



# Risk and Capital Management 2017

Nykredit Realkredit Group and  
Nykredit Group

February 2018

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## 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 [nykredit.com/reports](https://nykredit.com/reports).

## 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. 2017 IN BRIEF

The general economic trends in Nykredit's principal market, Denmark, were positive in 2017. The Danish economy was in an upswing, with increasing employment and incomes. Prices in the property market rose and the number of housing transactions continued to grow, especially in Aarhus and Copenhagen.

In autumn 2017, the Danish government adopted a new bill aimed at curbing growth in the prices of owner-occupied dwellings. The rationale behind the bill was to render highly indebted homeowners less vulnerable to future interest rate rises.

At Nykredit, we consider it our special responsibility to provide loans to homeowners, agricultural customers and businesses in urban and rural districts – at all times. Nykredit increased lending across the country from North Jutland to Bornholm. Nykredit's total credit exposure grew by DKK 53bn to DKK 1,430bn, from DKK 1,377bn at end-2016.

Despite a growing credit exposure, Nykredit's total risk exposure amount (REA) has dropped since end-2016 from DKK 349bn to DKK 337bn, owing in part to increasing housing prices and improved ability to pay among our customers, and thus lower credit risk. Moreover, Nykredit recorded lower loan impairments and fewer non-performing exposures.

On 7 December 2017, the Basel Committee published new and stricter capital requirements for banks and mortgage lenders, often referred to as the Basel IV standards. As expected, the standards include a so-called capital floor for credit institutions applying internal models. The capital floor means that institutions, across risk types (credit, market and operational risks), will be subject to a minimum capital requirement which makes up 72.5% of the capital requirement as calculated under the standardised approach. The floor will significantly increase Nykredit's REA compared with today's level. It will impact mortgage loans in particular as they have a very low risk of loss, which will not be allowed for in the risk determination if a floor is introduced.

Nykredit has previously estimated the impact of Basel IV at an increase in REA of around DKK 100bn. Based on the new Basel standards published and the EU proposal for new capital requirements, CRR/CRD, and based on the Danish FSA's calculation assumptions, detailed calculations now show that Nykredit's REA will increase by about DKK 100bn, of which approximately 80% can be ascribed to private residential mortgage loans and the residual amount to business mortgages, market risk etc.

The Nykredit Group's Common Equity Tier 1 (CET1) capital represented 20.6% of REA at end-2017. On recognition of the estimated impact of the coming Basel rules etc and the impact of IFRS 9 at 1 January 2018, the CET1 capital ratio is estimated at 15.8%.

In 2017 Nykredit achieved considerable funding flexibility as a result of the investor solution comprising a number of Danish pension funds. Nykredit thus has access to new CET1 capital through Forenet Kredit and through an investment commitment from the pension funds.

Nykredit's preparations for the upcoming Capital Requirements Regulation, CRR, have commenced. We are in the process of building a new model for calculation of capital requirements for market risk, which will also prepare Nykredit for the pending market risk regulation. Another area of particular focus to us is the coming requirements for long-term liquidity management – also known as the Net Stable Funding Ratio (NSFR).

Prevention of money laundering and terrorist financing remains a key focus area, and as criminal behaviour changes, the need for security measures in the financial sector will grow. All Nykredit staff members have a duty to prevent money laundering and terrorist financing. To this end, Nykredit has established a central unit which monitors that Nykredit and its IT providers comply with the rules.

## 1.1 FINANCIAL HIGHLIGHTS

### Nykredit Realkredit Group

Year-end

DKKbn/%	2017	2016	2015
<b>Capital adequacy and capital</b>			
Common Equity Tier 1 capital ratio, %	20.6	18.8	19.4
Tier 1 capital ratio, %	21.7	19.9	20.5
Total capital ratio, %	25.3	23.0	23.9
Leverage ratio, transitional rules, %	4.7	4.6	NA
Leverage ratio, fully loaded, %	4.7	4.6	NA
Internal capital adequacy requirement, %	10.2	10.2	11.8
Total assets, DKKbn	1,427	1,401	1,384
<b>Funding and liquidity</b>			
Liquidity Coverage Ratio (LCR), %	383	321	NA
S&P long-term rating/outlook	A/stable	A/stable	A/negative
Fitch long-term rating/outlook	A/stable	A/stable	A/stable
<b>Financial ratios</b>			
Total risk exposure amount, DKKbn	337	349	311
Total provisions for loan impairment and guarantees, DKKbn	7,915	8,341	8,646
Impairment charges for the year, %	0.03	0.06	0.08
Credit exposures, DKKbn	1,430	1,377	1,343
Credit exposures in default <sup>1</sup> , DKKbn	26	30	31

<sup>1</sup> Credit exposures in default include 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 any impairment charges.

## 1.2 BOARD DECLARATION AND RISK STATEMENT

The Boards of Directors of Nykredit A/S and Nykredit Realkredit A/S have on 7 February 2018 approved Nykredit's report Risk and Capital Management 2017.

- 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 ratios gives a true and fair view of Nykredit, including Nykredit's overall risk appetite.

The Boards' assessment is based on the continuous risk reporting and the adopted strategy, Winning the Double, as reviewed and approved by the Boards of Directors, the Executive Boards and the Chief Risk Officer.

For information and key ratios concerning Nykredit's risk profile, reference is made to the relevant sections of this report.

### Risk Statement

- The Board of Directors has set a Common Equity Tier 1 (CET1) capital requirement at 15.5-16.5% of the total risk exposure amount (REA). To this will be added the further build-up of capital to meet the upcoming Basel requirements. At end-2017, Nykredit's CET1 capital ratio was 20.6%.
- Credit risk is managed in accordance with the credit policy, including requirements for credit risk concentrations on single names, geographical regions and industries. The credit risk exposure falls within the Group's risk appetite.
- Market risk is managed in accordance with the market risk policy and the pertaining limits and guidelines 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 and the pertaining limits and guidelines prescribed by the Board of Directors. The liquidity risk exposure falls within the Group's risk appetite.
- Nykredit's operational risk is managed in accordance with the operational risk policy and the pertaining limits and guidelines prescribed by the Board of Directors. The operational risk exposure falls within the Group's risk appetite.

The Boards of Directors find Nykredit's overall risk profile satisfactory in relation to the current risk policy.

### Executive Board of Nykredit A/S and Nykredit Realkredit A/S

Michael Rasmussen  
Group Chief Executive

Kim Duus  
Group Managing Director

David Hellemann  
Group Managing Director

Søren Holm  
Group Managing Director

Anders Jensen  
Group Managing Director

### Board of Directors of Nykredit A/S

Steffen Kragh Chairman	Merete Eldrup Deputy Chairman	Nina Smith Deputy Chairman
Helge Leiro Baastad	Hans Bang- Hansen	Olav Bredgaard Brusen
Michael Demsitz	Per W. Hallgren	Marlene Holm
Vibeke Krag	Allan Kristiansen	Bent Naur
Erling Bech Poulsen	Inge Sand	Leif Vinther
Lars Peter Skaarup	Lasse Nyby	Claus E. Petersen

### Board of Directors of Nykredit Realkredit A/S

Steffen Kragh Chairman	Merete Eldrup Deputy Chairman	Nina Smith Deputy Chairman
Helge Leiro Baastad	Hans Bang- Hansen	Olav Bredgaard Brusen
Michael Demsitz	Per W. Hallgren	Marlene Holm
Vibeke Krag	Allan Kristiansen	Bent Naur
Erling Bech Poulsen	Inge Sand	Leif Vinther

## 2. GOVERNANCE AND MANAGEMENT OF RISK

### 2.1 NYKREDIT'S CHARACTERISTICS

The Nykredit Realkredit Group is a financial services group with business activities within banking and mortgage lending. The Group's activities also include estate agency services, administration and management of investment funds, leasing and insurance mediation.

The Nykredit Realkredit Group's core business is match-funded mortgage lending secured by mortgages on real estate. Mortgage lending is carried out both under the Nykredit brand and through the subsidiary Totalkredit A/S, which is wholly owned by Nykredit Realkredit 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.

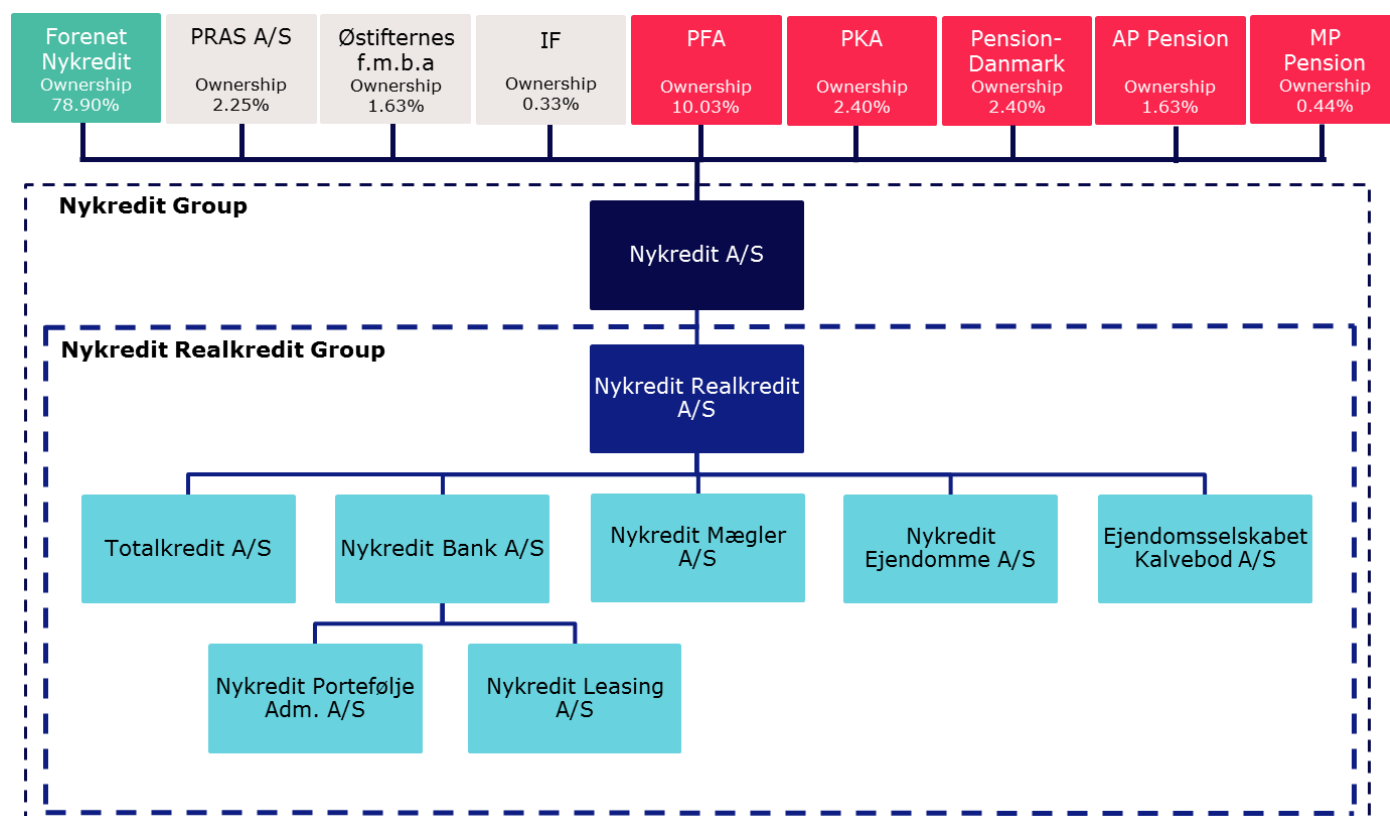
Mortgage lending in Totalkredit is based on a strategic alliance with 57 local and regional banks in Denmark. According to this business concept, the partner banks are responsible for serving customers, and Totalkredit A/S undertakes the funding of the mortgage loans. Totalkredit A/S and the individual partner bank share the credit risk on the loans according to the principles set out in the agreement with the partner banks. The partner banks receive fees for customer services and risk hedging. At end-2017 mortgage lending to personal customers in Totalkredit A/S made up around half of the Nykredit Realkredit Group's total mortgage lending.

### 2.2 NYKREDIT'S CORPORATE STRUCTURE

Nykredit A/S owns 100% of Nykredit Realkredit A/S. The main activity of Nykredit A/S is its ownership of Nykredit Realkredit A/S, and Nykredit A/S currently has no other activities or independent risk exposures.

The Board of Directors of Nykredit A/S is identical to the Board of Directors of Nykredit Realkredit A/S except for three additional members, while the Executive Board of Nykredit A/S is identical to the Group Executive Board of Nykredit Realkredit A/S.

**Nykredit  
Group chart**



### 2.2.1 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 the total risk exposure amount (REA) is not entirely identical for the Nykredit Group and the Nykredit Realkredit Group. The differences are due to five factors:

#### 1. Common Equity Tier 1 (CET1) capital:

CET1 capital totalled DKK 69.4bn in the Nykredit Group and DKK 69.6bn in the Nykredit Realkredit Group at end-2017. The difference is caused by a deduction from the CET1 capital of the Nykredit Group for intercompany balances with PRAS A/S and its ownership interest 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 capital determination of the Nykredit Group. This is laid down in 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. It has the same consequences as described for AT1 capital above.

#### 4. Risk exposure amount (REA) – credit risk:

As mentioned under 1) above, intercompany balances and indirect ownership interests are eliminated in the Nykredit Group. This reduces total REA for credit risk in the Nykredit Group by about DKK 1bn.

#### 5. Risk exposure amount (REA) – operational risk:

Nykredit applies the basic indicator approach to determine REA for operational risk. This means that profit for the year is applied to calculate REA, and as profit for the year of Nykredit A/S is lower than that of Nykredit Realkredit A/S, so is REA.

This report is based on the Nykredit Realkredit Group, as the sole activity of Nykredit A/S is currently the ownership of Nykredit Realkredit A/S.

In the following, the Nykredit Realkredit Group is referred to as Nykredit.

#### Determination of own funds and total REA

End-2017 DKK billion	Nykredit Realkredit Group <sup>1</sup>	Nykredit Group
<b>CET1 capital before deductions</b>	<b>73.4</b>	<b>73.4</b>
Deduction for intercompany exposures	-	(0.3)
Other deductions	(3.8)	(3.7)
<b>CET1 capital</b>	<b>69.6</b>	<b>69.4</b>
AT1 capital	3.7	2.1
<b>Tier 1 capital</b>	<b>73.3</b>	<b>71.5</b>
Tier 2 capital	11.9	8.8
<b>Own funds</b>	<b>85.2</b>	<b>80.3</b>
<b>REA</b>		
Credit risk	290.6	289.7
Market risk	24.7	24.7
Operational risk	21.2	21.2
<b>Total REA</b>	<b>336.6</b>	<b>335.7</b>
<b>Financial ratios</b>		
CET1 capital ratio, %	20.6	20.6
Tier 1 capital ratio, %	21.7	21.3
Total capital ratio, %	25.3	23.9

<sup>1</sup> Own funds are specified under "Capital" below.

## 2.3 RISK PROFILE

As Nykredit mainly provides match-funded mortgage loans against mortgages on real estate, 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 risks on mortgage lending and the underlying funding. Liquidity and market risks are further reduced by the Danish act regulating refinancing risk, which provides for the refinancing of mortgage loans in special situations.

The business activities combined with the management of the investment portfolio involve credit, market, liquidity and operational risks, including reputation, IT and compliance risks. Moreover, regulatory and strategic risks are areas of special focus.

Credit risk, market risk and operational risk are mitigated by the holding of adequate capital, while liquidity risk is mitigated through a sufficient stock of liquid assets.

Some regulatory and strategic risks are not directly measurable, but the Board of Directors regularly considers the current risk levels and risk appetite.

For purposes of ensuring and managing a suitable risk profile, Nykredit applies a number of basic risk management principles (Enterprise Risk Management). At Nykredit, Enterprise Risk Management is 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.

The principles of all risk management in the organisation are based on four elements:

1. Risk governance and culture
2. Risk policy
3. Risk monitoring
4. Risk communication and reporting.



## 2.4 GOVERNANCE AND CULTURE

The Board of Directors is the supreme management body of the Company, which makes decisions of a strategic and fundamental nature and lays down guidelines for the day-to-day management undertaken by the Group Executive Board.

The Board of Directors of Nykredit Realkredit A/S has decided that Nykredit should act as a listed company for external purposes, operating on sound business terms.

In consequence, Nykredit regularly considers the Recommendations on Corporate Governance of the Danish Committee on Corporate Governance subject to the adjustments that follow from Nykredit's special ownership and management structure and complies with the recommendations where appropriate. The recommendations form part of the rules of Nasdaq Copenhagen.

The Board of Directors oversees the establishment of risk management procedures and monitors risks through the Risk Board and the Audit Board. All policies are reviewed and approved by the Board of Directors at least once a year, and are reported on regularly. The Executive Board oversees that risks are managed, mitigated and controlled.

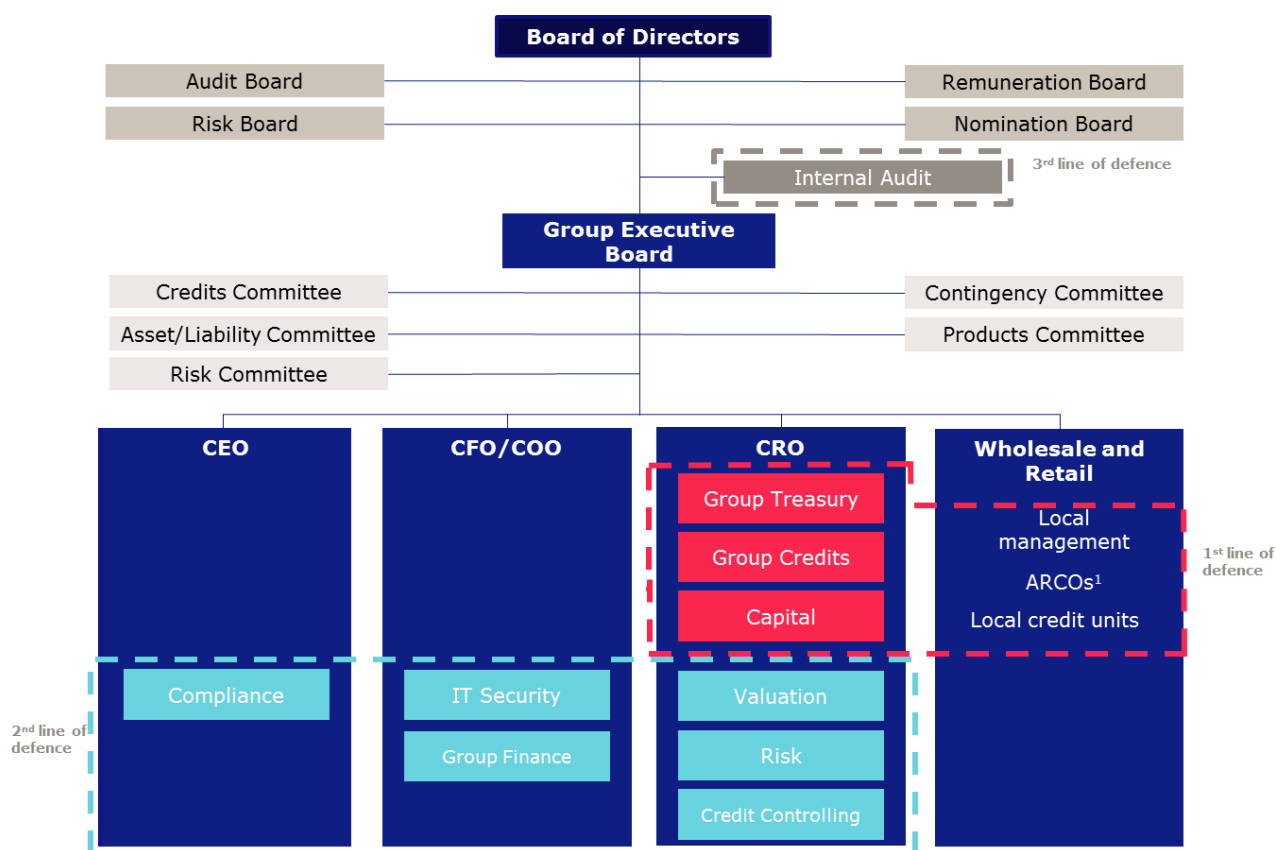
The Executive Board monitors risks through the Risk Committee and various other committees and management bodies. The Executive Board has delegated its daily control duties, and overall control is based on three lines of defence:

**First line of defence:** The operational business units, which basically take and thereby own the risk. The management of each business area is responsible for identifying, assessing and reporting the risks arising in 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.

**Second line of defence:** Risk, Compliance and a number of control units. Together, these units are responsible for independent monitoring, control and reporting of risks and for the effectiveness of first line activities.

**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 the Board of Directors and the Audit Board.

### Nykredit Group Risk management and governance



<sup>1</sup>Assistant Risk and Compliance Officers (ARCOs) are appointed in all business divisions to support local management.

