group. At end-2022 the Group's liquidity reserves amounted to DKK 102 billion, against DKK 121 billion at end-2021.

Development in liquidity reserves

Assets not eligible for use as collateral with a central bank Liquid % Highly liquid Ultra-liquid 120 100 5 80 60 40 42 20 34 0 2021 2022

Risk and Capital Management 2022 - Nykredit Realkredit Group and Nykredit Group 62/68

7.5.3 Liquidity and funding benchmarks

The liquidity benchmark is included in the Supervisory Diamond for banks.

The liquidity benchmark is based on the LCR and must be 100%, but over a 3-month period. It means that Nykredit Bank must have sufficient liquid assets to withstand a liquidity stress for a period of at least three months. At end-2022 Nykredit Bank's liquidity benchmark was 272%.

7.5.4 Intraday liquidity risk

Nykredit Bank's intraday liquidity risk is the risk that the Bank will not be able to meet its intraday financial obligations. Nykredit Bank actively controls, manages and monitors its intraday liquidity risk.

The intraday liquidity risk of Nykredit Realkredit and Totalkredit is limited, as the mortgage lending model is designed so as to eliminate any structural intraday liquidity requirement.

7.5.5 Supplementary collateral

In order for the Capital Centres E and H to comply with CRR requirements for covered bonds, Nykredit must provide supplementary collateral for loans in case of property price declines where the LTV ratios exceed the statutory LTV limits.

Supplementary collateral is not required for public housing loans issued through Capital Centre J, as these loans and bonds are government-guaranteed.

DKK billion	31.12.2022	31.12.2021
Nykredit Realkredit Group		
LCR (%)	283	591
Excess liquidity coverage (DKKbn)	63.0	95.3
LCR, EUR (%)	317	392
Nykredit Realkredit and Totalkredit		
LCR (%)	529	2,305
Excess liquidity coverage (DKKbn)	28.4	36.1
Nykredit Bank		
LCR (%)	205	213
Excess liquidity coverage (DKKbn)	31.6	34.2

As the prices of commercial and private residential property have generally risen in recent years, the supplementary collateral requirement has decreased because of the declining LTV ratios. In 2022 minor property price declines were observed, however. The impact of price declines has been set off by the decreasing fair value of the loan portfolio due to rising interest rates, so in total the supplementary collateral requirement in Capital Centres E and H declined during 2022. The requirement amounted to DKK 4.0 billion at end-2022, against DKK 6.6 billion at end-2021.

It is Nykredit's policy to have a collateral buffer in case of declining property prices. The minimum buffer is determined by means of stress testing.

Thanks to the buffer, Nykredit would have been able at end-2022 to absorb an immediate property price decline of about 34.5% without additional funding. The funding of the debt buffer and MREL requirements raises Nykredit's ability to absorb a property price decline.

7.5.6 Net Stable Funding Ratio (NSFR)

The purpose of the NSFR is to ensure that credit institutions apply sufficiently stable, long-term funding when issuing loans. The NSFR is the ratio of an institution's amount of available stable funding to the amount of its required stable funding. To meet the NSFR requirement, this ratio must be at least 100%. The level of stable funding is calculated by weighting assets according to their liquidity and maturity. Funding with times-to-maturity of more than one year is considered more stable than other types of funding.

At end-2022 the NSFR was 149%, compared with 157% at end-2021.

7.5.7 Stress testing

To sustain Nykredit's business model and also to ensure that Nykredit has sufficient liquidity to meet regulatory requirements, liquidity stress tests are conducted for the short, medium and long term. They show the development in excess liquidity coverage in an expected scenario and in stress scenarios, taking into account regulatory requirements and rating criteria.

The stress tests show the resilience of the liquidity position in a situation where Nykredit has no access to a significant part of its usual funding sources, while at the same time external factors have an adverse impact on liquidity in the stress scenarios.

The stress tests are based on a number of scenarios: An expected scenario, an institution-specific scenario, a market-specific scenario and a combination stress scenario in which the institution-specific and market-specific scenarios occur at the same time.

Excess liquidity coverage is determined according to a set of regulatory and rating agency criteria.

