

# *Risk Management 2018*

Danske Bank Group



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The objective of Risk Management 2018 is to inform shareholders and other stakeholders of Danske Bank Group's risk management, including policies, methodologies and practices.

Additional Pillar III disclosures required under Regulation (EU) No. 575/2013 of the European Parliament and of the Council of 26 June 2013 (CRR) and the Danish Executive Order on Calculation of Risk Exposure, Own Funds and Solvency Need can be downloaded from [danskebank.com/ir](https://www.danskebank.com/ir).

# *2018 in brief*

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# 1.

In 2018, Danske Bank Group continued developing its risk management framework further by strengthening its enterprise risk management (ERM) approach, including the approach to setting risk appetite.

For the purposes of strengthening compliance expertise, the Executive Board was expanded to include the new Chief Compliance Officer, Philippe Vollot, whose international experience includes significant knowledge in the area of combating financial crime. In addition, a chief risk officer (CRO) function was established for each business unit to support appropriate oversight and the understanding of risks at each of the business units.

On the Estonia case, we refer to section 1.1.

### Financial risks

Following the publication of the report on the non-resident portfolio at the Estonian branch in September 2018, all rating agencies revised their rating outlooks to negative, and on 12 October 2018, Moody's downgraded Danske Bank's senior unsecured debt rating to A2 from A1. Furthermore, specialised environmental, social and governance rating agencies responded negatively to the publication of the Group's report on suspicious customers and transactions at the Estonian branch, generally issuing lower ratings and lower controversy scores.

The Group's solvency need increased by DKK 10 billion in 2018, due to the inclusion of Pillar II add-ons following an order from the Danish Financial Supervisory Authority (the Danish FSA) to cover reputational and compliance risks. By the end of 2018, the Group's solvency need including buffers was DKK 88.5 billion, or 11.8% of the total REA.

Changed market conditions and the negative rating outlook in the second half of 2018 caused the Group's liquidity coverage ratio (LCR) to decline, but it remained at a robust level. In December 2018, the Group's liquidity coverage ratio was 121%. The overall size of the liquidity buffer remained roughly at the same level, but its composition changed during the year.

Credit quality remained solid, driven by stable macroeconomic conditions, managerial efforts and enhanced underwriting since the financial crisis. Our selective approach to growth through strategic partnerships enabled the Group to expand in the Nordic markets without increasing the overall risk level as the credit quality of this new lending is generally high.

### Non-financial risks

In 2018, the development of the Group's ERM framework strengthened processes and increased the awareness of non-financial risks. In particular, we made progress within the areas of compliance, IT security and model risk.

The focus on conduct risk increased in 2018 in line with the implementation of large EU regulatory projects such as the General Data Protection Regulation (GDPR) and the Markets in Financial Instruments Directive (MiFID II), both of which came into effect in the first half of the year.

To build the necessary level of knowledge across the organisation, the Group carried out a significant number of training sessions for all employees in 2018. At all times, we strive to treat customers fairly, ensure fair and transparent markets, and handle data responsibly.

In 2018, the Group took a number of initiatives to fight financial crime. We continued our AML programme and invested heavily in improving capabilities to combat financial crime. To ensure alignment and coherence for financial crime processes, the central AML Utility unit was expanded and now has almost 1,000 full-time employees. We enhanced customer due diligence processes and strengthened procedures to handle unusual activity alerts. We also improved the coverage of transaction monitoring and transaction screening technologies and developed an enhanced risk rating model set for deployment in early 2019. Towards the end of 2018, the Group decided to carry out an external review of the AML programme to evaluate, improve and set the direction for the Group's fight against financial crime in the coming years.

IT risks continue to be a high priority for the Group. Danske Bank is committed to helping strengthen the overall resilience to cybercrime and fraud. We continued to invest in the capabilities of the Security Operations Centre (SOC) and the Security Incident Response Team (SIRT), adding new features to the layered defence operations. The two units work according to best practice playbooks under the US National Institute of Standards and Technology Cybersecurity Framework (NIST CSF) on security incidents. In 2018, we further reduced the response time from incident reporting to resolution of security incidents. This work will continue both internally at Danske Bank and in collaboration with industry partners.

We consider it our responsibility to protect not only individual customers but also society as a whole. As the threat level increases, we have established a united front within the financial industry against cybercrime and fraud. This reaches a Nordic level through the various initiatives under the Nordic Financial Computer Emergency Response Team (NFCERT). Moreover, the Group is a member of the steering committee of the Danish forum against economic IT crime founded by the Danish Police and also participates in Europol's European Cybercrime Centre. Danske Bank is a member of the Advisory Group on Financial Services and the European Payments Council's Card Fraud Prevention Forum.

To further strengthen expertise within the areas of IT security and risk, in 2018, the Group appointed a new chief information security officer (CISO) with international experience to take up office in January 2019.

Strengthening non-financial risk management further will continue to be a top priority for the Group going forward.

As part of the development of the ERM, model risk was re-categorised as a level 1 risk, and a new model risk management (MRM) function was established in 2018. The target is to embed strong model governance with a comprehensive and holistic approach to risk. An MRM committee was also set up under the Group All Risk Committee.

## 1.1 Estonia case

The Estonia case has been a major focus point for Danske Bank and all our stakeholders in 2018.

The findings from the investigation of the non-resident portfolio at the Estonian branch, published in September, showed that a series of major deficiencies in governance and control systems in Danske Bank made it possible to use Danske Bank's branch in Estonia for suspicious transactions.

The approximately 10,000 customers in the non-resident portfolio carried out transactions for around EUR 200 billion in the period from 2007 to 2015, but only a small number of these customers and transactions were reported as suspicious to the authorities at the time. The investigation includes additional customers with non-resident characteristics. In September, it was reported that most of the customers investigated by that time (6,200 customers, starting with the customers hitting the most risk indicators) should have been classified as suspicious and reported to authorities.

It is clear that we have not lived up to our own standards, our responsibility and the expectations of our stakeholders in this case. We did too little too late both in terms of closing the portfolio down and realising the seriousness and scope of the problems. We failed to grasp the magnitude of the case and to adjust our response and communication accordingly. This is disappointing and unacceptable, and we offer our apologies to all of our stakeholders – not least our customers, investors, employees, regulators and society in general. We acknowledge that we have a big task ahead of us in regaining their trust. We are working hard to get to the bottom of the matter and to learn from it, so that we can take all necessary steps to prevent something similar from happening again. In this process, we wish to be as transparent as possible and we share all relevant findings with the authorities on an ongoing basis.

The case has led us to take a number of actions:

- Several members of management as well as staff connected with the case have left Danske Bank, among these former CEO Thomas F. Borgen. On the Board of Directors, the Chairman of the Board and the Chairman of the Audit Committee were replaced in December. Another two members will step down at the upcoming Annual General Meeting.
- As reported in September, eight former employees of our Estonian branch have been reported to the police, and a further 42 employees and agents have been reported to the Estonian FIU.
- We have strengthened our anti-money laundering measures and financial crime compliance efforts and continue to do so. We have also increased the number of people working to combat financial crime considerably. We are using this experience to learn and to improve our efforts in financial crime compliance in order to prevent something similar from happening at Danske Bank again.
- On the basis of learnings from the Estonia case and following a full review at the end of the year of our efforts and ambitions within AML, we have decided to accelerate our AML improvement efforts over the next three years through earmarked investments of up to DKK 2 billion. The purpose is to improve both the quality and the effectiveness of our controls and to integrate the processes into the customer journey as part of our ambition to offer the best customer experience.
- Our governance and control systems have also been improved. Danske Bank's new chief compliance officer (CCO) is a member of the Executive Board, and in cooperation with and under responsibility of the chief executive officer (CEO) of Danske Bank, the CCO reports to the Board of Directors. Furthermore, on top of basic and mandatory AML training, our new AML Academy provides specialised training in detecting and combating financial crime for relevant employees.
- We have also taken several steps to increase our financial strength. We have increased our Pillar II requirement by DKK 10 billion and have cancelled our share buy-back programme, resulting in an additional DKK 3.1 billion of CET1 capital. Furthermore, we will not launch a share buy-back programme in 2019.

- The estimated gross income from the non-resident portfolio in Estonia in the period from 2007 to 2015 of DKK 1.5 billion has been set aside net of confiscation as a donation for measures to combat financial crime. The donation will be transferred to an independent foundation, which will be set up to support initiatives aimed at combating international financial crime, including money laundering. The foundation will be set up independently from Danske Bank with an independent board.
- It has been very important to us to engage with our customers and address any concerns and questions that they may have. At the end of 2018, we had held around 150 town hall meetings at our branches all across Denmark. We also encourage our staff across the organisation to use all customer-facing opportunities to talk about the issue and the measures we have taken to prevent something similar from happening again. Our customer satisfaction scores have been adversely impacted, especially among Danish retail customers. We remain committed to regaining the trust of our customers, but we acknowledge that this will not happen overnight.

The investigation into the customers in the terminated non-resident portfolio<sup>1</sup> of the Estonian branch continues, and we keep the authorities informed of all progress on an ongoing basis.

The timing of the completion of the investigations, the outcome and the subsequent discussions with the authorities are subject to uncertainty. It is not yet possible to reliably estimate the timing or amount of any potential settlement or fines, which could be material.

Below is a short summary of the key events related to the Estonia case in 2018 and 2019:

- On 3 May, the Danish FSA published its assessment of the role of Danske Bank's management and senior employees in relation to the Estonian case. Danske Bank received eight orders and eight reprimands from the FSA and immediately launched measures to comply with all requirements.
- On 18 July, we announced that we do not wish to benefit financially from suspicious transactions in Estonia in the period from 2007 to 2015. Consequently, we decided to donate the estimated gross income from the non-resident portfolio in that period to an independent foundation supporting initiatives to combat international financial crime.
- On 19 September, we published the findings of the Estonia investigations. We also announced the resignation of CEO Thomas F. Borgen, and on 1 October, he was relieved of his duties. Jesper Nielsen was appointed Interim CEO as of the same date.
- On 4 October, it was announced that we had received requests for information from the US Department of Justice (DoJ) in connection with a criminal investigation relating to our Estonian branch conducted by the DoJ. We also remain under investigation by the Danish FSA and the Estonian FSA, as well as the Danish State Prosecutor for Serious Economic and International Crime (SØIK) and the Estonian Office of the Prosecutor General (the Estonian FIU). We cooperate fully with all authorities.
- On 4 October, the Danish FSA ordered us to reassess our solvency need with a view to adding an absolute minimum of DKK 10 billion to our Pillar II requirement. In addition to increasing our Pillar II requirement, we revised our CET1 capital ratio target from 14-15% to around 16% and our total capital ratio target from above 19% to above 20%. At the same time, the share buy-back programme for 2018 was discontinued.
- The Estonia case has also impacted our ratings. Following the publication of the findings of the investigations, Moody's downgraded Danske Bank's issuer rating from A1 to A2 and changed the outlook to negative, while Fitch and S&P both maintained their issuer ratings of Danske Bank but also changed the outlook to negative.
- On 2 November, we published the results of the EU-wide stress test conducted by the European Banking Authority. In the adverse scenario, Danske Bank had a CET1 capital buffer of almost DKK 10 billion. The test took into account the capital need and assumed costs in relation to the Estonia case within the scope of the Danish FSA decision of 4 October 2018.
- On 19 and 21 November, Interim CEO Jesper Nielsen participated in AML hearings at the Danish and European parliaments, respectively. He answered questions from politicians regarding the Estonia case and our efforts to prevent something similar from happening again.
- On 28 November, SØIK presented Danske Bank with a preliminary charge.
- On 7 December, an Extraordinary General Meeting was held to elect two new members to the Board of Directors. These were Karsten Dybvad and Jan Thorsgaard Nielsen. They replaced Ole Andersen and Jørn P. Jensen, who both stepped down. Karsten Dybvad is now Chairman of the Board of Directors.

<sup>1</sup> Terminated portfolio as defined in the report by Bruun & Højle as of 19 September 2018.

- On 9 January 2019, an action was filed in New York by an alleged holder of Danske Bank's American Depositary Receipts, representing its ordinary shares, against Danske Bank. The complaint seeks unspecified damages on behalf of a putative class of purchasers of Danske Bank's American Depositary Receipts between 9 January 2014 and 23 October 2018. Danske Bank intends to defend itself against the claims. The timing of completion of the lawsuit is uncertain as is the outcome.
- On 11 January, we announced that we had received a letter from the French Tribunal de Grande Instance de Paris summoning Danske Bank to an interview to discuss matters relating to the ongoing investigation into organised money laundering of tax evasion proceeds. The letter states that the judge envisages placing Danske Bank under formal investigation after having previously changed Danske Bank's status in the case to that of an assisted witness.
- On 11 January, we issued USD 3 billion worth of new funding in non-preferred senior format. The transaction demonstrated that despite the Estonia case, Danske Bank retains good market access. We acknowledge, however, that current spreads are significantly wider than those applying to our NPS issuance in June 2018 and that this is due partly to the negative impact of the Estonia case on our reputation.

As is clear from the above, the Estonia case has had a substantial impact on Danske Bank, and the case will probably continue to impact us in 2019. However, we remain dedicated to learning from this case in order to prevent anything like this from happening again. Consequently, going forward we will continue our efforts to get to the bottom of the case and will keep the authorities informed of all progress and findings.

## 1.2 Key ratios and risk figures

Key ratios and risk figures for Danske Bank Group (At 31 December)	2018	2017	2016
<b>Earnings</b>			
Dividend per share (DKK)	8.5	10.0	9.0
Earnings per share (DKK) <sup>1</sup>	16.5	22.2	20.2
Share price (end of year)(DKK)	128.9	241.6	214.2
Book value per share (DKK) <sup>1</sup>	174.3	171.2	162.8
Return on average shareholders' equity (%) <sup>1</sup>	9.8	13.6	13.1
Return before goodwill impairment charges on average shareholders' equity (%) <sup>1</sup>	9.8	13.6	13.1
Net interest income as % of loans and deposits	0.9	0.9	0.9
Cost/income ratio (%)	56.4	47.2	47.2
Cost/income ratio before goodwill impairment charges (%)	56.4	47.2	47.2
<b>Capital</b>			
Common equity tier 1 capital ratio (%)	17.0	17.6	16.3
Tier 1 capital ratio (%)	20.1	20.1	19.1
Total capital ratio (%)	21.3	22.6	21.8
Leverage ratio, transitional rules (%)	4.6	4.4	4.6
Leverage ratio, fully phased in (%)	4.5	4.4	4.3
<b>Funding and liquidity</b>			
Liquidity coverage ratio (LCR) (%)	121	171	158
Asset encumbrance (DKK billions)	1,278	1,328	1,314
Asset encumbrance ratio (%) <sup>3</sup>	44	43	42
Issuer rating and outlook - S&P	A / negative	A / stable	A / stable
Issuer rating and outlook - Moody's	A2 / negative	A1 / positive	A2 / stable
Issuer rating and outlook - Fitch	A / negative	A / stable	A / stable
<b>Asset quality</b>			
Risk exposure amount, total (DKK billions)	748.1	753.4	815.3
Expected loss (DKK billions) <sup>2</sup>	13.4	13.2	14.9
Impairment charges, loans, total, full year (DKK millions) <sup>3</sup>	-650	-873	-3
Loan loss ratio, full year (%) <sup>4</sup>	-	-	-
Non-performing loans, gross exposure (DKK billions) <sup>4</sup>	29.9	33.3	40.4
Non-performing loans, net exposure (DKK billions) <sup>4</sup>	16.9	17.3	21.9
Non-performing loans as % of total gross exposure (%)	1.2	1.2	1.6
Non-performing loans coverage ratio (%) <sup>5</sup>	85.0	86.1	82.7
Loans defaulted on, gross (DKK billions) <sup>4</sup>	20.3	16.0	21.4
Loans defaulted on, net (DKK billions) <sup>4</sup>	7.2	6.0	8.8
Forborne loans (DKK billions)	24.5	27.4	24.6
<b>Other</b>			
Core net credit exposure, lending activities (DKK billions)	2,392	2,688	2,534
Non-core net credit exposure, lending activities (DKK billions)	18.0	8.0	23.0
Exposure at default (DKK billions)	2,574	2,729	2,581
Total assets (DKK billions)	3,579	3,540	3,484
Assets under management (DKK billions)	1,575	1,530	1,420

<sup>1</sup> Ratios are calculated with additional tier 1 capital being classified as a liability. Average shareholders' equity is calculated as a quarterly average.

<sup>2</sup> Expected loss figure [downturn-adjusted amount according to regulatory requirements].

<sup>3</sup> At the group level

<sup>4</sup> At the group level, core portfolios, excluding non-core.

<sup>5</sup> Accumulated expected credit losses (IFRS9) as a percentage of gross exposure net of collateral (after haircut).

# *Risk strategy and governance*

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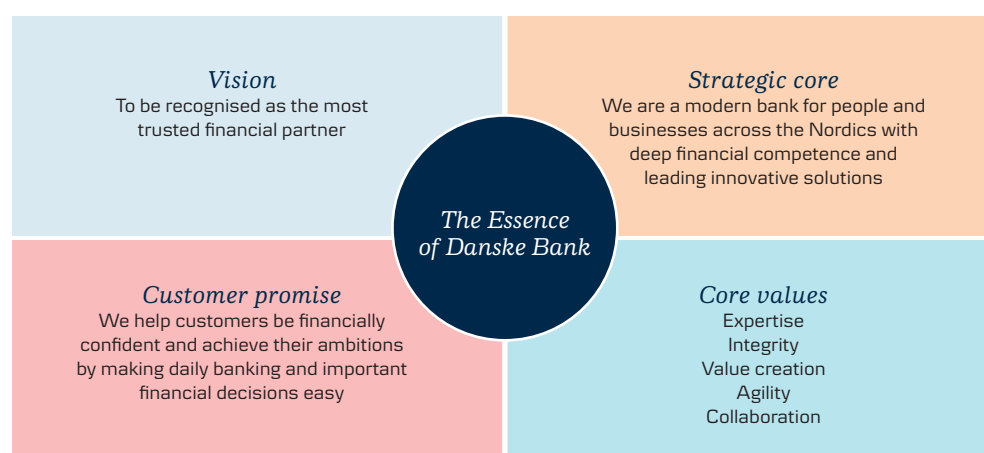
# 2.

## 2.1 Risk strategy

To support Danske Bank's vision of being recognised as the most trusted financial partner, the Group uses an enterprise risk management (ERM) approach to set common standards for consistent risk management across all risk types.

The Group's risk objective is to ensure that Danske Bank remains a solid, balanced and predictable bank that supports customers through the business cycle. This is in direct support of our Nordic Integrator strategy underpinned by the Essence of Danske Bank, which is the foundation on which we build our business.

The Group's Essence is based on four pillars:



In order to support our business strategy and risk objective, the ERM approach details how we structure risk governance and risk responsibilities to ensure appropriate oversight and accountability. Furthermore, it sets out the foundation of the Group's risk culture and specifies its risk taxonomy and risk appetite approach. The ERM approach is supported by the underlying risk policies as defined by the Board of Directors and detailed in directives set forth by the Executive Board.

### Risk culture

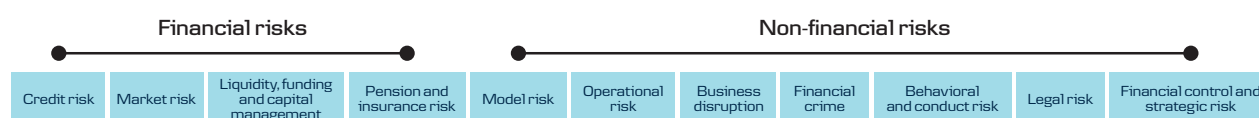
We recognise the importance of having a strong risk culture in everyday work to ensure that we create value for customers and live up to our responsibility as one of the largest financial institutions in the Nordic region. Building and maintaining a common risk culture across the Group involve ensuring a high level of risk awareness. This work is underpinned by the Group's core values and helps align behaviour with the risk appetite.

Managing risks is the responsibility of all employees in the Group as part of their day-to-day work routines.

Our risk culture is reinforced by our approach to remuneration. The key performance agreements of all Executive Board members include risk/compliance indicators. Building and maintaining the right set of risk skills and expertise also help strengthen the risk culture. We develop and maintain risk skills through tailored risk and compliance training to ensure that risk management expertise is embedded in daily work routines. Executive Board members participate in compulsory training courses like all other employees.

### Risk taxonomy

The Group's risk taxonomy is a common set of Group risk categories and definitions intended to ensure adequate risk identification and ownership across the Group. For each identified risk category, roles and responsibilities are defined to ensure continued monitoring and risk assessment. The risk categories cover both financial and non-financial risks. The taxonomy is adjusted on an ongoing basis to ensure that the risk categories reflect the Group's main risks.



### Group risk appetite

The Group's risk appetite is defined as the type and amount of risk that we are willing to accept in order to manage the risks inherent in our business and to meet our strategic objectives. This is to ensure an adequate balance between risk and return. As part of the risk appetite setup, the Group also sets tolerance levels for non-financial risks. These specify the level of non-financial risk that we are prepared to take in pursuit of our business strategy.

The Group's risk appetite is owned by the Board of Directors and sets the direction for the Group's overall risk-taking by specifying the aggregate level of risk acceptable to the Group. The risk appetite is embedded in the strategic and financial planning processes to ensure that risk management forms an integral part of the strategic decision-making process. It is based on the Group's individual risk appetites for credit risk, market risk, liquidity risk and operational risk. Relevant performance indicators for the risk appetites are embedded in regular risk reporting to enable the Group to monitor whether the individual risk profile remains within the risk appetite.

The individual risk sections in this report provide more information about the individual risk appetites and profiles.

## 2.2 Risk management organisation

The Group's risk management practices are organised according to the principles of the three-lines-of-defence model. The three lines of defence segregate duties between (1) units that enter into business transactions with customers or otherwise expose the Group to risk (risk ownership), (2) units in charge of risk oversight and control (risk oversight), and (3) Group Internal Audit (risk assurance).

### 2.2.1 Three lines of defence

**The first line of defence** owns and manages the business activities and related risks. The first line of defence consists of the business units, including first-line-of-defence risk management entities, and the heads of Group HR, COO area, CFO area and Group Development. These units are responsible for identifying, managing, mitigating and controlling risks, and their responsibilities extend across national borders. The mandate of the business units is governed by risk policies, instructions and limits.

First-line-of-defence responsibilities include designing, implementing and operating effective controls. Risks must be managed in line with the delegated responsibilities and policies as set by the second line of defence and approved by the Board of Directors.

**The second line of defence** is responsible for setting the standards, policies and methods under which the first line of defence operates with respect to risk management. The second line of defence supports and challenges the first line of defence and operates independently of the first line of defence.

The second line of defence provides risk oversight and consists of Group Risk Management and Group Compliance.

The head of Group Risk Management has the title of chief risk officer (CRO), is a member of the Executive Board, and in cooperation with and under responsibility of the chief executive officer (CEO) of Danske Bank, the CRO reports to the Board of Directors. The CRO has the authority to veto any decision in relation to credit applications and new products.

Group Risk Management is organised into units with individual risk type responsibility and with business unit CROs covering all risk types within their individual business areas. The following units are part of Group Risk Management: Banking Denmark Risk Management, Retail Credit Risk, Wholesale Credit Risk, Group Operational Risk, Risk Analytics, Market & Liquidity Risk, and COO Risk Functions. In addition, country CROs in Norway, Sweden, Finland and Northern Ireland are responsible for all risk types in the respective countries. Most business unit CROs also have group-wide responsibility for specific risk types.

The head of Group Compliance has the title of chief compliance officer (CCO), is a member of the Executive Board, and in cooperation with and under responsibility of the chief executive officer (CEO) of Danske Bank, the CCO reports to the Board of Directors. Group Compliance is responsible for identifying and assessing conduct and financial crime risks and is furthermore responsible for providing advice and guidance to the first line of defence. This includes providing support and creating awareness. Group Compliance monitors the adherence to processes and controls at the business units and ensures that controls are appropriate, in place, properly designed and operating as intended. It has an independent oversight of conduct and financial crime risk management and governance and maintains the Group's conduct and financial crime risk management framework. These activities should be seen as part of an ongoing compliance process that is adjusted to changes in law, regulatory requirements, business activities and methods.

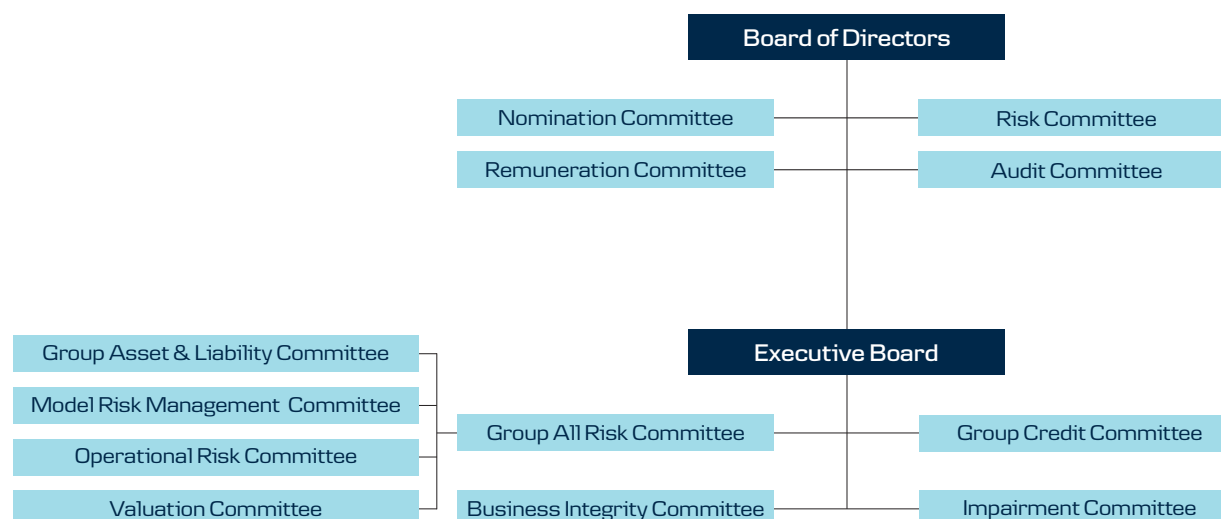
Both the first and second lines of defence strengthened resources and skill sets in 2018 to manage non-financial risks.

**The third line of defence** is made up by Group Internal Audit (GIA). GIA is an independent and objective unit evaluating and improving the effectiveness of risk management, control and governance processes in relation to the control environments of the first and second lines of defence. GIA is headed by the chief audit executive (CAE) and reports directly to the Board of Directors.

## 2.3 Risk governance

The Group has a structure of decision-making bodies that cover all relevant risks to ensure control and oversight of risk decisions. The committee structure supports an effective information and escalation path to the Group's senior management and provides a consistent approach to risk management.

### Risk governance: two-tier management and committee structures



Following orders from the Danish Financial Supervisory Authority (the Danish FSA) in May 2018, the Group has taken a number of initiatives to strengthen its governance. In particular, it has drawn up a new escalation policy as an overall framework for internal escalations and has also revised templates for meeting minutes and procedures for submitting material to the Executive Board and the Board of Directors. The Escalation Policy lays down the general principles and standards for the timing, responsibility, processes, requirements for accuracy, etc., for how to escalate matters to the Executive Board and the Board of Directors.

#### 2.3.1 Board of Directors and Executive Board

The Group's rules of procedure for the Board of Directors and the Executive Board specify the responsibilities of the two boards and the division of responsibilities between them. The two-tier management structure and the rules of procedure developed in accordance with Danish law, regulations and relevant corporate governance recommendations are central to the organisation of risk management and the delegation of authorities throughout the Group.

The Board of Directors appoints members to the Executive Board, the CAE and the secretary to the Board of Directors. In accordance with the rules of procedure, the Board of Directors approves the Group's overall business model, risk profile, strategy, policies, risk appetite and instructions with mandates to the Executive Board. In addition, the Board of Directors receives regular reports, monitors the main risks and reviews the largest credit exposures.

The Executive Board is responsible for the Group's day-to-day management as stated in the rules of procedure. It supervises the Group's risk management practices, approves credit applications up to a defined limit and ensures that bookkeeping and asset management are sound and in accordance with the Group's business model, strategy, policies and instructions established by the Board of Directors and in compliance with applicable legislation. The Executive Board consists of the chief executive officer, the heads of the four main business units and the heads of Group HR, COO area, CFO area, Group Development, Group Compliance and Group Risk Management.

### 2.3.2 Board of Directors and Executive Board committees

The Board of Directors has established four committees to supervise risks and prepare cases for consideration by the full Board. Material submitted to the committees must be prepared in accordance with the Group's guidelines for such material.

#### Committees established by the Board of Directors

<p><b>Risk Committee</b></p> <p>Convenes at least four times a year</p>	<p>The Risk Committee operates as a preparatory committee for the Board of Directors with respect to Danske Bank's risk management and related matters.</p> <p>The committee advises the Board of Directors on the Group's risk profile, risk culture, risk appetite, risk strategy and risk management framework.</p>
<p><b>Audit Committee</b></p> <p>Convenes at least four times a year</p>	<p>The Audit Committee operates as a preparatory committee for the Board of Directors with respect to accounting and auditing matters, including risk matters relating thereto compliance and anti-money laundering.</p> <p>This also includes issues that the Board of Directors, the committee itself, the CAE or the external auditors believe require preparatory work before being brought to the attention of the full Board.</p>
<p><b>Remuneration Committee</b></p> <p>Convenes at least twice a year</p>	<p>The Remuneration Committee operates as a preparatory committee for the Board of Directors with respect to matters concerning remuneration. Its focus is on the remuneration of the members of the Board of Directors and the Executive Board, material risk takers, key employees and executives in charge of control and internal audit functions as well as on incentive programmes.</p> <p>The committee monitors trends in the Group's salary and bonus policies and practices. It also monitors the incentive programmes to ensure that they promote ongoing, long-term shareholder value creation and are in compliance with the Remuneration Policy.</p>
<p><b>Nomination Committee</b></p> <p>Convenes at least twice a year</p>	<p>The Nomination Committee operates as a preparatory committee for the Board of Directors with respect to the nomination and appointment of candidates to the Board of Directors and to the Executive Board and with respect to the evaluation of the work and performance of the Executive Board and the Board of Directors, including individual evaluation of each member of the Board of Directors.</p> <p>The committee also submits proposals to the Board of Directors on policies for succession planning as well as diversity and inclusion.</p>

The Executive Board has established four risk committees: the Group All Risk Committee, the Group Credit Committee, the Business Integrity Committee and the Impairment Committee. All material submitted to the Board of Directors and to its committees must have been reviewed by one of these committees or the Executive Board.