### **2.4.1 Management**

#### **Board of Directors**

The Board of Directors of Nykredit Realkredit A/S counts 15 members, of whom ten are elected by the 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 must be composed so that it possesses the right mix of skills required to undertake the overall and strategic management of the business and to take any measures to ensure prudent business management; to this end, it 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 reviews its skills profile on an ongoing basis and has decided in this respect that the Board of Directors should have special skills and knowledge as regards:

- Strategy
- Sector and real estate expertise
- Economics, finance and accounting
- IPO processes and/or operation of companies of public interest
- 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
- Risk management and credit matters.

Further details on the skills profile of the Board of Directors, the special skills and experience of each Board member and the composition, size and diversity of the Board of Directors are available at [nykredit.com/boardofdirectors](https://nykredit.com/boardofdirectors).

#### **Executive Board**

The Executive Board is composed of five members and tasked with implementing the Group strategy, Winning the Double. The Executive Board is responsible for the day-to-day management and operationalises policies and guidelines for each risk area. The Executive Board has also set up a number of Group committees charged with various tasks.

#### **Chief Risk Officer**

The responsibilities of the Chief Risk Officer (CRO) extend to all activities involving risk. This includes overseeing activities involving credit risk, market risk, liquidity risk and operational risk.

The Head of Risk, Nykredit's risk control function, has been appointed Chief Risk Officer. Nykredit's organisational structure, in which Risk has been segregated from all risk-taking entities of the Group, ensures independence between the Chief Risk Officer and the acting entities. Nykredit's central risk control function performs Group-wide controls, monitors Group risks and prepares risk reports for the Boards of Directors on all risk areas.

#### **Chief Compliance Officer**

The Compliance function assists Nykredit's Management in ensuring regulatory compliance at any time. Compliance is responsible for identifying, assessing, advising on, controlling, monitoring and reporting Nykredit's compliance risk.

The Head of Nykredit's Compliance function has been appointed Chief Compliance Officer. The Chief Compliance Officer is responsible for all management reporting with respect to compliance risk.

#### **Anti-money laundering officer**

The Group Executive Board has appointed a Group Managing Director to be in charge of implementing and ensuring management focus on measures to prevent financial crime throughout the Group. The Group Managing Director is also anti-money laundering officer at the executive level in Nykredit Realkredit A/S.

The Executive Boards of the other Group companies have each appointed anti-money laundering officers at the executive level in charge of implementing and ensuring management focus on measures to prevent financial crime in their respective Group companies.

#### **Assistant Risk and Compliance Officers**

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 embed the risk culture across Nykredit.

## 2.4.2 Boards and committees

The Board of Directors of Nykredit Realkredit A/S has appointed an Audit Board, a Remuneration Board, a Nomination Board and a Risk Board. These boards 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.

### **Audit Board**

The principal tasks of the Audit Board 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, 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.

The Audit Board held six meetings in 2017.

### **Remuneration Board**

The principal tasks of the Remuneration Board 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 they are observed. Moreover, the Remuneration Board makes proposals for remuneration of the Board of Directors and the Group Executive Board. It reviews the criteria for appointing risk takers and assesses the Group's risks relative to the remuneration structure, which is coordinated with the Risk Board as required.

The Remuneration Board held four meetings in 2017.

Details on bonuses to risk takers, remuneration policy and practices are available at [nykredit.com/remuneration](http://nykredit.com/remuneration).

### **Nomination Board**

The Nomination Board is tasked with making recommendations to the Board of Directors on the nomination of candidates for the Board of Directors and the Executive Board. Other accountabilities are setting targets for the under-represented gender on the Board of Directors and laying down a diversity policy for the Board of Directors. In addition, the Nomination Board, reporting to the Board of Directors, is overall responsible for defining the skills profiles of the Board of Directors and the Executive Board and the continuous evaluation of their work and results.

The Nomination Board held four meetings in 2017.

### **Risk Board**

The function of the Risk Board 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, etc. The Risk Board assists the Board of Directors in overseeing that the risk appetite laid down by the Board of Directors is implemented correctly in the organisation.

The Risk Board held six meetings in 2017.

## **Nykredit Group**

### **Board responsibilities and structure**

#### **Responsibilities**

- Governance and strategic management
- Lays down overall policies and guidelines

#### **Board committees**

##### **Audit Board**

- Monitors accounting and audit matters, including internal controls and risk management

##### **Remuneration Board**

- Prepares and recommends remuneration policy and other remuneration matters to the Board of Directors.

##### **Nomination Board**

- Recommends candidates for the Board of Directors and Executive Board
- Prepares decisions on the skills profiles etc of the Board of Directors and Executive Board

##### **Risk Board**

- Advises the Board of Directors on the risk profile and strategy of the Nykredit Group

## Committees

The Executive Board has set up five committees in Nykredit, which perform specific tasks within selected fields. Each committee must report to the Group Executive Board, and the individual members may at any time request the Executive Board of a Group subsidiary to decide on a case.

The *Risk Committee* is charged with overseeing Nykredit's overall risk profile and capital requirements as well as assisting the managements of the respective companies in ensuring compliance with current legislation and practice.

The *Credits Committee* is charged with approving credit applications and loan impairments as well as overseeing the management of risks in Nykredit's credits area. The Committee monitors Nykredit's credit portfolio and submits recommendations on credit policies etc to the individual Executive Boards and Boards of Directors of Group companies.

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 *Contingency Committee* has the overall responsibility for compliance with IT security policy rules in relation to contingencies (major accidents and catastrophes) and the Group's entire spectrum of contingency plans covering IT as well as business aspects.

The *Products Committee*'s overarching objective is to ensure that the development and maintenance of new products and concepts comply with the Group's business model and the guidelines approved by the Group Executive Board. Further, the Committee must monitor and evaluate the existing products and assess any need for changing or adjusting individual products or an entire product range.

For further information on Nykredit's Group-level boards and committees, please see Nykredit's Annual Report available at [nykredit.com/reports](http://nykredit.com/reports).

### Nykredit Group

#### Executive Board responsibilities and Group-level committees

##### Responsibilities

- Overall day-to-day management
- Strategic planning and business development
- Operationalises policies and guidelines

##### Group committees

##### Governance and management within selected fields

##### Risk Committee

- Monitors risk profile and capital requirement
- General risk policy

##### Credits Committee

- Manages and operationalises the credit policy
- Approves credit applications and loan impairments and oversees the management of risk in the credits area

##### Asset/Liability Committee

- Capital, funding, liquidity and market risk management
- SDO cover pool management

##### Contingency Committee

- Responsible for compliance with contingency plans and related IT security policy

##### Products Committee

- Ensures development and maintenance of services products and concepts

## 2.5 RISK POLICY

The risk policy sets out an overall capital target and risk appetite in respect of all types of risk. The overall risk appetite is determined on the basis of Nykredit's strategy, regulatory and credit rating agency capital requirements and the capital targets set out by the Board of Directors. The risk appetite reflects Nykredit's overall tolerance for taking risks. In some areas, it is directly measurable through credit policies, targets, limits or restrictions, while in other areas the risk appetite is expressed through general objectives.

### 2.5.1 Risk appetite

Nykredit focuses on having a risk management framework that ensures agreement between our risk profile, risk appetite and current legislation, and on having a robust capital structure. Risk management is to ensure financial solutions that are viable in the short, medium and long term.

The Group's risk appetite reflects its overall tolerance for assuming risks in the context of its business model and the Group strategy. The specific 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 policies and 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 by preparing a capital budget annually. The budget should be seen in the context of the overall capital and strategy plan. Capital is allocated and prioritised with due consideration for business returns and strategic decisions.

### Nykredit's overall risk appetite

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

<b>Capital:</b>	by holding CET1 capital at 15.5-16.5% of REA. To this will be added the further build-up of capital to meet the upcoming Basel requirements, see 3.2 below.
<b>Leverage:</b>	by limiting financial leverage so that Tier 1 capital after deductions relative to lending makes up at least the applicable regulatory requirement at any time, currently 3.25% minimum.
<b>Credit:</b>	by having a credit policy that regulates the level of large exposures as well as the composition of the loan portfolio, lending to personal customers and special lending segments. Nykredit manages credit risk according to a portfolio management approach whereby significant concentrations are avoided, supplemented with reviews of single-name concentration and weak exposures as well as continuous controls.
<b>Market risk:</b>	by having a market risk policy with the main principle that losses on exposures involving market risk must not significantly affect Nykredit's earnings. Market risk is managed by means of estimated losses in stress scenarios. Statistical as well as forward-looking stress scenarios are used to calculate estimated losses.
<b>Liquidity:</b>	by having a liquidity policy which ensures that Nykredit's funding and liquidity management supports the mortgage lending business and ensures competitive prices for customers and Nykredit, regardless of the market conditions. Furthermore, liquidity management must ensure that Nykredit can maintain high ratings and its position as issuer of covered bonds (SDOs).
<b>Operational risk:</b>	by ensuring that operational risks are low relative to other risks and which are assessed on the basis of the probability of a given event and the loss resulting from such event.
<b>Prevention of money laundering and terrorist financing:</b>	Nykredit will use any means available to limit, suspend or discontinue a business relationship, if Nykredit suspects that the customer is misusing or will misuse Nykredit's products, services or supply channels for financial crime purposes.

### Risk policy and risk appetite



<sup>1</sup>Strategic risk, regulatory risk, property valuation risk, insurance risk, IT security risk and contingency plan.

## 2.6 RISK MONITORING

Risks are assessed and monitored on the basis of quantitative risk measurements and qualitative risk assessments prepared by Nykredit's experts in the individual types of risk. The assessments of the individual risks are reported collectively to the relevant management levels.

### 2.6.1 Internal controls

Risk monitoring is based on internal control and risk management systems, which together ensure that all relevant financial aspects are correctly reflected in the form of risk calculations and reports.

The purpose of Nykredit's controls is to ensure that policies and guidelines laid down by the Boards of Directors are observed, and to ensure timely prevention, detection and correction of any errors, deviations or omissions.

Business procedures have been laid down and controls implemented for all material and risk areas, and overall principles and requirements for the preparation of business procedures and a process for the approval of business procedures in material risk areas have been established at Group level. The controls comprise manual and physical controls as well as general IT controls and automatic controls in the IT systems applied.

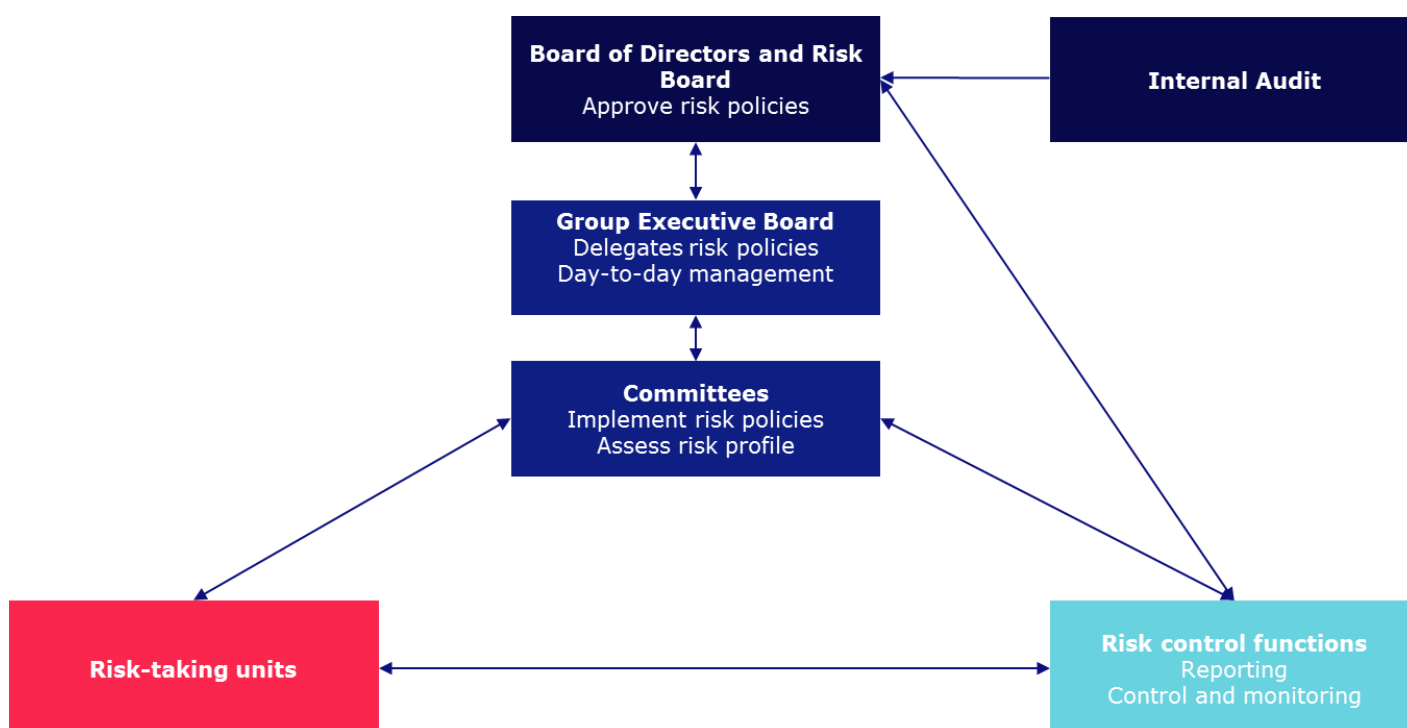
## 2.7 REPORTING AND COMMUNICATION

The risk reporting framework complies with specific principles and current legislation. Each quarter, the Board of Directors receives comprehensive, in-depth risk reporting covering all relevant and significant risks. The risk reporting provides a complete description of the risk landscape through quantitative data and analysis of special focus areas.

At a minimum, the risk reporting covers credit risk, market risk, liquidity risk, operational risk, including compliance risk, IT risk as well as regulatory and strategic risks.

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

### Monitoring, reporting and communication of risk



Note: The above illustrates the main principles behind Nykredit's monitoring, reporting and communication of risk. These principles are described in more detail below.

**Nykredit Realkredit Group**  
**Risk areas reviewed by the Board of Directors**

**Risk management**

Risk policies	Annually	<ul style="list-style-type: none"> <li>Review of risk policies, risk guidelines and risk appetite, including: <ul style="list-style-type: none"> <li>Capital policy, including leverage</li> <li>Credit policy and guidelines for approval of loans and other credit facilities</li> <li>Market risk policy and guidelines</li> <li>Liquidity policy and guidelines</li> <li>Operational risk policy and guidelines</li> <li>IT security policy</li> <li>Insurance cover policy</li> <li>Valuation policy</li> <li>Policy for the prevention of money laundering, terrorist financing and violation of financial sanctions</li> </ul> </li> </ul>
Internal Capital Adequacy Assessment Process (ICAAP)	Annually	<ul style="list-style-type: none"> <li>Review of the Group's internal capital adequacy requirement</li> <li>Presentation of conclusions from stress tests containing the impact of different scenarios on the expected loss and capital requirement.</li> </ul>
Internal Liquidity Adequacy Assessment Process (ILAAP)	Annually	<ul style="list-style-type: none"> <li>Evaluation of the Group's liquidity position and management, including its funding profile and funding schedule. The report includes liquidity risk calculations and assessments through liquidity stress tests etc.</li> </ul>

**Risk reporting**

Capital	Quarterly	<ul style="list-style-type: none"> <li>Own funds, required own funds and internal capital adequacy requirement</li> <li>Leverage ratio</li> </ul>
Credit risk	Quarterly	<ul style="list-style-type: none"> <li>Development in credit risk and parameters, and ratings</li> <li>Concentration risk by industry, loan type and geographical region</li> <li>Housing prices and loan-to-value (LTV) ratios</li> <li>Review, assessment and approval of exposures above a certain limit</li> </ul>
Market risk	Monthly/ quarterly	<ul style="list-style-type: none"> <li>Interest rate, foreign exchange and equity price risks (conventional measures and Value-at-Risk)</li> <li>Credit risk of investment portfolio</li> <li>Backtest of models and stress tests</li> </ul>
Liquidity risk	Monthly/ quarterly	<ul style="list-style-type: none"> <li>Liquidity and excess liquidity coverage for period under review</li> <li>Liquidity stress testing</li> </ul>
Operational risk	Quarterly	<ul style="list-style-type: none"> <li>Events and losses</li> </ul>
Regulatory risk	Quarterly	<ul style="list-style-type: none"> <li>Update on new legislation</li> </ul>
Strategic risk	Quarterly	<ul style="list-style-type: none"> <li>Update on principal strategic risks</li> </ul>
Valuation risk	Quarterly	<ul style="list-style-type: none"> <li>Update on risks relating to property valuation</li> </ul>

## 3. CAPITAL MANAGEMENT

### 3.1 CAPITAL TARGETS 2019

Nykredit's capital policy is laid down annually by the Board of Directors and is to support the Group's strategy and objectives.

In accordance with its business model, Nykredit aims to have robust 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 regardless of economic trends. This implies having adequate access to capital to withstand an economic downturn and losses, and thus being able to maintain active lending also during and after a crisis.

In 2017 Nykredit achieved considerable capital flexibility as a result of the investor solution comprising a number of Danish pension funds. Nykredit thus has access to new CET1 capital through Forenet Kredit and through an investment commitment from the pension funds.

In consultation with the Danish FSA, the Board of Directors has set a long-term CET1 capital requirement at 15.5-16.5% of REA. To this will be added the further build-up of capital to meet the upcoming Basel requirements, see 3.2 below.

### 3.2 NEW CAPITAL REQUIREMENTS FROM THE BASEL COMMITTEE

On 7 December 2017, the Basel Committee published new and stricter capital requirements for banks and mortgage lenders, often referred to as the Basel IV standards. As expected, the standards include a so-called capital floor for credit institutions applying internal models. The capital floor means that institutions, across risk types (credit, market and operational risks), will be subject to a minimum capital requirement which makes up 72.5% of the capital requirement as calculated under the standardised approach. The floor will significantly increase Nykredit's REA compared with today's level. It will impact mortgage loans in particular as they have a very low risk of loss, which will not be allowed for in the risk determination if a floor is introduced.

Moreover, the EU is discussing proposed revisions to the EU's capital requirements framework, including changes to the rules for calculating the capital requirements for market risk. This proposal may result in higher capital requirements and may have an adverse impact on covered bond markets as well.

Nykredit has previously estimated the impact of Basel IV at an increase in REA of around DKK 100bn. Based on the new Basel standards published and the EU proposal for new capital requirements, CRR/CRDV, and based on the Danish FSA's calculation assumptions, detailed calculations now show that Nykredit's REA will increase by about DKK 100bn, of which approximately 80% can be ascribed to private residential mortgage loans and the residual amount to business mortgages, market risk etc.

The Nykredit Group's CET1 capital represented 20.6% of REA at end-2017. On recognition of the estimated impact of the coming Basel rules etc and the impact of IFRS 9 at 1 January 2018, the CET1 capital ratio is estimated at 15.8%.

#### 3.2.1 ALAC, debt buffer requirement and NSFR

A number of new or changed requirements are being, or will be, phased in over the coming years, most importantly:

- Debt buffer requirement
- S&P's requirement of Additional Loss-Absorbing Capacity (ALAC)
- Net Stable Funding Ratio (NSFR)

Nykredit Realkredit A/S and Totalkredit A/S already today meet S&P's ALAC criteria for maintaining its long-term unsecured rating of A, which means raising bail-inable senior debt as required. This adjustment began in 2015 when Nykredit Realkredit A/S issued Tier 2 capital. In 2016 and 2017 Nykredit Realkredit A/S issued so-called Senior Resolution Notes (SRN) – a special form of bail-inable senior debt.

At end-2017 DKK 13.3bn worth of SRN had been issued.

These requirements are described in more detail under "Liquidity risk and funding".



### 3.3 DETERMINATION OF CAPITAL

Nykredit's own funds stood at DKK 85.2bn at end-2017 against DKK 80.6bn at end-2016. Nykredit's Tier 1 capital consists mainly of CET1 capital. As shown in the table, Tier 1 capital totalled DKK 73.3bn. CET1 capital totalled DKK 69.6bn and Additional Tier 1 (AT1) capital totalled DKK 3.7bn. CET1 capital is the most important capital measure as this is the type of capital required to comply with most of the regulatory capital requirements.

In March and May 2017, Nykredit issued SRN in the amount of EUR 500m and EUR 300m, respectively. They do not count towards own funds, but are eligible for meeting S&P's ALAC requirement for rating purposes and the Danish debt buffer requirement for mortgage banks. SRNs are bail-inable debt serving to protect unsecured creditors in case of the issuer's bankruptcy.

A minor part of the Group's CET1 capital consists of a so-called *non-distributable reserve fund* held by Totalcredit A/S and amounts to about DKK 1.6bn. A deduction has been made from CET1 capital amounting to about DKK 0.8bn of the non-distributable reserve fund. The deduction is based on the assessment of the Danish FSA that the non-distributable reserve fund cannot be recognised fully according to a decision made by the Danish FSA concerning the non-distributable reserve fund of another financial undertaking. Nykredit does not agree with the assessment of the Danish FSA, and discussions with the FSA are ongoing with a view to reaching a formal decision concerning the treatment for capital adequacy purposes.

