Nordea

Capital and Risk Management Report 2018

Provided by Nordea Bank Abp on the basis
of its consolidated situation

Nordea board of directors' risk statement

Nordea's business model is well diversified with credit risk representing the largest risk category, at 86% of REA.

The Nordea Group

The Nordea Group is the largest financial services group in Northern Europe and a major European bank with a market capitalisation of approximately EUR 30bn, total assets of EUR 551bn and a CET1 capital ratio of 15.5%. The Group is a prominent Nordic retail bank, the number one wholesale bank and the largest private bank, asset manager and life and pension provider in the Nordic region.

Nordea has many established branch locations and call centers in all Nordic countries and the highly competitive online and mobile banking platforms give the Nordea Group the largest distribution network in the Nordic region. Nordea Group furthermore has the largest customer base of any financial services group in the Nordic region with approximately 9.3 million household customers and around 0.6 million corporate customers.

Risk Appetite

Nordea currently has the following capital ratios: CET1 capital ratio of 15.5%, Tier 1 capital ratio of 17.3% and own funds ratio of 19.9%. Risk capacity is set on an annual basis as the maximum level of risk Nordea is deemed able to assume given its capital, its risk management and control capabilities, and its regulatory constraints. The risk appetite within Nordea is defined as the aggregate level and types of risk Nordea is willing to assume within its risk capacity, and in line with its business model, to achieve its strategic objectives. Regular controlling and monitoring of risk exposures is carried out to ensure that risk taking activity remains within risk appetite.

Key risks in Nordea's operations

Nordea has a well-diversified business model. Risks are spread over a number of countries, industries and customer types. Most of Nordea's risks originate from Wholesale Banking, Commercial & Business Banking and Personal Banking, representing approximately 86% of the total risk exposure amount (REA). The remainder originates mainly from Group Functions.

Credit risk (including Credit Value Adjustment risk) is Nordea's dominant risk category representing approximately 86% of REA. Total credit risk losses during 2018 were approximately EUR 202m compared to REA of EUR 133.3bn attributed to credit risk at end Q4 2018. For credit risk, Nordea aims to have a well-diversified credit portfolio that is adapted to the structure of Nordea's home markets and economies. Credit risk appetite statements are defined in terms of credit risk concentration (limits for single names, specific industries and geographies), long-term credit quality (expected loss), short-term forward-looking credit quality (loan losses under plausible stress scenarios), non-performing loan ratio, and limits addressing specific sub-portfolios and financing structures.

Corporate and retail exposures currently represent 49% and 19% respectively of Nordea's total REA. The housing markets overall as well as the general portfolio quality of the corporate segments are currently stable, and loan losses remain at a low level in all of Nordea's markets. However there are clear downside risks considering world economic developments, such as BREXIT, Italy fiscal fallout, trade war. Within the corporate segment, the largest exposures in terms of REA are towards real estate and shipping and offshore.

Operational risk is Nordea's second largest risk category representing 11% of REA. During 2018 total losses due to operational risks were approximately EUR 16m compared to REA of EUR 16.5bn attributed to operational risk at end Q4 2018. Operational risk appetite statements are defined in terms of residual risk level and management of operational risks, total loss amount of incidents and management of incidents and management of key risk indicators.

Market risk is the third largest risk category within Nordea, representing 4% of REA. Income derived from market risk positions counterbalanced and reflected the risks taken in 2018. Market risks are governed in the risk appetite framework by limits on VaR, economic value, stressed losses on trading and banking books, including structural FX, in terms of the maximum reported market risk loss within one year in a severe but plausible stress event equivalent to an impact on the Common Equity Tier 1 (CET1) ratio.

Nordea adheres to a liquidity risk appetite whereby there must be sufficient liquidity to cover potential cash outflows during a stress event. Specifically, the liquidity risk appetite is set such that Nordea holds a liquidity buffer which is sufficient to (1) survive at least three months under a combined institution-specific and market-wide liquidity stress scenario with limited mitigation actions; (2) ensure an internal LCR (based on internal stress tests) of at least 105 % according to Risk Appetit Framework (RAF) limit; and (3) ensure a regulatory LCR of at least 105%. Throughout 2018, Nordea maintained a strong liquidity position with all metrics remaining well above risk appetite thresholds.

Material transactions

During 2018, no transactions of a sufficiently material nature to impact on Nordea's risk profile or the distribution of risks on the Nordea Group were carried out.

Board of Directors' approval of the risk statement

Nordea Board of Directors' has approved this risk statement and acknowledge that Nordea Group's risk management arrangement is adequate and well adopted to Nordea Group's Business Model, risk appetite and capital position.