## Committees established by the Executive Board

<b>Group All Risk Committee</b>  Convenes at least nine times a year	<p>The Group All Risk Committee acts on behalf of the Executive Board with respect to the Group's risk management practices. The committee makes decisions on and monitors all material risks associated with the Group's business model and activities. It covers all risks across risk categories, business units, functions and geographical regions in alignment with the Group's ERM framework.</p> <p>All members of the Executive Board are permanent members of the Group All Risk Committee. All compliance-related matters are addressed by the Executive Board and not by the Group All Risk Committee.</p>
<b>Group Credit Committee</b>  Convenes at least twice a week	<p>The Group Credit Committee reviews and decides on individual credit applications on behalf of the Executive Board. The Group CEO, CRO, CFO and the heads of the business units are permanent members of the Group Credit Committee.</p>
<b>Business Integrity Committee</b>  Convenes at least four times a year	<p>On behalf of the Executive Board, the Business Integrity Committee decides on ambition levels and develops and oversees the implementation of the Societal Impact and Sustainability strategy and related Group policies.</p> <p>All members of the Executive Board are permanent members of the Business Integrity Committee.</p>
<b>Impairment Committee</b>  Convenes at least four times a year	<p>On behalf of the Executive Board, the Impairment Committee oversees the implementation and maintenance of the group-wide framework for assessing the Group's credit impairment charges. The Group CEO, CRO, CFO and the heads of the business units are permanent members of the Impairment Committee.</p>

The Group All Risk Committee has established the following sub-committees that focus on different risk categories: the Group Asset & Liability Committee, the Model Risk Management Committee, the Operational Risk Committee and the Valuation Committee.

## Sub-committees of the Group All Risk Committee

<b>Group Asset &amp; Liability Committee</b> Convenes at least once a month	<p>The committee oversees the alignment of balance-sheet risks with the Group's interest rate and liquidity risk appetites and facilitates a coordinated approach to asset and liability management within the Group. It has a sub-committee, the Group Liquidity Risk Committee, which oversees the implementation and maintenance of the group-wide liquidity risk management framework.</p>
<b>Model Risk Management Committee</b> Convenes at least four times a year	<p>The committee oversees the implementation and maintenance of the group-wide model risk policy.</p>
<b>Operational Risk Committee</b> Convenes at least six times a year	<p>The committee oversees the implementation and maintenance of the operational risk framework across the Group.</p>
<b>Valuation Committee</b> Convenes at least four times a year	<p>The committee oversees the implementation and maintenance of the group-wide framework for managing all financial instruments recognised at fair value in the consolidated balance sheet.</p>

## 2.4 Risk monitoring and reporting

The Group has an enterprise-wide approach to risk reporting. This approach is supported by the monthly CRO letter, which covers analyses across all risk types, business units and geographical regions.

Risk reporting	Content	Frequency	Received by
<b>CRO letter</b>	A comprehensive overview of the Group's risk profile across all risk types, business units and geographical regions.	Monthly	Group All Risk Committee  Risk Committee (Board of Directors)  Board of Directors
<b>Risk profiles</b>	Detailed portfolio and industry analyses focusing on exposure, risk factors, structural trends, performance and forward-looking developments, including portfolio stress tests. Risk profiles cover all material portfolios.	Annually	Group All Risk Committee  Risk Committee (Board of Directors)  Board of Directors
<b>Risk reviews</b>	Reviews based on a risk-based approach; they cover specific risks related to selected portfolios and all material portfolios. Ad hoc reports are made when relevant.	At varying intervals; high-risk portfolios are reported more frequently, and at least annually	Group All Risk Committee
<b>Impairment report</b>	An overview of detailed developments in the Group's impairment charges.	Quarterly	Group Impairment Committee  Audit Committee (Board of Directors)  Risk Committee (Board of Directors)  Board of Directors
<b>Risk management report</b>	A description of the Group's risk profile, capital management, risk management organisation and risk frameworks. The report is prepared annually along with the additional Pillar III disclosures, and together they fulfil the CRR/CRD IV requirements.	Annually	Risk Committee (Board of Directors)  Board of Directors  Public
<b>Group compliance semi-annual report</b>	An overall assessment of the compliance risk management and control environment at Danske Bank Group.	Semi-annually	Executive Board  Audit Committee (Board of Directors)  Board of Directors

### Solvency and liquidity reporting

<b>ICAAP report</b>	This report provides a review of the Group's capital adequacy based on a risk assessment of each ERM risk type. It presents the results from stress tests, including the effects of various scenarios on expected losses and the solvency need. A condensed format of the report is submitted quarterly, while an extensive version is provided annually.
<b>ILAAP report</b>	This report provides a description of the Group's liquidity situation and liquidity management, including its funding profile and plan. It assesses liquidity risk indicated in liquidity stress tests and similar analyses and also describes the minimum amount of liquidity reserves required by the Group. The report is submitted annually.

Stress testing forms an integral part of most of the Group's risk reporting. Stress tests are used in capital and liquidity management, for setting the risk appetite both at the group level and for individual risk types, and for testing the effectiveness of the Group recovery plan. For more information about using stress tests, see sections 4 and 5 in this report.

### **Crisis management**

The Group is a significant player in the Nordic financial markets and provides a number of critical functions upon which the financial systems and the real economy in its core markets rely. The Group recognises the importance of having plans and procedures in place to ensure its long-term viability and the availability of critical services.

The Group's operational crisis management is supported by business continuity plans. They describe measures to restore the Group's operational capabilities and to allow the Group to recover from material operational risk events.

The Group has prepared a liquidity contingency plan as well as a recovery plan, and they serve as tools to be used in situations of financial stress. The plans include an indicator framework that supports the Group's ability to identify and understand potential threats to its financial viability in due time. The framework describes governance processes and the catalogue of available actions to be implemented to restore the Group's long-term viability.

The Group recovery plan is evaluated by the Danish FSA and the supervisory college on an annual basis.

### **Customer complaints**

Customer complaints are handled in line with EU legislation (MiFID II, GDPR, PSD 2, EBA and ESMA guidelines on complaints handling) and in accordance with local regulation in the markets where the Group operates. Complaints handling functions are in place in each market, and each business unit reports on complaints handling to local management and local supervisory authorities. In 2018, group-level complaints handling reporting was introduced. Group-level complaints monitoring is reported to the Executive Board.

# Credit risk

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# 3.

## 3.1 Credit risk management

Credit risk is the risk of losses because debtors or counterparties fail to meet all or part of their payment obligations to the Group. Credit risk includes counterparty credit risk. Counterparty credit risk is the risk of a financial loss on a derivatives transaction because of the default of a counterparty. The risk arises as a combination of credit risk (a deterioration in the credit worthiness of a counterparty) and market risk (the potential value of derivatives contracts).

The Group manages credit risk in accordance with its credit risk framework, Credit Policy, Credit Instructions and Credit Risk Appetite. The overall policy setup ensures that the Group has a consistent approach to credit risk management and that risk-taking remains supportive of the Group's business strategy.

At 1 January 2018, the Group implemented the three-stage expected credit loss impairment model in IFRS 9. For more information about the implementation of IFRS 9, see the Annual Report 2018.

### 3.1.1 Governance and responsibilities

Credit controls are organised along the three lines of defence, which means that the ownership and execution of tasks are separated from their control.

The Group uses dual underwriting as a general principle. Credit applications and renewals above a certain materiality threshold are considered under dual authority, which means that decisions made by business units are challenged or endorsed by Group Risk Management. The first line of defence is responsible for all credit exposures.

Lending authorities are cascaded down from the Board of Directors, through the Executive Board to Group Risk Management, to lending officers at the business units. Authorities are delegated to qualified and experienced staff at levels appropriate to such tasks and relevant to the risk profile and nature of the exposures considered by those officers. Credit applications exceeding the delegated lending authorities are submitted to the Group Credit Committee and to the Board of Directors. In cases of a reputational or material financial nature, both the Executive Board and the Board of Directors are involved in the approval process.

Monitoring functions determine whether credit facilities are granted in accordance with the Credit Risk Appetite. Group Risk Management monitors, challenges and reports on credit risk performance to the Executive Board and the Board of Directors.

### 3.1.2 Credit risk appetite and concentration frameworks

The Group's credit risk appetite is set to support the Group's ambition to limit impairment volatility through the business cycle and to manage credit concentrations (including single names, assets and/or credit types). The appetite allows the Group to take on credit risk in areas that are within its strategic core.

The credit risk appetite applies not only at the group level, but also at business unit/regional and product levels. Supporting risk limits and risk metrics are in place at various levels to help measure credit risk further.

Subsidiaries and legal entities set independent credit risk appetites in alignment with Group principles.

Monthly and quarterly risk reporting enables the ongoing monitoring of the Group's credit risk profile to ensure that it is in line with its credit risk appetite.

#### Limiting impairment volatility

The Group has set maximum loss limits that allow it to manage the risk of credit losses in times of economic stress. The maximum loss is calculated as the maximum future annual loss to be expected under a severe recession scenario. The maximum loss limits also make it possible to monitor the credit quality of the portfolio and factor in all key credit quality drivers such as customer ratings/scores, collateral and loan maturity. The stress test drivers used for setting the maximum loss limits also help provide details on how credit concentrations are managed.

#### Managing credit concentrations

The Group has implemented a set of frameworks to manage credit risk concentrations. The frameworks cover the following concentrations:

- Single-name concentrations
- Industry concentrations
- Geographical concentrations

### *Single-name concentrations*

Single-name concentrations are managed according to two frameworks:

1. Large exposures framework: This framework is based on the regulatory definition of large exposures specified in part 4 of the CRR (Regulation (EU) No. 575/2013 of the European Parliament and of the Council of 26 June 2013). The Group has defined stricter internal limits for managing single-name concentrations, including the following:
  - Absolute limit on single-name exposures
  - The sum of single-name exposures larger than 10% of the total adjusted capital may not exceed a portfolio limit of 95% of the total adjusted capital (at the end of December 2018, one single-name exposure exceeded 10%)
  - The sum of single-name exposures equal to 5-10% of the total adjusted capital may not exceed 150% of the total adjusted capital (at the end of December 2018, this segment represented 24% of the total adjusted capital)
2. Single-name concentration framework: The Group has also implemented a risk-sensitive internal framework that sets limits on exposure, loss given default and expected loss in order to limit losses on single-name exposures.

The largest exposures are monitored daily under the large exposures framework and are reported on a quarterly basis to the Group All Risk Committee, the Board Risk Committee and the Board of Directors. At the end of December 2018, the Group was well within the regulatory limits for large exposures.

Single-name concentrations are monitored monthly and reported on a quarterly basis to the Group All Risk Committee, the Board Risk Committee and the Board of Directors.

### *Industry concentrations*

The Group manages industry concentrations as part of its credit risk appetite framework by setting exposure limits on selected industries. For relevant industries, this also means setting targets for banking book reductions etc. in order to ensure creditworthiness within the concentration limits. The Group accepts the risks on material concentrations in accordance with the industry-specific guidelines that outline the use of credit policies within the industry.

### *Geographical concentrations*

Credit reporting includes a breakdown by region. Limits are set on exposures outside the Group's home markets (sovereigns, financial institutions and counterparties in derivatives trading). Limits are approved by the Group Credit Committee on the basis of the expected business volume and an assessment of the specific country risk.

### **3.1.3 Stress testing**

The credit risk appetite is set annually and assessed on an ongoing basis using both top-down and bottom-up stress testing in alignment with IFRS 9 methodology.

When setting the overall credit risk appetite at the group and business unit levels, the Group stress-tests the total portfolio using the severe recession scenario that is also the foundation for the ICAAP stress tests. The credit risk appetite is thus based on forward-looking parameters.

The Group also conducts bottom-up stress tests on selected industries, typically the largest portfolios (reviewed on an annual basis). These stress tests form part of wider sector and portfolio reviews (risk profiles), and they are used for the assessment of specific risk strategies for individual sectors. The bottom-up stress tests help set the risk appetite for industry concentrations and also help validate top-down stress testing.

### **3.1.4 Risk identification and assessment**

The credit control environment verifies that credit facilities granted are in compliance with credit policies and directives and in alignment with the Group's Credit Risk Appetite. Credit exposures are monitored so that credit action plans can be made and/or forbearance measures be taken for distressed loans and impairment charges be calculated for non-performing loans.

The Group focuses increasingly on early collection activities for retail customers, and early signs of inability to pay are addressed by dedicated teams specialising in identifying and mitigating such issues. This allows the Group to work with customers to remediate issues in a timely manner and thus reduce the volume of non-performing loans to retail customers going forward.

Similarly, the Group uses early warning indicators for commercial customers in order to identify behavioural signals that historically have indicated poor performance. This enables relationship managers and credit departments to target activities to a higher extent than previously, including taking forbearance measures where relevant.

The credit process ensures that loans are granted to customers within their financial capacity and that distressed and non-performing loans are identified at an early stage and managed proactively. Assessing a customer's financial capacity is a key element of the credit approval process. The Group follows a policy of mitigating credit risk by means of guarantees and/or collateralisation.

In the credit risk management process, the Group uses point-in-time (PIT) estimates for the probability of default (PD), loss given default (LGD) and conversion factor (CF). The PIT estimates are based on inputs that are sensitive to the current macroeconomic conditions and thus change over a business cycle.

### **Rating and scoring**

Group Risk Management is responsible for the overall rating process, including rating models. The rating process includes a control measure insofar as two employees are always involved in a rating decision: a rating officer recommending the rating and a senior rating officer with authority to approve the rating.

After approval, a rating applies until new customer information is available and the rating is reassessed. Customer ratings are reassessed periodically on the basis of new information that affects a customer's creditworthiness.

The Group assigns credit scores to customers that are not rated. The scoring models for personal customers and small and medium-sized enterprises are fully automated and are all statistically based models.

Credit scores are updated monthly in a process that is subject to automated controls and a manual review of the overall results.

### **Risk classification distribution**

Scoring and rating are integral elements of the credit approval process and the overall credit risk management process. The Group's classification scale consists of 11 main categories, with category 11 comprising customers in default. Most of the categories are divided into two or three subcategories, making a total of 26 classification categories.

The internal PD rating scale is not directly comparable with the rating scales used by the international rating agencies.<sup>1</sup> The Group's internal ratings are based on PIT parameters, and the ratings reflect the probability of default within a year. In order to benchmark the Group's internal rating models, the Group uses Standard & Poor's and Moody's data as benchmarks.

#### **3.1.5 Risk mitigation and collateral management**

The Group uses a number of measures to mitigate credit risk, including collateral, guarantees and covenants. The main method is obtaining collateral.

The market value of collateral is monitored and reassessed by advisers, internal or external assessors, or automatic valuation models. Automatic valuation models are validated annually and monitored quarterly. The Group regularly evaluates the validity of the external inputs on which the valuation models are based. The Collateral System supports the process of reassessing the market value to ensure that the Group complies with regulatory requirements.

The market value of collateral is subject to a haircut. A haircut reflects the risk that the Group will not be able to obtain the estimated market value upon the sale of the individual asset in a distressed situation and thus includes a forced sale reduction, price volatility during the sales period, realisation costs and maintenance costs. The haircut applied depends on the type of collateral. For regulatory purposes, the Group also applies a downturn haircut.

#### **3.1.6 Monitoring and reporting**

The Group has a number of systems for measuring and controlling credit risk. Among the most important are the Credit System (including the Delegated Lending Authorities System), the Collateral System, the Rating/Scoring System and a number of follow-up systems. Several controls are incorporated in these systems to ensure the following:

- Accurate classification of customers
- Timely registration and accurate valuation of collateral
- Granting of credit facilities according to delegated lending authorities
- Formalised monitoring and follow-up procedures

The Credit System is the foundation of an efficient and effective credit process. It contains all relevant details about credit facilities, financial circumstances and customer relations. The system is used for all customer segments and products across all sales channels. It ensures that the basis for decision-making, including file comments and credit exposure, is created and stored properly.

The Group closely monitors changes in customers' financial conditions in order to determine whether the basis for granting credit facilities has changed.

<sup>1</sup>Ratings 1-5 are comparable to investment grades; ratings 9 and 10 designate highly vulnerable customers; and rating 11 represents customers in default.

The Group's lending activity is governed by the Group's Credit Policy, including the Principles of Responsible Lending. These principles focus on the customer's understanding of the consequences of borrowing; the assessment of the customer's needs and ability to repay; and possible conflicts with the Group's environmental, social and governance guidelines.

The Delegated Lending Authorities System ensures efficient administration and control of lending authorities. If a delegated lending authority is exceeded, a report or a request for verification will be sent to the relevant manager or local credit office.

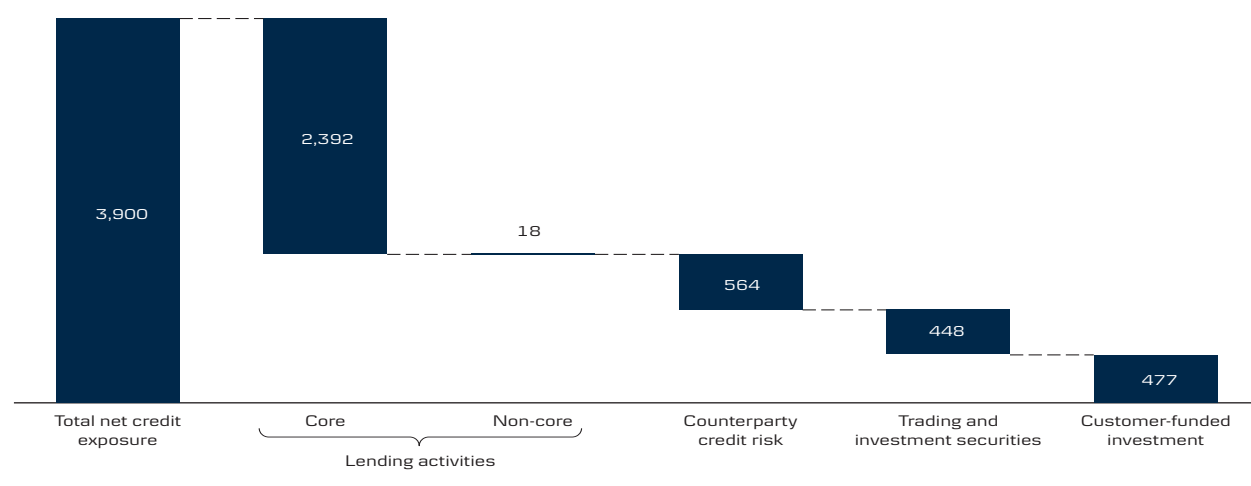
Group Risk Management oversees the Group's credit activities and reports on developments in the credit portfolios. Portfolio reports are presented to the Executive Board (via the Group All Risk Committee) on a monthly basis and to the Board of Directors (via the Board Risk Committee) on a quarterly basis.

## 3.2 Credit risk profile

Danske Bank Group's total net credit exposure is defined as on-balance-sheet and off-balance-sheet items net of impairment charges that carry credit risk. At the end of 2018, the Group's total net credit exposure for accounting purposes was DKK 3,900 billion (2017: DKK 3,879 billion).

### Breakdown of net credit risk exposure

(DKK billions)



Net credit exposure from lending activities accounts for most of the Group's net credit exposure and is the focus of this section. Counterparty credit risk is explained in section 3.4, while risk from trading and investment securities and customer-funded investment is described in section 4. Net credit exposure from lending activities includes amounts due from credit institutions and central banks, loans, guarantees, irrevocable loan commitments and repo loans.

At the end of 2018, net credit exposure from core lending activities amounted to DKK 2,392 billion (2017: DKK 2,688 billion). The decrease in credit exposure was attributable mainly to the IRFS 9 reclassification and the exclusion of repo and other loans at the trading unit of Corporates & Institutions as from 1 January 2018, thus excluding this exposure from the credit exposure from lending activities. At the end of 2017, such loans amounted to DKK 223 billion. Credit exposure also decreased following the transfer of Baltic customers to the Non-core unit in the second quarter of 2018 with a net exposure of DKK 14.6 billion. The decrease was partly offset by including committed loan offers of DKK 69 billion in the credit exposure from the first quarter of 2018. Net credit exposure from Non-core lending activities increased to DKK 18 billion (2017: DKK 8 billion).

At the end of 2018, the Group's counterparty credit risk amounted to DKK 564 billion, up from DKK 257 billion at the end of 2017 following the above-mentioned reclassification of repo and other loans (on a mark-to-market basis before close-out netting and collateral reduction).

Net credit exposure from trading and investment securities arises from securities positions taken by the Group's trading and investment units, and it also entails credit risk. This risk type is described in the credit risk notes to Danske Bank Group's financial statements.

The Group's credit risk exposure from assets in customer-funded investment pools, unit-linked investment contracts and insurance contracts (customer-funded investments) was DKK 477 billion in 2018 (2017: DKK 409 billion). The risk on assets under pooled schemes and unit-linked investment contracts is assumed solely by customers, while the risk on assets under insurance contracts is assumed primarily by customers. The credit risk on customer-funded investments and insurance contracts is described in the notes on credit risk and insurance contracts to Danske Bank Group's financial statements.

From section 3.2.1 onwards, net credit exposure from lending activities (referred to as 'net credit exposure') excludes Non-core exposure (unless otherwise stated).

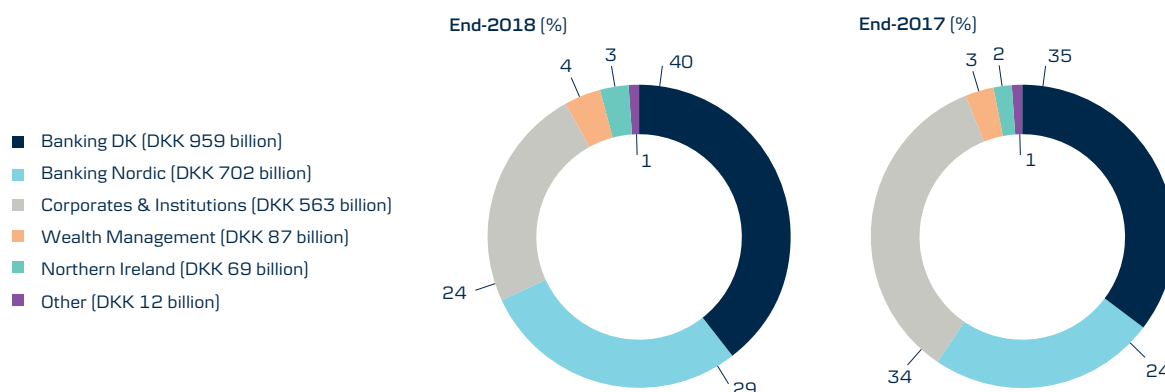
### 3.2.1 Net credit exposure from lending activities

Overall net credit exposure from lending activities – adjusted for the reclassification of repo and other loans – decreased by DKK 69.3 billion from the end of 2017. The main driver was a DKK 150.6 billion decrease in deposits with central banks and amounts due from central banks and credit institutions. Loans and guarantees rose by DKK 40.4 billion, while irrevocable loan commitments fell by DKK 9.0 billion. The inclusion of loan offers from the first quarter of 2018 raised credit exposure by DKK 69 billion primarily at Banking Nordic.

The increase in loans and guarantees was driven by a DKK 54.3 billion increase at Banking Nordic – primarily in the corporate segment in Sweden. At the same time, loans and guarantees at Banking DK decreased by DKK 18.8 billion, which was mostly ascribable to the transfer of Nordania from Banking DK to Banking Nordic in connection with the reorganisation in the third quarter of 2018.

For more information about the trends in selected portfolios, see the sections below.

#### Breakdown of net credit exposure by business unit (core lending activities)



The corporate and sovereign portfolios are diversified across various industries with commercial property representing the largest exposure.

In 2018, credit exposure to personal customers consisted mostly of home financing secured on real property. The reclassification of repo and other loans reduced credit exposure primarily in the Other Financials, Public Institutions, Other Commercials and Insurance industries. The large drop in public credit exposure was driven by single names and covered the lower deposits with central banks and amounts due from central banks and credit institutions.

### Net credit exposure broken down by industry (core lending activities)

	Net credit exposure (DKK billions)	
	End-2018	End-2017
Public institutions	220	414
Banks	47	53
Credit institutions	6	9
Insurance	9	38
Investment funds	25	25
Other financials	11	93
Agriculture	71	63
Commercial property	300	297
Construction & building products	36	45
Consumer discretionary	108	106
Consumer staples	62	58
Energy & utilities	55	51
Health care	38	35
Industrial services, supplies & machinery	112	96
IT & telecom	29	31
Materials	49	50
Non-profits & associations	189	170
Other commercials	31	86
Shipping	38	36
Transportation	27	24
Personal customers	930	911
<b>Total</b>	<b>2,392</b>	<b>2,688</b>

### 3.2.2 Credit quality

#### Net credit exposure broken down by rating category

Stable macroeconomic conditions, managerial efforts and enhanced underwriting continued to support the Group's credit risk profile in 2018. Overall credit quality remained stable, with 98% of total credit exposure having a rating classification from 1 to 8. The same level was seen at the business unit level for Banking Nordic, Corporates & Institutions and Wealth Management, while Banking DK and Northern Ireland had a share of 97%. The significant decrease in credit exposure in rating categories 1 and 2 was attributable mainly to lower deposits with central banks and amounts due from central banks and credit institutions.

At the end of 2018, the exposure-weighted PD was 0.62%, against 0.64% at the end of 2017.

#### Overall lending activities – net credit exposure by rating category

Rating category	PD scale (%)		Net credit exposure (DKK billions)		Net credit exposure (% accumulated)	
	Upper	Lower	End-2018	End-2017	End-2018	End-2017
1	0.00	0.01	179	324	7	12
2	0.01	0.03	170	269	15	22
3	0.03	0.06	445	437	33	38
4	0.06	0.14	604	587	58	60
5	0.14	0.31	457	489	77	78
6	0.31	0.63	263	298	88	89
7	0.63	1.90	175	170	96	96
8	1.90	7.98	46	57	98	98
9	7.98	25.70	10	11	98	98
10	25.70	99.99	31	31	99	99
11	100.0	100.0	14	16	100	100
<b>Total</b>			<b>2,392</b>	<b>2,688</b>	<b>100</b>	<b>100</b>

#### Impairment charges, non-performing loans and forborne exposures

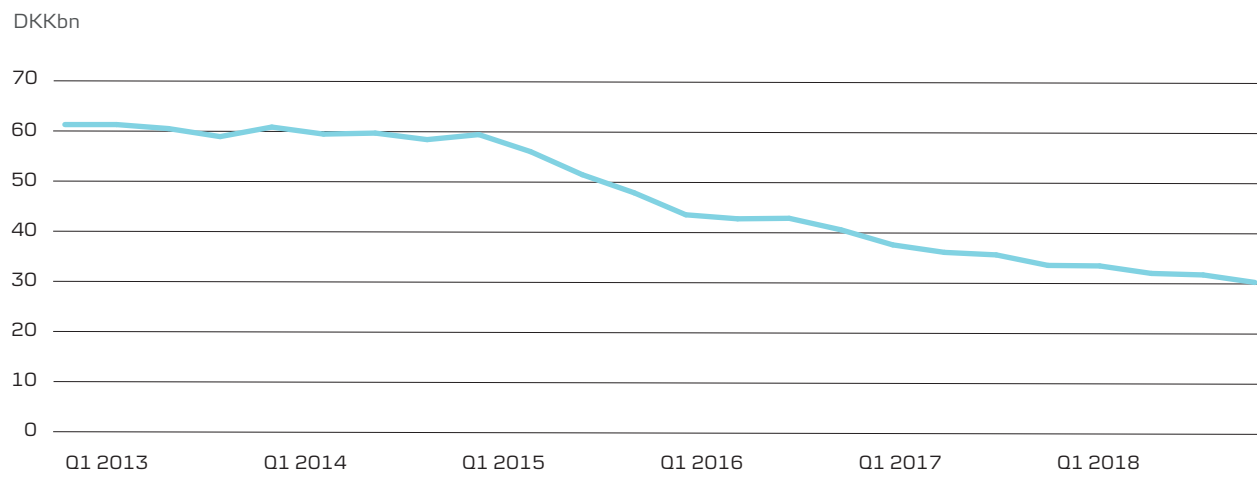
At the end of 2018, year-to-date net impairment charges at the Group's core business units amounted to DKK -650 million (2017: DKK -873 million).

### Non-performing loans (NPL) and impairment charges broken down by business unit

	End-2018				End-2017			
	Gross NPL = a+b	Expected credit loss b	Net NPL exposure a	Net NPL exposure, ex collateral	Gross NPL = a+b	Acc. individual impairment charges b	Net NPL exposure a	Net NPL exposure, ex collateral
(DKK millions)								
Banking DK	15,724	7,606	8,118	1,559	20,695	10,619	10,075	1,781
Retail	3,870	2,235	1,636	711	6,782	3,431	3,351	1,377
Commercial	11,853	5,371	6,482	848	13,913	7,188	6,725	405
Banking Nordic	5,290	2,451	2,838	250	6,998	2,932	4,066	346
Sweden	1,365	781	584	29	909	475	434	70
Norway	1,951	885	1,066	-	2,805	1,166	1,639	69
Finland	868	370	498	96	2,825	1,103	1,723	154
Other	1,106	416	690	125	458	188	270	53
C&I	6,788	2,048	4,740	347	3,368	1,284	2,084	153
Wealth Management	665	301	364	38	778	401	378	143
Northern Ireland	1,448	613	835	104	1,412	727	685	162
Other	9	2	6	4	4	3	2	2
<b>Total</b>	<b>29,924</b>	<b>13,021</b>	<b>16,903</b>	<b>2,302</b>	<b>33,255</b>	<b>15,965</b>	<b>17,290</b>	<b>2,587</b>

The Group defines non-performing loans as stage 3 exposures. However, for non-retail exposures with one or more non-performing loans, the entire amount of the customer's exposure is considered to be non-performing. For retail exposures, only impaired facilities are included in non-performing loans. The Group excludes exposures in stage 3 with no impairment charges or where the allowance account is considered immaterial to the gross exposure. For more information, see Annual Report 2018.