The Board of Directors and the Asset/Liability Committee have set limits for excess liquidity coverage in an expected scenario on a 12month horizon and for the most severe of the three above stress scenarios on a 6-month horizon.

7.6 Funding

Nykredit has a sizeable balance sheet and extensive market activities for the purpose of funding the Group's lending. This includes daily tap issuance to fund Nykredit's mortgage lending. Moreover, Nykredit regularly refinances ARMs, floating-rate loans etc. Nykredit also issues capital market funding to comply with regulatory requirements and rating criteria.

Nykredit raises funding in the following markets:

- Danish covered bonds (SDOs and ROs)
- Senior secured debt (currently not issued)
- Secured and unsecured bank loans
- Senior unsecured debt
- Senior non-preferred (SNP) debt
- Tier 2 and Additional Tier 1 capital

As shown in the chart Funding sources below, covered bond issues are the primary funding source. For the Bank, the primary source is deposits.

7.6.1 Covered bonds

Nykredit's balance sheet mainly consists of lending secured by mortgages on real estate funded through the issuance of covered bonds

Nykredit Realkredit Group



(SDOs and ROs). Mortgage covered bonds are issued through daily tap issuance coupled with refinancing auctions for ARMs, floating-rate loans etc.

Nykredit strives to build large, liquid benchmark bond series to obtain an effective pricing of its bonds. Nykredit Realkredit and Totalkredit's joint bond issuance contributes to creating large volumes and high liquidity in the Group's key bond series.

In 2022 Nykredit had primary dealer arrangements with a number of securities brokers for the purpose of underpinning liquidity in the bond series and ensuring consistent market making in and efficient pricing of Nykredit's bonds.

Due to the rules determining which liquid assets are eligible for the LCR calculation, many banks prefer to invest in bonds with outstanding amounts of more than EUR 500 million and high credit ratings. As shown in the chart below, as much as 90% of the outstanding amounts of Nykredit's active bond series are today classified in the top LCR category (Level 1), while 6% are in the second-best category (Level 2A).

Nykredit strives to have a range of bonds that best suits customers' needs while at the same time meeting investors' increased preference for very liquid bond series.

The chart below, Mortgage lending by loan type, shows Nykredit's products and the distribution of Nykredit's mortgage lending.



Nykredit Realkredit Group Covered bonds by LCR category (percentages, end-2022)

Over the past few years, Nykredit has reduced its refinancing risk. As shown in the chart below, Refinancing auctions, covered bonds (SDOs and ROs), ARMs funded by 1-year and 3-year bullet covered bonds represent a decreasing share of total mortgage lending. In 2022 issuance patterns changed as a result of the surging interest rates, and short-dated bonds were increasingly issued rather than long-dated callable bonds. This could lead to a shift in the investor base due to investors' different duration preferences for their investment portfolios.

In recent years, Nykredit has aimed to concentrate ARMs in fewer bond series to support the liquidity of bullet covered bonds. Specifically, ARMs funded by 3-5-year bullets (SDOs) have been moved from the April and October payment dates to the January and July payment dates, while ARMs funded by 1-year bullets are now concentrated on the April payment date. The exercise of concentrating issuance will be complete on 1 April 2023 when the last ARMs funded by 3-year bullets will be moved from April to January. Refinancing volumes are kept stable from quarter to quarter by planning the use of variable-rate bonds for new lending and refinancing. The chart below shows the volumes of the individual refinancing auctions.

Nykredit Realkredit Group

Refinancing in 2023	
DKK billion	
Refinansiering ¹	
Total maturity before set-off of self-issued bonds	229.5
ordinary principal payments and scheduled ² prepayments (settled)	33.8
ordinary principal payments and scheduled ² prepay- ments (not settled)	20.3
 - pre-issued bonds and interest rate risk² 	(17.2)
Total refinancing volume	192.6
- pre-auctioned amount sold under forward contracts	20.5
Refinancing volume remaining for 2022	213.1
- of which SDOs and ROs	212.1
- of which other issues	1.0
¹ Applicable for the January, April, July and October 2023 paymen	t dates

¹ Applicable for the January, April, July and October 2023 payment dates ² Scheduled as at 31 December 2022.