Key risks: Distribution of exposure, Risk Exposure Amount (REA), capital requirement and Economic Capital (EC)in Business Areas

	EURbn	Exposure	%	REA	CAR	%	EC	%
Total Nordea Group	Credit risk[1,2]	476.2	100%	133.3	10.7	86%	17.9	67%
	Market risk			6.1	0.5	4%	1.6	6%
	Operational risk			16.5	1.3	11%	3.1	12%
	Nordea Life & Pension						1.5	6%
	Other[3]						2.5	9%
	Total	476.2	100%	155.9	12.5	100%	26.6	100%
Personal Banking	Credit risk[12]	163.0	100%	35.9	2.9	87%	5.2	63%
	Market risk			0.0	0.0		0.1	1%
	Operational risk			5.4	0.4	13%	0.9	11%
	Nordea Life & Pension						0.3	4%
	Other[3]						1.7	21%
	Total	163.0	34%	41.3	3.3	27%	8.2	31%
Commercial & Business Banking	Credit risk[12]	95.2	100%	40.7	3.3	91%	5.1	79%
	Market risk			0.0	0.0		0.0	0%
	Operational risk			3.4	0.3	9%	0.6	9%
	Nordea Life & Pension						0.0	1%
	Other[3]						0.7	10%
	Total	95.2	20%	44.1	3.5	28%	6.4	24%
Wholesale Banking	Credit risk[1]	83.8	100%	39.0	3.1	80%	5.4	68%
	Market risk			5.4	0.4	8%	0.8	10%
	Operational risk			3.9	0.3	11%	0.7	8%
	Nordea Life & Pension						0.0	0%
	Other[3]						1.0	13%
	Total	83.8	18%	48.3	3.9	31%	7.9	30%
Asset & Wealth Management	Credit risk[1]	11.0	100%	3.8	0.3	69%	0.3	15%
	Market risk			0.0	0.0		0.0	1%
	Operational risk			1.7	0.1	31%	0.3	16%
	Nordea Life & Pension						1.2	61%
	Other[3]						0.1	7%
	Total	11.0	2%	5.5	0.4	4%	1.9	7%
Group Functions, Other and Eliminations	Credit risk[1,2]	123.2	100%	13.8	1.1	88%	1.9	88%
	Market risk			0.6	0.1	0%	0.7	33%
	Operational risk			2.1	0.2	12%	0.6	29%
	Nordea Life & Pension						0.0	0%
	Other[3]						-1.0	-49%
	Total	123.2	26%	16.6	1.3	11%	2.1	8%

[1] Includes CVA Risk, securitisation positions and other credit risk adjustments

[2] Includes Article 3 buffer of EUR 0.15bn

[3] Capital deductions and internal allocations

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	Page in Part 1	Page in Part 2	REA, EURm	Minimum capital requirements, EURm
Governance of risk and capital management		167		
Credit risk	27	171	110,067	8,985
Counterparty credit risk	80	178	7,602	608
Securitisation	95	192	1,648	132
Market risk	98	180	6,048	484
Operational risk	112	187	16,487	1,319
Other	129		14,034	943
Liquidity	114	190		
Nordea Life and Pension	156	197	Not applicable	Not applicable
Pillar 1 Total			155,886	12,471

List of tables in Part 1

Introduction

Executive summary

The macro development in the Nordics has been healthy in 2018, but there are clear signs of increased uncertainty, especially in Sweden where housing market uncertainty impacted investment and private consumption growth. In recent years, Nordea has proactively de-risked the bank, refocused on core Nordic activities and maintained strict underwriting discipline in lending. This, combined with a record-strong balance sheet, creates comfort that the bank can manage successfully through the cycle. On 1 October 2018, Nordea completed the re-domiciliation process of the parent company from Sweden to Finland, to move into the Banking Union. Transitional arrangements are agreed upon with European Central Bank (ECB) for the period until the SREP decision from ECB in 2019.In 2018, Nordea delivered a higher net profit and with an operating profit of EUR 4.0bn, further strengthened credit quality and increased return on equity to 9.7% comparing to last year. Nordea continues to be committed to maintaining its AA rating, with focus on profitability, solid quality in its well-diversified credit portfolio, a strong capital position and a diversified funding base.

Common equity Tier 1 (CET1) capital ratio

15.5%

With unchanged capital strength, decreased CET1 ratio due to the change to ECB supervision and the introduction of certain internal rating based (IRB) floors.