### Gross non-performing loans (excluding Non-core)



Gross non-performing exposure decreased to DKK 29.9 billion at the end of 2018 (2017: DKK 33.3 billion).

Credit quality remained solid and was supported by stable macroeconomic conditions and higher collateral values in most geographical markets. Reversals at Banking DK continued to be driven by the positive results of restructuring legacy non-performing loans. The inflow of new non-performing loans remained at a low level across markets, and no significant impairment charges were booked in stages 1 and 2 in 2018.

Banking DK saw an increase in impairment charges against exposure to agricultural customers. This was driven by falling output prices, particularly for pork, combined with low yields following a drought in Denmark during the summer of 2018. Combined with higher feed prices, this is expected to lead to significant financial weakness in 2019, and

impairment charges were booked as a result. At Corporates & Institutions, impairment charges continued to be driven by restructuring activity in the oil and gas industries. A number of restructurings were made in previous years in anticipation of a pickup in market activity, but this has not yet happened, and some single names are seeing a renewed need for restructuring, causing us to book impairment charges.

#### Non-performing loans and impairment charges broken down by industry

(DKK millions)	End-2018				End-2017			
	Gross NPL = a+b	Expected credit loss b	Net NPL exposure a	Net NPL exposure, ex collateral	Gross NPL = a+b	Acc. individual impairment charges b	Net NPL exposure a	Net NPL exposure, ex collateral
Public institutions	2	-	2	-	6	1	6	2
Banks	126	125	-	-	127	128	-	-
Credit institutions	-	-	-	-	-	-	-	-
Insurance	13	7	5	-	14	8	6	-
Investment funds	130	94	36	4	248	162	86	36
Other financials	-	-	-	-	-	-	-	-
Agriculture	3,685	1,897	1,788	399	4,306	2,540	1,766	285
Commercial property	4,465	1,576	2,889	58	6,033	2,451	3,583	184
Construction & building products	868	376	492	115	852	542	310	150
Consumer discretionary	2,011	1,137	875	238	2,208	1,305	902	272
Consumer staples	432	178	255	12	342	163	179	-
Energy & utilities	2,571	827	1,744	388	1,354	408	946	-
Health care	85	36	50	12	85	51	35	10
Industrial services, supplies & machinery	2,207	957	1,250	316	1,915	1,089	827	64
IT & telecom	168	89	79	37	146	88	58	33
Materials	659	356	303	119	846	522	324	76
Non-profits & associations	1,117	451	666	47	1,808	680	1,128	85
Other commercials	65	53	13	-	195	191	5	-
Shipping	5,072	1,625	3,446	-	2,037	681	1,356	68
Transportation	236	107	129	6	173	117	56	-
Personal customers	6,011	3,130	2,882	553	10,558	4,841	5,717	1,323
<b>Total</b>	<b>29,924</b>	<b>13,021</b>	<b>16,903</b>	<b>2,302</b>	<b>33,255</b>	<b>15,965</b>	<b>17,290</b>	<b>2,587</b>

The Group engages in work-out processes with customers in order to minimise losses and help viable customers in financial difficulty. During the work-out process, the Group makes use of forbearance measures to assist the non-performing customers. Concessions granted to customers include interest-reduction schedules, interest-only schedules, temporary payment holidays, term extensions, cancellation of outstanding fees, waiver of covenant enforcement and settlements. Because of the length of the work-out processes, the Group is likely to maintain impairment charges for these customers for years.

Forbearance plans must comply with the Group's Credit Policy and are used as an instrument to maintain long-term customer relationships during economic downturns if there is a realistic possibility that the customer will be able to meet obligations again. The purpose of the plans is therefore to minimise loss in the event of default.

If it proves impossible to improve a customer's financial situation by forbearance measures, the Group will consider whether to subject the customer's assets to a forced sale or whether the assets could be realised later at higher net proceeds. Since 2014, the Group has identified an increasing number of exposures subject to forbearance measures, partly as a result of stronger focus on the registration and monitoring of forbearance activities. Benign economic conditions allow the Group to establish work-out processes for large customers, including forbearance measures. In 2018, new concessions were concentrated on single names, including oil and gas customers. Forborne exposures generally saw an increase in credit quality, and customers started to perform again and to exit the probation period. This was reflected in the increase in performing exposures of DKK 0.9 billion from 2017 levels combined with a DKK 3 billion decrease in overall forborne exposures.

### Exposures subject to forbearance

(DKK millions)	End-2018		End-2017	
	Performing	Non-performing	Performing	Non-performing
Under probation	6,482	-	6,472	-
Active forbearance	9,143	8,828	8,255	12,718
<b>Total</b>	<b>15,625</b>	<b>8,828</b>	<b>14,727</b>	<b>12,718</b>

At the end of 2018, the Group had recognised properties taken over in Denmark at a carrying amount of DKK 26 million (2017: DKK 38 million), while there were no properties taken over in other countries (2017: DKK 44 million).

### 3.2.3 Credit risk mitigation

The main method used by the Group to mitigate credit risk is to obtain collateral for new transactions. The most important collateral types, measured by volume, are real property, custody accounts and securities (financial assets in the form of shares and bonds). Personal customers' real property accounted for 52% of the total collateral base (after haircuts) at the end of 2018 (2017: 48%).

### Collateral value by type (after haircuts)

At 31 December (DKK billions)	Total		Portion from											
			Banking DK		Banking Nordic		Corporates & Institutions		Wealth Management		Northern Ireland		Other	
	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017
Real property	1,282.1	1,238.0	775.4	752.6	392.6	369.2	27.5	33.4	56.0	53.4	30.3	29.1	0.3	0.3
- Personal	759.7	757.0	444.4	436.9	242.8	249.8	-	1.8	54.0	52.4	18.3	16.1	0.1	0.1
- Commercial	468.7	432.5	288.8	273.0	143.4	118.7	25.6	29.6	1.6	1.0	9.2	10.1	0.2	0.2
- Agricultural	53.7	48.4	42.2	42.7	6.4	0.8	1.9	1.9	0.4	-	2.8	2.9	-	-
Bank accounts	1.3	1.5	0.2	0.3	0.7	0.6	0.1	0.4	0.3	0.3	-	-	-	-
Custody accounts & securities	23.4	231.2	3.4	3.1	1.9	2.3	10.7	216.4	7.4	7.5	-	-	-	1.9
Vehicles	21.6	20.9	1.7	1.7	19.2	17.7	0.7	1.5	-	-	-	-	-	-
Equipment	22.3	19.9	3.2	3.2	15.1	13.1	1.2	1.2	-	-	2.7	2.5	-	-
Vessels and aircraft	28.9	26.6	1.6	1.7	2.4	2.0	24.9	22.9	-	-	-	-	-	-
Guarantees	12.4	12.3	0.8	0.8	6.2	6.1	3.7	3.4	1.7	2.0	-	-	-	-
Amounts due	4.5	4.1	-	-	3.8	3.6	0.2	-	-	-	0.5	0.4	-	-
Other assets	35.0	36.2	0.2	-	27.7	28.8	5.7	5.8	0.1	0.1	1.5	1.5	-	-
<b>Total collateral</b>	<b>1,431.6</b>	<b>1,590.5</b>	<b>786.6</b>	<b>763.3</b>	<b>469.6</b>	<b>443.5</b>	<b>74.7</b>	<b>284.8</b>	<b>65.4</b>	<b>63.3</b>	<b>35.1</b>	<b>33.5</b>	<b>0.3</b>	<b>2.2</b>

### 3.2.4 Trends in selected portfolios

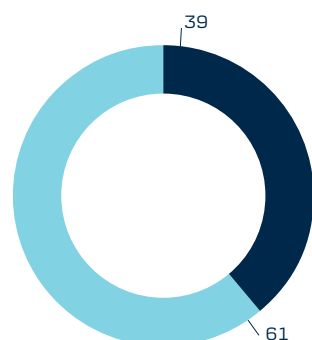
This section describes the trends in the credit quality of selected lending portfolios. These portfolios either have an elevated credit risk or represent a significant portion of the Group's total lending portfolio.

#### Personal customers

Measured by gross credit exposure, the personal customer portfolio is the Group's largest portfolio. At the end of the of 2018, gross credit exposure amounted to DKK 936 billion (2017: DKK 915 billion), with DKK 458 billion at Realkredit Danmark (2017: 454 billion) reflecting the Group's position as one of the leading Danish mortgage finance providers. The exposure to personal customers covers loans secured on customer assets, consumer loans and fully or partly secured credit facilities. Mortgage loans represent by far most of the exposure to personal customers (86%).

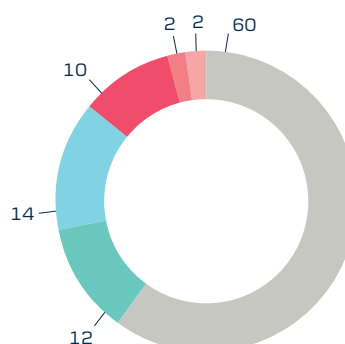
## Personal customers

Gross credit exposure to personal customers as % of total lending portfolio

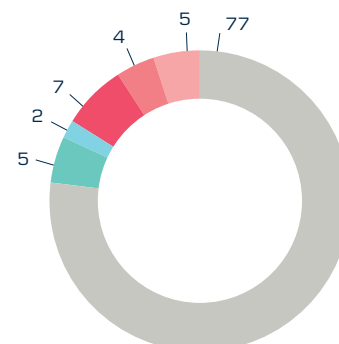


■ Personal customers ■ The rest

Gross credit exposure by country (%)



Expected credit loss by country (%)



■ Denmark ■ Sweden ■ Norway ■ Finland ■ Northern Ireland ■ Other

Overall, the personal customer portfolio remained stable in 2018. Credit exposure increased by DKK 21 billion primarily in Norway and Sweden, but the underlying growth in lending to personal customers was very modest during the year when we take into account the inclusion of loan offers.

Taking a selective approach to growth enables the Group to grow in the Nordic markets without increasing the overall risk level. The credit quality of new lending through strategic partnerships is generally higher than for comparable portfolios.

The credit quality of the personal customer portfolio continued to benefit from low interest rates and favourable macro-economic conditions. The main risks in the personal customer portfolio relate to the following:

- Elevated asset prices in growth regions: house prices have been increasing in Denmark, Sweden and Norway for a long period, especially in growth regions, driven by higher demand and low interest rates. However, initial signs of the housing market cooling down are starting to show in the growth regions, with Copenhagen flat prices dropping a little. Mortgage payment performance in high-growth regions remains strong with low default rates and few new non-performing loans.
- Interest rate increases: increases in historically low interest rates could put pressure on customer affordability. A stress test of the portfolio shows that customers with floating interest rates are exposed to changes in the current level, but also that the overall portfolio is robust. We do not expect any major changes in interest rate levels in 2019.
- The Group considers the current level of impairment charges to be sufficient. The Group's Credit Risk Appetite includes a key performance indicator (KPI) for both high LTV ratios and short-term financed loans.
- The Group's Credit Policy requires thorough assessment of the customer's disposable income and assets to ensure that the disposable income after the customer has obtained a new loan is sufficient to cover typical living expenses in addition to servicing the debt.
- The Group has actively worked to direct new lending towards long maturities and strengthened incentives for customers to choose mortgage products with amortisation and longer interest reset intervals. This has had a noticeable effect on the interest and amortisation profiles of the mortgage portfolio in Denmark in recent years. Roughly one-third of new mortgages in Denmark are now originated as interest-only loans, compared with roughly half of the existing portfolio consisting of interest-only loans at the end of 2016. Combined with a significant increase in the savings rates of Danish households since the financial crisis, we believe that this substantially reduces the risk of losses and improves financial stability for the households in question.

## Developments in the personal customer portfolio

(DKK millions)	Key figures					Non-performing loans		
	Gross credit exposure	Expected credit loss*	Write-offs	Impairment charges (bp)	Collateral (after haircuts)	Gross exposure	Share of total segment exposure (%)	Coverage ratio (%)
End-2017	915,489	6,058	837	2	779,527	10,558	1.15	79
End-2018	936,321	5,987	876	-3	780,619	6,011	0.64	85

\* The end-2017 figure comprises accumulated individual impairment charges and collective impairment charges.

## Commercial property

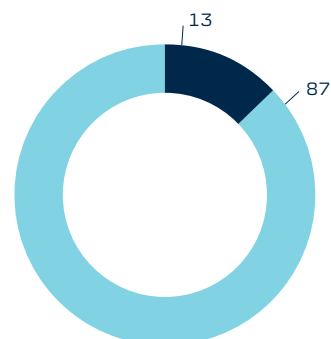
The commercial property portfolio consists primarily of secured property financing exposure to owners of property let to a third party. It also includes exposure where the property owner and the property user are separate legal entities within the same group.

At the end of 2018, gross credit exposure amounted to DKK 308 billion. The allowance account for the portfolio, which amounted to DKK 2.5 billion, represented less than 1% of gross credit exposure.

In 2018, the commercial property portfolio remained stable, while non-performing loans continued to decline as a result of solid underwriting standards, improving LTV ratios and low interest rates. Another factor behind the decline in non-performing loans was the work-out of legacy loans, as reflected by the continuing impairment reversals combined with write-offs during 2018. There were few new impairment charges against exposures to commercial property companies in 2018.

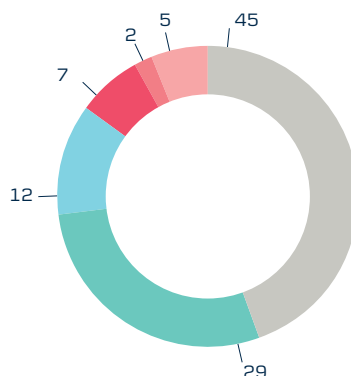
## Commercial property

Gross credit exposure to commercial property as % of total lending portfolio

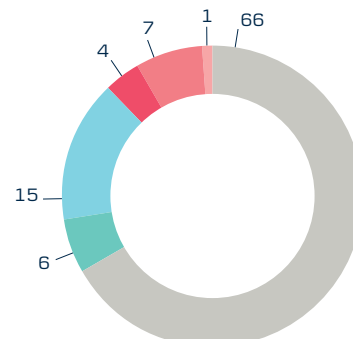


■ Commercial property ■ The rest

Gross credit exposure by country (%)



Expected credit loss by country (%)



■ Denmark ■ Sweden ■ Norway ■ Finland ■ Northern Ireland ■ Other

## Developments in the commercial property portfolio

(DKK millions)	Key figures					Non-performing loans		
	Gross credit exposure	Expected credit loss*	Write-offs	Impairment charges (bp)	Collateral (after haircuts)	Gross exposure	Share of total segment exposure (%)	Coverage ratio (%)
End-2017	299,709	2,762	345	-9	241,609	6,033	2.0	93
End-2018	302,905	2,470	405	-13	247,402	4,465	1.5	96

\* The end-2017 figure comprises accumulated individual impairment charges and collective impairment charges.

Most of the Group's commercial property customers are managed by specialist teams for customer relationships and credit management.

### Commercial property – net credit exposure by rating category

Rating category	PD scale (%)		Net credit exposure (DKK billions)		Net credit exposure [% accumulated]	
	Upper	Lower	End-2018	End-2017	End-2018	End-2017
1	0.00	0.01	0.3	0.3	-	-
2	0.01	0.03	5.3	4.6	2	2
3	0.03	0.06	8.8	10.6	5	5
4	0.06	0.14	99.6	95.0	38	37
5	0.14	0.31	93.4	93.5	69	69
6	0.31	0.63	58.2	49.8	88	85
7	0.63	1.90	25.8	30.3	97	96
8	1.90	7.98	3.5	5.2	98	97
9	7.98	25.70	0.5	1.1	98	98
10	25.70	99.99	3.6	5.1	100	99
11	100.00	100.00	1.3	1.7	100	100
<b>Total</b>			<b>300.4</b>	<b>296.9</b>	<b>100</b>	<b>100</b>

Credit quality measured by rating classification remained stable. Credit exposure to weaker customers in rating categories 9-11 decreased from DKK 7.9 billion to DKK 5.4 billion as a result of restructuring activities.

In 2018, the commercial property portfolio saw a small overall increase in credit exposure driven by a DKK 4.1 billion rise in the residential segment in Sweden that was partly offset by a fall in exposure to the non-residential segment in Denmark and at Corporates & Institutions.

### Commercial property by property type and geography

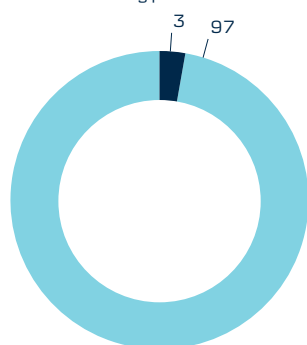
	End-2018			End-2017		
	Gross credit exposure =a+b	Expected credit loss b	Net credit exposure a	Gross credit exposure =a+b	Expected credit loss b	Net credit exposure a
(DKK millions)						
Non-residential	180,821	1,721	179,099	185,860	2,099	183,761
Denmark	86,142	1,188	84,953	88,850	1,660	87,190
Sweden	43,832	86	43,746	44,341	2	44,339
Norway	27,147	331	26,817	27,003	316	26,687
Finland	12,597	78	12,519	11,173	32	11,142
Northern Ireland	159	13	146	385	21	364
C&I etc.	10,944	26	10,918	14,106	68	14,039
Residential	122,084	749	121,335	113,950	764	113,186
Denmark	50,655	452	50,203	48,200	410	47,790
Sweden	43,621	68	43,552	39,441	11	39,430
Norway	9,141	43	9,098	8,962	16	8,946
Finland	7,545	11	7,534	6,328	6	6,322
Northern Ireland	5,343	164	5,179	5,759	169	5,590
C&I etc.	5,779	10	5,769	5,260	151	5,109
<b>Total</b>	<b>302,905</b>	<b>2,470</b>	<b>300,435</b>	<b>299,810</b>	<b>2,863</b>	<b>296,947</b>

## Agriculture

The agriculture portfolio includes customers within traditional agricultural segments, such as dairy products, pigs, cereals and other crops, as well as customers within related activities, such as the manufacture and wholesale distribution of feed and seed products. Exposure to agricultural customers includes loans and credit facilities.

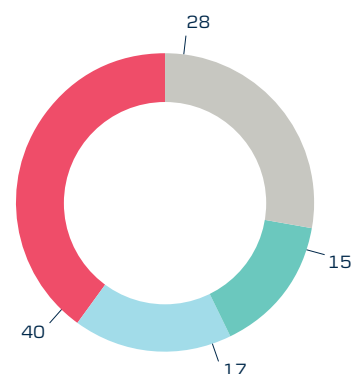
### Agriculture

Gross credit exposure to agriculture as % of total lending portfolio



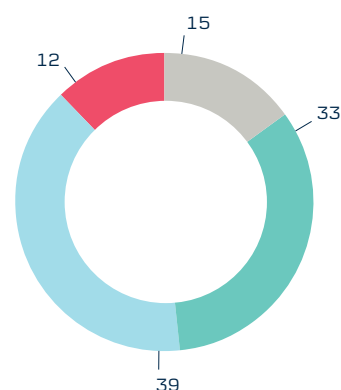
■ Agriculture ■ The rest

Gross credit exposure by segment (%)



■ Growing of crops and cereals ■ Dairy ■ Pig breeding ■ Mixed operations

Expected credit loss by segment (%)



At the end of 2018, gross credit exposure amounted to DKK 74.2 billion, up from DKK 65.8 billion at the end of 2017. The increase was largely due to the transfer of personal customers to the agriculture portfolio after identification in Sweden mainly. Banking DK accounted for 68% of the portfolio's gross exposure and for 94% of accumulated impairment charges, while Realkredit Danmark accounted for 85% of gross exposure and for 21% of accumulated impairment charges at Banking DK. Credit quality was weakest among pig producers and dairy farmers.

All major agricultural segments were hit hard by low 2018 harvest volumes as a result of the worst drought in many years. Pig farmers are under heavy pressure from two sides in the form of very low pork prices and higher costs due to higher feed prices and lower feed production following the drought. Because of the current outlook, we booked increased impairment charges in stages 1 and 2 in 2018 and expect an increase in non-performing loans in 2019. Current charges are assessed as adequate on the back of industry expectations for the coming years.

### Developments in the agriculture portfolio

(DKK millions)	Key figures					Non-performing loans		
	Gross credit exposure	Expected credit loss*	Write-offs	Impairment charges (bp)	Collateral (after haircuts)	Gross exposure	Share of total segment exposure (%)	Coverage ratio (%)
End-2017	65,805	3,271	321	-42	51,199	4,306	6.6	90
End-2018	74,227	3,432	426	28	57,081	3,685	5.0	83

\* The end-2017 figure comprises accumulated individual impairment charges and collective impairment charges.

The Group's exposure to the agricultural segment is managed by specialist teams for customer relationships and credit management.

### Agriculture portfolio – net credit exposure by rating category

Rating category	PD scale (%)		Net credit exposure (DKK billions)		Net credit exposure [% accumulated]	
	Upper	Lower	End-2018	End-2017	End-2018	End-2017
1	0.00	0.01	-	-	-	-
2	0.01	0.03	0.3	0.1	-	-
3	0.03	0.06	1.2	0.9	2	2
4	0.06	0.14	5.1	2.9	9	6
5	0.14	0.31	9.8	7.3	23	18
6	0.31	0.63	18.9	15.1	50	42
7	0.63	1.90	21.3	19.3	80	73
8	1.90	7.98	7.6	9.8	91	89
9	7.98	25.70	0.9	1.2	92	91
10	25.70	99.99	2.6	3.0	96	95
11	100.00	100.00	3.0	2.9	100	100
<b>Total</b>			<b>70.8</b>	<b>62.5</b>	<b>100</b>	<b>100</b>

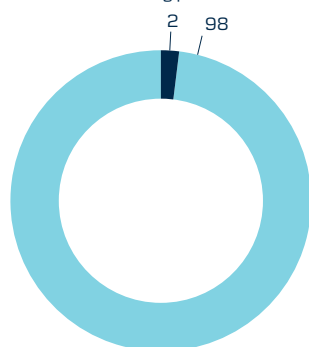
Credit quality measured by rating classification improved mainly following the transfer of higher rated personal customers to the agriculture portfolio after identification at Banking Nordic Sweden. The credit quality of the Swedish portfolio is stronger than that of the rest of the portfolio. Credit exposure to weaker customers in rating categories 9-11 decreased slightly from DKK 7.1 billion to DKK 6.5 billion.

### Shipping

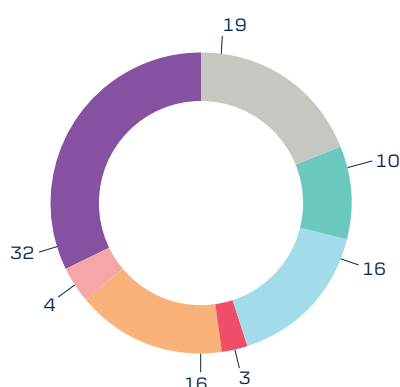
The shipping portfolio includes customers in standard segments, such as container, tank, bulk, gas freight and off-shore-related activities. Exposure to shipping customers relates primarily to vessel financing secured by vessel or fleet mortgages.

### Shipping

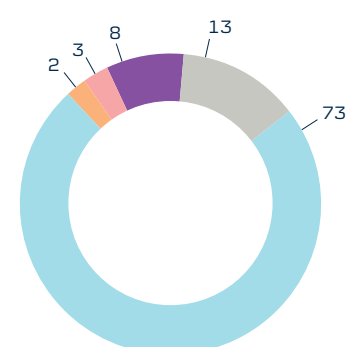
Gross credit exposure to shipping as % of total lending portfolio



Gross credit exposure by segment (%)



Expected credit loss by segment (%)



■ Shipping ■ The rest

■ Tanker ■ LNG/LPG ■ Offshore ■ Car carriers ■ Container ■ Dry bulk ■ Other

At the end of 2018, gross credit exposure amounted to DKK 39 billion, up from DKK 37.7 billion at the end of 2017.

### Developments in the shipping portfolio

(DKK millions)	Key figures					Non-performing loans		
	Gross credit exposure	Expected credit loss*	Write-offs	Impairment charges (bp)	Collateral (after haircuts)	Gross exposure	Share of total segment exposure (%)	Coverage ratio (%)
<b>End-2017</b>	37,742	1,749	305	91	22,940	2,037	5.6	91
<b>End-2018</b>	39,831	2,004	18	167	25,925	5,072	12.7	100

\* The end-2017 figure comprises accumulated individual impairment charges and collective impairment charges.

In recent years, the offshore shipping industry has been subject to an elevated risk. Impairment charges against exposures to non-offshore shipping customers have been low and are characterised by continued work-outs of old cases. Low oil prices have had an adverse effect on the offshore segment particularly in recent years, leading to downward pressures on rates and generally low investments. While a number of restructurings have now been carried out, and oil prices have recovered, market activity for offshore companies has not returned to the level anticipated. Therefore, some restructured exposures will need to go through a second round of restructuring. In 2018, this resulted in further booking of impairment charges against non-performing loans, and impairment charges against exposures in stages 1 and 2 also remained high due to the outlook.

In addition to the exposure to the offshore shipping segment, direct exposure to oil-related industries (mainly oil services and oil majors, which are included in the energy and utilities portfolio) amounted to DKK 15.0 billion at the end of 2018. The credit quality of oil majors remains strong, driven by the recovery in oil prices and significant cost cutting efforts in recent years.

The Group's shipping customers and most of the direct oil-related exposures are managed by specialist teams for customer relationships and credit management.

#### Shipping portfolio – net credit exposure by rating category

Rating category	PD scale (%)		Net credit exposure (DKK billions)		Net credit exposure [% accumulated]	
	Upper	Lower	End-2018	End-2017	End-2018	End-2017
1	0.00	0.01	-	-	-	-
2	0.01	0.03	-	-	-	-
3	0.03	0.06	0.2	0.2	-	1
4	0.06	0.14	2.7	7.4	8	21
5	0.14	0.31	11.5	7.6	38	42
6	0.31	0.63	8.6	4.6	61	55
7	0.63	1.90	7.9	7.9	82	77
8	1.90	7.98	1.3	1.7	85	82
9	7.98	25.70	0.4	1.0	86	85
10	25.70	99.99	3.1	1.5	95	89
11	100.00	100.00	2.1	4.1	100	100
<b>Total</b>			<b>38</b>	<b>36</b>	<b>100</b>	<b>100</b>

Credit quality measured by rating classification remained relatively stable with increased exposure in rating categories 5-7, while exposure in rating category 4 declined. Credit exposure to weaker customers in rating categories 9-11 decreased slightly from DKK 6.6 billion to DKK 5.6 billion.

### 3.3 IRB framework and model development

In 2008, the Danish Financial Supervisory Authority (the Danish FSA) approved the Group's application to use the advanced internal ratings-based (A-IRB) approach for calculating the total risk exposure amount (REA). At the end of December 2018, the Group's exposure at default (EAD) was DKK 2,574 billion of, with 72% calculated according to the A-IRB approach, 2% according to the foundation IRB approach (F-IRB) and 26% according to the standardised approach.

The decrease in EAD percentages for the standardised approach from 2017 to 2018 was driven primarily by a drop in sovereign and covered bond exposures.

#### EAD broken down by credit risk measurement approach

Measurement approach	2018	2017	2016
Advanced IRB (%)	71.6	66.9	66.1
Foundation IRB (%)	2.2	2.1	2.2
Standardised (%)	26.2	30.5	31.7

### 3.3.1 Organisation of IRB framework

The IRB framework is organised in teams dedicated to specific roles. This means that there are specific teams that consider:

- PD model development (for scoring and rating models, respectively)
- LGD and CF model development
- the maintenance of data availability and quality
- the rating of large customers
- credit REA calculations

These teams are embedded in organisational units that have no direct involvement in credit granting. Control mechanisms are incorporated in their processes, while deep-dive controls are described in section 3.3.4.

### 3.3.2 IRB exemptions and rollout

The Danish FSA has granted the Group exemptions for the following exposure types:

- Exposure to the sovereign exposure class
- Exposure to regional and local authorities (when the Group treats them as part of the institutions exposure class)
- Exposure to equities
- Exposure to purchased receivables
- Exposure through branches in Estonia, Latvia and Lithuania
- Exposure to the retail exposure class through branches in the Republic of Ireland
- Exposures at the legal entities Danske Bank Limited (Northern Ireland) and Danske Bank International (Luxembourg)
- Exposure to covered bonds
- Selected other minor portfolios

### 3.3.3 Models in the IRB framework

The Group classifies customers by PD models and uses LGD models to estimate the loss on facilities in case of default. The CF models express a conservative estimate of EAD.

The Group uses the PD models to assess the probability of default of customers in various segments. Corporate and financial customers<sup>2</sup> are classified by rating models, while small business customers and personal customers are classified by scoring models. Rating models rely in particular on financial data, but a rating officer may choose to include other information, including qualitative data, in the final rating. In contrast, scoring models use behavioural data as input to a much wider extent and are consequently updated at a higher frequency than rating models. Most data originate from internal sources, but in some cases data are acquired from external vendors, such as external credit scores to be used as model input. Although a few specific models have produced underestimated values, the general picture is that the PD model framework generates highly conservative estimates – a significant factor contributing to this result is the benign economic environment seen in recent years.

For regulatory (REA) purposes, in the majority of models, PIT PDs are converted into TTC PDs by means of a scaling mechanism that ensures fixed-target levels while preserving the customer rankings. TTC PDs take into account regulatory floors where applicable.

#### IRB PD models by exposure class

Exposure class		Classification process	Key model characteristics
Central governments & central banks		Permanent exemption from IRB	Permanent exemption from IRB
Institutions		1 rating model (hybrid)	Bank
Corporates excluding SMEs		1 scoring and 13 rating models (1 hybrid)	Covers several sub-segments with different characteristics; e.g. models differentiate between agriculture, non-profit customers, large corporates, insurance and property rental
Corporate SMEs		2 rating models	Sole proprietorships are handled separately from other corporate SME customers
Retail	Retail SMEs	7 scoring models	Country-specific models
	Immovable property	6 scoring models	Specific models for new customers
	Other retail	8 scoring models	Specific models for new customers
Equities		Permanent exemption from IRB	Permanent exemption from IRB

<sup>2</sup> Customers with facilities exceeding DKK 2 million and customer groups with facilities of DKK 7 million.