7.6.2 Green bonds

Since 2019 Nykredit has been offering green mortgage loans to finance energy-efficient buildings with energy label A or B or other equivalent certification. Nykredit also offers green mortgage loans to finance renewable energy and supply and electricity networks. The loans are currently offered to corporate clients. About DKK 31.3 billion-worth of green bonds had been issued at end-2022. Nykredit also offers a series of green banking products.

Nykredit's Green Bond Framework, which was established in compliance with ICMA's Green Bond Principles (GBP), describes the principles of green loans and determines which sustainable assets are eligible for financing with green bonds.

> Green bonds DKK **31.3 billion** (2021: DKK 22.5 billion)

7.6.3 Funding schedule

Nykredit's future funding requirement depends on the volume of loans with refinancing, expected new lending as well as new regulatory requirements and rating agency criteria. The funding of senior and subordinated debt is centralised in Nykredit Realkredit, meaning that funding is managed and issued by Nykredit Realkredit and distributed to Totalkredit and Nykredit Bank as required.

Nykredit issues covered bonds (SDOs and ROs) to fund new mortgage lending and the refinancing of existing mortgage loans. See *7.6.5 Issuance schedule* for expected issuance at refinancing auctions in 2023.

Bond issuance is distributed evenly over the quarters, reflecting Nykredit's aim of spreading loan refinancing over the payment dates. Also, Nykredit seeks a funding profile with a limited amount of shortterm funding.

Nykredit expects to refinance DKK 329 billion-worth of covered bonds at auctions in 2023 and 2024. In addition, Nykredit expects to issue about DKK 250 billion-worth of bonds through tap issuance.

Senior non-preferred debt will largely replace senior secured debt and senior preferred debt, which has been used historically by Nykredit to meet the existing supplementary security and overcollateralisation (OC) requirements and the MREL requirement for Nykredit Bank A/S.

Nykredit Realkredit Group Refinancing auctions, covered bonds (SDOs and ROs)





Nykredit Realkredit Group

7.6.4 Capital market funding

Nykredit raises capital market funding mainly for the purpose of meeting regulatory capital requirements. Nykredit must have a debt buffer of at least 2% of mortgage lending. Also, the debt buffer, own funds and MREL eligible liabilities combined must amount to at least 8% of the consolidated balance sheet. At end-2022, Nykredit complied with both requirements.

In 2022 Nykredit refinanced senior non-preferred debt to meet the debt buffer/MREL requirements. Senior non-preferred debt in issue totalled DKK 51.6 billion at year-end.

As at 31 December 2022, the Bank's senior unsecured debt consisted of short-term euro commercial paper (ECP) of DKK 9.6 billion.

Debt raised to fund Nykredit Bank is issued by Nykredit Realkredit and distributed to Nykredit Bank as long-term intercompany funding.

The total funding and ECP issuance need will depend on the development in customer deposits and lending as well as the Bank's other business activities. The chart below shows the current maturity profile of Nykredit's capital market funding.

Nykredit Realkredit Group Maturity profile of capital market funding

Additional Tier 1 capital
 Senior non-prefered debt
 Senior preferred debt
 Senior preferred debt







7.6.5 Issuance schedule

Nykredit Realkredit will continue to issue covered bonds through tap issuance and at refinancing auctions.

Rising interest rates in 2022 led to lower covered bond prices and consequently a reduction of Nykredit's balance sheet. The reduced balance sheet lowered Nykredit' funding requirement for 2022, and the expected funding requirement for 2023 is also low. The funding requirement will rise if interest rates drop, and Nykredit therefore monitors interest rate trends and regularly adjusts the funding schedule.

Nykredit expects to refinance bonds worth DKK 49 billion and DKK 48 billion at the auctions in February and May 2023, and DKK 49 billion and DKK 40 billion at the auctions in August and November 2023.

Apart from the issuance of SDOs and ROs, Nykredit's need to issue other capital market funding depends on the interest rate level. Nykredit expects to issue bonds worth up to DKK 10 billion in 2023.