A new accounting standard (IFRS 9) entered into force on 1 January 2018. The accounting standard will impact the amount and scope of impairment of the Group's loans and advances as well as the determination of Nykredit's own funds. It will cause a reduction of CET1 capital, and also influence the calculation of additions/deductions for the difference between IRB losses and impairments. At end-2017, Nykredit had made an addition to own funds (Tier 2) for the difference between IRB losses and impairments.

IFRS 9 only applies to loans and advances at amortised cost, which means that loans and advances measured at fair value (eg mortgage loans) are not included. However, Nykredit will record mortgage loan impairment along the same principles as apply to impairment of loans and advances at amortised cost. The impact on Nykredit's mortgage loan impairments totalled DKK 1.0bn and was recognised at end-2017 in the determination of own funds. The impact after tax was about DKK 0.8bn.

The Nykredit Realkredit Group's CET1 capital totalled 20.6% after recognition of mortgage loan impairment.

For loans and advances measured at amortised cost, this constitutes a change of accounting policy, and the impact has therefore been recognised directly in equity at 1 January 2018. The impact of the changed impairment of guarantees, loan commitments as well as loans and advances measured at amortised cost was DKK 0.6bn at 1 January 2018. The impact after tax was about DKK 0.5bn.

Altogether, the increase in impairment of loans and advances measured at amortised cost as well as loans and advances measured at fair value was approximately DKK 1.6bn. At 1 January 2018, the CET1 capital ratios of the Nykredit Realkredit Group and the Nykredit Bank Group were 20.5% and 19.7%, respectively, after recognition of the net impact of IFRS 9 as at 1 January 2018.

#### Nykredit Realkredit Group Own funds

Year-end DKK million	2017	2016
<b>Common Equity Tier 1 (CET1) capital</b>		
<b>CET1 capital before deductions</b>	<b>73,436</b>	<b>65,548</b>
<b>CET1 primary deductions</b>		
Proposed dividend	(4,100)	-
Prudent valuation	(65)	(95)
Intangible assets, including goodwill, and deferred capitalised tax assets	(184)	-
Minority interests	815	988
Deferred tax assets		(37)
Assets in defined-benefit pension fund	0	(241)
Deduction for difference between IRB losses and impairments	0	(329)
Other deductions	(327)	
Transitional adjustment of deductions	65	228
<b>Total CET1 capital deductions</b>	<b>(3,795)</b>	<b>315</b>
<b>Total CET1 capital</b>	<b>69,641</b>	<b>65,863</b>
<b>Additional Tier 1 (AT1) capital</b>		
<b>AT1 capital</b>	<b>3,860</b>	<b>3,800</b>
Transitional adjustment of deductions	3	(82)
AT1 capital deductions	(159)	(42)
<b>Total AT1 capital deductions</b>		<b>(91)</b>
<b>Total AT1 capital</b>	<b>3,704</b>	<b>3,676</b>
<b>Total Tier 1 capital</b>	<b>73,345</b>	<b>69,539</b>
<b>Tier 2 capital</b>		
Subordinated debt	11,519	11,315
<b>Tier 2 capital before deductions</b>	<b>11,519</b>	<b>11,315</b>
<b>Tier 2 capital deductions</b>		
Transitional adjustment of deductions	(129)	(280)
Other deductions	461	25
<b>Total Tier 2 capital deductions</b>		<b>(255)</b>
<b>Total Tier 2 capital</b>	<b>11,852</b>	<b>11,060</b>
<b>Own funds</b>	<b>85,196</b>	<b>80,599</b>

#### Nykredit Realkredit Group Loan capital, end-2017

	Interest rate	Call date	Maturity	Capital
<b>Nykredit Realkredit A/S</b>				
Additional Tier 1 capital	6.25%	26 October 2020	Perpetual	EUR 500m
Tier 2 capital (CoCo)	4.00%	3 June 2021	3 June 2036	EUR 600m
Tier 2 capital	4% until 28 October 2017, then 6M Euribor 1.71%	-	28 October 2030	EUR 50m
Tier 2 capital	2.75%	17 November 2022	17 November 2027	EUR 800m
<b>Total</b>				<b>EUR 1,950m</b>

**Nykredit Realkredit Group  
Capital**

% of REA	Capital ratio, end-2017	Total regulatory requirement <sup>1</sup> , beginning of 2018	Total regulatory requirement, fully loaded, beginning of 2019 <sup>2,3</sup>
<b>Nykredit Realkredit Group</b>			
Common Equity Tier 1 capital <sup>4</sup>	20.6	9.2	10.2-12.7
Tier 1 capital	21.7	11.1	12.1-14.6
Own funds	25.3	13.7	14.7-17.2
<b>Nykredit Realkredit A/S</b>			
Common Equity Tier 1 capital	17.0	8.6	9.7-12.2
Tier 1 capital	17.9	10.3	11.4-13.9
Own funds	20.5	12.6	13.7-16.2
<b>Nykredit Bank Group</b>			
Common Equity Tier 1 capital <sup>4</sup>	20.1	9.5	10.5-13.0
Tier 1 capital	20.1	11.5	12.5-15.0
Own funds	22.3	14.2	15.2-17.7
<b>Totalkredit A/S</b>			
Common Equity Tier 1 capital	23.1	9.5	10.3-12.8
Tier 1 capital	27.2	11.5	12.3-14.8
Own funds	29.6	14.1	14.9-17.4

<sup>1</sup> The regulatory requirements reflect current and fully loaded capital requirements, including the current level under Pillar II. The regulatory requirements thus comprise the internal capital adequacy requirement, SIFI buffer, capital conservation buffer and countercyclical buffer.

<sup>2</sup> The ranges for the total regulatory requirements in 2019 reflect the countercyclical buffer which is determined annually by the Minister for Industry, Business and Financial Affairs and may range from 0% to 2.5%.

It is currently 0% in Denmark. In December 2017, the Systemic Risk Council recommended raising the buffer rate to 0.5% as of March 2019.

<sup>3</sup> Going forward, actual capital ratios will be affected by total REA, which will vary according to developments in economic conditions, any changes to supervisory practices regarding internal models and the effects of changed financial reporting standards (IFRS 9).

<sup>4</sup> At 1 January 2018, the CET1 capital ratios of the Nykredit Realkredit Group and the Nykredit Bank Group were 20.5% and 19.7%, respectively, after recognition of the net impact of IFRS 9 as at 1 January 2018. Nykredit does not apply the transitional arrangements set out in Article 473a (4).

## 3.4 DETERMINATION METHODS

### 3.4.1 Consolidation methods

REA is determined according to the rules of the Danish Financial Business Act and the Capital Requirements Regulation (CRR). 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.

The consolidated risk exposures include:

- Nykredit Realkredit A/S
- Totalkredit A/S
- Nykredit Bank A/S
- Nykredit Leasing A/S
- Nykredit Porteføljeadministration
- Nykredit Ejendomme A/S
- Ejendomsselskabet Kalvebod Brygge

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.

### 3.4.2 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 of Nykredit Realkredit A/S. 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 in 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.

### 3.4.3. Credit risk

Nykredit has been authorised by 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.

#### Nykredit Realkredit Group Consolidation

Name of the entity	Method of regulatory consolidation			Description of the entity
	Full consolidation	Proportionally consolidated	Neither consolidated nor deducted	Deducted
Nykredit Realkredit A/S	X			Credit institution
Totalkredit A/S	X			Credit institution
Nykredit Bank A/S	X			Credit institution
Nykredit Leasing A/S	X			Credit institution
Nykredit Portefølje Adm. A/S	X			Credit institution
Nykredit Ejendomme A/S				Property management
Ejendomsselskabet Kalvebod Brygge	X			Property management
JN Data			X	IT provider

#### Nykredit Realkredit Group

##### Main sources of differences between regulatory exposure amounts and carrying values in financial statements

End-2017	Total	Items subject to			
DKK billion		Credit risk framework	CCR framework	Securitisation framework	Market risk framework
<b>Assets' carrying value amount under the scope of regulatory consolidation</b>	1,515	1,293	74	-	148
Liabilities' carrying value amount under the regulatory scope of consolidation	(111)	-	48	-	63
Total net amount under the regulatory scope of consolidation	1,407	1,293	29	-	86
Off-balance-sheet amounts	71	71		-	-
Differences in PFE (potential future exposure)	4		4	-	-
Differences due to different netting rules	9		(9)	-	-
Differences due to consideration of provisions	8	8		-	-
Exposures treated under market risk in the trading book	(86)			-	(86)
Other differences	45		45	-	-
<b>Exposure amounts considered for regulatory purposes</b>	<b>1,438</b>	<b>1,372</b>	<b>67</b>	<b>-</b>	<b>-</b>

### 3.4.4. 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 estimate the general risk related to:

- equities
- debt instruments
- foreign exchange.

Only equities in the trading book are included.

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

- debt instruments
- foreign exchange.

For market risk in Totalkredit A/S 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. All positions in the trading book 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, cf 3.3.

### 3.4.5 Operational risk

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

## 3.5 RISK EXPOSURE AMOUNT

At end-2017 Nykredit's risk exposure amount (REA) totalled DKK 336.6bn. With own funds at DKK 85.2bn, this corresponded to a total capital ratio of 25.3% against 23.0% at end-2016. CET1 capital came to DKK 69.6bn, corresponding to a CET1 capital ratio of 20.6% against 18.8% at end-2016.

Since end-2016, REA has dropped from DKK 349bn to DKK 337bn, owing in part to increasing housing prices and a resulting lower credit risk exposure.

The total capital requirement including capital buffers is 13.7% in 2018, of which CET1 capital represents about 7% including Pillar II, cf 3.6.2.

### Nykredit Realkredit Group Overview of risk-weighted exposures

DKK million	REA		Minimum capital requirements
	Q4/2017	Q4/2016	Q4/2017
<b>Credit risk (excluding counterparty credit risk (CCR))</b>	<b>267,997</b>	<b>279,686</b>	<b>21,440</b>
Of which the standardised approach	11,983	12,550	959
Of which the advanced IRB (AIRB) approach	245,076	256,611	19,606
Of which equity IRB under the simple risk-weighted approach	8,695	8,004	696
Of which other non credit-obligation assets	2,243	2,521	179
<b>CCR</b>	<b>15,427</b>	<b>18,425</b>	<b>1,234</b>
Of which mark to market	14,820	17,228	1,185
Of which risk exposure amount for contributions to the default fund of a CCP	78	183	6
Of which CVA	530	1,014	42
<b>Settlement risk</b>	<b>2</b>	<b>85</b>	<b>0</b>
<b>Market risk</b>	<b>24,722</b>	<b>25,352</b>	<b>1,978</b>
Of which the standardised approach	9,472	10,722	758
Of which IMA	15,250	14,631	1,220
<b>Operational risk</b>	<b>21,246</b>	<b>19,636</b>	<b>1,700</b>
Of which basic indicator approach	21,246	19,636	1,700
<b>Amounts below the thresholds for deduction (subject to 250% risk weight)</b>	<b>7,219</b>	<b>6,164</b>	<b>577</b>
<b>Total</b>	<b>336,613</b>	<b>349,348</b>	<b>26,929</b>
<b>Own funds</b>	<b>85,196</b>	<b>80,599</b>	

Note: Own funds must represent at least 6.4% of REA determined under Basel I. Nykredit's minimum requirement calculated under the transitional rule (Basel I) came to DKK 48.9bn at end-2017. The transitional rule will lapse in 2018.

### 3.6 REQUIRED OWN FUNDS

Pursuant to the Danish Financial Business Act, it is the responsibility of the Board of Directors and the Executive Board to ensure that Nykredit has sufficient capital and thus to determine the required own funds. The required own funds are the minimum capital required, in Management's judgement, to cover all significant 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 stood at DKK 34.3bn at end-2017, equal to an internal capital adequacy requirement of 10.2%.

#### 3.6.1 Pillar I

Pillar I capital covers credit risk, market risk and operational risk. The Pillar I requirement is identical to the statutory capital requirement.

#### 3.6.2 Pillar II

Pillar II capital covers other risks as well as an increased capital requirement during a slight economic downturn. The capital requirement during a slight economic downturn is determined by means of stress tests, cf "Stress tests and capital projections". No deductions are made from required own funds for any diversification effects between risk types, business areas or countries.

The determination of Pillar II capital involves a number of assessments. The calculation methods support the aim of maintaining a stable capital level even if the economic climate deteriorates.

#### *Slightly weaker economic climate*

In its Pillar II assessment, Nykredit assumes that a slightly weaker economic climate will set in, which is compared with the economic forecasts from various recognised sources.

#### Nykredit Realkredit Group Required own funds

DKK billion	2017
Credit risk	23.3
Market risk	2.0
Operational risk	1.7
<b>Total Pillar I</b>	<b>27.0</b>
Slightly weaker economic climate (stress tests, etc)	2.7
Other risks <sup>1</sup>	4.1
Model and calculation uncertainties	0.6
<b>Total Pillar II</b>	<b>7.4</b>
<b>Total required own funds</b>	<b>34.3</b>
<b>Internal capital adequacy requirement, %</b>	<b>10.2%</b>

<sup>1</sup> Other risks include assessment of control risk, strategic risk, external risk, concentration risk, liquidity risk, etc.

In a slightly weaker economic climate, the need for capital will grow concurrently with falling property prices and increasing arrears. The calculations also factor in any operating losses due to higher loan impairment charges etc.

#### *Other risks*

The determination of other risks includes assessments of reputation risk, control risk, strategic risk, external risk, validation and backtest results, interest rate risk and credit valuation adjustment (CVA).

In the opinion of the Danish FSA, Danish IRB institutions should allocate capital under Pillar II to cover potential concentration risk. Nykredit has currently reserved capital under Pillar II and initiated a detailed analysis with a view to assessing concentration risk at company and Group levels.

#### *Model and calculation uncertainties*

Nykredit applies various models to calculate the capital requirements under both Pillar I and Pillar II. The determination of the internal capital adequacy requirement includes a capital charge for uncertainties that serves as a buffer, as the calculations depend on statistical methods, choice of model, model properties, etc.

#### Nykredit Realkredit Group Total capital requirement

DKK billion	2017
Credit risk	23.3
Market risk	2.0
Operational risk	1.7
<b>Total Pillar I</b>	<b>27.0</b>
Credit risk	4.9
Market risk	0.7
Operational risk	0.7
Other risks <sup>1</sup>	1.1
<b>Total Pillar II</b>	<b>7.4</b>
<b>Total required own funds</b>	<b>34.3</b>
SIFI buffer requirement (2018)	5.3
Capital conservation buffer (2018)	6.3
Countercyclical capital buffer (2018)	0.0
<b>Total capital requirement (2018)</b>	<b>46.0</b>

<sup>1</sup> Other risks include assessment of control risk, strategic risk, external risk, concentration risk, liquidity risk, etc.

### 3.6.3 Increasing CET1 capital requirements

As a designated systemically important financial institution (SIFI), Nykredit is subject to a special SIFI buffer requirement to be met with CET1 capital. The requirement of 2% will be phased in gradually from 2015 to 2019. The SIFI buffer requirement was 1.2% in 2017 and increases to 1.6% in 2018.

The phase-in of a capital conservation buffer, applicable to all financial institutions, began in 2016. This buffer increases the regulatory CET1 capital requirement. It will be phased in by about 0.6 percentage point per year and will be fully phased in by 2019. The capital conservation buffer requirement was 1.3% in 2017 and increases to 1.9% in 2018.

In addition to this, around half of the Pillar II capital requirement must be met with CET1 capital from 2019 onwards. Lastly, Nykredit must reserve CET1 capital for lending in countries where the countercyclical buffer has been implemented. However, lending in those countries (in the Nordic region) is very limited. The capital requirement regarding the countercyclical buffer in Sweden and Norway totals DKK 903m.

Besides these requirements of a more technical nature, 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 policy, which is described in detail in "Capital targets 2019", allows for the capital requirement on a fully loaded basis combined with a deteriorating economic climate corresponding to the severe recession scenario in the Danish FSA stress test.

#### Nykredit Realkredit Group

##### Minimum CET1 capital requirement

% of REA	2017	2019
Pillar I	4.5%	4.5%
Pillar II	-	~ 1.2%
SIFI buffer requirement	1.2%	2.0%
Capital conservation buffer	1.3%	2.5%
Countercyclical buffer in Denmark	0	0-2.5%
<b>Total</b>	<b>7.0%</b>	<b>10.2-12.7%</b>

### 3.7 STRESS TESTS AND CAPITAL PROJECTIONS

Nykredit applies a number of model-based stress tests and capital projections to determine the required own funds in different macroeconomic scenarios. The results are applied at both Group and company level and are included in the annual assessment by the individual Boards of Directors of the internal capital adequacy requirement as well as in the continuous capital planning. In the determination of the capital requirements, the stress tests are not the only element, but are included in an overall assessment along with the company's capital policy, risk profile and capital structure.

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

The most important macroeconomic factors identified are:

- Property prices
- Interest rates
- Unemployment
- GDP growth.

Nykredit generally operates with three macroeconomic scenarios: a baseline scenario, a slightly weaker economic climate and a severe recession. 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 scenarios operate with the impacts of both rising and falling interest rates. The capital charge is calculated based on the most severe scenario.

Other stress scenarios are used as required for Nykredit Bank and Totalkredit, and/or the scenarios are supplemented with assessments of factors that may have an adverse impact on the companies' risk exposures or capital.

#### **Scenario: Baseline**

This scenario is a neutral projection of the Danish economy based on Nykredit's assessment of the current economic climate.

#### **Stress scenario: Slightly weaker economic climate**

The stress scenario is designed to illustrate a slightly weaker economic climate relative to the baseline scenario. The capital charge is calculated on the basis of rising interest rates, which is the more severe of the two scenarios. The capital charge reflects how much Nykredit's capital requirement would increase if this scenario occurred. The results are included in the determination of the internal capital adequacy requirement.

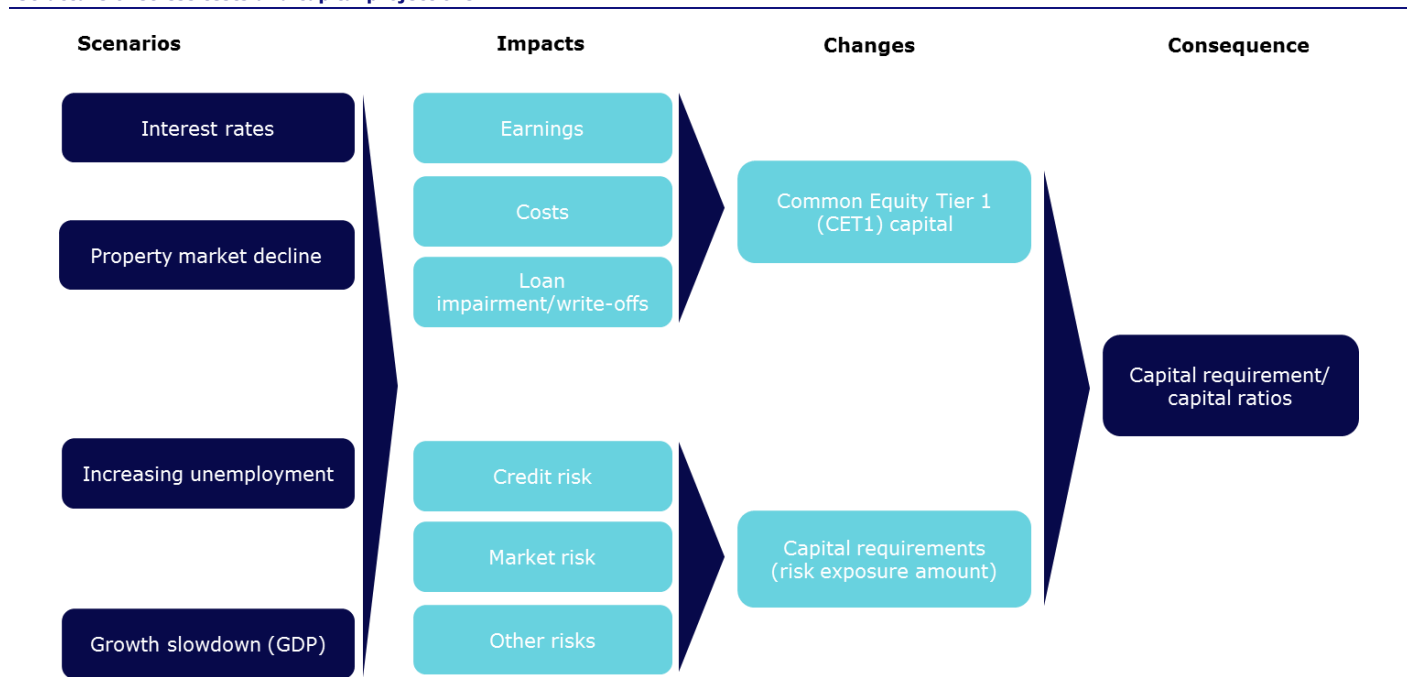
#### **Stress scenario: Severe recession**

A central element of Nykredit's capital policy is to have sufficient own funds, also in the long term and in a severe recession. Nykredit continually calculates the impact of severe recession combined with rising interest rates. The stress scenario reflects an unusual, but not unlikely, situation.