Two models use a hybrid PD approach in which PDs are not scaled to fixed-target levels – the hybrid models serve specifically to accommodate the low-default characteristics of banks and large corporates.

The Group's LGD models are primarily statistically driven, but parameters for low-default portfolios rely, to a high degree, on benchmarks, external data and expert opinions. CF models are statistically driven for the credit cards and credits portfolios, while other portfolios are based on expert opinions and relevant input. For regulatory purposes, downturn LGDs and CFs are used, and they include regulatory floors and additional prudential margins. The downturn LGD parameter incorporates ongoing adjustments from collateral movements to ensure a stable level that reflects downturn conditions.

For more information about the use of models, see sections 3.1.4 and 3.1.5.

### 3.3.4 IRB framework monitoring

Group Risk Management reviews and follows up on compliance with the minimum IRB requirements in CRR/CRD IV.

The IRB governance structure and the modelling framework are evaluated regularly. The former was strengthened in 2017 through the establishment of the Group Model Risk Policy and the IRB Model Risk Instructions.

Reports are prepared in relation to the ongoing activities. In addition, the status of and plans for the IRB framework are discussed and agreed with the Board of Directors. The main monitoring of the IRB framework is performed by a number of units as described below. These units work independently of the development teams.

#### Validation of credit risk models

The Group has an internal model<sup>3</sup> validation system. This system comprises a set of processes and activities intended to verify that the models perform as expected. All new models are subject to initial validation, while models in the production environment are validated at least annually, independently of the business units and the team that develops the models. The validation is the main component for identifying model risk in the IRB framework. As part of the validation, models are also assessed for purposes other than the IRB framework, such as the calculation of expected credit losses and the application for risk appetite calculations.

The validation process plays an important role in the adjustment and development of the models. The current validation scope encompasses PD models for the rating and scoring of customers as well as LGD, CF and collateral value models. The validation scope also includes the framework across models, such as TTC calibration and downturn adjustment. Validation includes both a quantitative and a qualitative aspect.

Independence in respect of the validation function is ensured through reporting and escalation to the committee structure and the CRO. The validation unit owns the validation process and methodologies. The annual validations of the credit risk models are reviewed by the Model Expert Committee.

#### Audit of IRB models

As the Group's third line of defence, Group Internal Audit performs the independent audit of the IRB framework and reports directly to the Audit Committee and the Board of Directors. The audit scope is based on a risk and control-based approach set out by Group Internal Audit itself.

#### Changes to the IRB framework

The Group has introduced a governance structure for all changes made to the IRB framework to ensure the right level of attention. Depending on the materiality of the individual changes, a minimum level of evaluation, challenge and sign-off is required from the control units, that is, Model Validation, Group Internal Audit and the committee structure. Internal approval lies with the unit appointed as the model owner.

Material changes to the IRB framework must be approved by the Danish FSA and/or the responsible supervisory authority. The Group must notify the Danish FSA of less material changes. The Group follows the prescribed regulatory guidelines for this process.

<sup>3</sup> A model refers to a quantitative method, system or approach that applies statistical, economic, financial or mathematical theories, techniques and assumptions to process input data into quantitative estimates.

## 3.4 Counterparty credit risk management

Counterparty credit risk arises as a combination of credit risk [a deterioration in the creditworthiness of a counterparty] and market risk [the potential value of derivatives contracts]. The financial loss will be the current exposure, that is, the cost of replacing an existing transaction by a new transaction with similar characteristics but at current market prices while taking into account the value of mitigating collateral.

The potential future value of a derivatives transaction fluctuates since the market value is related to the underlying market factors and thus fluctuates between positive and negative levels. The Group mitigates counterparty credit risk through clearing, close-out netting agreements and collateral agreements. The Group incurs a financial loss if a counterparty defaults and the market value of the derivatives transactions is not covered after netting and the realisation of collateral.

Wrong-way risk is the risk that arises when credit exposure to a counterparty increases while the counterparty's creditworthiness deteriorates. Specific wrong-way risk is a subtype of risk that arises because there is a legal connection between a counterparty and the issuer of the underlying instruments involved in a derivatives or securities-financing transaction.

Danske Bank Group takes on counterparty credit risk when it enters into derivatives transactions [interest rate, foreign exchange, equity, credit and commodity contracts] and securities-financing transactions (SFTs) [which include repo agreements and securities lending].

Counterparty credit risk is managed by means of maximum tolerable potential future exposure (PFE) lines on a set of maturity buckets. Line checks are performed prior to trading.

Furthermore, the Group has set limitations on transactions entailing specific wrong-way risk. The limitations cover the product range, the counterparty rating and the rating of the underlying securities.

The Group manages its exposure to market risk on fair value adjustments (xVA), including credit value adjustment (CVA), under separate limits in the xVA framework as described in section 4, Market risk.

### 3.4.1 Governance and responsibilities

As part of the overall credit risk governance described in section 3.1.1, the Group's Credit Directive on Counterparty Risk Mitigation approved by the Group All Risk Committee sets the requirements for counterparty credit risk management.

Group Risk Management is responsible for consolidated counterparty credit risk management, risk modelling and reporting, while local credit departments are in charge of day-to-day risk management involving assigning specific credit lines for counterparty credit risk to the individual counterparties. Market & Liquidity Risk is responsible for developing counterparty risk exposure models, while an independent risk model validation team outside Market & Liquidity Risk validates the models.

### 3.4.2 Methodologies and models

The Group uses a range of measures to capture counterparty credit risk, including current exposure, PFE and exposure at default (EAD).

Current exposure is a simple measure of counterparty credit risk exposure that takes into account only current mark-to-market values and collateral.

For risk management purposes, counterparty credit risk is measured as PFE at the 97.5% percentile for a set of future time horizons. All transactions are assumed to be held to contractual maturity.

The Group uses simulation-based models to calculate the potential future counterparty credit risk exposure. The models simulate the potential future market value of each counterparty portfolio of transactions while taking netting and collateral management agreements into account. For transactions not included in the internal simulation model (<5%), the potential change in market value is determined as a percentage (add-on) of the nominal principal amount. The size of the add-on depends on the transaction type, maturity, currency and collateral coverage and is determined using a conservative approach to ensure estimation adequacy.

The Danish Financial Supervisory Authority [the Danish FSA] approved the Group's simulation model for calculating the regulatory capital requirement for counterparty credit risk in 2015.

More advanced measures such as EAD, which is a regulatory measure, express potential future losses and are based on internal models for future scenarios of market data. EAD figures are provided in the additional Pillar 3 Disclosures tables, which are accessible at [danskebank.com/ir](https://www.danskebank.com/ir).

### 3.4.3 Monitoring and reporting

The Group carries out counterparty credit risk measurement and monitoring as well as intraday line utilisation monitoring on a daily basis. Consolidated counterparty credit risk exposure is reported to senior management.

The internal simulation model is subject to quarterly back testing of the underlying risk factors and resulting exposures. It is also subject to an annual validation performed by an independent validation team.

### 3.4.4 Data and systems

The Group has an integrated system covering all aspects of counterparty credit risk management. The system is integrated with all trading systems, the master agreement management system, the collateral management system and market data systems.

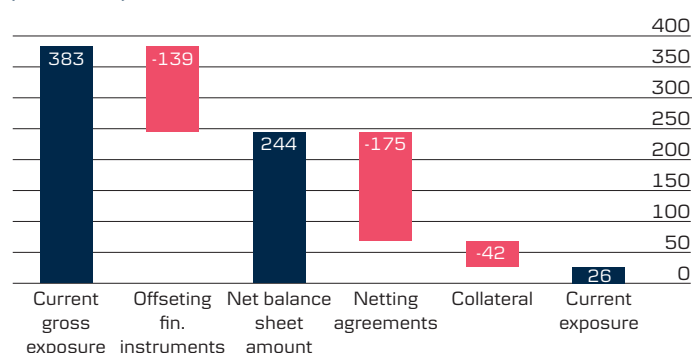
Internal management and monitoring of counterparty credit risk are performed in the Group's line system. The system covers all aspects of the internal counterparty credit risk management process, including the assignment of lines, monitoring and control of line utilisations, registration of master agreements, measurement, and management reporting.

## 3.5 Counterparty credit risk profile

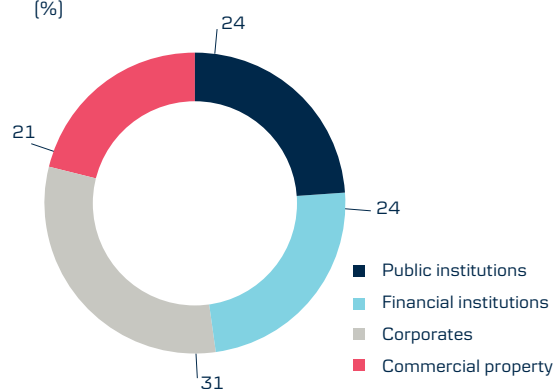
Exposures were lower in December 2018 than at the end of 2017. Current gross exposure is the total of all positive market values from transactions made before balance-sheet netting (netting effect) and collateral reduction (collateral effect). It is equivalent to the total amount of derivatives with positive fair value on the balance sheet. At the end of December 2018, the Group's current gross exposure to derivatives was DKK 383 billion (2017: DKK 399 billion). When netting effects and collateral received are taken into account, the current exposure to derivatives was DKK 26 billion (2017: DKK 30 billion).

### Counterparty credit risk, current exposure

Mitigation of counterparty credit risk (derivatives only)  
(DKK billions)



Breakdown of current exposure by segment  
(%)



At the end of December 2018, the Group was more or less evenly exposed to public institutions, commercial property companies, financial institutions and corporates.

In 2018, the Group cleared around 58% of the total notional amount of derivatives transactions through central clearing counterparties and used collateral agreements to support around 95% of non-cleared transactions.

The following table shows the Group's current exposure to derivatives and SFTs after netting and collateral.

### Current gross exposure and current exposure after netting and collateral

At 31 December (DKK millions)	2018			2017		
	Total	Derivatives	SFTs	Total	Derivatives	SFTs
Current gross exposure	389,986	383,321	6,665	407,151	399,452	7,699
Current exposure after netting	73,687	68,636	5,051	80,177	74,820	5,357
Current exposure after netting and collateral	31,240	26,448	4,792	34,979	29,788	5,191

Note: Current exposure figures for SFTs include both assets (reverse-repo) and liabilities (repo). Further, the current gross exposure for SFTs is net of the underlying securities. Consequently, the figures are not directly comparable to the exposure shown in Annual Report 2018 and in section 3.2 of this report.

At the end of December 2018, some 63% of the Group's collateral agreement holdings consisted of cash. The remainder consisted of mainly Danish and Swedish mortgage bonds and government bonds issued by Denmark, France, Germany, the Netherlands, Norway, Sweden and the United States.

The following table breaks down the Group's current exposure after netting and collateral by rating category.

<b>Current exposure by rating category</b>						
At 31 December (DKK millions)	2018			2017		
	Total	Derivatives	SFTs	Total	Derivatives	SFTs
1	4,416	4,322	93	9,412	7,230	2,182
2	5,132	4,898	234	5,861	4,066	1,795
3	5,103	4,385	718	4,476	3,803	673
4	6,593	6,155	438	7,225	7,109	116
5	5,910	4,248	1,662	5,745	5,335	410
6	3,051	1,593	1,458	1,390	1,375	15
7	744	563	181	541	541	-
8	128	128	-	96	96	-
9	17	10	8	43	43	-
10	9	79	-	107	107	-
11	67	67	-	83	83	-
<b>Total</b>	<b>31,240</b>	<b>26,448</b>	<b>4,792</b>	<b>34,979</b>	<b>29,788</b>	<b>5,191</b>

At the end of December 2018, the credit quality of the Group's counterparty credit risk remained strong with around 87% of the exposure relating to counterparties with a classification comparable to investment grade.

# *Market risk*

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# 4.

## 4.1 Market risk management

Market risk is the risk of losses or gains caused by changes in the market values of the Group's financial assets, liabilities and off-balance-sheet items resulting from changes in market prices or rates. Market risk affects the Group's financial statements through the valuation of on-balance-sheet and off-balance-sheet items; some of the Group's financial instruments, assets and liabilities are valued on the basis of market prices, while others are valued on the basis of market prices and valuation models developed by the Group. In addition, net interest income generated through the non-trading portfolio will be affected by the level of interest rates.

The Group's market risk management is intended to ensure proper oversight of all market risks, including both trading-related market risk and non-trading-related market risk as well as market risk in relation to fair value adjustments. The market risk framework is designed to systematically identify, assess, monitor and report market risk.

The Group manages its market risk by means of three separate frameworks for the following areas:

- Trading-related activities at Corporates & Institutions
- Fair value adjustments (xVA) at Corporates & Institutions
- Non-trading portfolio at Group Treasury

The Group manages the market risk associated with its trading activities in the financial markets. In particular, the Group hedges the market risk incurred from market-making activities and client flows by taking positions in financial instruments, assets and liabilities that offset this market risk. In addition, the Group uses financial instruments to hedge the fair value adjustments (xVA) in relation to derivatives trading.

Interest rate risks, and other market risks, associated with the assets and liabilities of the non-trading portfolio are managed by Group Treasury.

The market risk at Danica Pension and on the Group's defined benefit pension plans is managed separately. For more detailed information, see section 6, Insurance and Pension risk.

### 4.1.1 Governance and responsibilities

The Market Risk Policy set by the Board of Directors lays out the overall framework for market risk management and identifies the boundaries within which the Group's market risk profile and business strategy are defined. The Market Risk Policy is supported by the Market Risk Instructions set by the Board of Directors. The latter document defines the overall limits for various market risk factors and additional boundaries within which trading activities are performed.

Market risks are managed by C&I and Group Treasury (first line of defence) through implementation of the Market Risk Policy and the Market Risk Instructions into standard operating procedures and the control environment. Market risks in relation to other business units are transferred to and managed by Group Treasury. The units own, identify and manage the market risk and perform operational and managerial controls in the day-to-day risk management.

Market & Liquidity Risk (second line of defence) within Group Risk Management owns the market risk framework and is in charge of market risk oversight and control of the first-line-of-defence units. Market & Liquidity Risk is accountable for developing and maintaining the Market Risk Policy, Market Risk Instructions, the market risk appetite and the market risk framework.

Oversight and control processes at Market & Liquidity Risk encompass current and emerging risk monitoring, limit control, portfolio analysis, stress testing, reporting to senior management and challenging the risk management practices performed by first-line-of-defence units. Group Accounts is accountable for the independent price verification (IPV) framework and prudent valuation, while Business Intelligence is accountable for P&L control.

### 4.1.2 Market risk appetite

The Group operates with a market risk appetite for its trading-related activities. The market risk appetite is determined in a risk mandate assessment that is based on the Group's business strategy, the market environment expected in the near future as well as moderately and highly stressed market environments. The purpose of the risk mandate assessment is to measure the effect of proposed limits by quantifying the expected earnings of using the limits and the potential loss if the expectations do not materialise. The market risk appetite for trading-related activities is approved by the Board of Directors and reassessed at least once a year.

The Group's exposure to the risk on fair value adjustments is managed under separate limits for changes in CDS spreads and interest rates supplemented by a zero appetite for exposure to foreign exchange rate changes.

The Group's exposure to market risks in the non-trading portfolio is managed under selected limits and operational targets that govern and control the market risk on these activities in relation to specific capital, liquidity, operational and earnings objectives.

#### **4.1.3 Limit framework**

Market risk limits are set in terms of various metrics so that activities subject to market risk are covered from several perspectives. The Group operates with three levels in the limit hierarchy for market risk (encompassing trading-related, xVA-related and non-trading portfolio market risks):

1. Board limits
2. All Risk Committee limits
3. Detailed operational limits

Board limits are set by the Board of Directors in the Market Risk Instructions. This document defines overall limits for specific major risk factors. The overall limits are supplemented by a Value-at-Risk (VaR) limit for trading-related market risk. The Group All Risk Committee delegates the Board limits to business units and assigns additional limits for less significant risk factors. Detailed operational limits for trading-related market risk are set at business unit and trading section levels for relevant risk categories and metrics. The operational limit structure is sufficiently granular to facilitate effective control of market risk and to provide an overview and understanding of activities undertaken by the various units under the three distinct market risk frameworks.

#### **4.1.4 Risk identification and assessment**

The Group markets, trades and takes positions in products entailing a variety of market risk components. Most of the Group's market risks involve relatively simple products. The Group does not take on risk exposure to complex securitisation instruments for which it cannot measure and monitor the embedded market risks.

New initiatives and products are systematically reviewed in relation to the current product and market risk models. New products and business proposals are assessed in relation to current risk management practices and IT systems.

Furthermore, the Group may identify a need to take into account new risk factors through a review of the strategy. If the Group wants to expand its business into specific products or instruments, there may be a need for additional metrics and limits.

#### **4.1.5 Monitoring and reporting**

The Group carries out market risk controlling and reporting on a daily basis. The controlling process involves continuous intraday monitoring of limit utilisations with a full portfolio update every 30 minutes. The monitoring system is linked directly to front-office trading systems and automatically flags any limit excess. The business units and trading sections must comply with limits at all times. If a limit is breached, the unit responsible must document the cause and submit an action plan to rectify the situation. All limit breaches are reported to the relevant authority within the limit structure.

The Group produces a range of internal market risk reports and provides input to other reports in which market risk monitoring is presented.

The Board of Directors and senior management receive regular reports that provide an overview of the Group's portfolios, main risk drivers and stress testing results in order to support decision-making. Furthermore, detailed reporting (on a daily and weekly basis) provides granular metrics to senior management at Corporates & Institutions and Group Treasury for day-to-day risk management purposes.

#### **4.1.6 Portfolio analysis and stress testing**

The Group performs market risk portfolio analyses and stress testing on a regular basis and in relation to specific events in trading and financial markets.

On a monthly basis, the Group analyses the relationship between market risk and income for the trading sections at Corporates & Institutions. The market risk stress testing programme is designed to underpin prudent market risk management. Efforts are made to ensure that the net effect under various stressed conditions is taken into account in the risk assessment and monitoring processes.

The purpose of market risk stress testing is threefold:

- The primary purpose is to assess the adequacy of the Group's financial resources for periods of severe stress and develop market-risk-related contingency plans for the Group if the need arises.
- A secondary purpose is to promote risk identification and add further insight into the need for setting new limits.
- A third purpose is to serve as a supplement to the ongoing quality assurance for market risk management practices.

The complexity of the methodologies ranges from simple sensitivity analyses to complex scenario stress testing proportionally suited to the purpose of the stress test.

## 4.2 Methodologies and models

The Group uses a range of measures forming a framework that captures the material market risks to which the Group is exposed. Both conventional risk measures, such as sensitivity and market value, and mathematical and statistical measures, such as VaR, are used in day-to-day market risk management.

The Group also develops and maintains internal models that are used for the pricing and risk management of financial products that cannot be valued directly or risk-managed on the basis of quoted market prices.

### 4.2.1 Value-at-Risk

The current internal market risk model was acknowledged by the Danish Financial Supervisory Authority in 2007 and has since then been used for the calculation of regulatory capital for Danske Bank Group and Danske Bank A/S. The model covers interest rate risk, equity market risk and exchange rate risk. At the end of 2011, the model was approved to cover interest rate basis risk, interest rate volatility risk and inflation risk. In 2015, the model was further approved to include bond-specific risk and equity-specific risk. At the same time, the Group's incremental risk model (see section 4.2.2) was included in the framework.

VaR is a quantitative measure that shows, with a certain probability, the maximum potential loss that the Group will suffer within a specified holding period.

In the day-to-day risk management of trading-related positions, the internal VaR model estimates the maximum potential loss from changes in market risk factors assuming unchanged positions for one day.

In general, a VaR model estimates a portfolio's aggregate market risk by incorporating a range of risk factors and assets. As a result, the VaR measure takes portfolio diversification or hedging activities into account. VaR has well-known limitations, and the Group has a comprehensive stress testing framework in place to mitigate these limitations.

#### Value-at-Risk model

Value-at-Risk	Risk monitoring VaR limit	Capital requirement VaR	Capital requirement Stressed VaR	Backtesting
Percentile	95	99	99	99
Holding period	1 day	10 days	10 days	1 day
Historical data used	2 years	2 years	1 year	1 year
Period	Recent	Recent	1-year period of significant financial stress relevant to the the Group's portfolio	Recent

All figures are calculated and reported internally on a daily basis. Figures are calculated using full revaluations in all their details by using the front-office pricing models.

The VaR used for risk monitoring and capital requirement calculations is based on 2-year sliding historical data, and each calculation is based on 1,000 scenarios using bootstrapping of 1-day returns. Scenarios are time-weighted – 70% of all scenarios are based on the most recent 1-year period.

Risk-factor returns are calculated as absolute returns for spreads and volatilities and as proportional returns for equities and FX. A mixed approach is used for interest rates.

Stressed VaR is calculated using a holding period and historical data from a continued 12-month period of significant financial stress relevant to the Group's portfolio. Scenarios are equally weighted. A structured approach is used for identifying the historical period representing a significant stress on the current portfolios. The historical period is identified by running the full VaR model over a comprehensive historical period to identify the 12-month period since 2008 that produces the highest VaR for the current portfolio. On this basis, the most stressed periods are identified and analysed in

more detail in order to validate the period to be used for calculating stressed VaR. For most of 2018, stressed VaR was calculated on the basis of the period from January 2012 to January 2013. At the beginning of 2019, the stress period was changed to run from September 2008 to September 2009.

### Backtesting of the internal VaR model

Regulatory backtesting is conducted on a daily basis to document the performance of the internal VaR model. The backtesting procedure compares 1-day VaR calculated on trading book positions with actual and hypothetical P/L results.

#### Definition of actual and hypothetical profit and loss

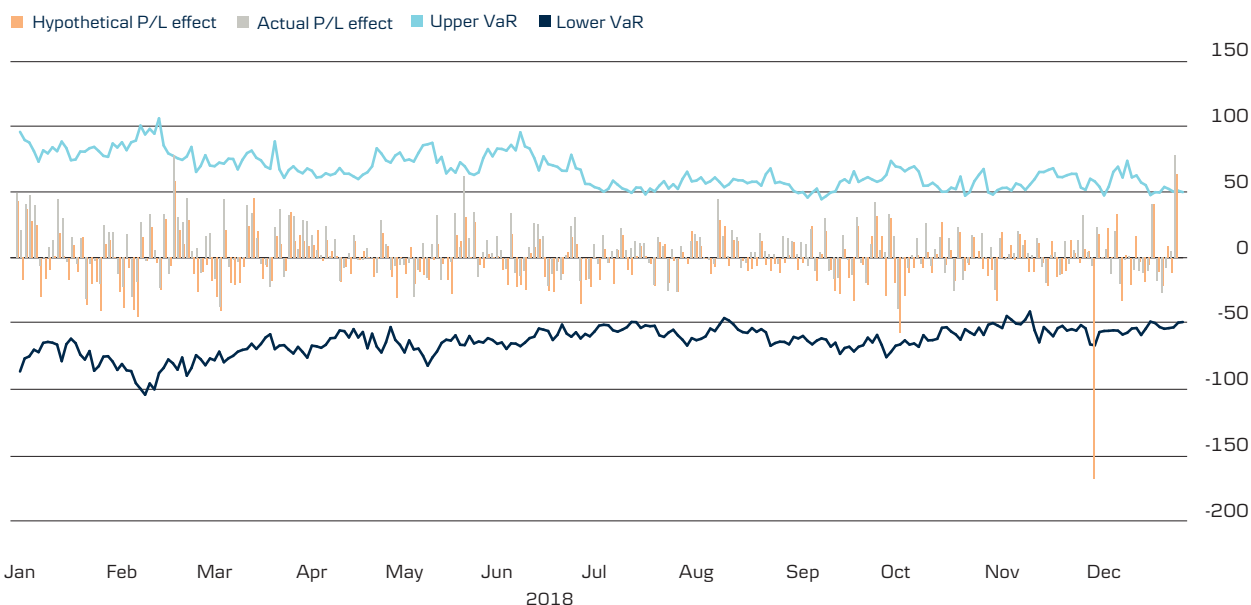
**Actual P/L** is defined as the loss or gain from actual changes in the market value of the trading book when daily closing values are compared with the subsequent business day's closing values (that is, intraday trades on the subsequent business day are included).

**Hypothetical P/L** is defined as the loss or gain calculated within the model framework resulting from keeping the portfolio unchanged for one business day (that is, no intraday trading is included, although market prices change).

If the hypothetical or actual loss exceeds the predicted possible loss (VaR), an exception has occurred. Since the VaR figures used for backtesting are based on a confidence level of 99% (as in the calculation of regulatory capital), the expected number of exceptions per year is two to three. The backtesting results for 2018 are shown in the chart below.

#### Backtest results and P/L effect

(DKK millions)



The backtesting of the internal VaR model showed one exception in hypothetical P/L in 2018. The exception occurred on 30 November 2018 following large movements in short-term USD rates in relation to European banks' placement of US dollars over the year-end.

#### 4.2.2 Incremental risk charge (IRC)

IRC is an additional capital charge to be added to the multiplier-adjusted VaR and stressed VaR capital charges. No diversification effects between capital charges are thus taken into account.

The IRC model captures rating migration and default risk on a one-year horizon for all instruments subject to specific interest rate risk: bonds, mortgage-backed securities, bond futures and options, mortgage bond futures and credit default swaps (CDS).

The model estimates a P/L distribution through Monte Carlo simulations of credit events for all issuers based on transition matrices. A total of 200,000 scenarios is used.

The correlation between issuers is captured by using a one-factor Gaussian copula. The correlation parameter is estimated quarterly on the basis of pairwise correlations of bond and CDS spread time series.

Ratings and transition matrices used in the model are based on information from the major rating agencies. Ratings are updated on an ongoing basis, while transition matrices are updated annually. A constant liquidity horizon of one year is used for all instruments.

A cross-sectional model including factors such as rating, sector, region and maturity is used for the translation of simulated rating migrations to corresponding spread changes. The model is recalibrated quarterly.

#### **4.2.3 Regulatory capital for market risk**

The Group uses the internal VaR model to measure the risk exposure amount for market risk in its trading book. The trading book covers trading-related market risk at Corporates & Institutions and hedging in relation to fair value adjustments of interest rate risk and the part of the CDS spread hedges that is not included in the risk exposure amount calculations for credit value adjustment (CVA) risk (see below).

The Group also uses the internal VaR model for calculating the stressed VaR capital charge. Incremental risks, such as default and rating migration risks on bond issuers and CDS names, are estimated in the incremental risk model.

The risk exposure amount for the Group's minor exposures to commodity risk and collective investment undertakings is calculated according to the standardised approach.

The risk exposure amount for CVA risk is measured mainly using the internal VaR model based on exposure calculations from the counterparty risk exposure model and allocated CDS spread hedges. The risk exposure amount for CVA risk from the Group's minor exposure to transactions not included in the counterparty risk exposure model is calculated according to the standardised approach.

#### **4.2.4 Model validation**

The Group conducts a variety of activities to maintain well-performing models in the market risk area. The activities can be divided into the validation of valuation and behavioural models used in day-to-day risk management and validation of internal models used for calculating regulatory capital.

Market & Liquidity Risk is responsible for validating valuation and behavioural models independently of the development process. A model must be validated before the trading unit can trade in any new type of product that is priced or risk-managed according to that model. The purpose of the validation process is to evaluate, independently of the business unit, whether the stability and quality of the model are sufficient to enable the Group to price and risk-manage the financial products in question in a satisfactory manner.

To supplement the initial validation of valuation and behavioural models, the Group has established an ongoing monitoring process in which the crossing of specific thresholds (such as indications of a deterioration in model quality or an increase in the magnitude of risk involved) calls for additional validation activities.

An independent validation unit carries out the validation of internal models used for the regulatory capital calculations, including the validation of material changes to existing internal models and recurring validations of major model assumptions. The standards for these validations are set forth in the Group's Model Risk Policy, which is detailed and complemented by relevant Instructions.

In addition, the Group conducts a number of activities to monitor the internal VaR model on an ongoing basis. These activities include an annual review of the model in accordance with regulatory requirements, quarterly risk factor reviews and daily backtesting of the model. The quarterly risk factor reviews include an assessment of the materiality of risk factors that are not included in the model. Currently, the internal VaR model contains all significant risk factors.

### **4.3 Data and systems**

IT systems pertaining to market risk are highly integrated within the Group. Traders and customers book trades directly in the relevant trade-entry systems. The trade-entry systems are connected to the operational systems and enriched with additional static, market and reference data. The operational systems feed both risk and finance systems. The Group performs an extensive set of regular reconciliations across the system portfolio.

#### **4.3.1 Systems integration**

The Group's front-office trade-entry systems are designed to capture all trade types used by the Group. Only necessary trade-related data are entered into the trade-entry systems. Product, customer and other related static data are maintained in the Group's Master Files. Trade data are automatically fed into the Group's operational layers of other related systems (straight-through processing). Since all systems and their processes have been designed to support straight-through processing, only exceptions need to be handled manually.

In addition, trades from systems configured for straight-through processing are regularly monitored in order to identify trades that require manual intervention. Monitoring is part of the back office processes, and regular reports are sent to a broad selection of stakeholders across the Group. Extensive reconciliation between the Group's internal systems and external accounts is performed on a regular basis.

## 4.4 Market risk profile

### 4.4.1 Trading-related market risk at Corporates & Institutions

The activities that involve market risk in the trading portfolio derive mainly from the Group's initiatives to provide C&I clients with risk management solutions (offering all of its products to Nordic customers and core Nordic products to customers outside the Nordic region). Trading market risk also arises from providing institutional clients with EUR products, mainly government bonds and simple derivatives. Advanced derivatives are traded predominantly with professional customers, while simple products are distributed to Banking DK, Banking Nordic, Wealth Management and corporate customers.

Within the trading portfolio, the main activities focus on interest rate risk management, both from a customer and a position-taking point of view. Interest rate risk management includes trading and risk-taking in a range of fixed income assets, money-market instruments and other assets with interest rate risk, including mortgage-related bonds. These transactions form an important part of the activities performed in the Group's domestic markets.

The Group's business activities involve a natural flow of various currencies. These are primarily currencies related to the Group's domestic markets in the Nordic region. They include all major currencies in support of our Nordic customers and, to a lesser extent, other currencies requested by customers in these areas. However, taking on foreign exchange risk is limited relative to the market risk derived from interest rates.