Total capital ratio

19.9%

With issuance of Tier 2 bonds in USD, SEK and NOK, total amount of equivalent to approx. EUR 700m.

Net loan loss ratio

7bps

Net loan loss ratio improved further during the year (12 bps last year).

Credit risk exposure change

+/-0%

Flat in Credit risk exposure to EUR 476bn (EUR 475bn).

Liquidity coverage ratio

185%

Group LCR increased to 185% in 2018 (147%).

Re-domiciliation of the parent company from Sweden to Finland

On 1 October 2018, the re-domiciliation process of the parent company of Nordea Bank from Sweden to Finland was completed through a downstream merger, with the main rationale being to move into the Banking Union and thereby obtain more stable banking environment and regulations. The parent company is now the Finnish company Nordea Bank Abp. Following the re-domiciliation, the overall supervisory responsibility for the Nordea Group moved to the ECB.

Solid capital ratios – now under ECB supervision

As part of the ECB permission for continued use of the internal models for calculation of risk exposure amount (REA), Nordea was required to migrate parts of the previous Pillar 2 add-ons into Pillar 1, including the Swedish risk weight floor on residential mortgages. In addition, the decision imposed limitations to certain models within Credit and Market risk. As a result, REA increased by EUR 35.8bn (of which EUR 10.6bn was Swedish risk weight floors) which was the main driver behind the decrease of the CET1 ratio to 15.5% by the end of 2018 compared to 19.5% in 2017, and of the total capital ratio to 19.9% compared to 25.2% in 2017. Nordea has voluntarily committed to comply with the nominal capital requirements from the 2018 SREP until the ECB issues its SREP decision in 2019. This commitment amounts to 21.7bn in CET1 capital, equivalent to 13.9% of REA. The Nordea Bank Board has also decided to adjust the Group's capital policy to reflect the transitional capital regime. The management buffer has been adjusted to a range of 40 – 120 bps from 50-150bps previously, while being unchanged in nominal terms.

Continued improved credit quality with a net loan loss ratio of 7bps

Nordea's credit quality remained solid and improved further in 2018 with stable rating and scoring migration. Net loan loss ratio was 7bps, decreased from last year's 12bps, and was well below Nordea's long-term average of 16bps. Sustained stabilisation in the offshore and oil services portfolios and stable development was seen in the corporate and household portfolios in all Nordic countries. Continuing last year, de-risking has been conducted in Russia and shipping and offshore. The impaired loans ratio decreased to 1.82% from 1.86%, while credit risk exposures remained flat at EUR 476bn from last year's EUR 475bn. The Group's consolidated market risk is mainly assessed and measured by VaR. VaR remained at a relatively low level throughout 2018, with EUR 18m contribution from the trading book and EUR 38m from the banking book.

Strong funding and liquidity position, all rating outlooks stable – at AA-level

Nordea maintained its solid liquidity risk position and its strong name in the funding markets. Nordea was able to actively use all funding programs during 2018 and started to issue senior non-preferred (SNP) bonds, with a total amount of equivalent to EUR 2.6bn. Approximately EUR 23bn was issued in long-term debt during 2018 (excluding Danish covered bonds) comparing to 15bn last year Nordea had a strong liquidity coverage ratio (LCR), with an LCR at year-end on Group level of 185%, 257% in EUR and 214% in USD. All three major senior unsecured issuer ratings are at AA-level with stable outlook.

Key metrics

Overall decrease in available capital driven by lower retained and net profit of the year, directly decreasing CET1 capital by EUR 0.4bn. REA increased by EUR 30.1bn year-on-year as a result of Swedish risk weight floor moving from Pillar 2 to Pillar 1 as well as ECB's decision on allowing for continued use of the internal models in Q4 2018. Ultimately, the latter effect is the main reason for a generalised decrease in capital ratios. In particular, the CET1 ratio decreased by 400bp in comparison with year-end 2017, with no decrease in nominal capital held. Reduction of the leverage ratio exposure measure from 5.20% to 5.11% during the year, primarily a result of the reduction in Tier 1 capital by EUR 1.0bn.

Nordea had an overall strengthening of the LCR from 147% by year-end 2017 to 185% at the end of 2018 , mainly driven by the significant decrease in total net cash outflow by EUR 11.3bn accompanied by an increase in HQLA by EUR 3.9bn.