The calculations are factored into the current assessments of capital targets going forward.

According to Nykredit's stress test calculations, REA may increase by about DKK 100bn in a severe recession. The rise reflects the increased capital requirement in case of plunging housing prices, high interest rate levels and high unemployment.

**Nykredit Realkredit Group**  
**Structure of stress tests and capital projections**





### 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.

Nykredit also participates in the stress test exercises of the EBA, most recently in 2016. The results have confirmed Nykredit's strong capital position under the current capital requirements. The EBA will conduct a new stress test exercise in autumn 2018.

### Internal process

The Boards of Directors of the individual Group companies determine at least annually the required own funds and internal capital adequacy requirement (ICAAP result) of their respective companies.

The Boards of Directors will reassess the ICAAP results if any major unexpected events occur.

The determination of the internal capital adequacy requirements by the individual Boards of Directors is based on a number of stress tests as well as an assessment of the company's business model, risk profile and capital structure.

Furthermore, the Risk Board and the Risk Committee closely monitor the development in the internal capital adequacy requirements of the individual companies and are briefed at least quarterly. The Asset/Liability Committee monitors and coordinates the capital, funding and liquidity of the Group and the individual Group companies.

## 3.8 LEVERAGE RATIO

The leverage ratio is defined as the relationship between Tier 1 capital and the balance sheet total (incl off-balance sheet items). The ratio does not factor in any collateral.

The intention is to reduce the risk of excessive leverage and to allow for the potential uncertainty in the determination of capital requirements resulting from the internal models or the standardised approach.

At end-2017 Nykredit's leverage ratio was 4.7%. Nykredit monitors developments with respect to the leverage ratio, which is a central element of Nykredit's capital and issuance policy.

#### Nykredit Realkredit Group

##### Stress scenarios for determination of capital requirement

%	2018	2019	2020
<b>Baseline</b>			
Property prices, growth	2.7	2.5	2.2
Interest rates <sup>1</sup>	0.1	0.6	0.9
Unemployment	3.5	3.6	3.7
GDP growth	2.1	2.0	1.7
<b>Slightly weaker economic climate (applied under Pillar II)</b>			
Property prices, growth	(3.0)	(3.0)	(2.0)
Interest rates <sup>1</sup>	1.4	2.2	3.0
Unemployment	4.8	5.7	6.5
GDP growth	(0.3)	0.0	0.0
<b>Severe recession</b>			
Property prices, growth	(12.0)	(10.0)	(5.0)
Interest rates <sup>1</sup>	2.5	3.5	4.5
Unemployment	6.5	9.0	10.0
GDP growth	(3.0)	(2.0)	0.0

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

#### Nykredit Realkredit Group

##### Leverage ratio

DKK million	2017	2016
Tier 1 capital	73,345	69,539
Leverage ratio exposures	1,528,829	1,492,175
<b>Leverage ratio</b>	<b>4.7%</b>	<b>4.6%</b>



## 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.

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

- The sum of large exposures must be less than 125% of own funds.
- Lending growth must be less than 20% year-on-year. The limit value is determined exclusive of reverse repurchase lending and after impairments.
- Total exposure to the property segment must be less than 25% of total lending.
- The funding ratio must be less than 1.0. The ratio is calculated as loans and advances at amortised cost relative to working capital less bonds in issue with times-to-maturity of less than 1 year.
- The excess liquidity coverage must be greater than 50%. The excess liquidity coverage is the excess liquidity after fulfilment of the minimum statutory requirement.

The current limit values of the Supervisory Diamond model are shown in the table below. Nykredit Bank A/S operates comfortably within the limit values.

Lending exclusive of repo transactions and reverse repurchase lending showed growth of 1.7%. The funding and liquidity ratios are also well above the regulatory limits, As Nykredit Bank A/S's internal requirements are considerably stricter than the limit values of the Supervisory Diamond.

#### Nykredit Bank A/S Supervisory Diamond for banks

	2017	2016
Lending growth (limit value <20%)	1.7%	17.9%
Large exposures (limit value <125%)	0.0%	0.0%
Property exposure (limit value <25%)	11.6%	12.6%
Funding ratio (limit value <1.0)	0.5	0.6
Excess liquidity coverage (limit value 50%)	275%	265%

#### Nykredit Realkredit Group Supervisory Diamond for mortgage lenders

Benchmark	Definition	2017	Limit value
<b>Lending growth in segment:</b>			
Personal customers	Annual lending growth may not exceed 15% in each of the segments personal customers, commercial residential property, agriculture and other business.	3.6%	15.0%
Commercial residential property		3.6%	15.0%
Agricultural properties		(6.9)%	15.0%
Other business		2.3%	15.0%
<b>Borrower's interest rate risk</b>			
Loans to private individuals and for residential rental	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.	14,9%	25.0%
<b>Interest-only loans</b>			
Personal customers	The proportion of interest-only (IO) loans for owner-occupied and holiday housing with an LTV above 75% of the statutory LTV limit may not exceed 10% of total lending.	9.6%	10.0%
<b>Loans with short-term funding:</b>			
Refinancing (annually)	The proportion of loans to be refinanced must be below 25% per year and below 12.5% per quarter.	15.3%	25.0%
Refinancing (quarterly)		4.4%	12.5%
<b>Large exposures</b>			
Loans and advances:equity	The sum of the 20 largest exposures must be less than equity.	35.9%	100%

### 3.9.2 Mortgage lenders

In December 2014, the Danish FSA introduced a Supervisory Diamond for mortgage lenders. In parallel to the Supervisory Diamond, bank loans resembling mortgage loans will be subject to special supervision. The Supervisory Diamond for mortgage lenders is a strictly Danish initiative and does not stem from EU legislation.

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 be less than equity.
- 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 housing with an LTV 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.

Repayment loans and loans with longer-dated funding have become more attractive than before, and the prices of the previously very popular IO ARMs with 1-year interest reset are no longer attractive to our customers, partly due to the increased refinancing costs. Furthermore, a significant share of personal customers started amortising their loans when the IO periods ended.

## 4. CREDIT RISK

Credit risk reflects the risk of loss resulting from Nykredit's customers and counterparties defaulting on their obligations.

Nykredit's credit exposures mainly consist of mortgage loans. As the mortgage loans are secured by real estate, credit risk is low. Credit risk on mortgage loans is typically characterised by stable development.

Nykredit's portfolios have shown a positive trend over the past year, and the level of credit risk is low. Arrears ratios have been declining for some portfolios and stable for others. Write-offs have been low. Property prices have continued their upward trend all over Denmark, thereby increasing the security provided by way of mortgages. General macroeconomic conditions have developed favourably.

### 4.1 CREDIT POLICY

Nykredit has a country-wide presence and a comprehensive distribution network, and customers are served by certified credit officers in Nykredit's customer centres and in the Totalkredit partner banks. Our local presence and customer proximity enables us to offer our customers efficient lending supported by cooperation with specialised Group functions.

Credit risk is managed in accordance with the Group's credit policy, which lays down the risk appetites of the individual Group companies. The credit policy is reviewed and adopted by the Boards of Directors and is based on the Nykredit Group's strategy and the aim that customers should perceive Nykredit and Totalkredit A/S as reliable and qualified partners.

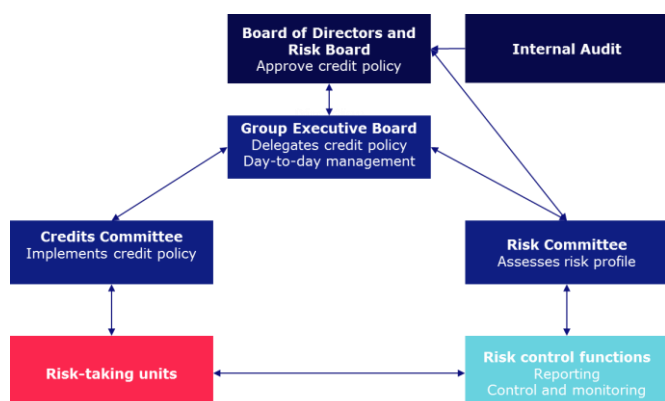
Based on the credit policy, credit applications are assessed against the customers' willingness and ability to meet their obligations to Nykredit and Totalkredit A/S, their creditworthiness being the core element. The credit assessments factor in any security provided, including mortgages on real estate.

Totalkredit A/S's business concept is based on a strategic alliance with 57 Danish local and regional banks undertaking the distribution of Totalkredit loans, customer advisory services, customer assessment, case processing and customer services.

The credit policy ensures that credit is granted in accordance with the objectives of the credit policy and the Totalkredit concept and generally in compliance with Danish mortgage legislation, the Financial Business Act, good business practice and other relevant rules and regulations.

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.

#### Monitoring and reporting of credit risk



## 4.2 LENDING GUIDELINES AND PROCESS

Nykredit's customer centres have been authorised to process most credit applications independently, as it is Nykredit's aim to process most credit applications locally. The authority comes with a requirement of certification in credit policy and business processes every three years.

Which level of the credit approval hierarchy determines a credit application in Nykredit generally depends on the size of the exposure. The customer centres are authorised to approve applications up to a certain limit. Nykredit has five regional credit units which process credit applications from business customers exceeding the authority assigned to the customer centres. Larger applications are processed centrally by Group Credits, unless they involve exposures requiring escalation to the Credits Committee (see "Governance and management of risk"), the Executive Boards or the Boards of Directors.

Which level of the credit approval hierarchy determines a mortgage loan application in Totalkredit A/S depends on the value of the property serving as security for the loan. As regards its business credit applications, the level is determined by the size of the exposure, in the same way as for customers of Nykredit Realkredit A/S and Nykredit Bank A/S.

The Boards of Directors of the Group are presented with the Group's largest credit applications for approval/granting or briefing on a current basis and as part of the annual asset review. They are also briefed quarterly about any write-offs and impairment charges.

Group Credits is responsible for managing and monitoring credit risk in accordance with the guidelines laid down by the Board of Directors and the Group Executive Board. Group Credits is responsible for reporting on individual exposures and the portfolio targets set out in the credit policy for Nykredit and Totalkredit A/S.

### Credit approval hierarchy



Note: Nykredit Bank A/S and Totalkredit A/S have similar credit approval structures.

Nykredit uses credit risk models for credit assessment, risk management, capital management, impairment provisions and pricing. The Risk Committee is responsible for approving credit risk models and receives reports on credit risk at portfolio level (see "Models for determination of credit risk").

### 4.2.1 Nykredit's credit approval process

The use of credit risk models is an integrated part of the business processes. Credit assessments are based on model-based customer ratings reflecting the customer's probability of default.

For the approval of loans, the customer rating is supplemented with an assessment of the customer's financial position and any other relevant characteristics such as financial strength, resilience to external factors and, for businesses, managerial strength. Such assessment is based on credit policy rules and guidelines. The assessment also considers the quality of any security provided.

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

### 4.2.2 Totalkredit A/S'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, as mentioned above, is undertaken by Totalkredit A/S. Assessments of business customers, however, are carried out centrally by Totalkredit A/S on the basis of an initial credit assessment by the partner bank.

The assessments are centred around a customer rating calculated in Totalkredit A/S's internal credit risk models. Partner banks using their own IRB models approved by the Danish Financial Supervisory Authority (FSA) will use these models for customer assessments.

Totalkredit A/S and the individual partner bank share the risk relating to the loans according to the principles set out in the agreement between Totalkredit A/S and the partner banks. The partner banks provide security to Totalkredit A/S by way of a right of set-off and guarantees for the loans distributed by them. This security provides an incentive for the partner banks to carry out a thorough and comprehensive assessment of customer creditworthiness and the mortgageability of the property.

The aim of this security model is to minimise losses on customers in general and, in the event of losses, to have these covered by the relevant partner banks. In case of particularly risky loans where the ordinary business procedures are derogated from, the partner bank must provide a guarantee exceeding the security provided for ordinary loans. The security model thus means that Nykredit's credit risk is low.

### 4.3 CONTROL AND FOLLOW-UP

Credit risk control and follow-up is based on a portfolio management approach combined with review of individual exposures. Approvals are reviewed regularly, as are weak exposures. The Risk function monitors the continuous follow-up and control undertaken by Group Credits.

Internal Audit is responsible for overseeing the internal control environment and for credit risk management.

#### 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 Board of Directors to evaluate the credit policy and make the required adjustments in relation to lending at single-name level (policy rules and 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.

Group Credits applies a number of tools in its day-to-day credit risk management. Focus is on the limits for large exposures and for portfolio distribution by industry, geography and other risk types. For example, high lending growth within a given risk type will attract the attention of the Credits Committee and the Group Executive Board even if lending is still comfortably below the portfolio limit for the risk type in question.

#### 4.3.2 Review of individual exposures

The largest exposures are reviewed at least once a year. This forms part of the monitoring of credit exposures and is based on financial and customer information and ratings, and it is a key element of the control environment.

The heads of Nykredit's customer centres have the day-to-day responsibility for local credit risk management, including the review of weak exposures and local spot checks of new approvals. The same applies to Totalkredit's business exposures. As regards Totalkredit's personal exposures, the individual partner bank is responsible for ensuring satisfactory loan portfolio management.

Group Credits performs a central controlling function in all the Group's companies, assessing new lending against the credit policy. Credit controlling is based on spot checks. In each control, any processing errors and derogations from the policy rules and guidelines of the credit policy are registered. It is assessed whether the overall level of approvals is within the credit risk appetite. Also, thematic analyses are undertaken and customer centres are reviewed.

#### 4.3.3 Process for non-performing exposures

Customers are divided into ordinary exposures and weak exposures. All weak exposures are reviewed at least once a year. Banking exposures are reviewed quarterly.

At Nykredit, customers are designated as weak exposures if they are rated 0 to 2, with or without objective evidence of impairment (OEI). At Totalkredit A/S, customers with personal mortgages distributed by partner banks are designated as weak exposures if there is reasonable doubt that they are able and willing to repay their debt.

Customers with Totalkredit business mortgages, however, are identified as weak exposures on the basis of their ratings, or if there is reasonable doubt that they are able and/or willing to meet their obligations to Totalkredit. This also applies to Totalkredit personal mortgages arranged by Nykredit.

#### Review of weak exposures

As a minimum, the review includes an assessment of whether the customer rating is appropriate and thus whether the exposure is still weak. Also, it is checked that the strategy designed for the customer is adhered to.

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 adjusted or the override removed. Totalkredit's business customer ratings may also be subject to override, but only centrally by Totalkredit A/S.

The use of overrides is assessed in connection with the regular validation of rating models performed by Nykredit's independent validation unit in the Risk function.

#### Impairment charges

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 OEI. If necessary, impairment provisions are subsequently made for individual exposures. Exposures not subject to individual provisioning are subject to collective review.

Where OEI is identified for private residential mortgage lending, individual impairment provisions are determined automatically using statistical calculations.

Collective impairment provisions are made for groups of loans involving uniform credit risk. Mortgage loans subject to collective provisioning include loans with model-based Probabilities of Default (PDs) over 3% as well as loans in default for which no individual impairment provisions have been made. All bank loans not provided for individually are included in the calculation of collective impairment provisions.

### **IFRS 9 impairment**

A new accounting standard (IFRS 9) entered into force on 1 January 2018. The accounting standard will affect the level and scope of the Group's impairment charges for loans and advances, but also the underlying impairment methodology.

Going forward, impairment provisions for mortgage and bank lending involves three stages:

Stage 1 covers loans and advances without significant increase in credit risk since initial recognition. For this category, impairment provisions are made corresponding to the expected credit losses over a period of 12 months for lending at amortised cost. For loans and advances measured at fair value, initial impairment is expected to be nil, as the value of the loan at the time of recognition is based on the fair value. Subsequently, the impairments will be increased equal to 12 months' expected credit losses based on analysis of the distribution of credit losses throughout the useful life of the loans.

Stage 2 covers loans and advances with significant increase in credit risk since initial recognition. For this category, impairment provisions are made corresponding to the expected credit losses over the asset's time-to-maturity.

Stage 3 covers loans and advances that are credit impaired, and which have been subject to individual provisioning on the specific assumption that the customers will default on their loans. This category largely corresponds to the exposures, which, according to previous policy, were subject to individual impairment provisioning.

Nykredit's impairment calculations are based on further development of existing methods and models for impairment, taking into account forward-looking information and scenarios as well as risk premiums for loans and advances at fair value, cf the rules of the Danish FSA.

The classification of customers into stages 1, 2 and 3 follows the standard definitions of the Danish FSA based on short- and long-term PDs. The definition of default has not been changed and will continue being dictated by the customer's circumstances and payment behaviour (90 days past due).

The model-based impairment charges in stages 1 and 2 are based on transformations of PD and LDG values in the short term (12 months) or long term (remaining lifetime of the product/cyclicality). The parameters are based on Nykredit's IRB models, and forward-looking information is determined according to the same principles as apply to regulatory capital and stress tests. For a small fraction of portfolios with no IRB parameters, simple methods are used based on estimated loss ratios.

Model-based impairment is still subject to management judgement according to the same principles as are applied under the current rules and is supplemented with an assessment of an improved/worsened macro scenario for the long-term PD.

Customers subject to individual impairment provisions under the current rules will chiefly be classified in stage 3. For uniform partial portfolios, the impairment provisions are mechanically adjusted in accordance with the requirements of more than one scenario.

A detailed description of IFRS 9 and its impact is provided in the Nykredit Group's Annual Report available at [nykredit.com/reports](https://nykredit.com/reports).

## 4.4 CURRENT RISK PROFILE AND DEVELOPMENTS

The credit quality of Nykredit's loan portfolio is high, and the portfolio is characterised by low loan-to-values (LTVs) and a low level of defaults. The customer rating distribution is characterised by a majority of good ratings. The risk of loss relating to the portfolio is low, and so are impairment charges and observed losses. This positive loss risk landscape is supported by internal loss models showing low estimated losses. The trend in credit quality and loss risk indicators also shows low levels of new defaults and new impairment charges.

This is underpinned by general economic improvement, with rising housing prices and consequently higher collateral values. The growth potential of the Danish economy has developed significantly. Households appear financially robust, and there is room for additional private consumption growth. Businesses have accumulated a substantial savings surplus in the years following the financial crisis, benefiting investment. Finally, exports are positively affected by the strong competitiveness, and export market growth has accelerated to a 5-year high.

### 4.4.1 Concentration risk

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

Nykredit's portfolio is highly diversified in terms of loan type, geography, loan term and size of debt outstanding. A majority of the mortgage loans (62%) were granted to homeowners.

Nykredit's lending to industry and trades and to office and retail amounted to 12% at end-2017, while lending to agricultural customers accounted for 8%. Nykredit's lending to residential rental customers and housing cooperatives amounted to 8% and 3%, respectively.

The portfolio of business loans is characterised by high credit quality and a low risk of loss. Nykredit's impairment charges and write-offs are low. The loans are well-diversified across sectors, with properties representing a large exposure category due to Nykredit's business model.

The Nykredit Group's portfolio of interest-only (IO) loans was stable, while the portfolio of repayment loans grew by DKK 25bn in 2017. The portfolio of fixed-rate loans grew by DKK

30bn during 2017. The growth in fixed-rate loans derived from loans with as well as without IO periods.

50% of all private residential mortgage loans have an optional IO period. In 2017 the IO periods of private residential mortgage lending equivalent to DKK 24bn expired. Generally, homeowners have started making principal payments on their loans when their IO periods ended, meaning that they had the financial leeway to amortise their housing debt.

About 94% of Nykredit's total exposures at end-2017 were in Denmark. Consequently, there is no concentration of exposures in foreign markets.

Based on the above and indicators defined by the Danish FSA (geography, property type and sector), Nykredit's business lending is not deemed to be concentrated in specific sectors. Nykredit has a high share of private residential lending, but considering the high geographical diversification across Denmark, Nykredit is not deemed to have any notable concentration risk.

Pursuant to the Capital Requirements Regulation (CRR), individual exposures may not exceed 25% of eligible capital after credit risk mitigation. Nykredit had no exposures exceeding this limit in 2017.

The largest single exposure to a non-financial counterparty was DKK 6bn at end-2017, equivalent to 7% of eligible capital.

At end-2017 Nykredit's 20 largest exposures to non-financial counterparties amounted to an aggregate DKK 62.4bn, equivalent to 73% of eligible capital. In 2016 the Bank's 20 largest exposures to non-financial counterparties amounted to DKK 56.7bn, equivalent to 70% of eligible capital.

Nykredit has no single exposures exceeding 10% of eligible capital.