For trading and risk-taking in equity-related assets, the objective is to have a leading market position in the Nordic equity market. Taking on equity market risk is limited relative to the market risk derived from interest rates.

The table below lists the Value-at-Risk for trading-related activities at Corporates & Institutions.

#### Value-at-risk for trading-related activities at Corporates & Institutions

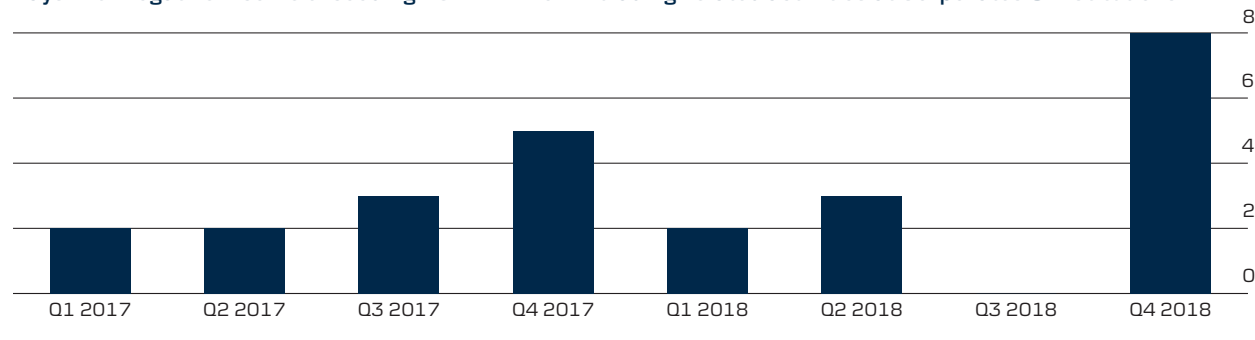
	2018		2017	
	Average	31 December	Average	31 December
(DKK millions)				
Bond spread risk	22	19	32	28
Interest rate risk	27	23	35	37
Foreign exchange risk	3	2	3	3
Equity risk	5	3	8	6
Diversification effects	-28	-17	-32	-37
<b>Total VaR</b>	<b>30</b>	<b>30</b>	<b>46</b>	<b>37</b>

Note: VaR is calculated at a confidence level of 95% for a 1-day horizon.

The Group continued to maintain a low risk in its trading operations in 2018, with average trading-related market risk decreasing from 46 million in 2017 to DKK 30 million at the end of December 2018. Throughout the period, the risk related chiefly to fixed income products, which gave rise to interest rate risk and bond spread risk. Because of substantial diversification, however, the two main risk factors hedged each other well.

Both interest rate risk and bond spread risk decreased in 2018. In addition, equity risk declined, while foreign exchange risk was more or less unchanged.

#### Days with negative income exceeding EUR 1 million in trading-related activities at Corporates & Institutions



Day-to-day income from trading-related activities at Corporates & Institutions continued to show low fluctuations during most of 2018 as a result of low interest rate volatility and low risk levels. The number of days with losses exceeding EUR 1 million in 2018 was slightly higher than in 2017, mainly because of the high level in Q4 2018.

#### 4.4.2 Market risk in relation to fair value adjustments

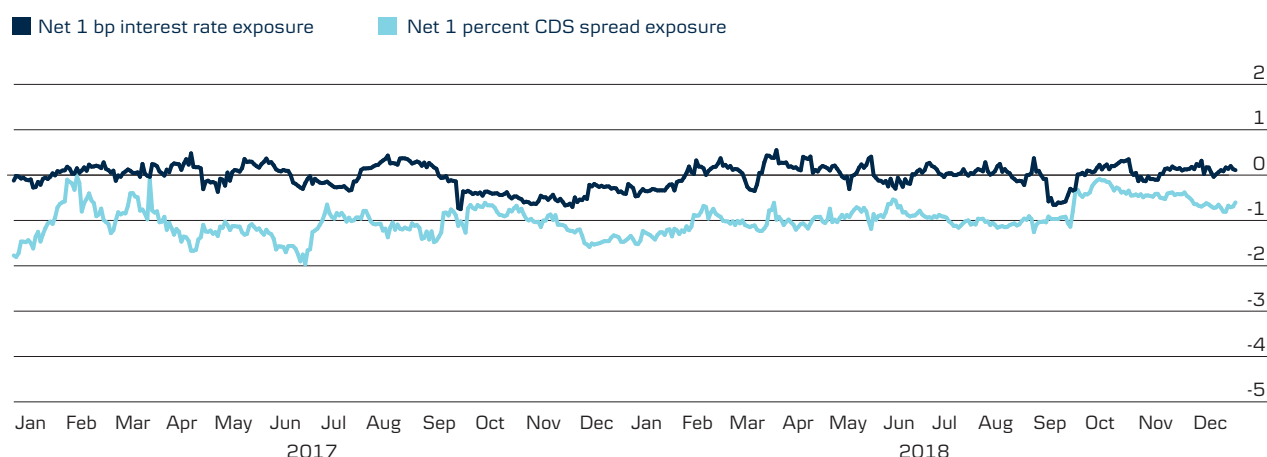
The Group's fair value adjustments (xVA) cover funding value adjustments (FVA), credit value adjustments (CVA) and debt value adjustments (DVA). The Group applies a market-implied approach that is in line with industry best practice. When managing xVA, the Group focuses on managing economic risk rather than regulatory capital. This means that the Group recognises market risk on all counterparties and not just counterparties in scope for the CVA risk charge. The Group's strategy is to continue developing the xVA model so that it remains in line with best market practice.

For the purposes of reducing P/L volatility caused by xVA, the Group pursues a strategy to hedge the most significant risk in the financial markets in order to maintain income stability and predictability under this framework. In practice, the Group buys a hedge of offsetting interest rate swaps and CDS contracts in the financial markets. The Group hedges open foreign exchange risk under this framework. Conversely, the Group may maintain exposure to own funding spread risk and sovereign spread risk.

In 2018, the xVA hedging strategy contributed to a 60% reduction in actual daily income volatility as compared with the volatility of an unhedged portfolio.

#### xVA-related market risk

(DKK millions)



The chart illustrates the sensitivity to CDS spread risk and interest rate risk. The sensitivity to interest rate changes fluctuated around zero for most of 2018 and ended slightly lower than the level at the end of 2017. The exposure to CDS spreads was reduced in 2018, but was still slightly higher than the exposure to interest rate changes.

#### 4.4.3 Market risk in relation to the non-trading portfolio

The Group's exposure to market risk in the non-trading portfolio originates mainly from interest rate risk in the banking book (IRRBB). IRRBB derives from providing the Group's core banking customers with conventional banking products and from the Group's funding and liquidity management activities at Group Treasury. In addition, the Group holds a portfolio of unlisted shares relating mainly to private equity funds and banking-related investments.

##### Interest rate risk in the banking book

The Group has progressively increased its resources to manage the interest rate risk associated with the Group's banking book activities. The day-to-day management of this risk is overseen by Group Treasury.

IRRBB is driven by a number of factors: repricing mismatches between assets and liabilities, client behaviouralisation, optionality within client products booked within the banking book, and interest rate floors and options on assets and liabilities held by the Group.

Annually, the Board of Directors determines the Group's interest rate risk appetite. This framework is translated into a limit framework used for risk management purposes. The Group Asset & Liability Committee (ALCO) is responsible for monitoring and managing the Group's IRRBB exposure.

Group Treasury provides the first line of defence for IRRBB. This involves day-to-day management of the actual risk against the limit framework. Market & Liquidity Risk provides the second line of defence and maintains the risk management systems used for calculating the IRRBB measure. In addition, Market & Liquidity Risk maintains the limit framework and monitors adherence to the limits. On a monthly basis, the Group ALCO reviews IRRBB utilisation against a series of risk measures. These cover prescribed regulatory metrics, the risk appetite as determined by the Board of Directors and other risk measures that are considered appropriate. The Group ALCO reviews IRRBB related issues and monitors the level of both Economic Value and Earnings at Risk utilisation.

The Group regularly reviews its IRRBB framework in order to make sure that it continues to have the capacity to capture banking book risks. Such reviews encompass new regulatory requirements and are aligned, where possible, with industry best practice. This framework seeks to identify scenarios that are generated by the following stressed situations: a parallel shift in interest rates, a non-parallel shift in interest rates, contractual floors on customer products and liabilities issued by the Group, and customer behaviour. The latter is an important component and encompasses the ongoing assessment of non-maturing demand deposits (NMDs). The duration assigned to NMDs is reviewed annually. The Group ALCO reviews and endorses the sensitivity of this duration (any increase or decrease) together with volume adjustments.

The Group's total interest rate sensitivity in the banking book (value-based measure) is shown below.

#### Interest rate risk in the banking book (a parallel yield curve shift of 100 points)

At last business day (DKK millions)	2018		2017	
	+100bp	-100bp	+100bp	-100bp
DKK	4,902	-5,901	4,384	-5,381
EUR	-1,048	3,322	-862	2,823
SEK	-88	592	1	467
GBP	-43	48	45	-46
NOK	403	-570	409	-547
USD	-36	35	-43	42
Other	-4	4	-3	3
<b>Total</b>	<b>4,086</b>	<b>-2,471</b>	<b>3,932</b>	<b>-2,637</b>

The sensitivity to falling interest rates decreased from DKK 2,637 million to DKK 2,471 million at the end of December 2018, while the sensitivity to rising interest rates increased from DKK 3,932 million in 2017 to DKK 4,086 million at the end of December 2018.

The Group hedges interest rate risk on fixed rate loans and deposits mainly during the accounting origination process, while managing the risk on the following fixed rate items on a daily basis according to the limit framework:

- Fixed rate mortgages in Denmark and other fixed rate loans that are not hedged as part of the accounting setup, including operating leases sold by the Group's leasing operations.
- Positions related to asset and liability management, including payments that are made in advance on Realkredit Danmark loans (monthly payments that are not passed on to bondholders until the end of the quarter or year).
- Bonds held in the hold-to-maturity and available-for-sale portfolios established by the Group in 2013 to stabilise net interest income by hedging its fixed rate liabilities.
- Interest rate risk exposure from NMDs.
- Other interest rate risk exposures, that is, embedded contractual interest rate floors on assets (such as lending contracts) and fluctuations in risk from changes in the core banking balance-sheet composition as well as risk migration from changes to behavioural assumptions.

IRRBB is capitalised as a Pillar II risk.

### Equity investments

In its risk management of shares outside the trading book, the Group makes a distinction between ordinary open positions (including positions in associated companies), exposure to private equity funds (including exposure in the form of commitments), and banking-related investments. Banking-related investments consist of equity holdings primarily in financial infrastructure businesses.

At the end of December of 2018, the total value of the portfolio was about DKK 1.7 billion, against DKK 2.1 billion at the end of 2017.

# *Liquidity, funding and capital*

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# 5.

The Group manages liquidity, funding and capital through the integration of the funding and capital plans and through the consistent internal application of liquidity, funding and capital in the Group's financial steering model. This provides the right incentives in the front line and the most optimal funding structure for the Group, while ensuring compliance with the requirements for capital, liquidity and funding, including the upcoming minimum requirement for own funds and eligible liabilities (MREL).

The standards and principles for the management of liquidity and funding risk are outlined in the Group's Liquidity Policy and Instructions, while the principles for capital management are described in the Capital Policy and Instructions.

## 5.1 Liquidity risk management

Liquidity risk is the risk that a lack of funding leads to excessive costs or prevents the Group from maintaining its business model or from fulfilling its payment obligations. The Group manages this liquidity risk by holding sufficient liquidity reserves to meet its obligations and to support its strategies, business plans and rating ambitions even in stressed situations.

### 5.1.1 Governance and responsibilities

Like other risk types, liquidity risk is governed according to the principle of three lines of defence. The Executive Board has centralised liquidity management in Group Treasury, and it is therefore the first line of defence for liquidity risk. Group Treasury must keep the liquidity risk profile within the risk appetite. Group Treasury also produces some of the liquidity risk indicators. The responsibility for short-term liquidity management is delegated to FI&C within certain limits and according to guidelines from Group Treasury.

Group Risk Management is the second line of defence. In particular, Liquidity Risk Management reviews and challenges the methodologies and metrics and monitors compliance with applicable limits. It is also in charge of the annual Internal Liquidity Adequacy Assessment Process, which is submitted to the Board of Directors and the supervisory authorities.

Liquidity risk management involves using a combination of risk indicators, risk triggers and risk policies. Two documents lay the foundation for this process: (1) the Liquidity Policy and Appetite and (2) the Liquidity Instructions. The first document contains the overall principles and standards of the Group's liquidity risk management. It covers both the liquidity risk profile and the governance structure. The second document defines the limits and the methods for calculating liquidity risk. Both are issued by the Board of Directors.

The Group Asset & Liability Committee (ALCO) manages the Group's balance sheet and funding mix in accordance with the liquidity risk appetite approved by the Board of Directors. As a subcommittee of the Group All Risk Committee, the Group ALCO has a strategic focus on asset and liability management components, such as net interest income, funds transfer pricing as well as interest and FX risks in the balance sheet.

The Group Liquidity Risk Committee (GLRC) is a Group ALCO subcommittee. The GLRC oversees the management of liquidity risk and funding at the group level. Both the Group ALCO and the GLRC consist of representatives from the Executive Board, Group Treasury, FI&C and Group Risk Management.

The GLRC is empowered to challenge the way in which the liquidity risk profile is managed by Group Treasury, including the execution of the funding plan and the management of the liquidity reserve.

Liquidity management is centralised and conducted on a consolidated basis to ensure regulatory compliance at the group level and compliance with internal requirements. Regulatory compliance and the maintenance of adequate liquidity reserves at subsidiaries are managed locally.

### 5.1.2 Liquidity risk appetite and limit framework

Liquidity risk is inherent in basic banking activities such as accepting deposits and providing loans and credits. The transformation of short-term deposits into long-term loans exposes banks to maturity mismatches that cannot be eliminated. Liquidity risk is broken down into two key elements, and the Group addresses each element through a Liquidity Risk Appetite statement. The Group's liquidity risk appetite is conservative, and the Group must maintain both a strong liquidity position and a strong funding position.

Key element	Risk appetite
Distance to default	Management must have sufficient time to respond to events and developments in order to avoid financial or regulatory default.
Market reliance	The use of wholesale funding instruments reflects the Group's loan-to-deposit deficit and its maturity transformation profile. If new funding is required too frequently, Danske Bank may be vulnerable to investor sentiments, market stress and market dysfunctions.

By ensuring sufficient time to respond in case of a prolonged crisis, management will be able to adjust to changed conditions in a controlled manner, thus avoiding any costly and hasty reactions to short-term market volatility. By reducing market reliance, the Group reduces the effects of market volatility and ensures the sustainability of its long-term business model. This allows it to serve customers at any time during the business cycle.

Realkredit Danmark and Danica Pension manage their own liquidity risks. Realkredit Danmark, which issues mortgage bonds, is largely self-financing and its liquidity is managed separately from the rest of the Group. Danica Pension's balance sheet includes assets and long-term life insurance liabilities. Most of Danica Pension's assets are readily marketable bonds and shares. Both companies are subject to statutory limits on their exposures to Danske Bank A/S. Except when otherwise noted, "Group" refers to the banking units only; that is, it does not include Realkredit Danmark and Danica Pension.

The Group monitors the two key elements through a set of risk indicators that make up the Group's liquidity risk profile.

#### Distance to default

Indicator	Requirement	Frequency	Monitoring unit
KRI 1	The most severe internal stress tests must be positive three months ahead.	Monthly	Group Risk Management
KRI 2	The Group LCR must be 105% or higher, and each legal entity must comply with local LCR requirements. Danish units must comply with the Supervisory Diamond.	Daily	Group Risk Management
SRI 1	The Group's total liquidity in all currencies may not fall below DKK 100 billion four weeks ahead, and total liquidity in all currencies except DKK must be positive two weeks ahead.	Daily	Group Risk Management

#### Market reliance

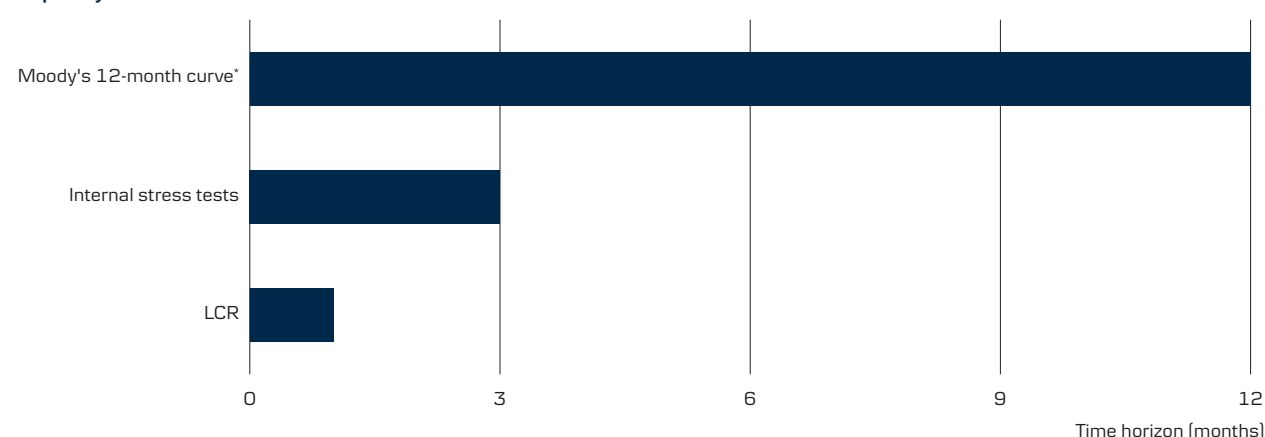
Indicator	Requirement	Frequency	Monitoring unit
KRI 3	The Group's funding ratio must be below 0.8	Monthly	Group Treasury
SRI 2	Long-term funding maturing within 12 months may not exceed DKK 90 billion	Daily	Group Risk Management
SRI 3	Twelve-month liquidity must be positive one year ahead	Monthly	Group Treasury

The GCF 3:1 indicator was removed after the revocation of the underlying requirement from the Danish Financial Supervisory Authority in February 2018.

#### 5.1.3 Stress testing

Stress tests are a core element of the models and methodologies used by the Group to manage liquidity risk. Three of the six risk indicators making up the risk profile are based on stressed liquidity scenarios.

#### Liquidity risk stress tests-time horizons



\* The requirement is set out in "Bank Financial Strength Ratings: Global Methodology" from Moody's Investors Service. The requirement states that the 12-month liquidity curve must be positive over the entire time horizon.

The Group conducts stress tests to measure its immediate liquidity risk in order to have sufficient time to respond to possible crises. The stress tests are conducted under various scenarios, including three standard scenarios: a scenario specific to the Group, a general market crisis scenario and a combination of the two scenarios. A "stress-to-failure" test is also conducted.

All stress tests are based on the assumption that the Group does not reduce its lending activities. This means that existing lending will continue to require funding. The degree of possible refinancing of the Group's funding base varies depending on the scenario in question and on the specific funding source. To assess the stability of its funding, the Group considers the maturity and makes behavioural assumptions.

#### 5.1.4 Methodologies and models

The Group has implemented a new asset and liability management system. Combined with other initiatives, this has already resulted in enhanced liquidity risk management. The improvements include the overall and currency-specific LCR calculations as well as the monitoring of intraday liquidity, described in more detail below.

##### Liquidity by currency

Regulation (EU) No. 575/2013 of the European Parliament and of the Council of the European Union of 26 June 2013 stipulates that the overall LCR must be above 100% for each legal entity covered. It is less explicit about the currency composition of the liquidity buffer, merely requiring that the denomination of the liquid assets in the buffer is "consistent" with the currency distribution of net liquidity outflows.

In Denmark, these requirements are more specific. As a SIFI, Danske Bank is subject to currency-specific LCR requirements for EUR and USD. In addition to complying with these quantitative requirements, Danske Bank focuses on maintaining an overall currency distribution consistent with outflows, as required by Regulation (EU) No. 575/2013. In part, such considerations lay behind the Group's decision to issue more debt in NOK and SEK and to set up a mortgage subsidiary in Sweden. The increased focus on currency-specific liquidity is also incorporated in the Group's funding plan and ongoing balance-sheet optimisation.

Intraday liquidity is monitored and reported by currency in accordance with the guidelines issued by the Basel Committee. Overall, these improvements have enhanced the Group's liquidity risk management capabilities and enabled it to reduce cross-currency liquidity risk.

##### Net stable funding ratio

The next milestone in liquidity risk management will be the final implementation of the net stable funding ratio (NSFR). While the LCR focuses on short-term liquidity risk, the NSFR addresses the balance between funding needs for assets and the stability of funding sources. Adjustments to the balance sheet to comply with the NSFR requirement therefore require a longer implementation period. An internal NSFR steering committee is in charge of the implementation of the NSFR, including analysis and reporting of the expected effects on the balance sheet.

The Basel Committee on Banking Supervision (BCBS), which adopted the NSFR as a standard for internationally active banks in 2014, scheduled it for implementation by 1 January 2018, but EU implementation is not yet formally adopted. In December 2018, a political agreement was reached on a package of proposals from the European Commission, including the NSFR. Formal adoption is expected in mid-2019, in which case the NSFR will become binding in mid-2021. Preliminary calculations based on the compromise text indicate that Danske Bank is already in compliance.

##### Funds transfer pricing

The Group's Funds Transfer Pricing (FTP) model is the central management tool used by the Group to adjust and manage the balance-sheet composition at the business units. Business activity at the banking units is encouraged by assigning internal funding prices based on the matched-maturity principle. The FTP model applies charges to loans and credits to deposits and other funding on the basis of the characteristics of the individual balance-sheet items, e.g. product type, customer type, maturity, currency, amortisation profile, modelled behaviour and interest rate risk. Some charges and credits are based on behavioural assumptions, such as the expected stressed deposit run-off and expected amounts drawn on committed facilities.

FTP links the balance-sheet composition directly to the income statement, and it is a key component in determining the Group's overall funding position. FTP is fundamental in evaluating the profitability of the Group's balance-sheet composition, and it has therefore been included in the profitability analysis at the customer level. It links liquidity risk assessment, product pricing and balance-sheet valuation.

Mortgage loans provided through Realkredit Danmark are excluded from FTP because they are match-funded in accordance with Danish mortgage legislation and involve virtually no liquidity risk.

The Group's trading activities are also subject to FTP. Trading activities require funding and increase the demands on the liquidity buffer, for example because collateral is needed.

#### 5.1.5 Monitoring and reporting

Liquidity Risk Management reports all limit breaches to the relevant parties and committees. Board limit breaches are reported to the Board of Directors and other relevant stakeholders (such as the GLRC, the Group All Risk Committee and the Executive Board). Group All Risk Committee limit breaches are reported to the Executive Board, the Group All Risk Committee and other relevant stakeholders, including the business units. Lower-level limit breaches are reported to the head of Liquidity Risk Management.

Liquidity risk reporting consists of overviews, analyses and forecasts for the most critical risk indicators such as the LCR. They outline the drivers and causes of changes in liquidity and give senior management a clear understanding of the Group's day-to-day liquidity risk profile.

Monitoring and reporting are conducted separately according to the principle of three lines of defence. Group Treasury, as the first line of defence, reports the risk measures, whereas Group Risk Management, as the second line of defence, monitors compliance with internal limits. Furthermore, Group Risk Management reviews and validates the models and assumptions used by the first line of defence for reporting risk measures.

Liquidity Risk Management monitors compliance with the risk limits set for the liquidity risk appetite. The LCR figures and operational liquidity are monitored and reported on a daily basis, while the other risk indicators are reported on a monthly basis to the GLRC and the Group All Risk Committee. Risk indicators are reported to the Board of Directors on a quarterly basis.

## 5.2 Liquidity risk profile

### 5.2.1 Risk indicators

#### Distance to default

The risk indicators used for managing the distance to default allow the Group to adjust the size and composition of its liquidity reserve to meet its obligations in case of a stressed liquidity situation. The Group uses the following indicators: the liquidity coverage ratio (LCR), internal stress tests, and the operational two-week and four-week liquidity curves. The LCR covers a 30-day stressed period, while the internal stress tests cover a three-month stressed period. Danske Bank Group and Danske Bank A/S must each maintain an LCR above 100%.

#### Liquidity coverage ratio

At 31 December 2018 (DKK billions)	Danske Bank Group <sup>1</sup>	Danske Bank A/S
HQLA level 1	429	364
HQLA level 2	17	17
Limits due to cap	-	-
A. Liquid assets, total	446	381
Customer deposits <sup>2</sup>	120	120
Market funding <sup>3</sup>	143	144
Other cash outflows <sup>4</sup>	132	130
B. Cash outflows, total	395	394
Lending to non-financial customers	3	3
Other cash inflows	21	44
C. Cash inflows, total	24	47
<b>Liquidity coverage ratio [A/(B-C)] (%)</b>	<b>121</b>	<b>110</b>

<sup>1</sup> Includes Realkredit Danmark.

<sup>2</sup> Includes retail deposits, operational deposits, correspondent banking/prime brokerage accounts and non-operational deposits covered by deposit guarantees.

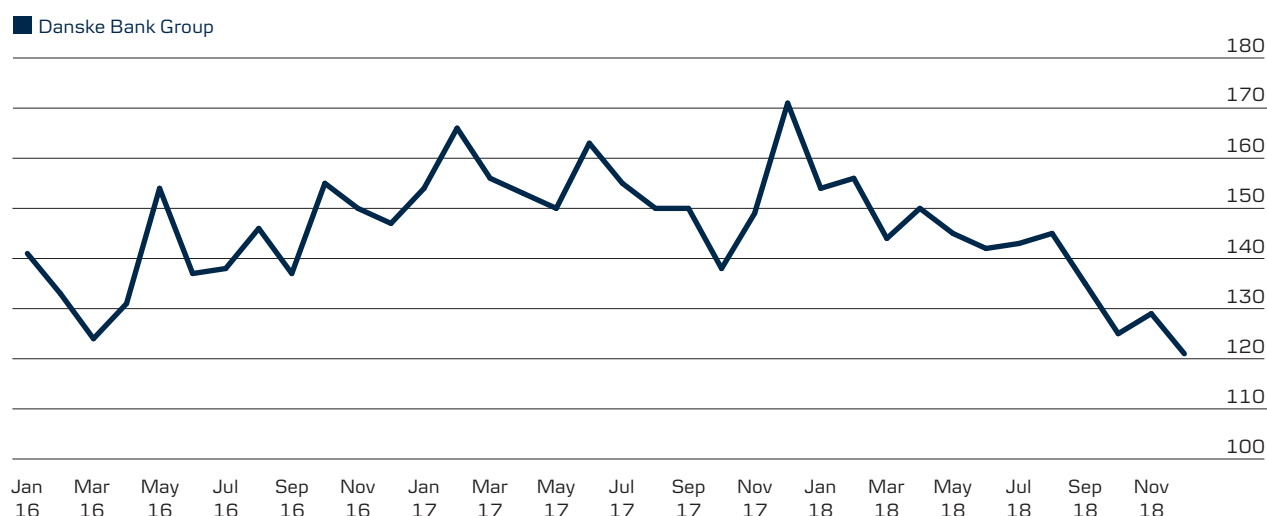
<sup>3</sup> Includes non-operational deposits, unsecured debt issuance and secured funding.

<sup>4</sup> Includes Realkredit Danmark's additional outflow requirement, which is equal to 2.5% of lending.

In the first half of 2018, Danske Bank Group's LCR was at levels comparable with those seen in 2017. These high levels were attained because abundant market liquidity, particularly in EUR and USD, made it profitable for the Group to accept more deposits and issue more short-term funding instruments. As a side-effect, these transactions also increased the LCR. However, during 2018, market liquidity became less abundant. This narrowed the scope for such transactions and the upward drift in LCR levels disappeared. Danske Bank's negative rating outlook caused by uncertainty related to the case regarding suspicious customers and transactions at the Group's Estonian branch added to this effect. The reduction in the LCR was managed according to the Group's long-term LCR strategy. On the asset side, the liquidity buffer was reduced due to outflows as the funding instruments matured. Correspondingly, LCR outflows (30-day stress scenario) were also reduced as the short-term instruments went off the balance sheet and long-term instruments such as covered bonds were added. In the LCR calculations, the asset-side effect is more direct than the liability-side effect, but the Group's LCR was kept well above the regulatory minimum and stood at 120.6% at the end of the year.

## Danske Bank Group's LCR, 2018

[%]

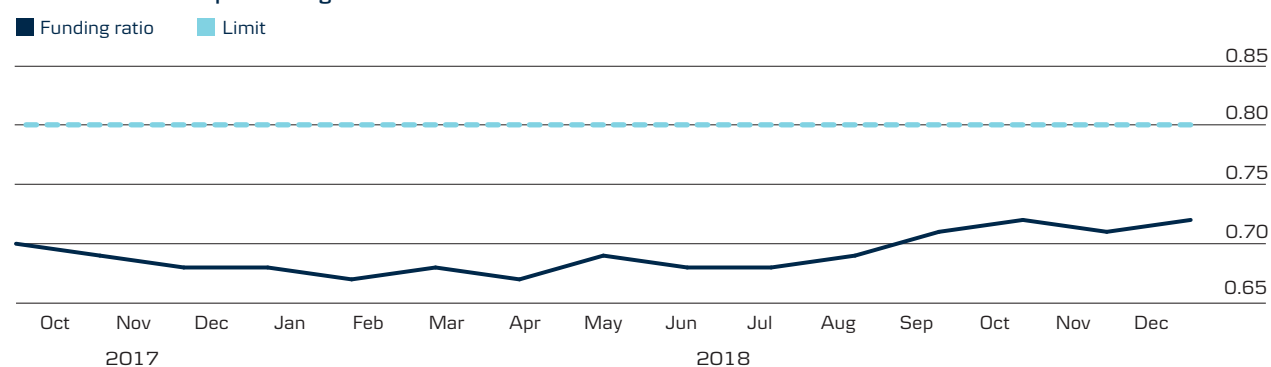


### Market reliance

The risk indicators used for managing market reliance allow the Group to maintain a prudent composition of its liabilities because they ensure that there is sufficient long-term funding for maturing long-term assets. This reduces any pressure on the Group in a situation involving a liquidity crisis. Until the introduction of the NSFR, the funding ratio shown below will remain the key indicator for market reliance. The funding ratio limit is set at 0.8, and the historical development reflects a conservative balance between loans and working capital. The Group oversees the maturity profile of its long-term funding to keep the portions of long-term funding maturing within a twelve-month horizon at an acceptable level.