ECP issuance will continue through Nykredit Bank.

Nykredit Realkredit Group		DKK million
Bonds in issue	31.12.2022	31.12.2021
Covered bonds (ROs)	119,758	124,927
Covered bonds (SDOs)	1,383,244	1,351,177
Senior secured debt	704	853
Senior preferred debt of Nykredit Realkredit		
A/S	9,296	5,577
Senior non-preferred		
debt	42,345	50,098
Tier 2 capital	10,136	10,737
Additional Tier 1 capital, Nykredit Realkredit		
A/S	3,654	3,706
ECP issues of Nykredit Bank A/S	9,545	4,415

7.7 Credit ratings

Nykredit Realkredit and Nykredit Bank collaborate with international credit rating agencies S&P Global Ratings (S&P) and Fitch Ratings regarding the credit rating of the Group's companies and their funding.

7.7.1 S&P Global Ratings

S&P has assigned Nykredit Realkredit and Nykredit Bank long-term and short-term Issuer Credit Ratings of A+/A-1 with a stable outlook and long-term and short-term Resolution Counterparty Ratings of AA-/A-1+.

Senior non-preferred debt has a BBB+ rating with S&P.

Covered bonds (SDOs and ROs) issued by Nykredit Realkredit and Totalkredit through rated capital centres are all rated AAA by S&P, which is the highest possible rating. The rating outlook is stable.

Due to a very modest remaining outstanding amount of covered bonds in Nykredit Realkredit In General and Capital Centre C, Nykredit has decided that these bonds will no longer be rated from 1 January 2024.

Covered bonds initially issued by LR Realkredit are not and will not be rated.

7.7.2 Fitch Ratings

Nykredit Realkredit and Nykredit Bank each have long-term and short-term Issuer Credit Ratings of A/F1 with Fitch and long-term and short-term senior preferred debt ratings of A+/F1.

Senior non-preferred debt is rated A by Fitch.

7.7.3 S&P Global Ratings key ratios

In its rating criteria, S&P Global Ratings (S&P) has included a number of key ratios defined by S&P itself. These key ratios form part of S&P's overall credit rating of an institution.

Additional Loss-Absorbing Capacity (ALAC)

S&P's criteria provide for a rating upgrade if the level of additional loss-absorbing capacity (ALAC) is sufficiently high. ALAC consists of Tier 2 capital and senior non-preferred debt designated to absorb losses in case of Nykredit's recovery or resolution, thus protecting ordinary senior debt.

ALAC is expressed as a percentage of risk-weighted assets determined according to S&P's calculation method (S&P RWA). An ALAC maintained at 6% of S&P RWA or higher will currently trigger a 2-notch uplift of Nykredit's Issuer Credit Rating/senior rating. At end-2022 Nykredit's ALAC was 7.2%.

Overcollateralisation behind bond rating

When rating the Danish covered bonds issued by Nykredit Realkredit and Totalkredit, S&P applies its criteria to assess the collateral posted in the capital centres. In addition to the security by way of mortgages on real estate, Nykredit posts overcollateralisation (OC) in the form of liquid securities. To obtain the highest possible rating (AAA), OC of at least DKK 61.8 billion must be provided. The required OC is determined as the result of S&P's individual assessments of the OC requirement for each individual mortgage loan. Each assessment includes a large number of parameters, including property type, location, LTV ratio, loan type and payment history. In total, Nykredit Realkredit and Totalkredit had liquid assets of DKK 97.1 billion eligible for OC purposes at end-2022.