In the opinion of the Danish FSA, Danish IRB institutions should allocate capital under Pillar II to cover potential concentration risk. Nykredit has currently reserved capital under Pillar II and initiated a closer analysis with a view to assessing concentration risk at company and Group levels.

### Nykredit Realkredit Group Geographical distribution of exposures

31.12.2017									
DKK billion	Denmark	Sweden	Germany	Norway	Spain	France	United Kingdom	Other countries	Total
Businesses	431.3	32.7	11.5	1.4	1.3	1.5	0.2	3.9	483.7
Retail	830.5	0.1	0.2	0.1	4.8	3.6	0.0	0.2	839.5
Equities	4.5	0.5	0.3	-	-	-	-	0.2	5.4
Other exposures	2.2	-	-	-	-	-	-	-	2.2
<b>Total IRB approach</b>	<b>1,261.8</b>	<b>32.8</b>	<b>11.6</b>	<b>1.5</b>	<b>6.1</b>	<b>5.1</b>	<b>0.3</b>	<b>11.7</b>	<b>1,330.9</b>
<b>Standardised approach</b>	<b>79.8</b>	<b>6.5</b>	<b>2.7</b>	<b>1.5</b>	<b>0.0</b>	<b>0.2</b>	<b>5.2</b>	<b>3.2</b>	<b>99.1</b>
<b>Total</b>	<b>1,341.7</b>	<b>39.3</b>	<b>14.3</b>	<b>2.9</b>	<b>6.1</b>	<b>5.3</b>	<b>5.5</b>	<b>14.9</b>	<b>1,430.0</b>



#### 4.4.2 Focus areas

The following special focus areas were identified in lending in 2017:

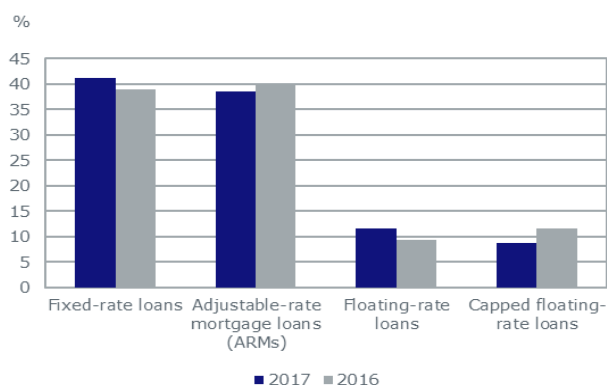
The risk appetite in relation to *personal lending in the growth areas* Copenhagen and Aarhus, which have seen significant housing price growth, is monitored closely. Mortgage lending in these areas accounts for 14% of Nykredit's total mortgage lending. The risk of LTVs exceeding the statutory limits in case of price declines is mitigated by customers increasingly raising repayment, fixed-rate loans. Generally, customer creditworthiness has improved for all customer categories, and consequently for the entire portfolio of new loans in growth areas, since 2016, which saw the implementation of the tightening measures recommended in the Danish FSA's guidelines on prudent credit assessment when granting housing loans in areas with significant price increases.

The *rental sector* is where Nykredit has the largest business exposure. This includes commercial and residential rental properties as well as cooperative and public housing in Denmark. The credit quality is generally high, and the risk of loss is relatively low. The stable economic upturn has boosted the demand for properties, and especially in Copenhagen and other large cities, activity has increased significantly over the past few years. However, an economic turnaround could, like sudden interest rate rises, cause a drop in the demand for commercial as well as residential rental properties.

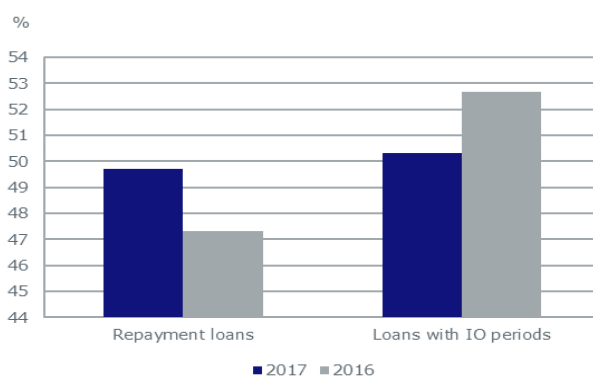
Mortgage lending makes up by far the greater part of Nykredit's *agricultural* lending. High debts have burdened many farmers, and the overall credit quality has been lower in agriculture than in other sectors. But Nykredit's risk of loss is low considering the size of its agricultural lending, as the loans are mainly mortgage loans and the portfolio is characterised by low LTVs. The long-term food production outlook also indicates growth potential for Danish farms and the food cluster, ie the group of sectors mainly based on agriculture, fisheries and food production.

In the *cooperative housing* sector, there is a limited risk deriving from interest rate developments and regulatory conditions. Housing cooperatives have generally met their payment obligations. Some of the housing cooperatives have hedged the interest rate risk of their mortgage loans using swap contracts. Nykredit adjusts the market values of these swaps. Nykredit Bank A/S has no direct interest rate exposure from its portfolio of swaps due to interest rate hedging arrangements with major domestic and foreign banks. There is uncertainty about the legal set-up of cooperative housing and customers' financial outlooks. A few large exposures were terminated in 2017, significantly reducing the concentration risk relating to housing cooperatives with swap contracts. End-2017 saw the conclusion of a broad political agreement to ensure more resilient housing cooperatives including provisions on their establishment, financing, valuation and operation.

**Nykredit Realkredit Group**  
**Private residential lending by loan type**



**Nykredit Realkredit Group**  
**Private residential lending with/without IO periods**



**Nykredit Realkredit Group**  
**Exposure by sector**

DKK billion	31.12.2017
Personal customers	692.7
Public housing	68.2
Other residential rental	70.9
Other services	8.5
Construction	13.6
Retail and wholesale	58.1
Finance and insurance	33.6
Manufacturing	49.1
Public administration, institutions and education	16.7
Professionals	30.3
Agriculture	90.8
Transport and goods handling	9.1
Private housing cooperatives	44.5
Commercial property rental	137.1
Other	106.8
<b>Total</b>	<b>1,430.0</b>

#### 4.4.3 Write-offs and arrears

In connection with Nykredit's mortgage lending, a borrower is deemed to be in default if payment is in arrears for 75 days. Below, the proportion of 75-day arrears will be referred to as the arrears ratio.

Over the past year, arrears have followed a steadily declining trend for both personal and business customers. The trend since 2010 is also a decline in arrears ratios.

Write-offs are still low, both in the personal and the business segments.

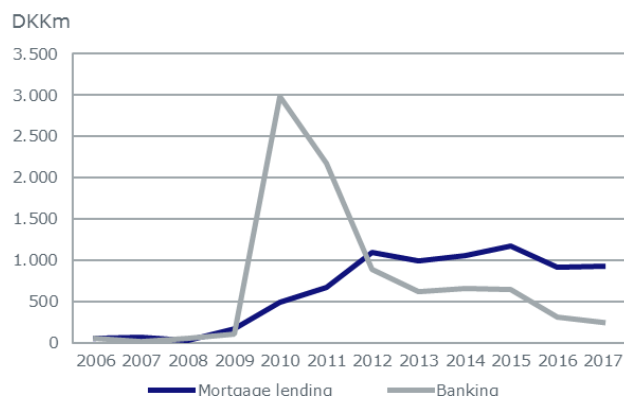
Arrears and write-offs are low in the cities in particular where prices have surged. In areas where the price rises occurred with some lag, including South Sealand and Lolland-Falster, higher write-offs and arrears levels have been observed.

Impairment charges for Nykredit's loans and advances (earnings impact) came to DKK 0.4bn in 2017 against DKK 0.7bn in 2016. Impairment charges for loans and advances through profit or loss include changes for the year in individual and collective impairment provisions as well as write-offs for the year.

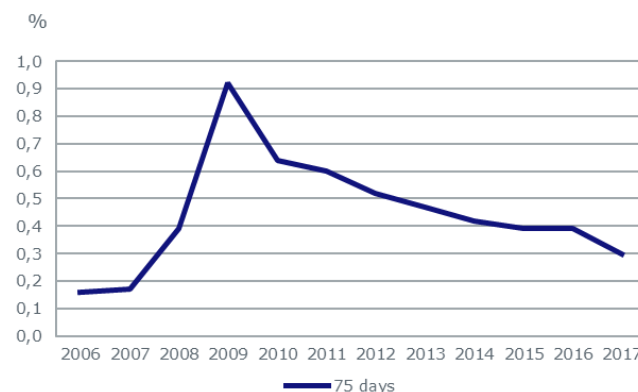
The lower earnings impact mainly reflects a drop in individual impairment provisions. Model-based impairment has also followed the declining trend.

Nykredit's impairment provisions for potential future losses on mortgage and bank lending totalled DKK 7.9bn at end-2017. Total provisions for mortgage loan impairment were unchanged at DKK 5.6bn (0.5% of lending). Total provisions for bank loan impairment declined by DKK 0.3bn to DKK 2.3bn (4.2% of lending).

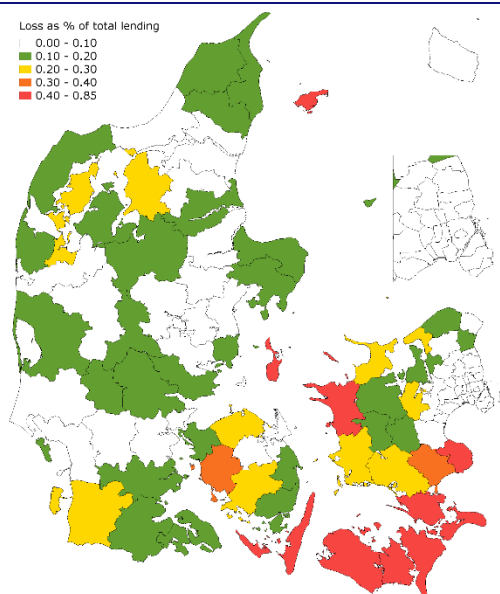
**Nykredit Realkredit Group**  
**Write-offs**



**Nykredit Realkredit Group**  
**Arrears ratio (75 days past due) mortgage lending**

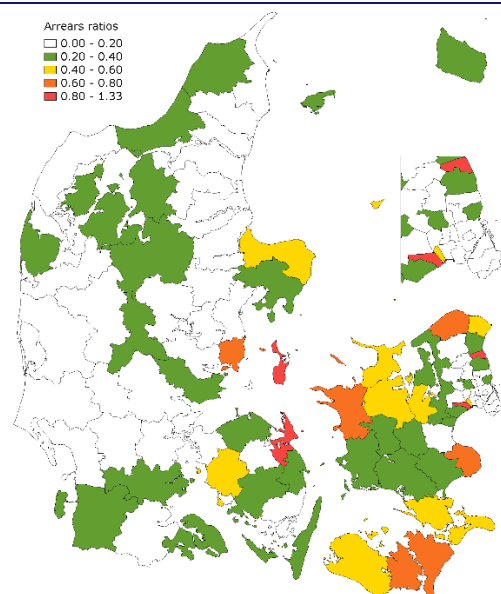


**Nykredit Realkredit Group**  
**Private residential property – write-offs relative to total lending 2017**



Note: The loss ratio for private residential property was 0.10% at national level at end-2017.

**Nykredit Realkredit Group**  
**Private residential property – arrears 2017**



Note: The 75-day arrears ratio for private residential property was 0.22% at national level at end-2017.



For Nykredit as a whole, 2.1% of exposures were in default at end-2017. About 21% of exposures in default had been provided for. For mortgage lending, the proportion of exposures in default was about 2% and for bank lending about 3.8%. The proportion of exposures in default declined from 2016 to 2017. The proportion of exposures provided for relative to exposures in default was lower for Nykredit Realkredit A/S and Totalkredit A/S than for Nykredit Bank A/S, as their exposures are fully secured by mortgages on real estate.

Total write-offs on the Group's exposures in 2017 were DKK 1.2bn, equal to a loss ratio of 0.1%. This is a reduction of DKK 0.1bn compared with 2016. Nykredit's mortgage loan losses amounted to DKK 0.9bn. About 49% of the losses were on private residential lending, while 51% was on business lending. Nykredit Bank A/S's loan losses amounted to DKK 0.3bn.

Both mortgage loan and bank loan losses in 2017 were in line with the level recorded in 2016.

The fairly low loss level in 2017 was underpinned by the current economic upturn and growth. The combination of low interest rates and relatively low unemployment supports the ability to pay of personal customers in particular.

The overall picture of Nykredit's bank loan losses is positive. At end-2017 the loss ratio was 0.5% (excluding reverse repurchase lending). 75% of the Bank's losses related to business lending.

During 2017 the Nykredit acquired 95 properties by foreclosure and sold 146. The property portfolio counted 63 properties at end-2017. Both the number of properties acquired during the year and the portfolio of acquired properties have reduced considerably every year since 2012. At the beginning of the 1990s, the portfolio comprised about 1,500 acquired properties.

#### 4.4.4 Customer ratings

As a result of the generally favourable macroeconomic trends, the credit quality of 77% of Nykredit's exposures was in the range ordinary to high (ratings 6-10) at end-2017. These customers typically have robust finances and make timely payments.

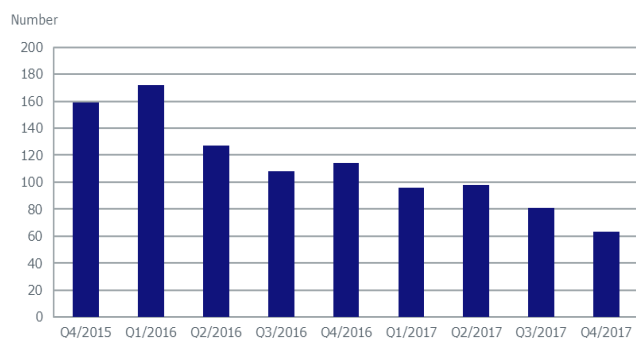
This type of customers made up 79% of Nykredit's personal customers, and for business customers, excluding Corporate & Institutional Banking (CIB), the percentage was 61%. In the CIB segment, the credit quality of 92% of customers was in the range ordinary to high.

At end-2017 16% 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 14% of personal customers, and for business customers, excluding CIB, the percentage was 27%. The ratio for CIB was 6%.

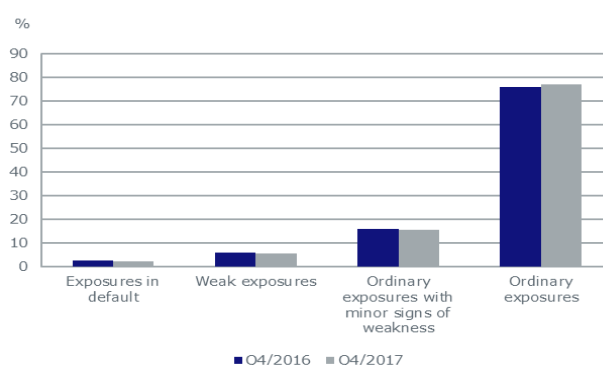
The rest of Nykredit's customers were weak exposures (ratings 0-2, 6%) and exposures in default (2%). This category consists of customers who have not made timely payments, customers with a negative net worth or equity, and customers with low or negative earnings. Customers with objective evidence of impairment (OEI) are also in this group. 3% of Nykredit's customers showed OEI at end-2017.

The distribution of customer ratings improved slightly in 2017 compared with 2016. A decline in exposures in default from 3% to 2% and a rise in the share of customers with improved ratings from 76% to 77% were observed.

**Nykredit Realkredit Group**  
**Properties acquired by foreclosure**



**Nykredit Realkredit Group**  
**Ratings, EAD-weighted**



## 4.5 SECURITY

The decision to grant a loan is based on a customer's credit-worthiness and the security provided. The greater part of Nykredit's 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 at the time of loan granting and is subsequently monitored on a continuous basis. Valuations are based on the marketability, stability of value, alternative use, letting potential, etc of the property. Nykredit generally always performs a manual valuation, but also applies a statistical model in connection with the processing of loans for detached and terraced houses and owner-occupied flats where statistical valuation is particularly accurate. Such valuations are subject to approval by the valuer in the relevant geographical area and are monitored centrally.

Following the initial valuation, the market value of a property is monitored regularly. The statistical valuations, which are applied to detached and terraced houses, owner-occupied flats and holiday homes, are performed centrally and supplemented with local valuations as required.

Nykredit has set up a board to monitor market conditions and identify areas and property types which should be checked separately.

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:

- 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.

LTV ratios are determined quarterly. The LTV ratios referred to below are average LTVs.

At end-2017, the LTV level of the Group's total loan portfolio was 63%, down 1.5 percentage point on end-2016.

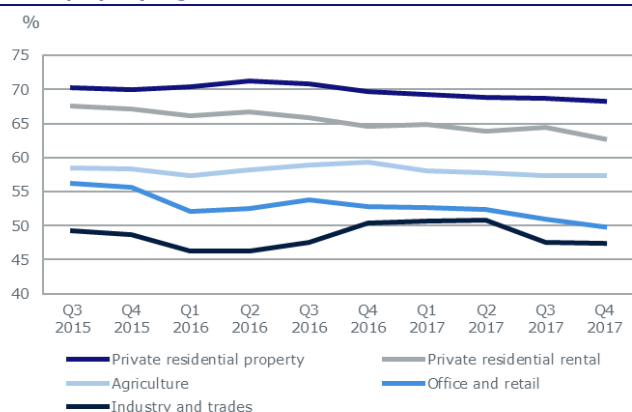
The LTV level of the Group's private residential lending dropped from 70% at end-2016 to 68% at end-2017.

The LTV level of sectors comprised in total business lending was in the range of 47-63% at end-2017, representing a small decline on end-2016.

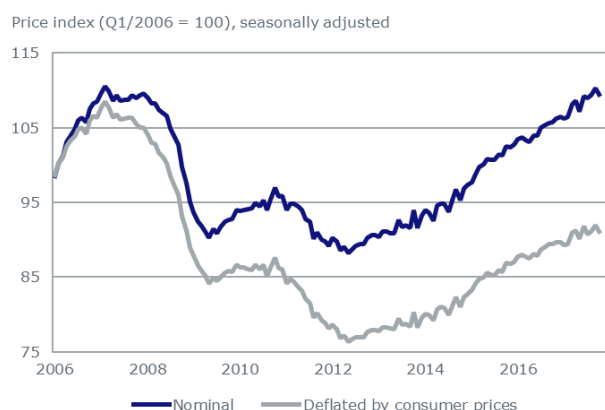
At end-2017, 0.4% of the Group's private residential mortgage lending had LTVs over 100%. The bulk of the Group's loans with LTVs over 100% were granted to homeowners in the Sealand Region.

Housing prices have seen an uptrend since 2012, albeit with considerable regional variation. Recent years' housing market improvement has been based in and around the cities but has spread to a larger part of Denmark.

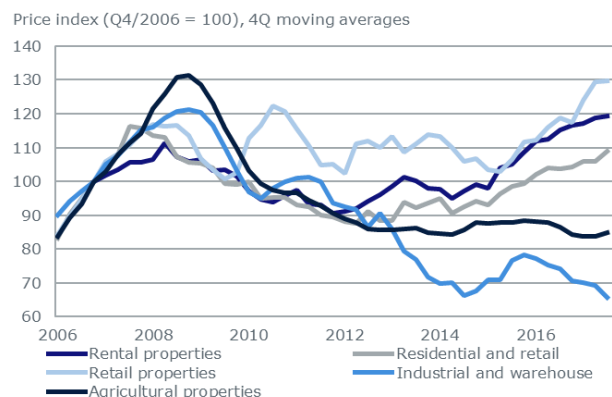
**Nykredit Realkredit Group**  
**LTVs – property segments**



**Nykredit Realkredit Group**  
**Detached and terraced house prices**



**Nykredit Realkredit Group**  
**Commercial property prices**



As mentioned previously, substantial price increases have been observed mainly in the growth areas Copenhagen and Aarhus. Mortgage lending in Copenhagen and Aarhus accounted for 14% of Nykredit's total mortgage lending at end-2017, compared with 13% the year before.

The Danish FSA has implemented several measures seeking to regulate homebuyers' access to credit. Most recently, the Danish government has published new guidelines for residential mortgages to households with high loan-to-income ratios following a recommendation from the Danish Systemic Risk Council in spring 2017. New loans to households whose debt exceeds four times their income and whose LTVs exceed 60% will not be granted as variable-rate or IO loans. We expect these measures to gradually dampen demand, thus curbing the rise in prices. The latest price statistics seem to confirm this expectation.

Prices of commercial and agricultural properties show larger fluctuations quarter on quarter than does private residential property. The reason is the lower sales activity and the fact that commercial and agricultural properties are far less homogeneous than residential properties. Focus should therefore be more on the long-term trends of these types of property. The past couple of years have seen rising prices of rental properties, retail properties and properties for residential and business purposes. For rental properties, however, the trend has levelled slightly off in recent quarters. At the same time, a flat trend was seen for agricultural properties, while prices of industrial and warehouse buildings declined.