The Group's funding ratio was well below the limit, but showed an upward trend towards the end of 2018 as lending growth continued throughout the year while the funding base contracted somewhat during the last few months of the year.

### Danske Bank Group's funding ratio



The Group also monitors the diversification of its funding sources by product, currency, maturity and counterparty to ensure that its funding base provides the best possible protection.

Special attention is devoted to the NOK and SEK markets. Danske Bank has a deposit gap in the Norwegian and Swedish markets, meaning that the Group must obtain market funding. Covered bonds in NOK are issued by Danske Bank A/S, whereas covered bonds in SEK are issued by Danske Hypotek AB.

### 5.2.2 Ratings of Danske Bank A/S and Realkredit Danmark

Following the publication of the report on the non-resident portfolio at Danske Bank's Estonian branch, all rating agencies took action.

On 25 September 2018, S&P affirmed that Danske Bank's issuer and senior debt ratings were A. At the same time, it lowered Danske Bank's stand-alone credit profile to a-. Consequently, S&P downgraded – by one notch – the ratings on Danske Bank's non-preferred senior debt, tier 2 debt and additional tier 1 capital instruments. It also lowered Danica Pension Livsforsikringsaktieselskab's long-term issuer credit rating to A- from A.

At the same time, S&P revised the outlook on Danske Bank to negative from positive due to regulatory investigations at Danske Bank's Estonian branch and the possible resulting damage to Danske Bank.

On 25 September 2018, Fitch affirmed all Danske Bank's ratings, while revising the outlook to negative from stable due to the uncertainty relating to the Estonia case and its potential consequences.

On 12 October 2018, Moody's downgraded Danske Bank's senior unsecured debt rating to A2 from A1, Danske Bank's counterparty risk rating to Aa3 from Aa2 and Danske Bank's non-preferred senior debt rating to Baa2 from Baa1. The rating action follows the announcement that Danske Bank is the subject of an investigation by the US Department of Justice. Moody's maintained the negative outlook assigned on 21 September 2018. The negative outlook reflects operational and reputational risks stemming from the investigations.

The tables below provide an overview of the timeline for the rating changes in 2018.

#### Fitch's rating changes

	1 January	1 May	1 August	25 September	Year-end
Derivative counterparty rating	A+ (dr)				A+ (dr)
Preferred senior debt	A		A+		A+
Non-preferred senior debt		A (new)			A
Tier 2 capital	A-				A-
AT1 capital	BB+				BB+
Outlook	Stable			Negative	Negative

#### S&P's rating changes

	1 January	5 April	4 May	29 June	25 September	Year-end
Resolution counterparty rating				A+ (new)		A+
Senior debt	A					A
Non-preferred senior debt			A- (new)		BBB+	BBB+
Tier 2 capital	BBB+				BBB	BBB
AT1 capital	BBB-				BB	BB
Outlook	Stable	Positive			Negative	Negative

#### Moody's rating changes

	1 January	2 February	4 May	26 June	21 September	12 October	Year-end
Counterparty risk assessment	Aa2 (cr)					Aa3 (cr)	Aa3 (cr)
Counterparty risk rating				Aa2 (new)		Aa3	Aa3
Long-term deposit	Aa3	A1				A2	A2
Senior debt	A1					A2	A2
Non-preferred senior debt			Baa1 (new)			Baa2	Baa2
Subordinated debt	Baa2*						
Outlook (LT issuer rating)	Positive	Negative	Stable		Negative		Negative

\*Matured on 29 September 2018.

Mortgage bonds and covered bonds (*RO* and *SDRO*) issued by Realkredit Danmark are rated AAA (stable outlook) by S&P and Scope Ratings. Scope Ratings assigned its inaugural ratings on 29 August 2018. Fitch assigns a rating of AAA (stable outlook) to bonds issued from Realkredit Danmark's capital centre S and a rating of AA+ (stable outlook) to bonds issued from capital centre T.

Covered bonds (*SDO*) issued by Danske Bank A/S are rated AAA (stable outlook) by both S&P and Fitch Ratings, while covered bonds issued by Danske Mortgage Bank Plc are rated Aaa by Moody's, and covered bonds issued by Danske Hypotek AB are rated AAA (stable outlook) by S&P.

The following table shows the Group's loss of liquidity under four scenarios involving downgrades of the Group's long- and short-term debt. The number in brackets after each individual rating indicates how many notches the rating would drop from its current level.

The right-hand column shows the liquidity effects due to extra collateral requirements after downgrades under the various scenarios. Most contracts do not contain rating triggers but instead aim to eliminate or reduce credit exposures regardless of the rating, but some triggers remain.

#### Loss of liquidity in case of rating downgrades, end of November 2018

Assumed rating	Short-term			Long-term			Liquidity effect (DKK billions)
	Moody's	S&P	Fitch	Moody's	S&P	Fitch	
Present rating	P-1	A-1	F1	A2	A	A	
Scenario 1	P-2	A-2	F1	A3(▼1)	A-(▼1)	A-(▼1)	7.2
Scenario 2 (mild crisis)	P-2(▼1)	A-2(▼1)	F2(▼1)	A3(▼1)	A-(▼1)	A-(▼1)	7.6
Scenario 3	P-2(▼1)	A-2(▼1)	F2(▼1)	Baa1(▼2)	BBB+(▼2)	BBB+(▼2)	8.2
Scenario 4 (severe crisis)	P-2(▼1)	A-2(▼1)	F2(▼1)	Baa2(▼3)	BBB(▼3)	BBB(▼3)	9.1

#### 5.2.3 Funding

In 2018, Danske Bank issued long-term debt in the amount of DKK 69.2 billion, which was slightly more than in 2017. Covered bonds accounted for half of this amount. Most of the remainder was non-preferred senior (NPS) debt (see below), but Danske Bank also issued senior debt and additional tier 1 capital. Most of the issues took place in the first half of the year, particularly in the second quarter. In the second half of the year, market conditions became less favourable due to a more volatile and less liquid market and to effects specific to Danske Bank. Concerns about the case regarding suspicious customers and transactions at the Group's Estonian branch started in late summer so Danske Bank only issued private placements and no long-term benchmarks in the third quarter. As usual, no issues were made in October, pending the publication of the third-quarter interim report. New issues totalling DKK 10.6 billion were made in November and December. This was a significant improvement on the third quarter, indicating that Danske Bank maintained its strong position among investors.

NPS debt was issued in the second quarter and early in the third quarter, bringing the total to DKK 26.1 billion for 2018.

The MREL will take effect on 1 July 2019. On the basis of guidance figures for the requirement published in 2018, Danske Bank presently has sufficient eligible liabilities. However, compliance may require further debt issuance because the requirement for 2019 is not yet known and because expiring instruments need to be replaced continuously.

Until the end of 2021, existing senior debt will be eligible for the MREL. New senior debt will not be MREL-eligible after 2021 so maturing instruments will have to be replaced with NPS debt. An estimated total of DKK 65-90 billion of NPS debt will need to be issued in 2019-21. The precise amount will depend on FSA requirements.

##### Realkredit Danmark's funding

Realkredit Danmark funds its mortgage lending activities by issuing covered bonds on the basis of the pass-through principle as stated in Danish mortgage banking regulations. Realkredit Danmark complies with the balance principle by applying a pass-through structure. This implies that

- all mortgages are funded by means of covered bonds with a matching cash flow
- all funding costs are absorbed by the borrowers
- amounts of interest, redemptions and margins from borrowers fall due in advance of interest payments and principal repayments to bondholders
- covered bonds are issued on tap when the mortgages are originated

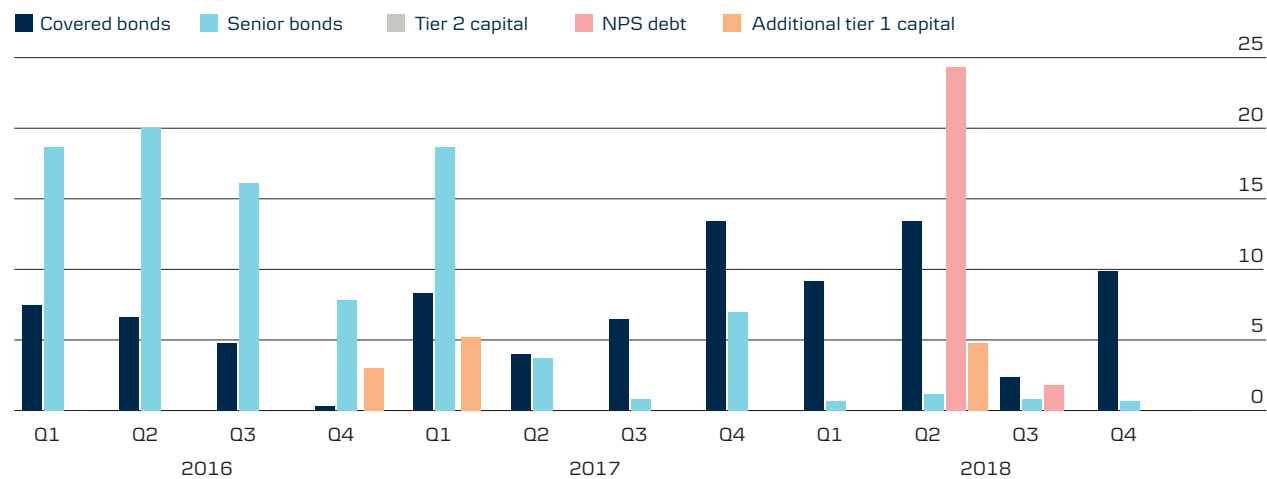
The balance principle allows for interest-reset loans with maturities ranging up to 30 years, while the underlying bonds are typically issued with maturities ranging from one to five years. The refinancing risk is mitigated by caps on the volume of interest-reset loans to be refinanced each quarter and each year. As a last resort, the maturity of maturing covered bonds can be extended in case of a refinancing failure.

Consequently, Realkredit Danmark is exposed to limited funding and liquidity risks.

The Group monitors the maturity profile of its long-term funding to ensure that the portions of long-term funding maturing within a year and within a quarter are maintained at acceptable levels.

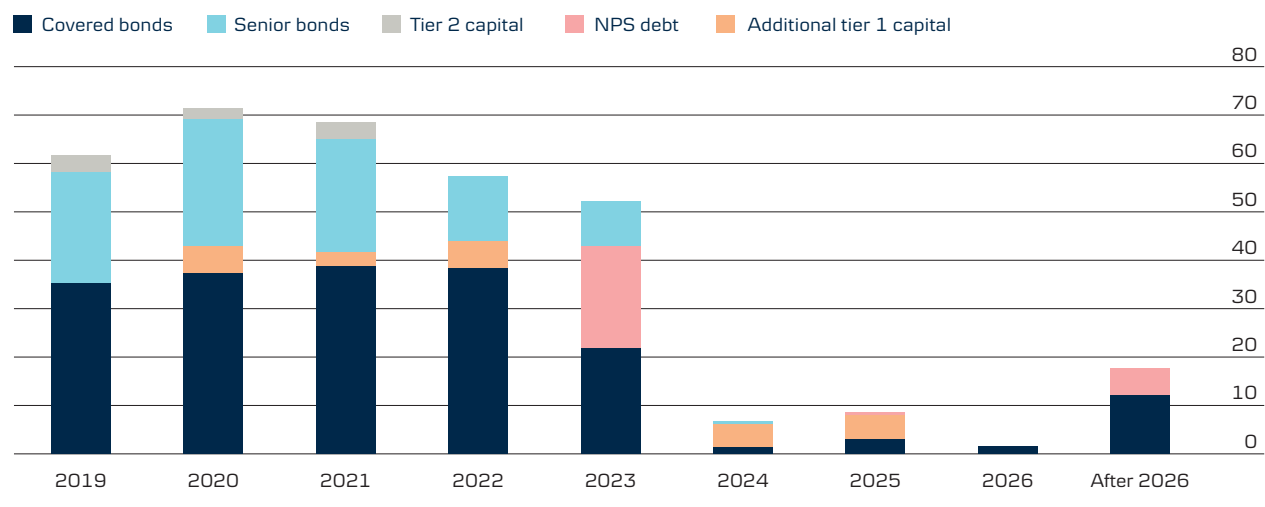
### Long-term debt issuance, by quarter

(DKK billions)



### Danske Bank Group's redemption profile at 31 december 2018

(DKK billions)



Total wholesale funding consists of debt issues and deposits received from credit institutions and central banks. A detailed breakdown is shown below. In 2018, overall wholesale funding was reduced and emphasis shifted away from short-term instruments such as CP and CDs to long-term instruments such as covered bonds.

#### Breakdown of wholesale funding by contractual maturity (DKK billions)

At 31 December (DKK billions)	0-1 month	1-3 months	3-12 months	1-5 years	> 5 years	Total 2018	Total 2017
Deposits from credit institutions	236	51	8	18	1	314	303
CDs and CP	5	10	5	-	-	20	98
Long-term unsecured funding*	5	-	19	91	6	121	130
Covered bonds	-	-	35	172	33	240	211
Subordinated liabilities	-	-	4	6	10	19	25
<b>Total</b>	<b>247</b>	<b>62</b>	<b>70</b>	<b>286</b>	<b>50</b>	<b>715</b>	<b>767</b>
of which							
Secured instruments	106	29	8	18	-	161	153
Unsecured instruments	141	32	62	268	50	554	614

\*Long-term unsecured funding consist of DKK 94 billion senior unsecured debt and DKK 26 billion non-preferred senior debt. The table includes retained and re-purchased bonds by Group Treasury.

In 2017, the Group established a Swedish covered-bond-issuing subsidiary, Danske Hypotek AB, similar to the subsidiaries operated by other banks in Sweden. The new entity issued its first covered bonds under Swedish law in 2017. Issuance continued in 2018, and the outstanding volume is now approximately DKK 35 billion. Danske Mortgage Bank, a Finnish subsidiary of Danske Bank A/S, has the same role in Finland.

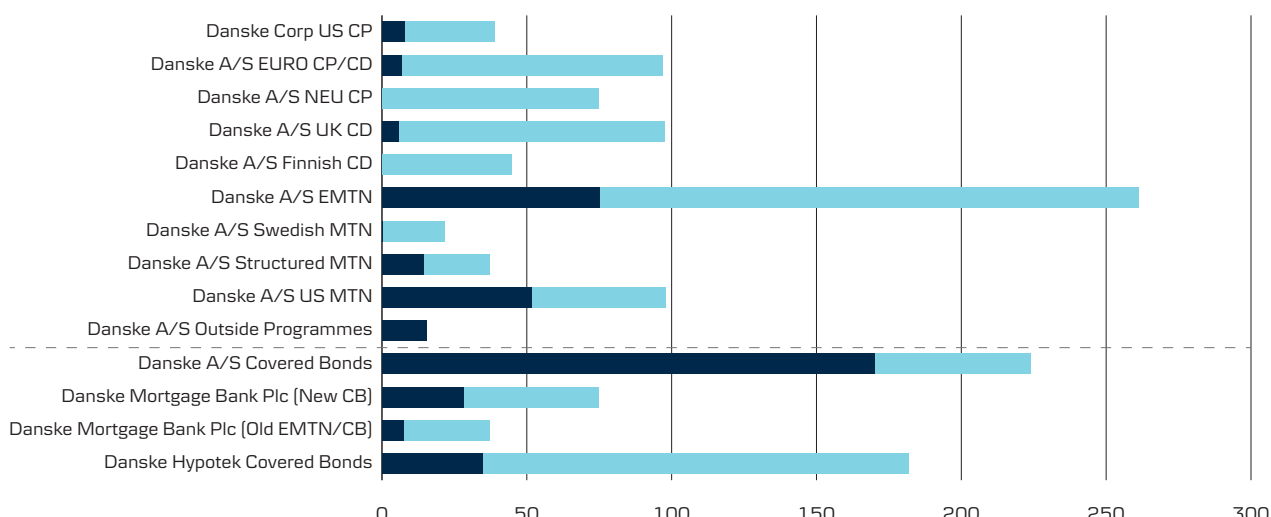
These initiatives have reduced the Group's dependence on cross-currency swaps.

The increase in local funding and the enhanced focus on asset and liability management will ensure that the Group can stay within the risk appetite, while executing its growth strategy for Norway and Sweden.

#### Utilisation of available long- and short-term programmes, end of 2018

(DKK billions)

■ Utilisation    ■ Not utilised



### 5.2.4 Liquidity reserve

The Group's liquidity reserve is defined as all unencumbered liquid assets that are available to the Group in a stressed situation. Assets received as collateral are included in the reserve, whereas assets used as collateral are excluded.

The following table shows the value of the liquidity reserve in the LCR framework. In 2017, abundant cash due to the quantitative easing programmes entailed a large demand for deposits and short-term funding instruments. During 2018, the liquidity reserve was reduced since the level of non-sticky deposits and short-term funding decreased.

#### Group liquidity reserve – LCR definition

At 31 December (DKK billions after haircut)		2018	2017
<b>Total high-quality liquid assets</b>		<b>447</b>	<b>565</b>
Level 1a assets	Central bank reserves	156	278
	Central government debt	52	66
	Other level 1a assets	42	40
Level 1b assets	Extremely high-quality covered bonds	179	171
Level 2a assets	High-quality covered bonds	10	9
	Other level 2a assets	8	1
Level 2b assets		0.1	0.6

Many of the bonds held in the reserve are central-bank-eligible instruments, and they are important for intra-day liquidity needs and overnight liquidity facilities.

The amounts of liquidity are calculated using haircut values mandated for each asset category in the LCR regulation. Some assets are excluded entirely. The amounts shown in the table may differ from actual market values and repo liquidity values. In internal stress tests, valuations closer to actual market values are generally used.

### 5.2.5 Asset encumbrance

Regulators, rating agencies, investors and others regularly monitor asset encumbrance (the percentage of assets pledged or mortgaged as collateral) as well as the resulting structural subordination of senior unsecured creditors and depositors.

The Group's asset encumbrance has three main sources:

- Loans and securities serving as collateral for covered bond issuance. Covered bond issuance is a strategic long-term funding measure that entails ring-fencing assets according to statutory regulation.
- Securities provided as collateral in repo and securities-lending transactions. The Group's repo activities consist of business-driven transactions that can be wound up relatively quickly and transactions for short- or long-term funding purposes. In repo transactions, the securities remain on the Group's balance sheet, and the amounts received are recognised as deposits.
- Cash and securities provided as collateral for derivatives and clearing transactions when the pledging or mortgaging of collateral is an operational requirement to support business activities.

The Group's asset encumbrance reporting follows the method described in "Implementing Technical Standards" issued by the European Banking Authority. The following table shows the encumbrance of assets on the balance sheet and the encumbrance of collateral received, broken down by source of encumbrance.

**Asset encumbrance and encumbrance ratio**

At 31 December 2018 (DKK billions)	Danske Bank A/S	Danske Bank Group*
Assets on balance sheet		
Derivatives	53	53
Deposits (repos)	168	179
Covered bonds	149	1,027
- portion from Realkredit Danmark	-	836
Other	17	20
<b>Total encumbrance</b>	<b>387</b>	<b>1,278</b>
Total assets	2,178	3,108
Collateral received		
Derivatives	5	5
Deposits (reverse repos)	321	306
Total encumbrance	326	310
Total assets	563	532
<b>Asset encumbrance ratio (%)</b>	<b>26</b>	<b>44</b>

\* Includes Realkredit Danmark.

## 5.3 Capital management

The main purposes of the Group's capital management are to support the Group's business strategy and to ensure a sufficient level of capital to withstand even severe downturns without breaching regulatory requirements. The Group also works to ensure a sufficient level of capital to maintain access to the funding markets under all market conditions. The Group's ambition is to have a capital level that rating agencies and investors consider robust.

The overall standards and principles for the Group's capital management, including the governance process for all central elements, are outlined in the Group's Capital Policy, which is approved by the Board of Directors.

### 5.3.1 Capital targets and capital distribution

As a consequence of increased capital requirements, the Group reassessed its capital targets in the second half of 2018. The target for the common equity tier 1 (CET1) capital ratio was set at around 16% (previously 14-15%), while the target for the total capital ratio was set at above 20% (previously above 19%). The updated capital targets factor in a DKK 10 billion increase in the Group's solvency need following orders from the Danish Financial Supervisory Authority (the Danish FSA) in relation to the former non-resident portfolio at the Estonian branch to ensure adequate capital coverage of increased compliance and reputational risks. Furthermore, they take into account the expected increase in the Group's institution-specific countercyclical buffer rate, due mainly to the activation of the countercyclical buffer in Denmark, reaching a level of 1% by September 2019, and an increase in the Swedish and Norwegian buffer rates from 2% to 2.5%. The updated capital targets include a management buffer of around 2% for the CET1 capital ratio and a minimum buffer of 1.5% for the total capital ratio.

With respect to its capital targets, the Group has an ambition to pay out ordinary dividends of 40-60% of its net profit. The intention is to adjust the capital structure further through, e.g., share buy-back programmes if excess capital relative to the capital targets is available after dividends have been paid out. The distribution of excess capital is, however, currently subject to further clarification of the consequences of the case regarding suspicious customers and transactions at the former non-resident portfolio in the Estonian branch.

The Group revises its capital targets and capital distribution on an ongoing basis and at least once a year.

### 5.3.2 Capital planning

The Group's capital planning takes into account both short-term and long-term horizons in order to give the Board of Directors a comprehensive view of current and future capital levels. The capital plan includes a forecast of the Group's expected capital performance based on budgets and takes pending regulation into account when future capital requirements are assessed. The Group's capital planning is also based on stress tests and takes rating ambitions into consideration.

### 5.3.3 Input from stress testing

The Group uses macroeconomic stress tests in the Internal Capital Adequacy Assessment Process (ICAAP) for the purpose of projecting its capital requirements and actual capital level in various unfavourable scenarios. Stress tests are an important means of analysing the risk profile since they give management a better understanding of how the Group's portfolios are affected by macroeconomic changes, including the effects of undesirable events on the Group's capital.

When the Group uses stress tests in its capital planning, it applies stress to risks, income and the cost structure. Stressing income and costs affects the Group's capital, while stressing risk exposures affects its capital requirement.

Results from stress testing are used as input for setting capital targets, and they ultimately feed into the Group's capital planning.

#### Internal stress tests

The Group's internal stress tests are based on various scenarios, each consisting of a set of macroeconomic variables. The scenarios are generally used both at the group level and for subsidiaries. Specific scenarios are also developed for subsidiaries if deemed necessary. The Group evaluates the main scenarios and their relevance on an ongoing basis and at least once a year. New scenarios are added when necessary. The scenarios are submitted to the Board of Directors for approval.

#### Regulatory stress tests

Because the Group has approval to use internal ratings-based (IRB) models, it participates in the annual macroeconomic stress test conducted by the Danish FSA. According to the latest stress test performed in the spring of 2018, the Group did not breach capital requirements during the projected period.

The Group also participates in the EU-wide stress test conducted by the European Banking Authority (the EBA) every second year. The purpose of the EBA stress test is to assess the health of the European banking sector and the ability of the individual institutions to absorb losses. The latest exercise was conducted during 2018 and included a highly adverse macroeconomic scenario in the Group's core markets. Even under such severe conditions, the Group met its projected capital requirements with a satisfactory margin.

### The Group's most important stress test scenarios

Scenario	Description and use
Severe recession	<p>A sharp slowdown in the global economy reduces exports, private consumption and GDP, while increasing unemployment. This scenario assumes a significant setback in property prices because of weak consumer confidence, high unemployment and tight credit policies.</p> <p>The Group uses the severe recession scenario in its capital planning to determine whether the capital level is satisfactory. If management concludes that the level of excess capital is too low in the scenario's worst year, it will consider changing the risk profile or raising capital.</p>
Extreme recession	<p>A very sharp slowdown in the global economy reduces exports, private consumption and GDP, while increasing unemployment. This scenario assumes deflation in most economies and a very sharp drop in property prices.</p> <p>The Group uses the extreme recession scenario for recovery plan purposes to test the credibility and effectiveness of its actions to restore its capital and liquidity positions.</p>
Regulatory scenarios	<p>Base cases and adverse scenarios of the Danish Financial Supervisory Authority and the European Banking Authority.</p> <p>The Danish Financial Supervisory Authority uses the regulatory scenarios for the Supervisory Review and Evaluation Process (SREP).</p>
Other scenarios	<p>Besides the main scenarios listed above, the Group also uses various specialised or portfolio-specific scenarios that give management an understanding of how specific events will affect the Group.</p>

In conclusion, the results of both internal and external regulatory stress tests show that the Group is robust in the event of unfavourable economic developments in the selected stress test scenarios.

For more information about the stress test process, see the ICAAP report, which is updated quarterly and published along with the Group's quarterly and annual reports at [danskebank.com/ir](https://danskebank.com/ir).

### 5.3.4 Capital allocation

The Group makes a full internal allocation of its total equity across business units on the basis of each unit's contribu-

tion to the Group's total risk as estimated by means of regulatory models. The Group is constantly improving its capital allocation framework to ensure that it reflects as closely as possible the effects of new regulation and the risk entailed in its business activities. The principles for allocating capital across the business units are fully aligned with the regulatory requirements. As a result, the capital consumption of the Group's individual business units is closely aligned with the Group's total capital consumption.

## 5.4 Capital profile

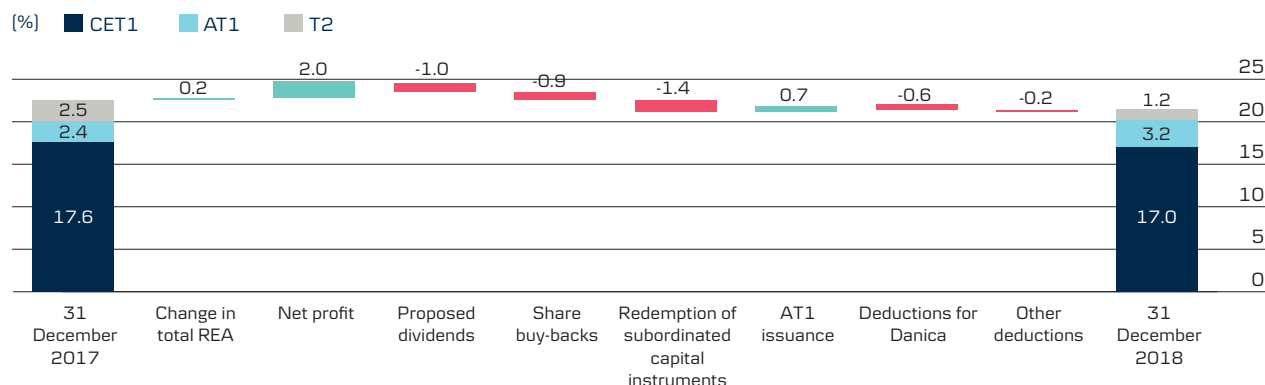
At 31 December 2018, the Group's CET1 capital amounted to DKK 126.8 billion, or 17.0% of the total risk exposure amount (REA), and its tier 1 capital amounted to DKK 150.5 billion, or 20.1% of the total REA. The Group's total capital amounted to DKK 159.6 billion, and its total capital ratio was 21.3%.

The high-level components of total capital are shown in the following table (a more detailed breakdown appears in Annual Report 2018). The figures reflect the Group's capital subject to the transitional rules according to the CRR (including the phase-in of IFRS 9) at 31 December 2018.

<b>Danske Bank Group's total capital and ratios</b>		
At 31 December (DKK millions)	2018	2017
Total equity	163,276	168,256
Adjustment to total equity	237	236
Total equity calculated according to the rules of the Danish FSA	163,513	168,492
Additional tier 1 (AT1) capital instruments included in total equity	-14,133	-14,158
Adjustments for accrued interest and tax effect on AT1 capital	-130	-132
Common equity tier 1 (CET1) capital instruments	149,250	154,202
Deductions from CET1 capital	-22,423	-21,457
- portion from goodwill	-7,466	-6,707
- portion from statutory deductions for insurance subsidiaries	-5,987	-1,349
CET1 capital	126,827	132,744
AT1 capital	23,677	18,574
Deductions from AT1 capital	-	-169
Tier1 capital	150,505	151,150
Tier 2 capital instruments	9,161	19,343
Deductions from tier 2 capital	-	-169
Total capital	159,666	170,324
<b>Total risk exposure amount</b>	<b>748,104</b>	<b>753,409</b>
Common equity tier 1 capital ratio (%)	17.0	17.6
Tier 1 capital ratio (%)	20.1	20.1
Total capital ratio (%)	21.3	22.6

The following chart shows the change in the Group's total capital ratio from 31 December 2017 to 31 December 2018. The decrease in the total REA increased the total capital ratio by 0.1 of a percentage point. The other main drivers were the Group's net profit, capital distribution and redemption of subordinated capital instruments as part of the Group's on-going work to optimise its capital structure. Finally, the Group issued USD 750 million worth of additional tier 1 capital in June 2018, and this increased the total capital ratio by 0.7 of a percentage point.

#### Change in total capital ratio, Danske Bank Group, 2018



#### 5.4.1 Common equity tier 1 capital

Starting with total equity under IFRSs, the Group makes a number of adjustments in order to determine its CET1 capital.

In accordance with IFRSs and the Danish FSA's accounting rules, total equity is subject to the following adjustments:

- Revaluation of domicile property is recognised at the estimated fair value. Revaluation to a value above the cost of acquisition is recognised as CET1 capital. The revaluation of domicile property is not affected by the implementation of IFRS 16, which concerns leased assets on the balance sheet rather than domicile property owned by the Group.
- The CRR-compliant additional tier 1 capital instruments issued in the period 2014-2016 count as equity under accounting rules, but do not qualify as equity under capital and solvency rules. The additional instruments are therefore excluded from CET1 capital and instead categorised as additional tier 1 capital. The additional tier 1 capital instruments issued in March 2017 and June 2018 are not recognised as equity under accounting rules.