Nykredit Realkredit Group

Credit ratings

e. call lallinge			
End-2022	Nominal	S&P	Fitch
	DKKbn ¹		

Covered bonds (SDOs, ROs)

Nykredit Realkredit A/S

- Capital Centre C (covered bonds, RO)	0.3	AAA	
- Capital Centre D (covered bonds, RO)	12.3	AAA	
- Capital Centre E (covered bonds, SDO)	573.7	AAA	
- Capital Centre G (covered bonds, RO)	68.7	AAA	
- Capital Centre H (covered bonds, SDO)	769.0	AAA	
- Capital Centre I (covered bonds, RO)	7.4	AAA	
- Nykredit Realkredit In General (covered bonds, RO)	0.2	AAA	
Totalkredit A/S			
- Capital Centre C (covered bonds, RO)	2.8	AAA	

Other ratings

Nykredit Realkredit A/S

- Short-term Resolution Counterparty Rating	A-1+	
- Long-term Resolution Counterparty Rating	AA-	
- Short-term Issuer Credit Rating	A-1	F1
- Long-term Issuer Credit Rating	A+	А
- Short-term senior unsecured debt	A-1	F1
- Long-term senior unsecured debt	A+	A+
- Senior non-preferred (SNP) debt	BBB+	А
- Tier 2 capital	BBB	BBB+
- Additional Tier 1 capital	BB+	BBB-
Nykredit Bank A/S		
- Short-term Resolution Counterparty Rating	A-1+	
- Long-term Resolution Counterparty Rating	AA-	
- Short-term Issuer Credit Rating	A-1	F1
- Long-term Issuer Credit Rating	A+	А
- Short-term senior unsecured debt	A-1	F1
- Long-term senior unsecured debt	A+	A+
- Short-term deposits	A-1	F1
- Long-term deposits	A+	A+

¹ Bonds in issue at nominal value at 31 December 2022.

7.7.4 ESG ratings

ESG ratings (Environmental, Social and Governance) are a tool used by investors and other stakeholders to assess a company's position in terms of sustainability, corporate responsibility and governance.

Nykredit currently focuses on ESG rating agencies MSCI and Sustainalytics, which consider all ESG factors, as well as on the CDP (Carbon Disclosure Project), which assesses the environmental impact of businesses.

The table below shows Nykredit's ESG ratings.

Nykredit Realkredit Group

ESG ratings at 31.12.2022

End-2022	Nykredit's rating	
MSCI	AA	
Sustainalytics	Low risk	
CDP	A-	

7.8 Encumbered assets

Nykredit's main activity is to provide loans secured by mortgages on real estate. Nykredit's mortgage lending to customers is match funded through the issuance of bonds. The loans remain on Nykredit's balance sheet until they mature, and they are ring-fenced to ensure timely payments to bond investors in the event that Nykredit should default. Ring-fencing assets for creditors/investors is referred to as asset encumbrance. Liquid assets used to comply with the requirement of supplementary collateral are considered to be encumbered for the purpose of LCR determination.

Moreover, Nykredit provides collateral in connection with derivatives trading and repo transactions. Nykredit provides collateral to other credit institutions for movements in the market value of Nykredit's OTC derivatives contracts and margin collateral in connection with exchange-traded derivatives. Nykredit also provides collateral to central clearing counterparties (CCPs). Such collateral is also considered to be encumbered assets.

Encumbered assets made up 80% of Nykredit's total assets at end-Q3/2022¹, the same level as at end-2021. It is natural that Nykredit should have a relatively high asset encumbrance ratio. It follows from the Danish mortgage lending model under which mortgage loans serve as collateral in favour of bondholders in the individual capital centres. The vast majority of the encumbered assets are in DKK. After netting for accounting purposes, encumbered assets in EUR are not significant.

Totalkredit's mortgage lending is also encumbered. The lending activities of Totalkredit and Nykredit Realkredit are jointly funded, which means that most of their mortgage lending is subject to intercompany encumbrance.

Nykredit's asset encumbrance is monitored and reported to the Danish FSA on a quarterly basis. The level of asset encumbrance is stable over time.

Encumbered assets

DKK million	31.12.2022	31.12.2021
Total encumbered assets	1,266,962	1,378,931
- of which derivatives collateral	5,790	1,226
- of which repo contracts	13,762	12,665
- of which central bank funding	0	0
- of which SDO issues	1,238,237	1,362,760
- of which other assets	775	2,280
Total encumberable assets	1,584,468	1,686,509
Asset encumbrance ratio	80%	82%

¹ The Q4 level will not be known until after release of the Risk and Capital Management 2022 report, and the Q3 level is reported instead.



Nykredit

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