#### **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 – mainly relating to mortgage lending for public housing. In late 2017, the Danish government, in collaboration with the financial sector, proposed a new model for the financing of public housing under which the government assumes the credit risk of mortgage banks by way of guarantees. The incentive to ensure high-quality credit assessments is the service commission payable to the government in addition to the guarantee commission. The service commission will cover any losses suffered by the government and will be refunded to the mortgage bank if there are no losses. The mortgage banks will issue government-guaranteed public housing bonds from a separate capital centre.

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 contributes capital to group companies. The determination of Nykredit's risk exposure amount (REA) and required own funds includes guarantees whereby limited liability companies, production farming businesses and large privately owned enterprises assume primary liability. Guarantees provided by small privately owned enterprises and private individuals are not included. On inclusion of a guarantee, the customer's rating is replaced by the guarantor's rating if the latter is better.

Totalkredit A/S's business concept is based on the distribution of mortgage loans through its local and regional partner banks. The partner banks are responsible for serving customers and hedging the loan portfolio risk. Totalkredit and the individual partner bank share the risk relating to the loans according to the principles set out in the agreement with the partner banks. The partner banks provide security to Totalkredit by way of a right of set-off and guarantees for the loans distributed by them. This security provides an incentive for the partner banks to carry out a thorough and comprehensive assessment of customer creditworthiness and the mortgageability of the property. In case of particularly risky loans where the ordinary business procedures are derogated from, the partner bank must provide a guarantee exceeding the security provided for ordinary loans.

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

Nykredit assigns an internal collateral value to the different types of financial collateral depending on the risk involved. For the purpose of calculating REA, Nykredit assigns its own collateral values based on estimated haircuts, ie an estimate of the reduction in collateral value 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 Capital Requirements Regulation (CRR), PD estimates must be based on historical 1-year PDs and must reflect 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 production farming businesses are also required to submit financial statements regularly, which will be applied in the determination of their ratings.

#### Elements of credit risk determination

PD	Probability of Default (PD) is the probability of a customer defaulting on an obligation to Nykredit.
LGD	Loss Given Default (LGD) is the expected loss rate of an exposure in case of the customer's default.
EAD	Exposure at Default (EAD) is the total estimated exposure to a customer in DKK at the time of default, including any drawn part of a credit commitment.
REA	Risk Exposure Amount (REA) is credit exposures factoring in the risk relating to the individual 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	An exposure is deemed to be in default where a significant amount has been in arrears for 75 days (mortgage loans) or at the time of sending the third reminder (bank loans – typically 25 days past due). Exposures for which individual impairment provisions have been made or a direct loss has been incurred are also considered in default.

### 4.6.3 Credit ratings

The PDs of individual customers are converted into ratings from 0 to 10, 10 being the highest rating. Exposures in default are placed in a category of their own. The individual rating categories have been defined based on fixed PD ranges, which means that, in periods of high business activity, 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 credit-worthiness, and besides being included in the determination of capital requirements, the customer rating is also a key element of any customer assessment.

Manual correction of a customer's rating is possible if, due to objective data not already factored into the model, the calculated rating is not deemed to reflect the customer's real credit quality. Manual correction of the calculated rating is referred to as override.

### 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 and its ranking in the order of priority.

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 so that the parameters 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 Validation and control of 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.

The credit risk models are validated independently of Nykredit's risk modelling and credit approval units.

To ensure a good forecasting ability and consistent estimates, all credit risk models are validated at the development stage and are then subject to regular validation at least once a year. The overall performance of the models is satisfactory. The validation results are used in the ongoing internal capital adequacy assessment process (ICAAP). If validation shows that a model underestimates the risk, a capital charge will be provided under Pillar II until the model has been readjusted to reflect the actual risk.

A subcommittee of the Risk Committee approves the validation process and results on a current basis, and the overall validation conclusions are reported to the Risk Committee and the Risk Board of the Board of Directors.

The ongoing control and validation include:

- *Quarterly monitoring:* Monitoring of the models' customer ranking, comparison of model estimates with actual observations, rating distributions and migration, etc.
- *Annual validation:* In-depth analysis of the functioning of a model, including its accuracy, follow-up on the quarterly monitoring and a qualitative review of the model and its performance.
- *Override validation.* The annual validation includes model-based PDs as well as PDs adjusted by overrides. In addition, an annual general validation of the use of overrides is performed.
- *Validation of subelements:* The subelements of the individual models are assessed periodically. It is assessed whether the model's input factors and segmentation are still significant and representative, and whether they still contribute to the explanatory power of the model.
- *Quality assurance and data input checks:* Data used for calculating the risk parameters are subject to continuous control. This applies to both internal data and data from external suppliers.
- *Case processing and data entry controls:* Nykredit's case processing and data entry controls consist of three elements – sampling, in-depth investigation and thematic surveys. Sampling is performed every month across all customer centres. In-depth investigation of individual customer centres is performed according to a fixed rotation plan, while thematic surveys are carried out on an ad-hoc basis.

## 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.

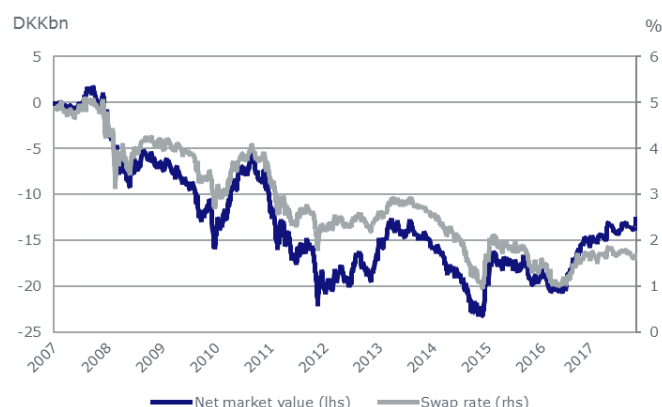
The market value of a derivative changes according to the underlying market parameters, such as interest rates and exchange rates. This may lead to market values in favour of both Nykredit and its counterparties.

In some cases, a counterparty is unable to meet its payment obligations (default). This gives rise to counterparty 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. Interest rate swaps, FRAs and repo transactions are cleared through CCPs.

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 risk and credit risk.

The calculated value adjustment of derivatives (CVA etc) is recognised in the financial statements. The value adjustment is thus affected by several factors, including the level of long-term interest rates, credit spreads, funding spreads, the maturities of the contracts as well as customers' credit quality.

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



### 4.7.1 Risk profile

#### 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.

At end-2017 the negative market value of derivatives relating to customer exposures was about DKK 12.2bn. The market values of individual swap contracts were affected positively in 2017 as a result of interest rate rises. Credit value adjustments were also affected positively by rising interest rates combined with run-off of swap contracts and tightening credit spreads. To this should be added a one-off gain of DKK 739m resulting from the winding up of two large housing cooperatives in bankruptcy. At end-2017, total provisions amounted to DKK 3.7bn, of which credit value adjustments represented DKK 3.4bn.

The negative market value of swap contracts with housing cooperatives accounted for 41% of the total negative market value of derivatives relating to customer exposures. This market value of DKK 5.7bn has been adjusted by 41%, equivalent to DKK 2.3bn.

Focus in the portfolio monitoring is on collective impairment provisions based on special circumstances and management judgement. Nykredit has therefore made general provisions for step-up interest rate structures, as there is a risk that housing cooperative members are not willing to pay the higher rent typically resulting from a step-up interest rate structure. Moreover, provisions have been made to allow for litigation risk in connection with interest rate swaps and step-up interest rate structures.

**Nykredit Realkredit Group**  
**Market value of derivatives contracts with business customers**

2017		Credit value adjustments				Total impairment provisions as % of market value
DKKbn/%	Negative market value	Individual value adjustments	Management judgement	CVA <sup>1</sup>	Total	
Housing cooperatives	5.7	1.3	1.0	0.1	2.3	41
Agriculture	0.9	0.2	0.0	0.0	0.2	25
Other	5.7	0.6	0.2	0.1	0.8	14
<b>Total</b>	<b>12.2</b>	<b>2.0</b>	<b>1.2</b>	<b>0.2</b>	<b>3.4</b>	<b>27</b>

<sup>1</sup> Credit Valuation Adjustment

### **Exposure, netting and collateral**

The gross exposure to all types of counterparties was DKK 86.9bn at end-2017. Derivatives represented DKK 32.8bn, while DKK 54.1bn related to securities financing transactions (repo transactions/reverse repurchase lending). After netting and collateral, but before potential future exposures (PFE), the counterparty risk exposure was DKK 9.7bn. Of this amount, DKK 8.1bn related to derivatives and DKK 1.7bn related to securities financing transactions.

#### **4.7.2 Methods**

The use of models and significant changes in calculation methods and models are subject to approval by a subcommittee of the Risk Committee.

### **Determination of capital requirements**

For the purpose of determining capital requirements, counterparty risk exposures are calculated according to the mark-to-market method, ie as any positive market value of the transaction plus the potential future credit exposure.

Both the advanced IRB approach and the standardised approach are used to determine risk. The advanced IRB approach is used for business counterparties, while the standardised approach is used for institutions and sovereigns. The advanced IRB approach is described in more details under "Models for determination of credit risk".

The capital requirement for credit valuation adjustment (CVA) risk is determined using the standardised approach.

### **Value adjustment of derivatives in financial statements**

Nykredit makes fair value adjustments of derivatives in accordance with the International Financial Reporting Standards (IFRS). This includes individual value adjustments of customers showing objective evidence of impairment (OEI), 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 OEI (rating 0 and exposures in default) are value adjusted in full, whether or not these customers still fulfil their payment obligations to Nykredit.

Nykredit also allows for other factors. As at end-2017, Nykredit has made funding valuation adjustments (FVA) where customers have not provided security for derivatives. The above adjustments are collectively referred to as xVA.

#### **Nykredit Realkredit Group**

##### **Impact of netting and collateral held on exposure values**

DKK billion	Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
Derivatives	32.8	21.2	11.6	3.5	8.1
Securities financing transactions	54.1	-	54.1	52.4	1.6
<b>Total</b>	<b>86.9</b>	<b>21.2</b>	<b>65.7</b>	<b>55.9</b>	<b>9.7</b>

Note: The figures in the table are not directly comparable with accounting figures, as the capital adequacy rules allow further netting than the accounting rules.



### 4.7.3 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 monitoring is the responsibility of Risk together with Group Credits or the individual Nykredit unit. More specifically, it is checked whether the settlement and counterparty risks relating to the individual counterparties are within the approved limits.

The reporting submitted to the Risk Board of the Board of Directors includes quarterly counterparty risk reports,

Nykredit monitors xVA on a daily basis and reports on xVA sensitivity to interest rate movements, ie market risk. Credit spreads and credit spread sensitivity are reported in order to reflect market-implied credit risk. Furthermore, funding spreads and funding spread sensitivity are reported.

#### Approval of credit lines

The use of derivative instruments is governed by the general credit approval rules and credit policies, supplemented with a number of restrictions and policy rules. Lines below a certain amount are granted by Group Credits or the individual Nykredit unit upon delegation by the Board of Directors. If a line is higher than the authorised amount, there is a procedure for correct handling.

In addition to limits to amounts and maturities, the use of derivatives is subject to requirements related to the type, exposure and creditworthiness of the customer.

#### Collateral management

Nykredit is subject to the requirements relating to risk-mitigating techniques, of 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.

The purpose of these controls is to comply with EMIR and the guidelines of the European Banking Authority (EBA). Also, the Danish FSA's gathering of relevant best practice in the form of a thematic review of trade settlement with special focus on derivatives from March 2017 has been taken into account.

#### Capital market system data

Market values, maturities etc are extracted from capital market systems, which are also used to calculate exposure profiles and PFE (potential future exposure) values.

S&P Global Ratings and Moody's provide information to Nykredit about the credit assessments of sovereigns, counterparties and issues. This external rating information is used as an integrated part of Nykredit's data flows and is updated daily. If the external providers assign different ratings to a counterparty, Nykredit will use the lower rating.

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.

The mapping of credit assessments to credit quality steps is based on the mapping table of the EBA and is shown below.

#### Nykredit Realkredit Group

##### Long-term ratings

Risk weight	Institutions	Corporates	Sovereigns
Credit quality step – rating			
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 ratings

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

#### Nykredit Realkredit Group

##### Exposure using ECAI credit assessments

2017		
DKK million	Exposures	REA
Institutions	25,201	2,126



5. MARKET RISK

Nykredit assumes various market risks through its business activities. Market risk is the risk of loss as a result of movements in financial markets and includes interest rate, foreign exchange, equity price and volatility risks, etc.

Market risk can be divided into *general risk*, which means risk affecting the financial markets in general, and *specific risk*, which is the risk related to one individual issuer of securities. This distinction is applied in the day-to-day risk management as well as in the determination of risk exposures involving market risk.

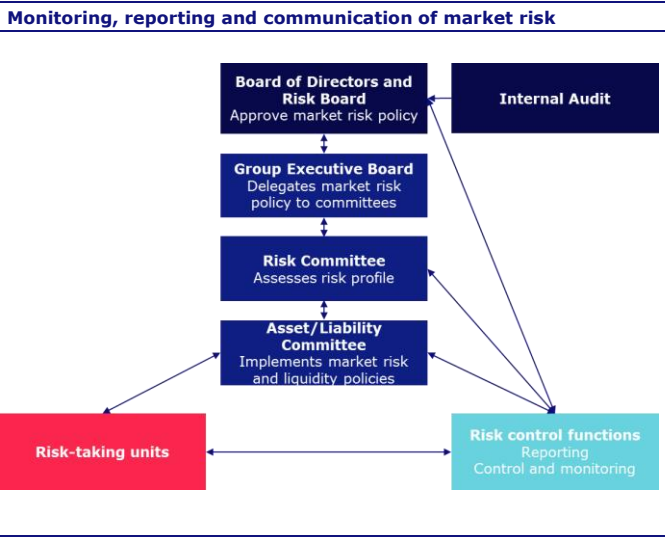
Nykredit's market risk relates mainly to the management of equity and liquidity reserves. In addition, Nykredit Bank A/S and Nykredit Realkredit A/S incur market risk when trading bonds, swaps and other financial products with customers.

5.1 MARKET RISK POLICY

The Board of Directors has adopted a market risk policy with the main principle that losses on exposures involving market risk must not exceed Nykredit's total results. For this purpose, results are measured against estimated losses in a range of adverse scenarios that may, with some probability, occur.

The Nykredit Realkredit Group undertakes the riskiest investment, while the subsidiaries undertake other investment involving market risk. Investments are mainly made in Danish and European covered bonds as well as government bonds. Other investments include high-rated bank bonds. The aggregate interest rate risk involved is reduced by the use of interest rate derivatives. This creates an exposure to spreads between covered bond/corporate bond yields and swap rates. This exposure is not fully hedged, and it constitutes a significant risk factor for Nykredit.

Despite its central role as mortgage lender, Nykredit incurs negligible risk on its mortgage lending in practice – regardless of movements in financial markets. This is because mortgage lending is governed by a statutory balance principle and match-funded, see the description under "Liquidity risk and funding".



## 5.2 MARKET RISK GUIDELINES

In addition to the market risk policy, Nykredit's Board of Directors has laid down more detailed market risk guidelines that are used in the day-to-day management.

Through the Asset/Liability Committee and in accordance with the guidelines provided by the Board of Directors, the Executive Board approves and delegates market risk limits to the Group companies. The Boards of Directors of the individual companies then prescribe guidelines for each company's activities.

The guidelines permit the use of, for example, financial instruments if the risk involved can be measured and managed sufficiently accurately. The risk limit applying to a specific asset includes any use of financial instruments.

## 5.3 CONTROL AND FOLLOW-UP

On a daily basis, the Risk function checks that the market risk policy and the pertaining guidelines are complied with. Also, the current utilisation of the limits set out in the guidelines is reported to the Head of Risk, the Chairman of the Group's Asset/Liability Committee and to the heads and dealers of the acting entities. Any breaches of limits are reported to the Asset/Liability Committee, the Board of Directors of Nykredit Realkredit or other Boards of Directors depending on the nature of such non-compliance.

Moreover, the Risk function continuously reports on the Group's market risk profile to Board of Directors, the Asset/Liability Committee and the Risk Committee. The current utilisation is determined by Risk and thus independently of the acting entities.

The Board of Directors oversees and evaluates the current market risk and its elements on a monthly basis, and this forms the basis for an annual adjustment and approval of the market risk policy and guidelines.

## 5.4 CURRENT RISK PROFILE AND DEVELOPMENTS

Market risk is assessed on the basis of a range of different measures that express sensitivity to movements in financial markets combined with a market risk model for calculating one aggregate risk level.

Sensitivities and the market risk model are further supplemented with a number of stress tests which, based on the current portfolios, quantify potential losses in the event of major, but likely, movements in financial markets.

### 5.4.1 Traditional market risk measures

The traditional risk measures, such as interest rate, equity price, volatility and foreign exchange risks, are portfolio sensitivity tests. They are used to calculate the effect on the value of a portfolio in case of changing market conditions, for example a rise or fall in interest rates, equity prices or volatilities. Calculations are only made for one type of risk at a time. The portfolio comprises both the trading book and the banking book.

The traditional risk measures do not indicate the probability of a particular event, but rather how much the occurrence of the event would affect the value of the portfolio.

#### *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 market value caused by a general interest rate increase of 1 percentage point in respect of bonds and financial instruments.

Nykredit's interest rate exposure was DKK 330m at end-2017. This means that Nykredit would lose DKK 330m at a general interest rate rise of 1 percentage point.

Compared with the same period last year, Nykredit's interest rate exposure has reduced marginally by DKK 12m.

Interest rate risk represents a limited proportion of Nykredit's total market risk.

### Yield spread risk

Yield spread risk is the risk of spread widening between the individual bonds and the general interest levels. At end-2017 the yield spread risk was DKK 2.3bn for the Group's portfolio of covered bonds. The yield spread risk on the portfolio of corporate bonds amounted to DKK 91m and a negative DKK 134m for issued senior secured debt and senior unsecured debt at end-2017.

This means that the Group would lose DKK 2.3bn on its investments in covered bonds if the spread between covered bond yields and swap rates widened by 1 percentage point.

The portfolio of covered bonds has decreased compared with end-2016, and yield spread risk has reduced by just over DKK 0.5bn. This reduction has occurred concurrently with a tightening of yield spreads, causing a decline in the earnings potential.

### Equity price risk

Equity price risk is the risk of loss as a result of changes in equity prices, and it is calculated as the loss in case of a general equity market decrease of 10%. The Group's equity price exposure amounted to DKK 500m at end-2017.

The aggregate equity price risk includes both the trading book and the banking book, the latter containing sizeable strategic equity positions. For more details on equity price risk outside the trading book, see 5.4.2.

Given the Group's relatively large equity portfolio, equity price risk represents a substantial proportion of its total market risk.

### Foreign exchange risk

Foreign exchange risk is measured as the gain/loss in a given currency resulting from a DKK appreciation of 10%. Foreign exchange risk is thus the risk of loss as a result of changes in exchange rates.

Nykredit hedges its foreign exchange risk except for some minor tactical foreign exchange positions held to achieve a gain. Therefore, the Group had only minor foreign exchange positions in currencies other than EUR in 2017. However, foreign exchange risk represents a very limited proportion of Nykredit's total market risk.

### Volatility risk

Volatility is a measure of the variation in the price of an asset, such as the movement in the price of a bond. The market value of options and financial instruments with embedded options such as callable covered bonds partly depends on the expected market volatility.

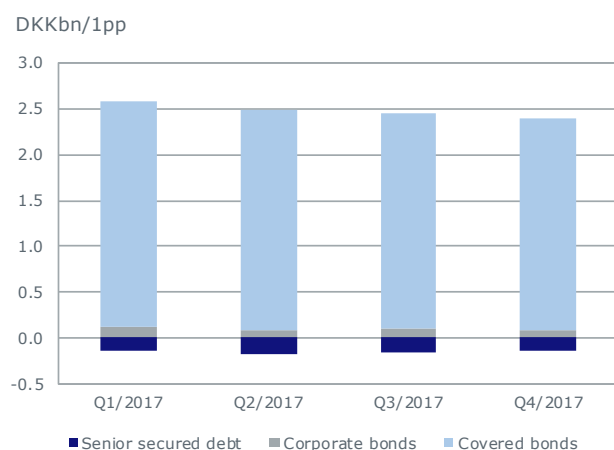
Volatility risk is the risk of loss as a result of changes in market expectations for future volatility.

Volatility risk is measured as the change in market value resulting from an increase in volatility of 1 percentage point, increased volatility implying a loss on Nykredit's part.

This risk is determined for all financial instruments with embedded options and is managed by means of limits.

The risk is limited and stems mainly from the portfolio of Danish callable covered bonds, but also from other interest rate and equity derivatives.

#### Nykredit Realkredit Group Yield spread risk



Note: Yield spread risk determined exclusive of issued senior unsecured debt.

### Value-at-Risk (VaR)

In the day-to-day management, Nykredit furthermore uses a market risk model for calculating one overall risk measure for the portfolio. The model is called Value-at-Risk (VaR) and it captures Nykredit's maximum potential losses in one day at a probability of 99%. The model is described in more detail in 5.5.