In addition to the adjustment listed above, total equity is also subject to certain deductions to determine CET1 capital in accordance with the CRR. These are the main deductions:

- Proposed dividends
- Carrying amounts of intangible assets, including goodwill
- Deferred tax assets
- Defined benefit pension fund assets
- Statutory deduction for insurance subsidiaries (see also section 5.4.3)
- Prudential filters
- Adjustment to eligible capital instruments (e.g. the deduction of any remaining share buy-back programme not yet reflected in equity)

Finally, a reversal is made to offset part of the IFRS 9 effect reflected in total equity under IFRSs since the effect is being phased in during a 5-year transitional period. By the end of 2018, the reversal was 95% of the total IFRS 9 effect. In terms of fully phased-in capital ratios, the remaining IFRS effect is expected to reduce the CET1 capital ratio by 0.2 of a percentage point.

At the end of 2018, the Group's CET1 capital amounted to DKK 126.8 billion, a decrease of DKK 5.9 billion from 2017. The Group's net profit increased its CET1 capital by DKK 15.0 billion in 2018, but this was partly offset by a deduction for proposed dividends of DKK 7.6 billion. The other main drivers for the decrease were the Group's share buy-back programme of DKK 6.9 billion and an increase in the capital deduction for insurance subsidiaries as a result of Danica Pension's acquisition of SEB Pension Danmark.

#### 5.4.2 Additional tier 1 capital and tier 2 capital

At the end of 2018, the Group's additional tier 1 capital amounted to DKK 23.7 billion, or 3.2 percentage points of the total capital ratio. In June 2018, the Group issued CRR-compliant additional tier 1 capital in the amount of DKK 4.9 billion.<sup>1</sup> No redemptions were made in 2018. At 31 December 2018, all of the Group's additional tier 1 capital instruments were fully CRR-compliant.

<sup>1</sup> Capital instruments issued in USD - the amount of DKK 4.9 billion was the value at the end of 2018.

At 31 December 2018, the Group's tier 2 capital amounted to DKK 9.1 billion, or 1.2 percentage points of the total capital ratio. In 2018, the Group redeemed tier 2 capital in the amount of DKK 10.1 billion. No issues were made in 2018. At 31 December 2018, all of the Group's tier 2 capital instruments were fully CRR-compliant.

For a description of the conditions of the Group's outstanding issues of individual additional tier 1 and tier 2 capital instruments, see note 22 in Annual Report 2018.

#### 5.4.3 Consolidation methods and statutory deductions for insurance companies and significant investments

The consolidation of the Group's financial statements is based on IFRSs, whereas the prudential consolidation in the statement of capital is based on the rules of the Danish FSA and the CRR. The main difference is that, under IFRSs, Danica Pension is consolidated on a line-by-line basis, whereas, under the rules of the Danish FSA, it is treated as a (net) investment in a subsidiary in accordance with the equity method.

In December 2013, the Danish FSA designated the Group as a financial conglomerate because of its ownership of Danica Pension. Consequently, the Group is subject to supplementary supervision as a financial conglomerate (at the group level). For this reason, the Group performs its solvency calculations according to the deduction method.

In rare circumstances, companies taken over by the Group because they are in default are consolidated in the financial statements and sold as soon as possible. The holdings are included in the calculation of the total REA. The following table shows the differences between the ordinary consolidation principles used in the financial statements and those used in solvency calculations for subsidiaries and significant investment in credit institutions.

#### Consolidation principles for subsidiaries and other holdings of Danske Bank A/S

Subsidiaries and other holdings of Danske Bank A/S	Consolidation of solvency calculations		Consolidation in IFRS accounts	
	Full	Capital deductions	Full	One line
Credit institutions	✓		✓	
Significant investments in credit institutions		✓		✓
Insurance operations (consolidated)*		✓	✓	
Foreclosed companies (risk-weighted)			✓	

\* Insurance operations are consolidated according to the capital deduction method.

As a financial conglomerate, the Group has obtained approval to use the Danish FSA's deduction method for investments in insurance subsidiaries in line with the conglomerate method stated in the CRR. The Group's statutory deduction for Danica Pension is calculated as Danica Pension's solvency need less the difference between Danica Pension's total capital and the carrying amount of Danske Bank's capital holdings in Danica Pension. This method ensures that the Group's total capital is reduced fully by deductions made from Danica Pension's total capital, among other things.

The statutory deductions for insurance companies were previously divided equally between tier 1 and tier 2 capital. From 2018, the deductions for insurance subsidiaries are fully deducted from CET1 capital in accordance with the transitional rules of the CRR. At the end of 2018, the total capital deduction for Danica Pension was DKK 6.0 billion. The acquisition of SEB Pension Danmark, and its financing, increased the deduction substantially.

The prudential requirements for Danica Pension under the Solvency II framework are further specified in section 6, Insurance and pension risk.

#### Total capital deductions for insurance subsidiaries

At 31 December (DKK millions)	2018	2017
Capital requirement at Danica Pension	13,370	10,481
Less the difference between		
- Danica Pension's capital base	25,819	23,770
- Danske Bank's capital holdings	18,898	15,513
Less Danica Pension's holding of Danske Bank shares etc.	461	538
<b>Total deductions for insurance subsidiaries</b>	<b>5,987</b>	<b>1,686</b>
- Deductions from common equity tier 1 capital	5,987	1,349

Note: The carrying amount of Danske Bank's capital holdings in Danica Pension less the total deduction for Danica Pension from the Group's total capital is included in the total REA calculation at a weight of 100%. Danske Bank's capital holdings in Danica Pension at the end of 2018 reflect the deduction of a proposed dividend from Danica Pension.

According to the CRR, capital holdings in other credit and financial institutions that represent more than 10% of the share capital of such institutions are considered significant investments. Significant investments in financial sector entities, excluding subsidiaries, are subject to a deduction from CET1 capital if the total sum of significant investments is higher than a threshold defined in the CRR. Holdings below the threshold will be risk-weighted at 250%. At the end of 2018, the sum of significant investments held by the Group in financial sector entities was below the threshold, and the deduction was thus not applicable.

## 5.5 Total capital requirement

The total capital requirement is determined as the solvency need plus the combined phased-in buffer requirement. The solvency need consists of the 8% minimum capital requirement for risks covered under Pillar I and an additional capital requirement under Pillar II for risks not covered under Pillar I.

At the end of 2018, the Group's solvency need was 11.8%, and the combined buffer requirement was 4.9%. When fully phased-in, the buffer requirement will be 6.7%, bringing the fully phased-in CET1 capital requirement to 14.0% and the fully phased-in total capital requirement to 18.6%.

Assuming fully phased-in rules, the Group would have excess CET1 capital of 2.6% of the total REA at the end of 2018.

<b>Capital ratios and requirements</b>		
(percentage of total risk exposure amount)	31 December 2018	Fully phased-in <sup>1</sup>
<b>Capital ratios</b>		
CET1 capital ratio	17.0	16.8
Total capital ratio	21.3	21.2
<b>Capital requirements (incl. buffers)<sup>2</sup></b>		
Minimum CET1 capital requirement (Pillar I)	4.5	4.5
Capital add-on to be met with CET1 capital (Pillar II)	2.7	2.7
Combined buffer requirement	4.9	6.7
- portion from countercyclical capital buffer	0.6	1.2
- portion from capital conservation buffer	1.9	2.5
- portion from SIFI buffer	2.4	3.0
CET1 capital requirement	12.1	14.0
Minimum capital requirement (Pillar I)	8.0	8.0
Capital add-on (Pillar II)	3.8	3.8
Combined buffer requirement	4.9	6.7
Total capital requirement	16.7	18.6
<b>Excess capital</b>		
CET1 capital	4.8	2.8
Total capital	4.6	2.6

<sup>1</sup> Based on fully phased-in CRR and CRD IV rules and requirements.

<sup>2</sup> The total capital requirement consists of the solvency need and the combined buffer requirement. The fully phased-in countercyclical capital buffer is based on the buffer rates announced at the end of 2018.

### 5.5.1 Minimum capital requirement

The regulatory minimum capital requirement under Pillar I of the CRR is defined as 8% of the risk exposure amounts for credit risk, counterparty credit risk, market risk and operational risk.

Credit risk amounted to 80.6% of the total REA, making it the Group's largest risk type. In collaboration with other national financial supervisory authorities, the Danish FSA has approved the Group's use of the A-IRB approach for the calculation of credit risk.

The Danish FSA has granted the Group an exemption from the A-IRB approach for exposures to government bonds and equities, among other things. The exemption also applies to exposures at the legal entities of Danske Bank Limited (Northern Ireland) and Danske Bank International (Luxembourg) and to retail exposures at Danske Bank Ireland. For these exposures, the Group currently uses the standardised approach. A complete list of exemptions and approvals is available in section 3.3.

At Danske Bank Plc (Finland), the Group has permission to use the F-IRB approach for credit risk exposures to corporate customers. In December 2016, the Group obtained approval to calculate the REA at Danske Bank Plc according to the F-IRB approach for the institutions asset class and according to the A-IRB approach for the retail asset class. Implementation took place in January 2017.

Counterparty credit risk (CCR), including central clearing counterparty (CCP) default risk and the credit value adjustment (CVA) risk charge, amounted to 4.9% of the total REA.

Market risk amounted to 4.1% of the total REA. The Group uses an internal VaR model for both market risk on items in the trading book and for foreign exchange risk on items outside the trading book.

Operational risk amounted to 10.5% of the total REA. The Group uses the standardised approach for the calculation of operational risk.

### Risk exposure amounts and risk weights

At 31 December (DKK millions)	2018		2017	
	REA	Weights* [%]	REA	Weights [%]
Credit risk				
A-IRB approach:				
Institutions	4,848	23	7,912	27
Corporates	262,613	30	289,020	33
Exposures secured by real property	152,195	17	127,540	16
Other retail	18,722	23	29,341	24
Securitisations	424	19	573	18
Other assets	12,742	85	8,249	77
A-IRB approach, total	451,543	24	462,635	26
F-IRB approach, total	29,650	54	27,027	48
Standardised approach, total	121,661	18	118,248	14
Credit risk, total	602,855		607,910	
Counterparty credit risk	30,581	10	30,642	11
Central counterparty (CCP) default risk	921	6	898	7
Credit value adjustment (CVA) risk charge	4,686		4,216	
Counterparty credit risk (incl. CCP and CVA)	36,188		35,757	
Market risk, total	30,702		33,692	
Operational risk, total	78,358		76,050	
<b>Total risk exposure amount</b>	<b>748,104</b>		<b>753,409</b>	

\* The average risk weights are determined as the sum of the REA relative to the sum of EAD for each exposure class.

During 2018, the total REA declined by DKK 5.3 billion to DKK 748.1 billion. The main causes of the decrease in 2018 were lower risk in the A-IRB portfolio and lower market risk.

The REA for credit risk fell by DKK 5.1 billion. In isolated terms, moving the 25% risk weight floor on Swedish residential mortgages from Pillar II to Pillar I increased the REA for credit risk by DKK 14.1 billion in the fourth quarter of 2018. However, this effect was more than set off by various portfolio changes such as lower exposure and a depreciation of main currencies, with a total effect of DKK 19.2 billion.

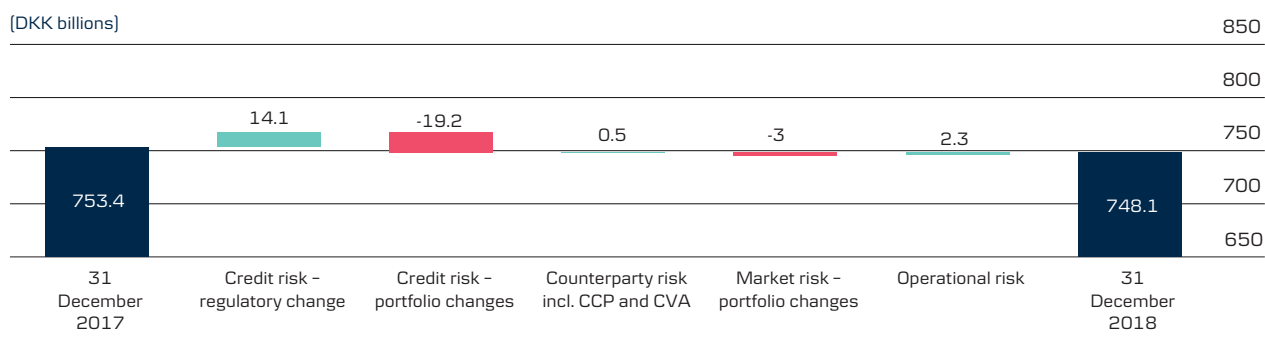
The REA for counterparty credit risk, including CCP default risk and the CVA risk charge, was largely unchanged from 2017. The slight increase was attributable to an increase in the exposure to CVA counterparties.

The REA for market risk declined by DKK 3 billion and was at a historically low level at the end of 2018. This decrease was mainly due to changes in the portfolio composition.

The REA for operational risk increased from 2017 by some DKK 2.3 billion.

## Change in total risk exposure amount in 2018

[DKK billions]



### 5.5.2 Solvency need

The solvency need is the amount of capital that is adequate in terms of size and composition to cover the risks to which a financial institution is exposed. According to Danish legislation, the solvency need ratio is the solvency need divided by the total REA as determined under Pillar I.

The Group assumes risks as part of its business activities and expects to incur some financial losses as a consequence of these risks. Under normal circumstances, it expects such losses to be well covered by its earnings. If earnings are not sufficient to cover the losses, they are covered by the Group's capital.

The Group is involved in a broad range of business activities. These activities can be divided into five segments for the purpose of risk identification: banking, market, asset management, insurance and group-wide activities. The latter category covers management activities that are not specific to any of the first four business segments but broadly support them all. Each of these activities entails various risks, which fall into the eleven main categories of the Group's enterprise risk management framework. These risks can be mapped to the risk types listed in the Danish Executive Order on Calculation of Risk Exposure, Own Funds and Solvency Need.

### Risk identification by Danish FSA risk type

Danish FSA risk types	Danske Bank Group risk categories										
	Credit risk	Market risk	Liquidity, funding and capital	Pension and insurance	Model risk	Operational risk	Business disruption	Financial crime	Behavioral and conduct risk	Legal risk	Financial control and strategic risk
Earnings		✓	✓	✓							
Credit growth	✓										✓
Credit risk	✓				✓	✓					
Concentration risk	✓	✓	✓								
Market risk	✓	✓	✓	✓	✓	✓					
Interest risk outside the banking book		✓	✓								
Liquidity risk			✓								
Operational risk	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Gearing	✓	✓	✓								
Other risk*	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Control environment	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

\* Includes strategy risk, reputational risk, external risk, group risk and settlement risk.

After identifying the risks, the Group determines how and to what extent it will mitigate them. Mitigation usually takes place by means of business procedures and controls, contingency plans and other measures. Finally, the Group determines the risks to be covered by capital. The Group thus ensures that it has sufficient excess capital to cover the risks associated with its business activities. It uses models and expert assessments to monitor all significant risks.

As part of the ICAAP under Pillar II, the solvency need is determined on the basis of an internal assessment of the Group's risk profile in relation to the minimum capital requirement. An important part of the process of determining the solvency need is to evaluate whether the calculation takes into account all material risks to which the Group is exposed. The Group uses its internal models as well as expert judgement and Danish FSA benchmark models to quantify whether the regulatory framework indicates that additional capital is needed.

The Group's ICAAP also forms the basis for the Supervisory Review and Evaluation Process (SREP), which is a dialogue between a financial institution and the relevant financial supervisory authorities on the institution's risks and capital needs.

At the end of 2018, the Group's solvency need was DKK 88.5 billion, or 11.8% of the total REA. The solvency need increased by DKK 9 billion, mainly driven by the inclusion of Pillar II add-ons to cover reputational risk and compliance risk. The add-ons total DKK 10 billion following orders from the Danish FSA. The solvency need ratio increased by 1.3 percentage points from the level at the end of 2017.

For information about the general methods of calculating the solvency need and solvency need ratio, see the ICAAP report, which is updated quarterly and published along with the Group's quarterly and annual reports at [danskebank.com/ir](https://www.danskebank.com/ir).

### 5.5.3 Combined buffer requirement

CRD IV introduced a combined buffer that applies in addition to the solvency need, and it will be phased in from 2015 to 2019. The combined buffer consists of a countercyclical buffer, a capital conservation buffer and a SIFI buffer.

The capital conservation buffer and the countercyclical capital buffer are designed to ensure that credit institutions accumulate a sufficient capital base during periods of economic growth to absorb losses during periods of stress. The capital conservation buffer is being phased in to reach a final level of 2.5% in 2019. The level at the end of 2018 was 1.9%. The countercyclical buffer requirement is calculated as a weighted average of the national buffers in effect in the jurisdictions in which an institution has credit exposures. The Group's countercyclical buffer rate of 0.6% at the end of 2018 was based primarily on the countercyclical buffer rates in Norway and Sweden (both set at 2.0%). The Group takes into account announced national buffer rates when determining its fully phased-in capital requirement.

The Group was designated as a SIFI in Denmark in 2014. Consequently, the Group is subject to stricter capital requirements than non-SIFIs. The phase-in began in 2015, and the Group's SIFI buffer requirement was 2.4% at the end of 2018. The fully phased-in SIFI buffer requirement in 2019 will be 3%.

Breaching the combined buffer requirement would restrict the Group's capital distribution, including the payment of dividends, payments on additional tier 1 capital instruments, and variable remuneration.

According to the CRR, any dividends on CET1 and additional tier 1 capital instruments must be paid from distributable items. These are primarily retained earnings. At the end of 2018, Danske Banks A/S's distributable items amounted to DKK 116.8 billion.

#### Distributable items for Danske Bank A/S

At 31 December (DKK billions)	2018	2017
Retained earnings	109.8	112.0
Proposed dividends	7.6	9.4
Interest on AT1 capital instruments, not distributed	0.1	0.2
Foreign currency translation reserve	-0.7	-0.7
<b>Distributable items</b>	<b>116.8</b>	<b>120.9</b>

### 5.5.4 Leverage ratio

The leverage ratio represents a non-risk-adjusted capital requirement implemented to serve as a further backstop measure for risk-based capital. Since January 2014, the CRR/CRD IV rules have required that a credit institution calculate, monitor and report on its leverage ratio (defined as tier 1 capital as a percentage of total exposure). On the basis of the European Commission's legislative proposal for a revised CRR, a leverage ratio of 3% will become a minimum requirement with the implementation of the revised CRR expected in mid-2021.

Even though the leverage ratio is not yet to be considered a regulatory binding capital requirement, it is still taken into consideration in the Group's capital management. The Group's overall monitoring of leverage risk is performed in the ICAAP, which also includes an assessment of changes in the leverage ratio under stressed scenarios. On a monthly basis, the Group determines and monitors its leverage ratio. To ensure sound monitoring, the Group has set forth policies for the management and control of each component that contributes to leverage risk.

At the end of 2018, the Group's leverage ratio was 4.6% under transitional rules and 4.5% under fully phased-in rules.

#### Leverage ratio

At 31 December (DKK billion)	2018	2017
Total exposure for leverage ratio calculation	3,278.7	3,425.5
- portion from derivatives	145.1	150.9
- portion from securities-financing transactions	335.5	246.0
- portion from exposure to central banks, institutions and cash in hand	209.3	358.4
Reported tier 1 capital (transitional rules)	150.5	151.1
Tier 1 capital (fully phased-in rules)	149.0	150.6
Leverage ratio (transitional rules) (%)	4.6	4.4
Leverage ratio (fully phased-in rules) (%)	4.5	4.4

Under the transitional rules, the leverage ratio increased by 0.2 of a percentage point during 2018. The increase was caused by a lower exposure amount, driven primarily by a decrease in exposures to central banks and institutions.

## 5.6 Future regulatory requirements

### 5.6.1 Minimum requirement for own funds and eligible liabilities

As a consequence of the Bank Recovery and Resolution Directive (BRRD), credit and financial institutions in the EU are required to hold a certain amount of bail-in-able resources to fulfil the minimum requirement for own funds and eligible liabilities (MREL). The purpose of the MREL is to ensure that institutions can absorb potential losses and be recapitalised with no recourse to public funds.

Currently, there is no minimum EU-wide MREL level, and the national resolution authorities are thus required to set an MREL on the basis of the specific resolution plan for each individual institution. The resolution plan for Danske Bank is based on a single-point-of-entry (SPE) approach at the group level. On 23 March 2018, the Danish FSA imposed an MREL on the Group equivalent to 33% of the Group's total REA adjusted for Realkredit Danmark figures. The requirement was calculated on the basis of end-2016 figures and will be effective from 1 July 2019. However, since the requirement as a minimum will be updated on an annual basis, the Danish FSA is expected to publish an update on the Group's MREL in February 2019. The requirement for the Group is calibrated in accordance with the Danish FSA's resolution strategy. This strategy states that systemically important institutions (SIFIs) are to be recapitalised in order for the entire institution to continue its activities post resolution. For this purpose, the Danish FSA sets the MREL for SIFIs to be twice the total capital requirement, including the combined buffer requirement. As a result of the increases in the Group's capital requirement since 2016, including the expected rise from the increases in the countercyclical buffer rates in Denmark and Sweden effective from 2019, the Group plans for an MREL of around 36% of the total REA adjusted for Realkredit Danmark figures when it is updated in 2019. In the fourth quarter of 2018, the Group's MREL ratio stood at 33.9% of the total REA adjusted for Realkredit Danmark figures.

As mortgage credit institutions are exempt from the MREL, Realkredit Danmark figures are not included in the consolidation for the purposes of determining the MREL. Thus, the calculation of the risk exposure amount to be used for determining the Group's MREL does not include the risk exposure amount for Realkredit Danmark.

The exclusion of Realkredit Danmark figures from this consolidation is shown in the table below. Furthermore, the capital and debt buffer requirements applicable to Realkredit Danmark are deducted from the liabilities and own funds used for the fulfilment of the MREL.

### Calculation of REA for MREL purposes and liabilities available to meet MREL

At 31 December (DKK billions)	2018	2017
<b>Danske Bank Group REA</b>	750	753
Deduction for RD REA contribution to Group REA	-150	-161
REA adjustment for Danske Bank A/S exposure to RD		
Add-on for guarantees	31	31
Add-on for bonds, repos and derivatives	2	2
Add-on for RD equity (100% risk weight)	50	50
Deduction of RD capital and debt buffer requirements	-38	-40
Group REA adjusted for RD	643	634
MREL liabilities – Danske Bank A/S	256	260
Deduction for RD capital requirements	-24	-26
Deduction for RD debt buffer requirement	-14	-14
Available MREL liabilities in DKK	218	219
Available MREL liabilities as % of REA adjusted for RD	33.9	34.6

In 2017, the BRRD was amended to include an EU-harmonised approach to bank creditor insolvency rankings. This means the introduction of a new creditor class for credit and financial institutions. The creditor class covers “non-preferred senior debt” (NPS), that is, typically senior funding programmes fulfilling some specific requirements. The new creditor class will rank immediately below ordinary unsecured claims. The purpose of introducing a new creditor class is to improve the possibility to bail in such non-preferred senior debt in case of the resolution of the individual institution. In July 2018, these changes were implemented in Danish legislation with retroactive effect from 1 January 2018.

Institutions may use their available own funds (CET1, AT1 and T2 capital) as well as certain debt instruments for the MREL calculation, provided that they meet regulatory requirements. However, the Danish FSA stipulates that only liabilities and own funds that bear losses before other senior unsecured claims in resolution and insolvency may be included in the calculation for the fulfilment of the MREL (subordination requirement). This effectively means non-preferred senior debt (see above). Debt issued before 1 January 2018 that fulfils all the criteria for MREL-eligible liabilities and own funds (with the exception of the subordination requirement) may be included until 1 January 2022. The subordination requirement implies that the Group’s long-term funding need in the senior unsecured format will, to a large extent, be met by non-preferred senior debt issuance.

The Danish FSA’s current approach to the MREL is based on the Danish implementation of the EU crisis management directive (BRRD), and hence the framework for setting the MREL might be revised in the context of the ongoing legislative process to review the BRRD.

The following table shows the composition of the Group’s eligible liabilities that may be used for meeting the MREL

### Composition of the Group’s eligible liabilities\*

(DKK billions) ■ Senior preferred debt >1 year ■ NPS > 1 year ■ Own funds



\* “Senior preferred” is classified as eligible liabilities until 1 January 2022. Structured notes are included in eligible liabilities.

### 5.6.2 Basel IV

In December 2017, the Basel Committee on Banking Supervision (BCBS) published the final revised standards for REA calculations. The standards are also known as “Basel IV”. According to the BCBS, the standards are revised in order to restore credibility in REA calculations and to improve the comparability of the capital ratios of financial institutions. This will be done by

- enhancing the robustness and risk sensitivity of the standardised approaches for calculating the REA
- constraining the use of internal model approaches by introducing parameter floors under the internal ratings-based (IRB) approach and by removing the use of internal model approaches for credit valuation adjustment (CVA) and for operational risk
- introducing an output floor of 72.5% of the total REA measured by the revised standardised approaches

The BCBS recommends that the constraints on internal models and the revised standardised approaches be implemented from 2022. The output floor will be subject to a phase-in period from 2022 to 2027. The final EU implementation date is subject to the EU implementation process.

The Group supports the ambition of the BCBS to re-establish confidence in internal models. This is best achieved by addressing key concerns directly in the internal models and maintaining the risk sensitivity of the capital adequacy framework.

It is too early to firmly assess the effects of the changes since the political process to implement the recommendations in the EU has not yet been initiated, and the final outcome is subject to substantial uncertainty. However, on the basis of its strong underlying earnings capacity and capitalisation, the Group is confident that it will be able to adapt smoothly to the future changes in EU regulatory requirements in relation to Basel IV.

### 5.6.3 EU risk reduction measures – RRM package (CRD V, CRR II and BRRD II)

On 23 November 2016, the European Commission brought forward proposals to review CRD IV, CRR and BRRD. The changes include the implementation of the leverage ratio (LR), the net stable funding ratio (NSFR) and the fundamental review of the trading book (FRTB). In addition, the Commission aims to harmonise the Pillar II framework to ensure alignment with the international standards and further harmonisation towards a single rule book in the EU. In December 2018, EU co-legislators reached an agreement on the package. In respect of BRRD II, the agreed package implies changes to the future MREL as regards the size of the requirement, the composition of eligible liabilities and the phase-in of the requirement.

If formally adopted within the first half of 2019, the implementation will take place in 2021. In the light of the preliminary compromise text, the Group expects the CRR and CRD IV amendments to have a limited capital and REA impact on the Group.

As regards the LR, the agreed 3% minimum requirement for non-global SIFIs will not be binding on the Group since the risk-based requirement will be higher. Global SIFIs will be subject to an LR add-on equal to 50% of the G-SII buffer. In addition, the Commission is mandated to submit a report to the EU co-legislators on the appropriateness of an LR add-on for domestic SIFIs (O-SIFIs). As a non-G-SIFI, the Group will be subject to a 3% leverage ratio requirement.

In relation to the FRTB, the agreed CRR amendments relate to supervisory reporting standards only, so the existing market risk framework will continue to apply as a capital requirement in parallel with the new reporting. The implementation of the Basel FRTB standards (published on 14 January 2019) is likely to be proposed by the Commission by the end of June 2020.

### 5.6.4 Prudential backstop for non-performing exposures

In October 2017, the European Commission published a comprehensive package to address the high number of non-performing exposures (NPEs) in the European Union and to prevent future build-up. The package includes a prudential backstop for NPEs in the form of a deduction from own funds in the event that NPEs are not sufficiently covered by provisions or other adjustments. The capital deduction is contingent on the numbers of years the exposure has been non-performing and the level of provisions. The deduction will cover only new non-performing loans from the time of application. In December 2018, the European Parliament and the Council agreed on a final compromise. The date of application will be shortly after the publication of the final text, which is expected during the first or second quarters of 2019. The expected impact on the Group will be limited.

#### **5.6.5 New directive on covered bonds**

In March 2018, the European Commission published its legislative covered bond package. It consists of a proposal for a directive on covered bonds specifying the conditions that covered bonds must respect in order to be recognised under EU law as well as a proposal to amend the CRR as regards exposures to covered bonds. Among other things, the directive includes a cover pool liquidity buffer requirement and stipulates eligible cover pool assets. The proposal amending the CRR includes a new requirement of a minimum level of cover pool overcollateralisation. As the proposal, to some extent, introduces features that are already part of covered bonds legislation in Denmark, the impact on the Group is expected to be marginal. A final agreement is expected during the first half of 2019.

## *Insurance and pension risk*

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# 6.

## 6.1 Insurance risk management

Insurance risk consists of the risks originating from Danske Bank Group's ownership of Danica Pension, including market risk, life insurance risk and operational risk. The Group runs its life insurance and pension operations with the aim of providing best-in-class services to customers, while at the same time maintaining a predictable risk profile.

The insurance risk framework is governed by Danica Pension's Board of Directors. On a daily basis, Danica Pension's Risk Management function monitors the Board of Directors' risk limits as well as solvency capital requirements, follows up on investment limits and calculates key risk figures for asset-liability management (ALM) purposes.

### 6.1.1 Danica Pension's risks

Operating under the Solvency II rules, Danica Pension provides pensions as well as life and health insurance products in Denmark, Norway and Sweden.

#### Two types of life insurance products in Denmark

##### With-profits policies

Danish with-profits policies have a guaranteed benefit based on a technical rate of interest (currently 0.5% for new policies). The policyholders earn interest at a rate that is set for each year at the discretion of the life insurance company, and the rate can be changed at any time.

The difference between the actual (set) interest rate and the return on the policyholders' savings in a given year is added to the collective bonus potential and can be used as a buffer.

At Danica Pension, with-profits policies are called *Danica Traditional*.

##### Unit-linked policies

Unit-linked policies are policies in which investments are allocated to the policyholders, who can decide how to invest their pension savings themselves or let the life insurance company invest the savings.

For unit-linked policies, the policyholders receive the actual return on the investments rather than a fixed interest rate. The policyholders carry the entire investment risk unless a guarantee is attached to the policy.

Our main unit-linked product, *Danica Balance*, gives customers the option to have their benefits guaranteed.

As part of its product offerings, Danica Pension provides guaranteed life annuities; insurance against death, disability and accident; and cover against adverse investment returns. This exposes the Group to underwriting risks such as longevity and disability risk as well as to market risk.

Underwriting risk is the risk of losses from the insurance business. At Danica Pension, these risks are almost exclusively life insurance risks, and they arise naturally out of the business model. Most underwriting risks materialise over long time horizons during which the gradual changes in biometric factors deviate from those assumed in contract pricing.