Available capital, EURm	2018	2017
Common Equity Tier 1 (CET1)	24,134	24,515
Tier 1	26,984	28,008
Total capital	31,028	31,747

Risk-weighted exposures amounts (REA), EURm		
Total REA	155,886	125,779

Risk-based capital ratios as a percentage of REA		
Common Equity Tier 1 ratio	15.5%	19.5%
Tier 1 ratio	17.3%	22.3%
Total capital ratio	19.9%	25.2%

Additional CET1 buffer requirements as a percentage of REA		
Capital conservation buffer requirement	2.5%	2.5%
Countercyclical buffer requirement	0.9%	0.8%
Systemic risk buffer requirement	0.0%	3.0%
Total buffer requirements	3.4%	6.3%
CET1 available after meeting the bank's minimum capital requirements (%)	11.0%	15.0%

Basel III leverage ratio		
Transitional leverage ratio exposure measure	5.1%	5.2%

Liquidity Coverage Ratio		
Total HQLA	101,244	97,309
Total net cash outflow	54,763	66,060
LCR ratio (%)	185%	147%

Net Balance of Stable Funding		
Total stable liabilities	311,059	311,479
Total stable assets	266,457	238,996
Off-balance sheet items	2,028	2,092
Net Balance of Stable Funding	42,574	70,392

Figure: Development of key capital adequacy ratios

At the end of 2018, in comparison with year-end 2017, the CET1 ratio decreased by 400bp, the T1 ratio decreased by 5 percentage points and the Total capital ratio decreased by 5.3 percentage points, with most of the variation occurring in the last quarter of 2018. This overall decrease in capital ratios is mainly motivated by an increase in REA by EUR 30.1bn driven by moving Swedish risk weight floor from Pillar 2 to Pillar 1 and ECB's permission to continuously using internal models.

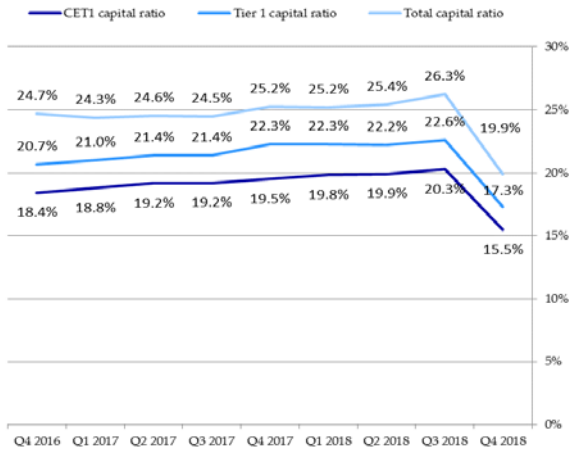
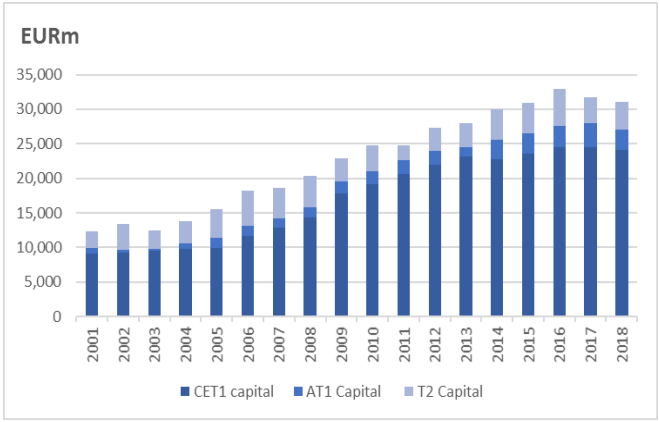


Figure: Development of own funds

During the period 2001 to 2018, the total own funds increased by EUR 18.7bn. The increase was mainly driven by retained profit and the implementation of Basel II in 2007 and CRR/CRD IV in 2014 as well as implementation of capital buffer requirements. Specifically, CET1 capital has increased by EUR 15.0bn, AT1 capital by EUR 2.1bn and T2 capital by EUR 1.6bn.



Nordea Bank Abp with Finnish corporate registration number 2858394-9 provides these public disclosures according to Part Eight of Regulation (EU) No 575/2013, commonly referred to as the Capital Requirements Regulation (CRR), on the basis of its consolidated situation (hereinafter referred to as simply "Nordea"). This disclosure constitutes a comprehensive disclosure on risks, risk management and capital management. It includes disclosures, or references to other disclosures, required according to Part Eight of the CRR and by EBA guidelines and standards on disclosure requirements. Information exempted from disclosure due to being non-material, proprietary or confidential can be found in Part 1, Other tables. Accompanying this report are the required disclosures for the subsidiaries Nordea Kredit Realkreditaktieselskab, Nordea Hypotek AB, Nordea Mortgage Bank Plc, Nordea Eiendomskreditt AS and Nordea Finans AS. The subsidiaries' disclosures are included as apprentices and will be released on www.nordea.com after the publication date of each subsidiary's Annual Report.