Nykredit's VaR for day-to-day management totalled DKK 57m at end-2017. This means that Nykredit could, at a 99% probability, lose a maximum of DKK 57m in one day on its current portfolio.

Since end-2016, VaR for day-to-day management has declined by DKK 22m, mainly because of reduced yield spread risk.

#### 5.4.2 Risk outside the trading book

Nykredit classifies the trading and banking books at portfolio level according to the purpose of the portfolio concerned.

Portfolios with positions held for trading are placed in the trading book. Positions forming part of Nykredit's lending business and strategic positions are placed in the banking book. Furthermore, portfolios not unambiguously classifiable under the trading book are placed in the banking book.

The mortgage lending business and the matching funding are regulated by the statutory balance principle. This ensures that the market risk related to these portfolios is limited.

#### Interest rate risk outside the trading book

Interest rate risk in the banking book is limited and derives mainly from the following sources:

- Prepaid funds and proceeds from borrowers with fixed-price agreements and borrowers prepaying their loans. Other funds relate to refinancing of the loan types Tilpasningslån, Boliglån and RenteMax as well as accumulated interest and principal payments on certain types of ARMs.
- Subordinated capital hedged with interest rate swaps.

The interest rate exposure on this portfolio was a negative DKK 57m at end-2017.

#### Nykredit Realkredit Group Interest rate exposures by maturity

	0-1 year	1-3 years	3-6 years	Over 6 years	Total
2017					
DKK million					
Nykredit Realkredit A/S	8	5	2	(56)	(40)
Totalkredit A/S	(15)	5	(8)	1	(17)
Nykredit Bank A/S	-	-	-	-	-
<b>Total</b>	<b>(6)</b>	<b>9</b>	<b>(5)</b>	<b>(55)</b>	<b>(57)</b>

#### Equity price risk outside the trading book

Equities in the banking book comprise Nykredit's strategic equities and private equity.

Strategic equities comprise equities in regional banks with which Nykredit has business relationships, equities in certain property companies and equities in VP Securities. They are classified as available for sale in accordance with the accounting rules and are therefore value-adjusted directly against equity.

The determination of equity price risk outside the trading book is included in the total risk exposure amount (REA) for credit risk.

Equity exposures outside the trading book amounted to DKK 4.3bn at end-2017.

### 5.5 MODELS FOR DETERMINATION OF MARKET RISK

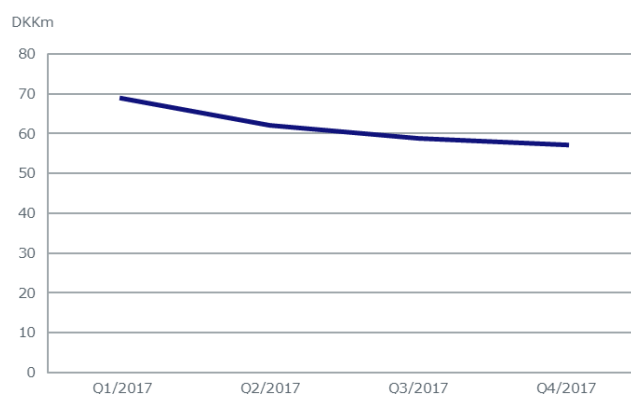
The Value-at-Risk model is applied in the day-to-day internal risk management and in the determination of the regulatory capital requirement for positions involving market risk. The model set-up and choice of parameters depend on the purpose, and the amounts calculated for the two purposes are not comparable.

#### 5.5.1 VaR for day-to-day management

For the purpose of the day-to-day risk management, the VaR model has been incorporated into Nykredit's securities systems where VaR is calculated and reported on a daily basis according to prescribed limits. VaR limits have been laid down at Group, company and organisational entity levels.

The calculation of VaR for day-to-day management includes positions in the trading book and in the banking book.

#### Nykredit Realkredit Group VaR for internal management



#### Nykredit Realkredit Group Equities outside the trading book

2017 DKK million	Market value	Carrying amount	Unrealised gains
Strategic equities	2,450	2,445	6
Other equities	1,381	984	293
Private equity	512	550	(38)
<b>Total</b>	<b>4,343</b>	<b>3,979</b>	<b>260</b>

### 5.5.2 Regulatory VaR

Nykredit has the approval of the Danish FSA to apply an internal model on a limited portfolio for the regulatory determination of the capital requirement for general market risk. The approval extends to Nykredit Realkredit A/S and Nykredit Bank A/S. Totalkredit A/S applies the standardised approach specified in legislation.

In determining REA for market risk, Nykredit uses a combination of internal models (VaR) and standardised approaches, and the risk exposures are furthermore divided into general risk and specific risk.

For Nykredit Realkredit A/S, regulatory VaR calculations are only made for the trading book, while for Nykredit Bank A/S both the trading book and the banking book are included (but excluding equities). This division is dictated by the Danish FSA approval of the two separate models.

The daily calculations of regulatory VaR are based on the historical development in financial markets. During a financial crisis, however, the current conditions in financial markets may not always correspond to the historical conditions. The maximum expected loss calculated using a VaR model may therefore, during the first stages of a crisis, present an overly optimistic view of the risk of loss.

To factor this in, a stressed VaR is calculated in addition to the current VaR.

The sum of stressed and current VaR denotes the basis of total REA calculated using internal models.

Stressed VaR is determined according to the same principles as current VaR. Stressed VaR must be calculated for the current portfolio of positions, but using volatilities and correlations (market data) from a period of significant stress. The period of stress is defined at least monthly in Nykredit Realkredit A/S and Nykredit Bank A/S.

The selected period is identified on the basis of an analysis of all 1-year periods from 2007 to date. That way, the current portfolio is always calibrated to the most stressed period since then.

The period of the collapse of Lehman Brothers in September 2008 presents the largest fluctuations. This period was characterised by significant yield spread widening, which has a large impact on covered bond portfolios.

Total REA for market risk came to DKK 24.7bn at end-2017. Nykredit's total REA from VaR amounted to DKK 15.2bn at end-2017, of which stressed VaR amounted to DKK 12.7bn.

Total REA increased in Q4 owing to a rise in REA from stressed VaR.

Application of the model for determination of REA is subject to the approval of the Danish FSA, which regularly reviews the models.

Nykredit is in the process of designing a historical simulation model for calculating capital requirements for market risk to replace the parametric VaR model applied today. Until the new model is implemented, Nykredit will operate with an increased capital requirement due to a higher multiplication factor under the existing model.

#### Nykredit Realkredit Group REA for VaR and stressed VaR

DKKbn	VaR	Stressed VaR
<b>REA at 30-09-2017</b>	<b>2.7</b>	<b>11.9</b>
Movements in portfolio and market volatilities	(0.2)	0.5
Backtest breaches	0.1	0.2
<b>REA at 31-12-2017</b>	<b>2.6</b>	<b>12.7</b>

#### Nykredit Realkredit Group REA for market risk

			2017	2016
DKK million	Specific risk	General risk	Total REA	Total REA
<b>Internal models (VaR):</b>				
Value-at-Risk (99%, 10 days)	-	2,560	2,560	2,780
Stressed Value-at-Risk (99%, 10 days)	-	12,690	12,690	11,851
<b>Standardised approach:</b>				
Debt instruments	5,651	1,414	7,065	7,536
Equities	1,945	178	2,123	2,766
Collective investment schemes	284	-	284	419
<b>Settlement risk:</b>			2	85
<b>Total market risk</b>	<b>7,880</b>	<b>16,842</b>	<b>24,724</b>	<b>25,437</b>

### 5.5.3 Backtest of market risk models

To ensure the reliability of the VaR models, the model results are tested on a daily basis against realised portfolio returns through backtests. In the backtests, the daily earnings (gain/loss) are compared with the models' estimates of the maximum loss.

Because of the statistical properties of the models, the actual losses are expected to exceed the maximum loss predicted by the VaR model 2.5 times a year.

If the actual losses exceed the model's estimates five or more times within one year, REA will be adjusted upwards. VaR backtests for Nykredit Realkredit A/S and Nykredit Bank A/S are shown in the charts below.

Nykredit Realkredit A/S recorded seven breaches in 2017, and Nykredit Bank A/S recorded one breach.

Three of the breaches stemmed from particularly large yield spread widening on the portfolio of corporate bonds in Q1/2017 combined with a simplified description in the model of the portfolio risk.

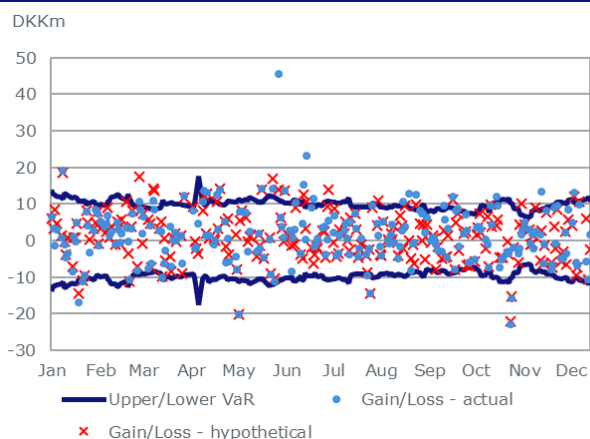
The breaches recorded by Nykredit Realkredit A/S resulted in an increase in REA for market risk.

### 5.5.4 Daily stress tests

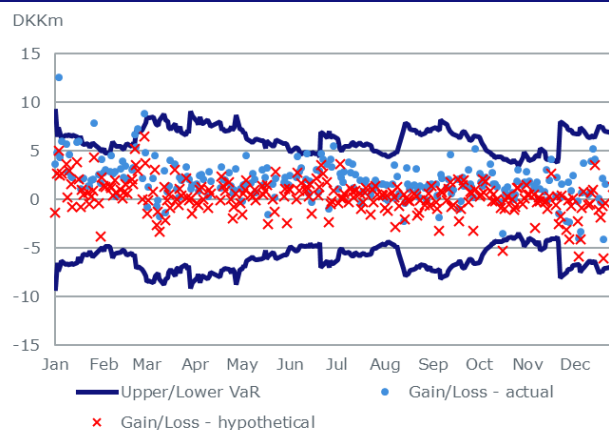
As a supplement to VaR, systematic stress tests are performed daily to measure the risk of loss during turbulent market conditions. The tests are based on significant, but likely, market movements and events. Stress testing is a means to assess the losses on the portfolios if the events occur.

The main focus of the daily stress tests is the market risks to which the individual companies are exposed. The scenarios applied for the individual companies are therefore different and reflect their respective risk profiles. The tests are adjusted in line with changes in the risk profiles of the individual companies.

**Nykredit Realkredit A/S  
VaR backtest**



**Nykredit Bank A/S  
VaR backtest**



## 6. LIQUIDITY RISK AND FUNDING

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 limited access to funding preventing Nykredit from pursuing the adopted business model, or the risk that Nykredit's costs of raising liquidity become prohibitive.

Mortgage lending and the matching funding are regulated by the balance principle. This means that Nykredit incurs limited interest rate risk, foreign exchange risk and liquidity risk on its mortgage lending and the underlying funding. Liquidity risk is further reduced by the Danish act regulating refinancing risk, under which the maturity of existing funding may be extended if refinancing is not possible.

The current liquidity risk is limited, and measured against the liquidity policy the risk level is low. The composition of liquidity and funding sources is affected by regulatory requirements and rating criteria. Nykredit thus has a focus on existing and future requirements, including ALAC, NSFR, debt buffer and Supervisory Diamond benchmarks.

### 6.1 LIQUIDITY POLICY

The liquidity policy defines Nykredit's overall liquidity risk profile and funding structure.

One aim of the liquidity policy is to ensure that Nykredit's funding and liquidity management supports the mortgage lending 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 ratings and its position as issuer of covered bonds (SDOs).

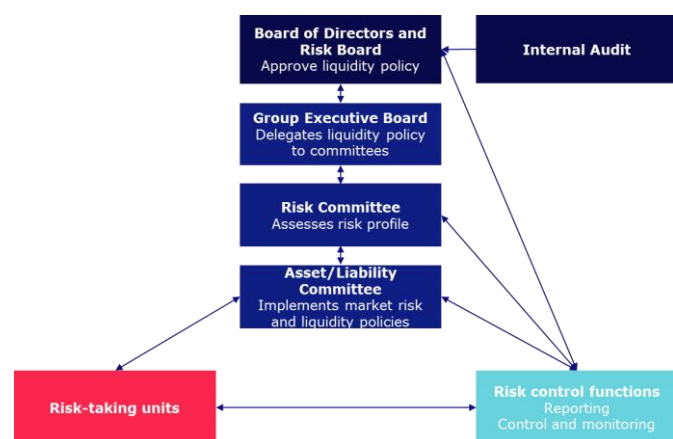
### 6.2 LIQUIDITY MANAGEMENT GUIDELINES

Based on Nykredit's liquidity policy and guidelines set out by the Board of Directors, the Executive Board has laid down limits for liquidity management.

Liquidity management can be divided as follows:

- intraday liquidity management ensuring that Nykredit fulfils its payment and settlement obligations in a timely manner in both normal and unexpected circumstances
- short- and medium-term liquidity management ensuring that Nykredit Realkredit and Totalkredit can meet financial obligations and regulatory requirements for a minimum period of six months in various stress scenarios, and that Nykredit Bank has an LCR >100% for at least three weeks and a positive liquidity balance for at least six months in various stress scenarios
- long-term liquidity management ensuring that Nykredit Realkredit and Totalkredit have sufficient liquidity to meet financial obligations and regulatory requirements for a minimum period of 12 months in an expected scenario, and that Nykredit Bank's funding need does not exceed DKK 15bn over the next three years.

#### Monitoring, reporting and communication of liquidity risk





Furthermore, limits have been laid down for the application and diversification of funding sources and for leverage, ensuring competitive funding and an appropriate leverage level.

The Boards of Directors of Nykredit Realkredit, Totalkredit and Nykredit Bank annually receive a report on the Internal Liquidity Adequacy Assessment Process (ILAAP), which describes the liquidity positions, liquidity management and funding profiles of the companies.

## 6.3 CONTROL AND FOLLOW-UP

The Risk function measures and monitors liquidity and funding risks by means of internal systems, and checks daily that the liquidity policy and the pertaining guidelines are complied with. Also, the current utilisation of the limits set out in the guidelines is reported to the Head of Risk, the Chairman of the Group's Asset/Liability Committee and to the heads and dealers of the acting entities. Any breaches of limits are reported to the Asset/Liability Committee, the Board of Directors of Nykredit Realkredit or other Boards of Directors depending on the nature of such non-compliance.

Moreover, the Risk function continuously reports on the Group's market risk profile to Board of Directors, the Asset/Liability Committee and the Risk Committee. The current utilisation is determined by Risk and thus independently of the acting entities.

The Board of Directors oversees and evaluates current liquidity and funding risks on a monthly basis. The oversight forms the basis of an annual adjustment and approval of the liquidity policy and guidelines. Reports to the Risk Board and the Risk Committee are submitted quarterly.

## 6.4 CURRENT RISK PROFILE AND DEVELOPMENTS

Liquidity and funding risks cannot be assessed adequately on the basis of a single risk metric, and Nykredit therefore uses a range of different metrics, including regulatory requirements and rating agency criteria for assessment of Nykredit's liquidity reserves and funding structure.

Over the past year, rising property prices have led to falling LTVs of mortgaged properties. As a result, Nykredit Realkredit's need to provide supplementary collateral for its covered bond issues has decreased in the past year.

Nykredit Bank has reduced its use of short-term funding sources in the past few years, thereby also reducing its risk.

Funding costs have been declining, and Nykredit has seen good demand for its bond issues.

### 6.4.1 Liquidity Coverage Ratio (LCR)

The Liquidity Coverage Ratio (LCR) is applied to assess Nykredit's short-term liquidity requirement. The LCR denotes the ratio between liquid assets and net cash outflows over a 30-day period.

Being a SIFI, Nykredit must hold a stock of liquid assets fulfilling a regulatory LCR requirement of over 100%. At end-2017, Nykredit's LCR was 383% and the excess liquidity coverage totalled DKK 72.2bn of liquid assets.

The Danish FSA has granted Nykredit permission not to include mortgage lending in the calculation of LCR of Nykredit Realkredit and Totalkredit. The permission was motivated by the fact that match funding eliminates liquidity risk in relation to mortgage lending. In that connection, the Danish FSA introduced a minimum liquidity requirement for the stock of liquid assets at 2.5% of total mortgage lending of Nykredit Realkredit and Totalkredit. At end-2017, liquid assets eligible for meeting the minimum requirement amounted to DKK 54.2bn against a requirement of DKK 29.1bn.

Nykredit Bank aims to have sufficient excess coverage relative to the LCR. The LCRs of Nykredit Realkredit and Totalkredit are high compared with the required level due to their business models and the minimum requirement of the stock of liquid assets.

In 2016 the Danish FSA introduced a supplementary liquidity requirement stipulating that Danish SIFIs must fulfil the LCR requirement not only in DKK but also in significant currencies except for SEK and NOK. In Nykredit's case, the requirement only concerns EUR and was phased in until October 2017. As of the beginning of Q4/2017, Nykredit was subject to an LCR requirement in EUR of 100%. The requirement contributes to ensuring a suitable currency match between liquid assets and cash flows. At end-2017, Nykredit's LCR in EUR was 326%.

Nykredit uses derivative financial instruments to hedge risks relating to the stock of liquid assets, which naturally involves cash flows. The market value of the derivatives portfolio will vary over time, which will impact Nykredit's posting of collateral. Therefore, in calculating the LCR, an amount is allocated to cover any negative fluctuations in the collateral.

#### Nykredit Realkredit Group Financial ratios

DKK billion	31-12-2016	31-12-2017
Nykredit Realkredit Group		
LCR (%)	321	383
Excess liquidity coverage	75.3	72.2
LCR EUR (%)	542	326
Nykredit Realkredit A/S and Totalkredit A/S		
LCR (%)	1,052	1,502
Excess liquidity coverage	46.2	36.5
Nykredit Bank		
LCR (%)	153	148
Excess liquidity coverage	18.5	14.0

#### 6.4.2 Supplementary collateral

In order for Nykredit's SDO capital centres to maintain SDO status, Nykredit must provide supplementary collateral for loans exceeding the LTV limit in case of falling property prices.

As the prices of commercial and residential property generally rose in 2017, the supplementary collateral requirement has decreased. The supplementary collateral requirement in SDO capital centres amounted to DKK 19bn at end-2017 against DKK 26bn at end-2016.

Nykredit maintains a collateral buffer in case property prices should fall. Thanks to the buffer, Nykredit would have been able at end-2017 to absorb a property price decline of about 14% without having to raise additional funding.

#### 6.4.3 Debt buffer

As other Danish mortgage banks, Nykredit Realkredit and Totalkredit must fulfil the regulatory requirements of a debt buffer by 2020. The debt buffer serves to bolster the loss-absorbing capacity of a mortgage bank in distress without impairing its lending capacity. The fully phased-in debt buffer must equal at least 2% of total mortgage lending and may consist of excess capital or senior debt. At end-2017, Nykredit's debt buffer was at 4.3%.

#### 6.4.4 Net Stable Funding Ratio (NSFR)

In 2016, the European Commission submitted a proposal for revision of the Capital Requirements Regulation (CRR2), including the introduction of the new, long-term liquidity measure, the Net Stable Funding Ratio (NSFR). Negotiations of the proposal will continue in 2018, and the requirement is expected to become effective around 2020. At present, only the underlying elements of the NSFR are subject to a reporting requirement.

The NSFR denotes the ratio between an institution's available stable funding with maturities over 1 year and the required stable funding. The required level of stable funding is calculated by weighting lending and other assets according to their liquidity. The Danish FSA is expected to grant permission not to include mortgage lending and the underlying funding in the calculation of the NSFR. The permission may be granted on the ground that the Danish refinancing act has in effect eliminated the funding risk in relation to mortgage lending.

Nykredit expects to be able to meet the NSFR requirement when it takes effect. However, a number of issues regarding the calculation of the NSFR are outstanding, including which assets to include as encumbered assets. Increased asset encumbrance will raise the requirement of stable funding and lower the NSFR.

#### 6.4.5 S&P Global Ratings key ratios

S&P Global Ratings (S&P) applies short-term and long-term liquidity metrics. The short-term metric, BLAST, denotes the ratio between broad liquid assets and short-term wholesale funding with maturities below 1 year. The long-term metric, the Stable Funding Ratio (SFR), denotes the ratio between lending and stable funding with maturities over 1 year. The BLAST and SFR metrics both form part of S&P's overall credit rating of an institution.

At end-2017 Nykredit's BLAST was 0.58, and the SFR was 90%. A BLAST of 1 and a SFR of 100% will have a neutral impact on S&P's analysis of the funding and liquidity of an institution. Where Nykredit is concerned the neutral level is lower due to the special funding structure that characterises the Danish mortgage lending model. S&P announced in 2017 that they consider the current levels of BLAST and SFR as neutral in relation to Nykredit's credit rating.