Danica Pension has a large offering of life annuities that will pay fixed pension benefits during a policyholder's lifetime, and this makes longevity risk the most prominent type of underwriting risk for the Group. Most pension products come with life and disability insurance, which entails exposure to mortality and disability risk. Health and accident insurance contracts are typically shorter, so slowly materialising risks can be handled by means of repricing.

In with-profits policies, the customers bear the market risk, but in case of large losses where the customer buffers are depleted, Danske Bank A/S will have to step in with funds to ensure the benefits guaranteed to the customers. If the customers bear all the investment risk (unit-link), losses may reduce assets under management and thus deplete future asset management fees in the long term.

### 6.1.2 Governance and responsibilities

The general strategic goals and the risk management framework for Danica Pension are decided by its Board of Directors. It identifies the material risks to which Danica Pension is exposed and sets limits on measures of aggregate risk. The daily risk management activities are based on Danica Pension's risk management policy issued by the Board of Directors.

Danica Pension's risk management activities are overseen by its All Risk Committee, chaired by Danica Pension's chief risk officer (CRO), and it is responsible for monitoring the complete risk profile across all risk types and undertakings.

The All Risk Committee is supplemented by the Asset and Liability Management (ALM) Committee, which manages the risks arising from the differences in exposures between assets and liabilities and ensures that limits from the Board of Directors are not breached. The ALM Committee is chaired by Danica Pension's chief financial officer (CFO), and it has representatives from the risk, actuarial and investments functions.

### 6.1.3 Risk identification and assessment

#### Risks related to Danish with-profits products

The main risk source at Danica Pension is the Danish with-profits pension product. This product offers policyholders an annuity of a guaranteed minimum amount in nominal terms, but lets customers participate in a collective investment pool where returns may lead to higher benefits than those guaranteed. The present value of the guaranteed benefits depends on the level of interest rates used for discounting. If the value of the assets falls below this level, Danske Bank A/S as the only shareholder will have to cover the shortfall. Managing this product thus involves a combination of managing the risks on behalf of the policyholders and managing the risk that Danske Bank A/S will have to cover losses.

Danica Pension uses interest rate hedging to maintain customer buffers and considers any duration mismatch between assets and liabilities to be an active investment decision. The interest rate used for discounting the technical provisions is the Solvency II discount curve. It is based primarily on the EUR swap rate and also takes into account yields on Danish mortgage bonds and government bonds. It is not possible for Danica Pension to invest in instruments that completely hedge the liabilities using this discount curve, and therefore some basis risk remains. The level of the long end of the discount curve, for which no reliable market data are available, is determined by the European Insurance and Occupational Pensions Authority (EIOPA). The EIOPA updated the method for computing the volatility adjustment (VA) to the liquid part of the discount curve in 2018. The update took effect on 1 January 2019 and causes the Danish VA to decrease by around 12 bps. The change is not expected to have a material impact on the total provisions but will increase the solvency capital requirement (SCR) by DKK 1.1 billion.

Derivatives used for hedging may give rise to counterparty credit risk, but this is mitigated by requiring counterparties to provide full collateral and by using many counterparties with high ratings.

The guaranteed life annuities included in the with-profits product give rise to longevity risk. Danica Pension generally does not hedge this risk since it is a natural element of the business model, but rather focuses on prudent pricing of the risk.

Longevity risk is managed by means of an internal model approved by the Danish Financial Supervisory Authority (the Danish FSA) for use in solvency reporting. This model is based on the Danish FSA's life expectancy benchmark and longevity observations of Danica Pension's policy holders.

#### Risks related to unit-linked products

Approximately 80% of unit-linked policies have no financial guarantees. In these policies, the policyholders bear all the investment risk. In the rest of the unit-linked policies, which consist mainly of *Danica Balance* policies, the policyholders have investment guarantees. The guarantees do not apply until the time of retirement, and they are paid for by an annual fee.

The risk on these guarantees is managed by adjusting the asset allocation to high-risk assets for each individual policy. The adjustments ensure that sufficient funds are available to cover guarantees even after a substantial decline in asset prices.

Danica Pension's activities in Norway and Sweden accounted for 16% of its total provisions at the end of 2018. In these markets, Danica Pension offers mainly unit-linked products without guarantees, and this gives rise to relatively little risk.

### 6.1.4 Monitoring and reporting

Danica Pension continues to monitor sensitivities to various stresses from market and underwriting risks, and a number of these stresses are listed below. Losses borne by Danske Bank A/S in these scenarios are generally limited since most of the losses are absorbed by buffers or borne by the policyholders themselves.

#### Sensitivity analysis for Danica Pension

At 31 December 2018 (DKK billions)	Effect on shareholders' equity
Interest rate increase of 0.7-1.0 pct. point	0.1
Interest rate decrease of 0.7-1.0 pct. point	-0.3
Decline in equity prices of 12%	-0.3
Decline in property prices of 8%	-0.2
Foreign exchange risk (VaR 99.0%)	-
Loss on counterparties of 8%	-0.4

Monitoring and reporting on individual risks are performed by specialised functions and coordinated by the All Risk Committee.

## 6.2 Insurance risk profile

The Danish market for pension products continues to be competitive, with little prospect of increases in total market volume. The market is dominated by a small number of large commercial and mutual pension insurance companies with similar product offerings.

The low-yield market environment does not directly influence the short-term financial stability of Danica Pension because the interest rate risk on all liabilities is hedged, and there are no major differences in the interest rate sensitivities for accounting and solvency purposes. The main difficulty lies in a slower build-up of assets under management and customer buffers, which may adversely affect income in the longer run.

### Danica Pension's balance sheet broken down by business segment

At 31 December 2018 (DKK billions)	With-profits contracts	Unit-linked	Health and accident insurance	Other
Profit margin	2.4	5.5	-	-
Collective bonus potential	11.7	-	-	-
Individual bonus potential	1.2	-	-	-
Other provisions	157.8	254.3	13.8	11.3
<b>Provisions for insurance and investment contracts</b>	<b>173.0</b>	<b>259.7</b>	<b>13.8</b>	<b>11.3</b>

Over the past couple of years, Danica Pension has increased its involvement in alternative investments in an effort to improve the match between investments and the long-term and illiquid insurance liabilities. Over time, Danica Pension expects alternative investments to yield better returns than those generated by comparable investments in liquid assets. This will improve financial outcomes for both customers and Danica Pension.

#### How Danica Pension's results affect the Group's income statement

Danske Bank A/S owns Danica Pension, and Danske Bank's financial results are thus affected by Danica Pension's financial position. Earnings from Danica Pension consist mainly of the risk allowance from with-profits policies, the investment return on Danica Pension's equity capital and income from the administration of unit-linked policies.

The risk allowance is the annual return that Danica Pension may book from its with-profits business. The policyholders are grouped according to the technical interest rate, and for each group Danica Pension may book a percentage of assets under management. These percentages range from 0.4% to 0.9%. The risk allowance can be booked only as long as there is a collective bonus potential or profit margin available.

### 6.2.1 Main developments in 2018

On 7 June 2018, the acquisition of SEB Pension was approved by the Danish regulatory authorities. The process of integrating the acquired business activities with 200,000 policyholders and more than 250 employees has commenced and is expected to be finalised during the second quarter of 2019.

A clear strategy has been established for the integration process. The main focus is on achieving economies of scale, harvesting the expected synergies and ensuring a safe and meaningful transformation for both customers and employees. A clear project organisation has been set up, and a strong governance process is in place to ensure a successful integration. All identified material risks are reported on an ongoing basis to the project steering committee and Danica Pension's All Risk Committee. To mitigate these risks as much as possible, early communication plans have been prepared with the objective of keeping customers well informed.

## 6.3 Capital and solvency

The prudential supervision of Danica Pension is governed by the Solvency II framework, which provides for EU-harmonised solvency rules in the insurance sector. Solvency II imposes risk-based capital requirements and prescribes an economic valuation of assets and liabilities that may differ from statutory accounting. Danica Pension's capital includes a tier 2 subordinated loan issued in 2015.

## Danica Pension's solvency ratio

At 31 December 2018 [DKK billions]

Shareholders' equity	18.9
Differences in valuation between accounts and Solvency II	3.1
Subordinated liabilities	3.8
Foreseeable dividends	-
Eligible own funds for covering the solvency capital requirement	25.8
Solvency capital requirement	13.4
Solvency ratio [%]	193

Danica Pension's solvency ratio was 193% at the end of 2018, down from 227% at the end of 2017. The change reflects the acquisition of SEB Pension in 2018 in particular.

## 6.4 Pension risk management

Pension risk arises from Danske Bank Group's liability for defined benefit pension plans established for current and former employees. For accounting purposes, defined benefit pension plans are valued in accordance with IFRSs (IAS 19). The Group's risk management strategy is for the plans to maintain a high concentration of fixed income assets that match liabilities to a high degree.

The Group's defined benefit plans are funded by contributions from the Group and by individual contributions from employees. Each pension plan is managed by a separate supervisory board.

The Group monitors interest rate sensitivities and manages them within set boundaries. It uses derivative instruments as an additional tool to manage interest rate risks.

Market risk on pension plans is managed according to special follow-up and monitoring objectives. Procedures are in place to be followed in case of deviations from these objectives. Due to the complexity of pension obligations, the normal limit structure is not used for monitoring pension risk.

The All Risk Committee has defined risk targets for the Group's pension funds. To follow up on the objectives, the Group prepares quarterly risk reports that stress the individual plans' net obligations calculated on the basis of swap rates rather than actuarial discount rates. These levels are used in the Group's VaR model.

## 6.5 Pension risk profile

### 6.5.1 Pension plans

The Group's defined benefit pension obligations consist of pension plans in Northern Ireland, the Republic of Ireland and Sweden as well as a number of small pension plans in Denmark. In addition, the Group has unfunded defined benefit pension plans that are recognised directly in the balance sheet. All plans are closed to new members.

### Overview of the Group's pension plans

At 31 December 2018		Northern Ireland	Ireland	Denmark	Sweden
		Defined contribution	Cash balance	Defined contribution	Defined contribution
Pension plan for new employees					
Status of defined benefit pension plan		Closed to new members in 2004	Closed to new members in 2008	Closed to new members	Closed to new members in 2013
Gross liability [DKK millions]		9,348	3,828	765	1,838
Assets at fair value [DKK millions]		10,598	4,135	201	1,829
Net assets (net liabilities) [DKK millions]		1,250	307	-564	-9
Number of members:	Active	-	26	109	794
	Deferred	2,315	832	-	1,435
	Pensioners	2,368	571	159	731
	<b>Total</b>	<b>4,683</b>	<b>1,429</b>	<b>268</b>	<b>2,960</b>

Note: In Norway, Finland and the Baltics, the Group operates defined contribution plans under which it pays fixed contributions into separate, legally independent entities and afterwards has no further obligations. The Group wound up its Norwegian defined benefit plan in 2005, but still has an early retirement pension obligation. The obligation amounted to DKK 22 million at 31 December 2018. During 2016, part of the pension risk was transferred to Danica Pension in the form of a qualifying annuity covering pension liabilities of DKK 710 million. The annuity represents a pension plan asset and is eliminated in the financial statements of Danske Bank Group.

At the end of December 2018, the Group's VaR was DKK 1,253 million (2017: DKK 1,394 million).

The aggregate net pension obligation at the end of December 2018 was DKK -962 million (that is, the Group had net pension assets of DKK 962 million), against DKK -1,977 million a year before.

#### Defined benefit pension plans

At 31 December 2018 (DKK millions)	2018	2017
Present value of unfunded pension obligations	131	149
Present value of fully or partly funded pension obligations	15,670	16,672
Fair value of plan assets	16,763	18,798
<b>Aggregate net pension obligation</b>	<b>-962</b>	<b>-1,977</b>

At 31 December 2018, the net present value of pension obligations was DKK 15,801 million (2017: DKK 16,672 million), and the fair value of plan assets was DKK 16,763 million (2017: DKK 18,798 million). The present value of obligations under defined benefit plans less the fair value of pension assets is recognised for each plan under 'Other assets' and 'Other liabilities'. Pension plan net assets amounted to DKK 1,607 million (2017: DKK 2,126 million), and pension plan net liabilities amounted to DKK 645 million (2017: DKK 149 million). The Group recognises service costs and interest on the net defined benefit assets and liabilities in the income statement, whereas actuarial gains or losses are recognised under 'Other comprehensive income'.

#### 6.5.2 Liability recognition

The Group's defined benefit pension plans contain provisions stipulating the pension benefits that the individual employee will be entitled to receive on retirement. The Group's obligation is thus recognised as a balance-sheet liability subject to valuation. As the pension benefits will typically be payable for the rest of the employee's life, this increases the Group's uncertainty about the amount of future obligations since the liability and pension expenses are measured actuarially.

Various assumptions need to be made. Some are financial (such as the discount rate used for calculating the net present value of the pension cash flows and rates of salary and pension increases); and some are demographic (such as rates of mortality, ill health, early retirement and resignation).

The Group calculates the market risk on defined benefit plans on a quarterly basis. The risk is expressed as VaR at a confidence level of 99.97% and on a one-year horizon. In this scenario, equity price volatility and the correlation between interest rates and equity prices are set at values reflecting normal market data. The duration of the pension obligations is reduced by half to take into account inflation risk. This is a widely accepted proxy that is also used by the Danish Financial Supervisory Authority (the Danish FSA), among others. The calculations are subject to ongoing review in order to ensure that the values of the volatility and correlation parameters are set appropriately.

Danske Bank Group uses the VaR model when advising life insurance and pension customers. The model discounts expected future pension payments on the basis of a "risk-free" swap rate rather than the high-quality corporate bond yield currently used under IFRSs. The model also incorporates actuarial assumptions about longevity, salary growth and inflation in the calculation. The portfolio plan assets as well as their duration and the convexity are also included in the model.

In addition, for each pension plan, the calculations include the sensitivity of the net obligation to changes in interest rates, equity prices and life expectancy (see the table below).

#### Sensitivity analysis of the Group's net obligation

(DKK millions)	Change	Effect, 2018	Effect, 2017
Equity prices	-20%	-360	-526
Interest rates	+1%/-1%	+393/-152	+665/-220
Life expectancy	+1 year	-330	-354

Pension obligations are measured in the Group's solvency calculations at fair value. Pension risk is covered by the ICAAP, and it is measured by VaR at a confidence level of 99.9% and on a one-year time horizon.

# *Non-financial risk*

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## 7.1 Introduction to non-financial risk

Non-financial risk is described in the same context as how the Danish Executive Order on Management and Control of Banks defines operational risk: the risk of losses resulting from inadequate or failed internal processes, people and systems or from external events, including legal risks.



## 7.2 Non-financial risk management

The Group's approach to non-financial risk management is set out in policies, directives and instructions as established by the Board of Directors on an annual basis. The Operational Risk Policy lays out the responsibilities for managing non-financial risks across the three lines of defence as described in section 2.

The Group's second-line-of-defence operational risk function has oversight of all non-financial risks and will conduct stress testing in order to provide input to regulatory reports and industry-wide stress tests. Results may be used as an input for assessing the adequacy of non-financial risk capital.

Non-financial risk is managed within tolerance limits set to ensure that such risk does not cause material damage to the Group when it pursues its business strategy. The Group focuses on top risks, which are determined by the inherent risk rating since this is the realistic worst outcome of a potential failure. Thus, this constitutes the level of gross risk exposure to the Group. The approach to non-financial risk management is ongoing, forward-looking and designed to identify possible breakdowns in the Group's activities to mitigate risks. Priority is given to risks in the order of their materiality. The Group continues its efforts to improve processes and implement more effective controls to maintain an optimal balance between risks related to customer experience and the costs of control.

## 7.3 Governance and responsibilities

The Operational Risk Committee (ORCO) is a sub-committee of the Group All Risk Committee and meets on a monthly basis to oversee the implementation and maintenance of the group-wide framework to manage non-financial risk.

## 7.4 Monitoring and reporting

Top risks and notifiable events are reported to and monitored by the ORCO on a regular basis. The Executive Board will notify the Danish Financial Supervisory Authority (the Danish FSA) of significant losses, including near misses, and will notify the relevant local FSAs, where applicable. The requirements for appropriate and timely internal reporting across the Group to the Executive Board and the Board of Directors are set out in the Escalation Policy.

Semi-annually, the Group's non-financial risk loss events are reported to the Danish FSA on the basis of the European Banking Authority's standards for common reporting (COREP). Annually, non-financial risk is assessed within the scope of the Group's Internal Capital Adequacy Assessment Process.

## 7.5 Non-financial risk profile

The Group standards require group-level aggregation and monitoring of the non-financial risk profile against risk tolerance. The non-financial risk profile comprises two core components: monetary losses stemming from non-financial risk events and non-financial risk exposures derived from continuous risk assessments.

Non-financial risk events are operational risks that have occurred and may have caused:

- a financial loss (a loss event)
- a regulatory, reputational or customer impact (a non-financial event)
- a potential loss which was rapidly recovered (a near-miss event)

Losses are quantified as gross losses and net losses (that is, the gross loss less the amount recovered).

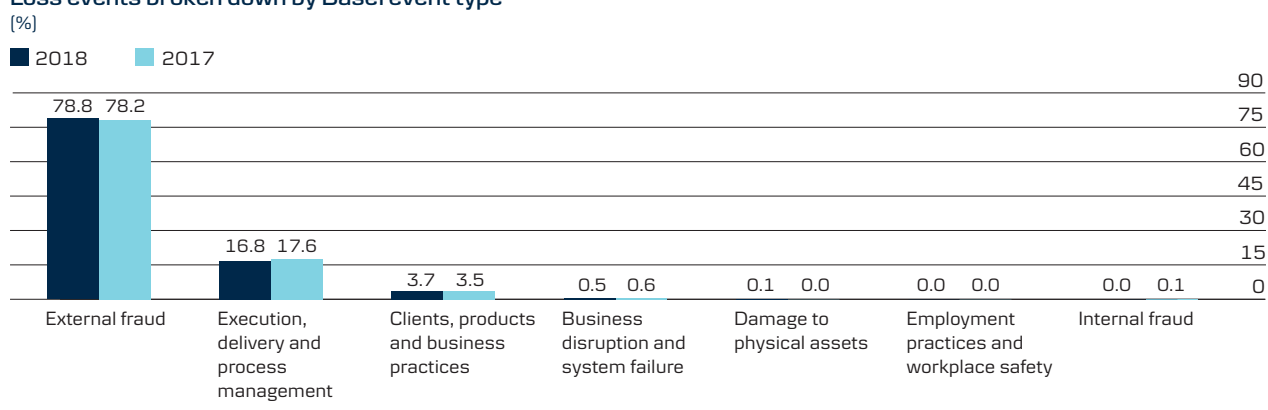
In accordance with the Group's Escalation Policy, significant losses, non-financial events and near-miss events are escalated to the Executive Board and the Board of Directors as well as to regulators, where applicable.

Non-financial risk exposures are monitored for both inherent risk and residual risk. These are potential risks identified by the Group for the purposes of management and prioritisation. The risks are rated on the basis of the following risk assessment standard and matrix:

- Inherent risk: the realistic worst outcome of a potential failure in a process, system or activity
- Residual risk: the risk remaining after assessment of the design and operational effectiveness of controls to mitigate the causes of inherent risk

The following charts provide an overview of the Group's loss events and amounts broken down by Basel event type.

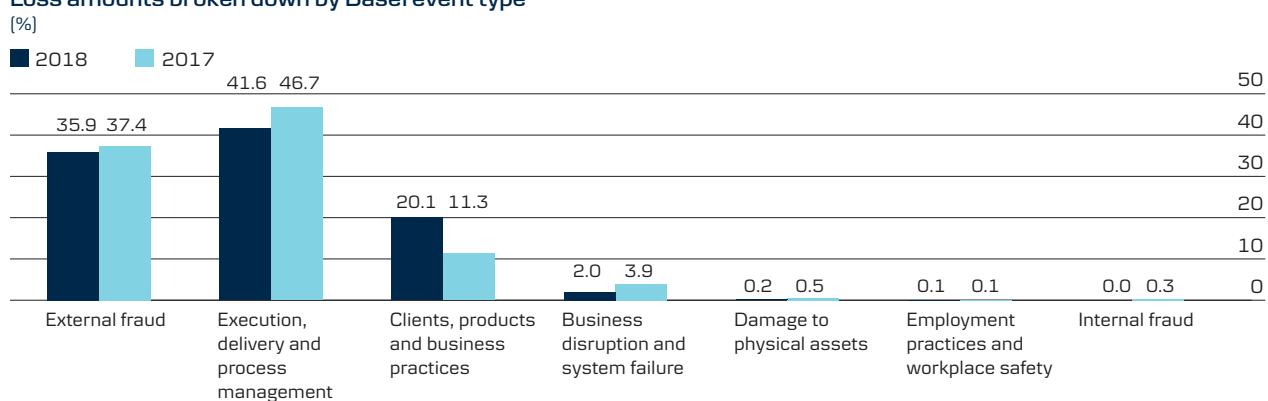
#### Loss events broken down by Basel event type



Note: The chart shows non-financial risk loss event distributions broken down by Basel event type, as reported for COREP reporting.

Measured by the number of loss events, two risk types accounted for the majority of loss events in 2018: External Fraud accounted for 78.8% and Execution, Delivery and Process Management for 16.8%. The slight increase in External Fraud events was due to high-frequency and low-value events. The majority of these events were card and payment frauds. A number of initiatives are in place to mitigate these risks further.

#### Loss amounts broken down by Basel event type



Note: The chart shows non-financial risk loss amount distributions broken down by Basel event type, as reported for COREP reporting.

In 2018, External Fraud and Execution, Delivery and Process Management also accounted for the majority of the actual losses incurred (35.9% and 41.6%, respectively). Some of the improvements recognised were the result of initiatives taken to strengthen controls and the implementation of robotics.

## 7.6 Developments in 2018

The continued strengthening of the Group's ERM framework reinforced processes and created more awareness of non-financial risks in 2018. In particular, we made strong progress within the areas of compliance, IT security and model risk.

### Compliance

Conduct risk has risen to the top of the agenda of financial institutions and regulators in recent years. We acknowledge that the cost of breaching Behavioural and Conduct standards is high since it may damage the trust among investors and customers. Significant projects implementing MiFID II and GDPR in 2018 helped improve the Group's mitigation of conduct risk and enhance the protection of customers.

Furthermore, the Group took a number of initiatives to fight financial crime in 2018. To ensure alignment and coherence for financial crime processes, the central AML Utility unit in the first line of defence was expanded and now has almost 1,000 full-time employees. We enhanced customer due diligence processes and strengthened procedures to handle unusual activity alerts. Furthermore, we improved the coverage of transaction monitoring and transaction screening technologies and developed an enhanced customer risk rating model set for deployment in early 2019. Towards the end of 2018, the Group decided to carry out an external review of its AML programme to evaluate, improve and set the direction for the Group's fight against financial crime in the coming years.

In addition, the Compliance organisation was strengthened by the decision to include the new Chief Compliance Officer, Philippe Vollot, on the Executive Board.

To build the necessary level of knowledge across the organisation, the Group carried out a significant number of training sessions for all employees in 2018. At all times, we strive to treat customers fairly, ensure fair and transparent markets and handle data responsibly.

### IT security

The Security Policy covers requirements for physical and IT security as well as procedures for the investigation and mitigation of risks and for the reporting of breaches to relevant authorities and data subjects.

IT risks continue to be a high priority for the Group. In 2018, a number of assessments and investments were made to ensure continuous improvement of the Group's cybersecurity capabilities. External security assessments were made with two leading companies. The scope of the assessments was to make a comparison with international security standards (ISO standards and a security assessment of incident response readiness). The investments focused on reducing the risk of core network vulnerability. We regularly perform vulnerability scans on our public interfaces and systems using authorised simulated computer attacks.

The chief information security officer (CISO) participates in and oversees the implementation of robust IT measures across the organisation. The CISO reports functionally to the chief technology officer (CTO) and the chief operations officer (COO). To further strengthen expertise within the area of IT security and risk, the Group appointed a new CISO with international experience to take up office in January 2019.

Group activities over the past four years include

- establishing the Security Operation Centre in 2015 (running 24/7/365)
- establishing a Security Incident Response Team in 2015 (on call 24/7/365)
- extending the capability to detect and respond to security incidents
- streamlining the patching process across IT platforms to mitigate vulnerabilities effectively

In 2018 in particular, we

- focused on access management to ensure that access to customer data is provided only on a need-to-know basis
- improved our Distributed Denial of Service mitigation capabilities
- developed and executed a fraud mitigation strategy
- largely expanded the IT Security organisation with new professional staff across multiple sites and teams

We see an increasing tendency for cybercriminals to target customers. We are committed to using our knowledge and expertise to educate and enable customers to better protect themselves. In 2018, we continued our efforts in communication campaigns to inform customers of typical methods used by cybercriminals. The focus of our "Keep it Safe" initiative was to provide customers in all countries with information about cybersecurity and fraud. The Group offers antivirus software and anti-phishing measures to small-scale business customers.

Internally, we carry out mandatory security training for all employees in order to ensure sufficient knowledge on topics such as social engineering and information security. Employees are occasionally subjected to campaigns of internal phishing attacks for the purpose of increasing their ability to identify a real phishing attack.

The Group is committed to helping strengthen the overall resilience to cybercrime and fraud across the Nordic countries. On the back of the successful establishment of the Nordic Financial Computer Emergency Response Team (NFCERT) in 2017, the Group continues its cooperation within the Nordic community. In 2018, enhanced collaboration and capabilities were introduced to detect and respond to cyberattacks. The Group now automatically delivers threat intelligence to the NFCERT platform and thus contributes to faster detection and prevention. The Group's employees are active members in forums for threat intelligence and fraud information sharing. Moreover, the Group works with strategy groups within NFCERT to drive the development of new services.

We consider it our responsibility to protect not only individual customers but also society as a whole. As the threat level increases, we have established a united front within the financial industry against cybercrime and fraud. This reaches a Nordic level through the various initiatives under NFCERT. The Group is also a member of the steering committee of the Danish forum against economic IT crime founded by the Danish Police. In addition, the Group participates in Europol's European Cybercrime Centre. Danske Bank is a member of the Advisory Group on Financial Services and the European Payments Council's Card Fraud Prevention Forum.

### **Model risk**

Another area of high focus is model risk. In 2018, model risk management was further developed with the establishment of the Model Risk Management Committee under the Group All Risk Committee as outlined in section 2. The committee is chaired by the Group chief risk officer (CRO). In addition, a new model risk management function was established, and a person with international experience in model risk management was hired to head the unit. A renewed Model Risk Policy covering all model areas within the Group was approved by the Board of Directors in the third quarter of 2018.

Going forward, the development of our model risk framework will continue to support our ambition to embed strong model governance with a comprehensive and holistic approach to model risk in the organisation.

# *Management declaration*

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## 8.1 Management declaration

According to article 435(1) of the Capital Requirements Regulation (CRR), Danske Bank must publish a declaration and a risk statement approved by its management body (the Board of Directors):

- Board declaration: a declaration approved by the management body on the adequacy of the risk management arrangements of the institution providing assurance that the risk management systems put in place are adequate with regard to the institution's profile and strategy.
- Risk statement: a concise risk statement approved by the management body succinctly describing the institution's overall risk profile associated with its business strategy. This statement must include key ratios and figures providing external stakeholders with a comprehensive view of the institution's management of risk, including how the risk profile of the institution compares with the risk tolerance set by the management body.

### Board declaration

In accordance with the responsibilities of a company's board of directors as stipulated in the Danish Executive Order on Management and Control of Banks, Danske Bank's Board of Directors assesses the Group's individual and overall risks on an ongoing basis and at least once a year in the form of a comprehensive report from the Executive Board. The Board of Directors finds that the Group has adequate risk management arrangements in place with regard to the Group's risk profile and strategy.

### Risk statement

Danske Bank is a Nordic universal bank offering a full range of financial and banking services to personal, business and institutional customers across the Group's home markets. The Group has a diversified business model which spreads across various industries, customer types and countries.

At the end of December 2018, the Group's solvency need amounted to 11.8% of its total risk exposure amount (REA).

Credit risk is managed in accordance with the Group's credit risk framework, Credit Policy, and Credit Instructions. The Group operates with a credit risk appetite to limit impairment volatility and manage credit risk concentrations (limits on single names, industries and geographical regions). Risk reporting enables ongoing monitoring of the Group's credit risk profile to ensure that it remains in line with the credit risk appetite.

The Group's market risk comprises trading-related market risk, non-trading-related market risk and market risk related to fair value adjustments (xVA). Market risk is managed in accordance with frameworks and risk limits set in the Market Risk Instructions. The Group operates with a market risk appetite for its trading-related activities.

The Group manages its liquidity on a daily basis by using risk indicators, risk triggers and risk policies as defined in the Liquidity Instructions and the Liquidity Policy and Appetite. These documents define the limits and methods of calculating liquidity risk and set the overall principles and standards for the Group's liquidity management. Throughout 2018, the Group's liquidity reserve decreased, but remained above target levels. At the end of December 2018, the Group's liquidity coverage ratio was 121% – well above the regulatory minimum requirement. The Group's long-term debt was rated A/A/A2 (S&P/Fitch/Moody's) at the end of December 2018.

As a result of increased capital requirements, the Group reassessed its capital targets in the second half of 2018. The Group set the target for its common equity tier 1 (CET1) capital ratio at around 16% and the target for its total capital ratio at above 20%. At the end of December 2018, the Group's total capital ratio was 21.3%, and its CET1 capital ratio was 17.0%.

The Group's approach to non-financial risk management is set out in directives and instructions as set by the Board of Directors on an annual basis. The Group manages non-financial risk within tolerance limits set to ensure that such risk does not cause material damage to the Group when it pursues its business strategy. Events related to execution, delivery and process management as well as external fraud accounted for the majority of loss amounts in 2018.

### BOARD OF DIRECTORS

Karsten Dybvad  
*Chairman*

Carol Sergeant  
*Vice Chairman*

Jan Thorsgaard Nielsen  
*Vice Chairman*

Lars-Erik Brenøe

Thorbjørn Lundholm Dahl

Rolv Erik Ryssdal

Ingrid Bonde

Hilde Tonne

Kirsten Ebbe Brich

Bente Bang

Charlotte Hoffmann

Jens Due Olsen

Other Danske Bank Group publications, available at [danskebank.com/ir](https://danskebank.com/ir):



Annual Report 2018



Governance Report 2018



Corporate Responsibility 2018