#### 6.4.6 ALAC

Nykredit has made use of S&P's option for strengthening its capital position by way of the Additional Loss-Absorbing Capacity (ALAC). ALAC consists of capital and senior debt designated to absorb losses in case of resolution of an institution, thus protecting the ordinary senior debt.

ALAC is calculated as a percentage of risk-weighted assets determined based on S&P's calculation method (S&P RWA). ALAC of 5% of S&P RWA results in a senior rating uplift of one notch. Nykredit has acknowledged its commitment to maintain this level permanently.

#### 6.4.7 Overcollateralisation behind bond rating

As part of the rating of SDOs and ROs 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 any additional collateral in the form of liquid securities (overcollateralisation – OC) required to achieve the highest possible rating (AAA).

The required OC is determined as the sum of S&P's individual assessments of each individual mortgage loan. Each assessment includes a large number of parameters, including property type, location, LTV ratio, loan type and the debtor's payment history. At end-2017, the OC in the rated capital centres of Nykredit Realkredit and Totalkredit totalled DKK 53.3bn in support of the rating. In total, Nykredit Realkredit and Totalkredit had liquid assets of DKK 82.4bn eligible for OC purposes.

#### 6.4.8 Stress testing

To sustain Nykredit's business model and also to ensure that Nykredit has sufficient liquidity to meet regulatory requirements, LCR projections are prepared in expected and stressed scenarios.

Liquidity forecasts are also made, including various liquidity stress tests, for Nykredit Realkredit and Totalkredit.

The excess liquidity coverage equals the liquid assets not tied up by liquidity requirements such as the minimum LCR requirement, the supplementary collateral requirement and the need for OC resulting from credit rating agency criteria.

For Nykredit Realkredit and Totalkredit, the excess liquidity coverage relative to the minimum LCR and supplementary collateral requirements must be positive for at least 12 months in an expected scenario and at least six months in various stressed scenarios. Also, the LCR must be over 100% on a 12-month horizon in an expected scenario and on a 6-month horizon in stressed scenarios.

For Nykredit Bank, the excess liquidity coverage relative to the LCR must be positive for at least three weeks under stress, and the stock of liquid assets must be positive for seven months under stress. The required periods of positive excess coverage in stressed scenarios are longer for Nykredit Realkredit and Totalkredit, as mortgage lending activities cannot be scaled up or down to the same extent or as quickly as banking activities.

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.

The stressed scenarios are designed with the risk factors deemed to have the greatest impact on Nykredit's liquidity position, including housing prices, arrears, bank deposits and lending, collateral and market values of the bond portfolio.

The excess liquidity coverage is determined in an expected scenario as well as company-specific, market-specific and combination stress scenarios. The combination stress scenario is the most severe.

In the combination stress scenario, Nykredit Realkredit, Totalkredit and Nykredit Bank have positive liquidity for a 12-month period.

#### 6.4.9 Funding

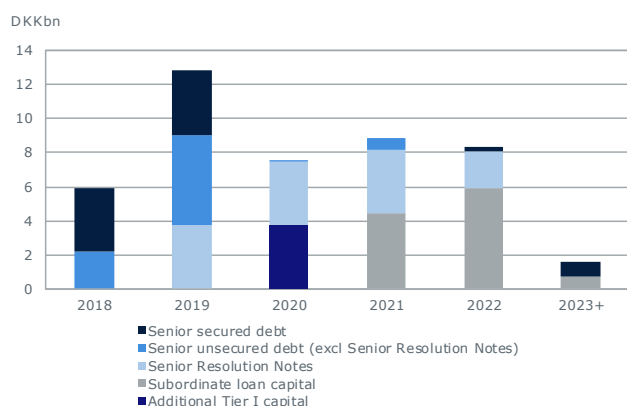
Nykredit has a sizeable balance sheet and extensive market activities, including daily tap issuance and sale of bonds in the market to fund its mortgage lending. Moreover, Nykredit regularly refinances customers' adjustable-rate mortgage loans (ARMs) and floating-rate loans. Nykredit also issues capital market funding to comply with regulatory requirements and rating criteria.

Nykredit raises funding in the following markets:

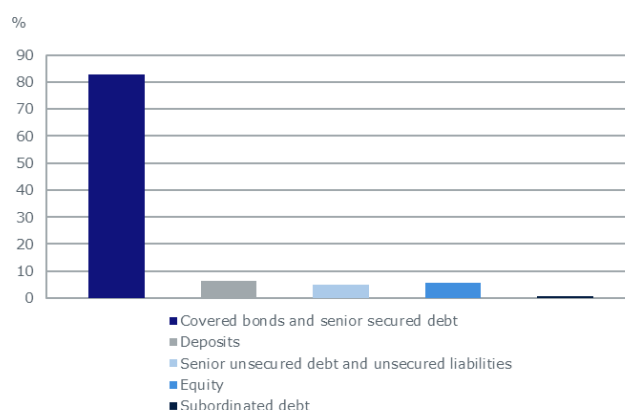
- Danish covered bonds (SDOs/ROs)
- Senior secured debt
- Secured and unsecured bank loans
- Senior unsecured debt
- Bail-inable senior debt
- Subordinated debt

At end-2017, Nykredit had issued Danish covered bonds (SDOs/ROs) of a nominal outstanding amount of DKK 1,266bn against DKK 1,216bn at end-2016.

**Nykredit Realkredit Group**  
**Funding profile**



**Nykredit Realkredit Group**  
**Funding structure**



## Covered bonds

By far the greater part of Nykredit's lending consists of mortgage loans funded by covered bonds (ROs and SDOs) according to the balance principle. The balance principle limits the financial risk Nykredit Realkredit may assume in relation to lending and funding.

The refinancing volumes have decreased since 2013. However, at the auctions in June and December 2017 the volumes increased as a large amount of variable-rate loans issued around 2007 were refinanced. According to experience from previous years, a large part of the loans are refinanced into other loan types, which generally makes for a more de-concentrated refinancing profile.

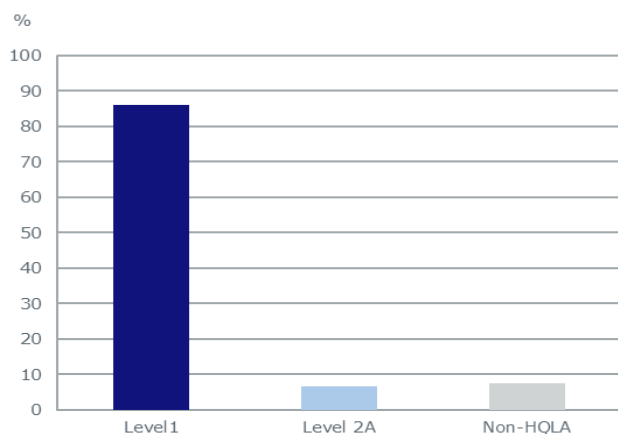
It is Nykredit's objective to build large, liquid benchmark bond series (outstanding amount > EUR 500m) to obtain an effective pricing of its bonds. Nykredit Realkredit and To-talkredit's joint bond issuance contributes to creating large volumes. Liquidity is also supported by Nykredit's large market share as well as the market making and primary dealer arrangements with members of Nasdaq Copenhagen.

With the introduction of the LCR, many banks prefer to invest in bonds with high outstanding amounts (benchmark bond series) and high ratings as part of their liquidity management. Nykredit strives to have a product range that best suits customers' needs and investors' increased preference for very liquid bond series.

As much as 86% of the outstanding amounts in Nykredit Realkredit's active bond series is today classified in the top LCR category (Level 1), while 7% is in the second-best category (Level 2A).

Nykredit has announced a number of initiatives to improve the liquidity of bond series. For instance, it has been decided that the refinancing of ARMs on 1 April and 1 October will be phased out as the loan portfolio is refinanced. The adjustment will take place over a number of years to ensure an even distribution of refinancing volumes. In the longer term, the plan is to refinance ARMs on 1 January and 1 July.

### Nykredit Realkredit Group LCR classification of covered bonds



Nykredit will continue to refinance other products at the April and October payment dates.

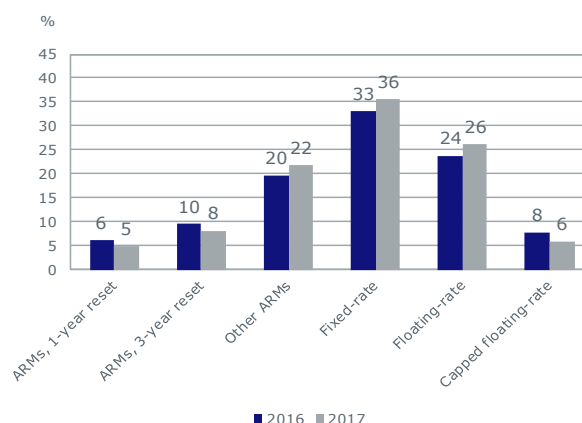
## Issuance schedule

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

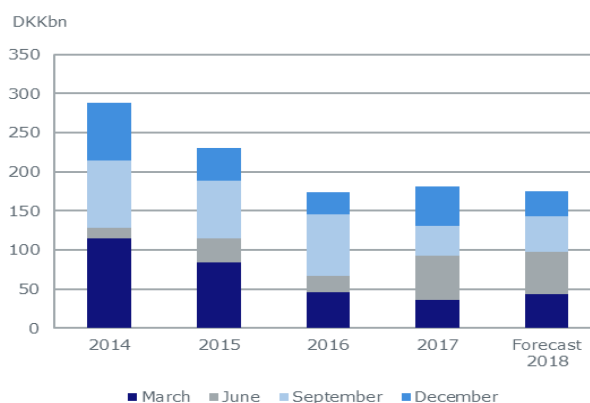
To fulfil the debt buffer requirement (see 6.4.3) as well as the ALAC criterion (see 6.4.6), Nykredit has issued senior resolution notes (SRN), a special form of bail-inable senior debt. At end-2017, SRN in issue totalled DKK 13.3bn. Nykredit aims to distribute its funding maturities evenly.

As Nykredit currently complies with the existing requirements, the planned SRN issuance is limited. Nykredit expects to issue SRN in the range of 0-5bn in 2018. In recent years, the scope of Nykredit Bank's wholesale funding has been reduced in the light of a growing surplus of deposits relative to lending. Moreover, part of the excess liquidity of Nykredit Realkredit, eg from SRN issuance, is applied as funding for Nykredit Bank, thus reducing the Group's overall need for wholesale funding.

### Nykredit Realkredit Group Mortgage lending by loan type



### Nykredit Realkredit Group Refinancing volumes



Nykredit Realkredit is exempt from the minimum requirement for own funds and eligible liabilities (MREL). Nykredit Bank, on the other hand, will likely have to meet the MREL requirement. The purpose of the MREL requirement is to ensure that institutions have sufficient bail-inable liabilities in case of resolution. The idea is to absorb future losses without government intervention. It is expected that Nykredit Bank's MREL requirement may be fulfilled using Nykredit Realkredit's long-term intercompany funding, while observing the debt buffer requirement and the ALAC criterion.

Besides this, Nykredit Bank's issuance schedule depends on the development in the deposit surplus and the key liquidity metrics.

#### 6.4.10 Encumbered assets

Nykredit's main activity is match-funded mortgage lending secured by mortgages on real estate. Nykredit's lending to customers is 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 become failing. Ring-fencing assets for creditors/investors is referred to as "asset encumbrance". Moreover, Nykredit provides collateral in connection with derivatives trading and repo transactions.

Encumbered assets made up 85% of Nykredit's total assets at end-2017 against 84% at end-2016. 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. Most of the encumbered assets are in DKK. After netting for accounting purposes, encumbered assets in EUR are not significant.

The lending activities of Totalkredit and Nykredit Realkredit are jointly funded, which means that mortgage lending through Totalkredit 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.

The reporting of encumbered assets and the determination of encumbered assets for liquidity requirement purposes (LCR and NSFR) use different definitions of encumbered and unencumbered assets. The reporting of encumbered assets reflects the amount of assets earmarked for the preferential rights of specific creditors in a gone concern scenario, ie where the company discontinues its operations. By contrast, encumbered assets for liquidity requirement purposes reflect assets which are not available for liquidation or encumbrance in a going concern scenario, ie where the company continues its operations.

#### 6.4.11 Credit ratings

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

##### S&P Global Ratings

Nykredit Realkredit and Nykredit Bank each have a long-term rating of A and a short-term rating of A-1 with S&P. The rating outlook is stable. Senior Resolution Notes (SRN) have a BBB+ rating with S&P.

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.

##### Fitch Ratings

Nykredit Realkredit and Nykredit Bank each have a long-term rating of A and a short-term rating of F1 with Fitch. The rating outlook is stable. Senior Resolution Notes (SRN) have an A rating with Fitch.

##### Moody's Investors Service

Moody's Investors Service continues to publish unsolicited ratings for some companies of the Nykredit Group.

#### Nykredit Realkredit Group

##### Credit ratings

End-2017	Nominal <sup>1</sup> DKKbn	S&P	Fitch
<b>SDOs, ROs and senior secured debt</b>			
<b>Nykredit Realkredit A/S</b>			
- Capital Centre C (covered bonds, RO)	1	AAA	
- Capital Centre D (covered bonds, RO)	85	AAA	
- Capital Centre D (senior secured bonds)	4	AA-	
- Capital Centre E (covered bonds, SDO)	408	AAA	
- Capital Centre G (covered bonds, RO)	62	AAA	
- Capital Centre H (covered bond, SDO)	670	AAA	
- Capital Centre H (senior secured bonds)	1	AA-	
- Capital Centre I (covered bonds, RO)	7	AAA	
- Nykredit Realkredit In General (covered bonds, RO)	1	AAA	
<b>Totalkredit A/S</b>			
- Capital Centre C (covered bonds, RO)	9	AAA	
<b>Other ratings</b>			
<b>Nykredit Realkredit A/S</b>			
- Short-term rating		A-1	F1
- Long-term rating		A	A
- Senior Resolution Notes (SRN)		BBB+	A
- Tier 2 capital		BBB	A-
- Tier 2 capital (CoCo)		BBB	BBB
- Additional Tier 1 capital		BB+	BB+
<b>Nykredit Bank A/S</b>			
- Short-term rating		A-1	F1
- Long-term rating		A	A
<b>Euro MTN Programme</b>			
- Short-term rating		A-1	F1
- Long-term rating		A+	A
<b>Euro Commercial Paper Programme and Certificate of Deposit Programme</b>			
- Short-term rating		A-1	F1

<sup>1</sup> Bonds in issue at nominal value at 31 December 2017.

## 7. OPERATIONAL RISK

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. Operational risk also includes legal risk, compliance risk, IT risk and model risk.

The operational risks relating to Nykredit's core activities are limited as the mortgage activities are highly standardised.

### 7.1 OPERATIONAL RISK POLICY

The Board of Directors lays down the Group's policy and guidelines for operational risk as well as its risk appetite in this area.

It is Nykredit's policy to promote a culture where openness about and awareness of operational risk are natural elements of the everyday work of all staff members, and to ensure that the Risk Committee, the Executive Board, the Risk Board and the Board of Directors are briefed regularly on key risk areas.

The operational risk policy stipulates that operational risks should be low relative to the other types of risk of the Group. Operational risks are assessed on the basis of the probability of a given event occurring and the potential loss resulting from such event.

### 7.2 GUIDELINES FOR OPERATIONAL RISK

The Board of Directors' guidelines to the Executive Board set out tasks and responsibilities for ensuring that the operational risks relating to running Nykredit's business are mitigated and managed in accordance with the principles and limits of the operational risk policy.

In connection with strategic and business decisions, it is assessed whether they may involve operational risks that are contrary to the policy laid down by Board of Directors. The same applies in connection with approval of new products.

The Executive Board has delegated the ongoing monitoring of operational risk to the Risk Committee, which regularly reviews principal risks and the specific action plans for selected risk factors.

#### Monitoring, reporting and communication of operational risk





## 7.3 CONTROL AND FOLLOW-UP

Given its nature and characteristics, operational risk is best mitigated and managed through the day-to-day business conduct. The responsibility for the day-to-day management of operational risks is decentralised and lies with the individual business areas. Operational risk management activities are coordinated centrally to ensure coherence, consistency and optimisation across the Group.

As part of operational risk management, operational risk events are systematically recorded, categorised and reported. All operational events causing losses of over DKK 10,000 must be recorded. Operational risk gain events, potential operational loss/gain events and events that did not lead to a loss/gain (near-miss events) are also 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 addition to the recording of operational risk events, Nykredit is continuously working on identifying significant operational risks. Operational risks are mapped by each business area identifying its own significant risks together with Nykredit's central operational risk function. Operational risk mapping provides a valuable overview of particularly risky processes and systems and therefore constitutes a good management tool. Assessing IT security and cyber risks is an important element of operational risk management.

### 7.3.1 Compliance

Operational risk includes compliance risk, which is subject to separate guidelines. This area is managed by the Compliance function headed by the Chief Compliance Officer. Compliance risk is reported to the Board of Directors and the Executive Board.

Compliance must review all customer-facing and market-facing processes within an appropriate time period. The risk areas are selected according to a risk-based approach. A five-year overview of risk areas is prepared for the Group's main areas of activity.

In relation to anti-money laundering, Nykredit has laid down specific policies, business procedures and controls, and customer transactions are monitored on a continuous basis. Furthermore, extensive efforts have been made to enhance the processes for obtaining proof of customer identity and the quality thereof.

The Group Executive Board has also appointed a Group Managing Director to be in charge of implementing and ensuring management focus on measures to prevent financial crime throughout the Group. The Group Managing Director is also anti-money laundering officer at the executive level in Nykredit Realkredit A/S.

The Executive Boards of the other Group companies have each appointed anti-money laundering officers at the executive level in charge of implementing and ensuring management focus on measures to prevent financial crime in their respective Group companies.

In May 2018 a new General Data Protection Regulation will enter into force, tightening the requirements relating to the collection, recording and use of personal data by businesses.

To ensure that Nykredit meets the stricter requirements, Nykredit launched a Group-wide programme in autumn 2017. The programme aims to implement satisfactory procedures ensuring that personal data collected by Nykredit are processed in accordance with the new regulatory requirements.

Furthermore, Compliance has a continued focus on strategic measures that may alter the risk profile of the organisation. It also monitors new and upcoming regulation and changes in supervisory practices, currently MiFID II and the General Data Protection Regulation.

### 7.3.2 Reporting

Nykredit's overall operational risk and risk profile changes are reported quarterly to the Board of Directors and the Executive Board. Recorded events are reported quarterly to the Board of Directors, the Executive Board and the business units.

Risk events causing losses greater than DKK 10m must be reported to the Board of Directors at the next meeting, while operational risk events deemed to be a potential threat to the stability of the Group must be reported without undue delay, ie when they have been described sufficiently to decide on mitigation measures. This also applies to potential risk events that may threaten the stability of the Group. Risk events causing losses in the range of DKK 1m-10m must be reported to the Risk Committee at the earliest opportunity.



## 7.4 MITIGATION OF OPERATIONAL RISK

Operational risk is mitigated through business procedures and controls ensuring optimal business processes. At the semi-annual review of risks, it is assessed whether there is a need to initiate action plans to reduce individual risks.

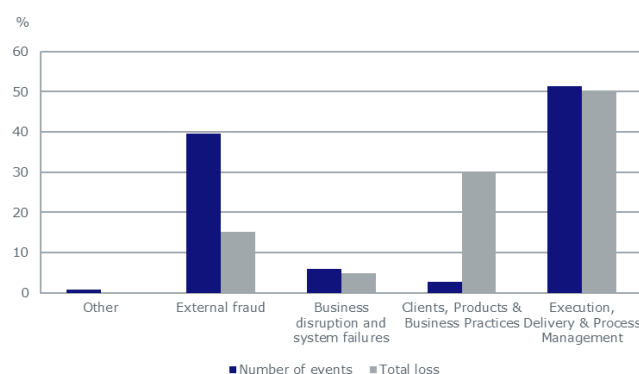
The threat from cybercriminals has mainly materialised internationally with several incidents of cyberattacks against financial institutions. Nykredit was not hit by cyberattacks in the past year, but has had increased monitoring and control measures in place throughout the period.

Nykredit has outsourced the operation of IT systems, and appropriate processes have been established for follow-up and reporting from suppliers.

Furthermore, the IT security area is monitored constantly, and Nykredit participates actively in a wide Danish and international network on IT security through the Danish Bankers Association. Emergency response plans and business contingency plans have been prepared.

Nykredit takes out statutory and other insurance to ensure that any damage or claims for damages will not noticeably affect the Group's financial results or operating conditions. Overall, Nykredit has adequate insurance cover of risks taking into account Nykredit's business activities, organisation and resources as well as the market conditions under which Nykredit operates.

**Nykredit Realkredit Group**  
**Operational loss events in 2017**



Note: Other includes: Internal fraud, Employment practices and workplace safety and Damage to physical assets.