Nordea Bank Abp and its subsidiaries have adopted a formal policy to assure compliance with the disclosure requirements and has established policies for assessing the appropriateness of these disclosures, including the verification and frequency. Nordea is part of the Sampo conglomerate in accordance to the Act on the Supervision of Financial and Insurance Conglomerates (2004/699), based on Directive 2002/87/EC. Nordea's Board of Directors, by attesting this report, approve of the formal statement of key risks in Board Risk Statement and formally declare the adequacy of risk management arrangements given statement and the declaration are made in accordance with CRR Article 435(1).

Regulatory development

Current regulatory framework for capital adequacy

The Capital Requirements Directive IV (CRD IV) and Capital Requirements Regulation (CRR) entered into force in January 2014, followed by the Bank Recovery and Resolution Directive (BRRD) and Single Resolution Mechanism Regulation (SRMR) in May 2014. The Regulation became applicable in all EU countries in January 2014, while the Directives were implemented into national law within all EU member states from 2014, through national processes.

Regulatory minimum capital requirements

The CRR requires banks to comply with the following minimum capital requirements in relation to REA:

- CET1 capital ratio of 4.5%
- Tier 1 capital ratio of 6%
- Total capital ratio of 8%

Capital buffers

In addition to the minimum requirements, the CRD IV contains capital buffer requirements. The application and the levels are regulated and based on the institutions contribution to systemic risk and/or general macro prudential justifications. The levels and the phasing-in of the buffer requirements are subject to national discretion. The capital buffer requirements are expressed in relation to REA to be covered by CET1 capital and represent additional capital to be held on top of minimum regulatory requirements.

The mandatory buffers introduced are the capital conservation buffer (CCoB) of 2.5%, the countercyclical capital buffer (CCyB) and the buffer for globally systemically important institutions (G-SII) of 1-3.5%. The institution specific CCyB will, under normal circumstances, be in the range of 0-2.5%, depending on the buffer rate in the countries where the institution has its exposure. In addition, CRD IV allows for a systemic risk buffer (SRB) to be added, as well as a buffer for other systemically important institutions (O-SIIs).

These buffers should be seen in conjunction with the other buffers and should also be met with CET1 capital. The O-SII buffer can be set up to 2% and the SRB can be set up to 3% for all exposures and up to 5% for domestic exposures. These buffers are included in the so-called *combined buffer requirement*. The combined buffer requirement is the sum of the CCoB, CCyB and;

- where the SRB is applicable for all exposures, the highest of the SRB and the highest SII buffer,
- where the SRB is applicable only on domestic exposures, the sum of the highest SII buffer and the SRB.

Breaching the combined buffer requirement will restrict banks' capital distribution, such as the payment of dividends, share buybacks, remuneration and payments on AT1 instruments, in accordance with the regulations on maximum distributable amount (MDA).

Nordic implementation

Both the CRD IV/CRR and the BRRD allow for national implementation of some parts, which is why there are some national differences in the implementation in the different countries.

Denmark

The CCoB is phased-in from 2016 to 2019, where the buffer in 2018 was 1.875% and for 2019 it will be 2.5%. The CCyB is phased-in from 2015 to 2019. In 2018 it has been decided that a buffer of 0.5% will apply from 31 March 2019 and 1.0% from 30 September 2019.

The SRB requirement for systemically important institutions is phased-in between 2015 and 2019. Nordea Kredit Realkreditaktieselskab was, in January 2017, identified as systemically important financial institution (SIFI) and is subject to a 1.5% SRB requirement when fully phased-in. The identification and SRB requirement has afterwards been confirmed latest 7 December 2018. The buffer requirement in 2018 was 1.2%.

There is also a possible Pillar 2 requirement that is set on an individual basis.

As part of the implementation of BRRD in Denmark, mortgage institutions such as Nordea Kredit Realkreditaktieselskab, must fulfil a debt buffer requirement of 2% based on mortgage loans. The debt buffer requirement replaces a MREL requirement. The debt buffer requirement is being phased-in from 2016 to 2020. From June 2018 it was set to 1.6%, to be increased to 1.8% from June 2019 and fully implemented in June 2020. The debt buffer can be fulfilled using CET1 or Tier 2 capital instruments as well as senior debt instruments that fulfil certain criteria.

In 2018 the debt buffer legislation was changed regarding mortgage institutes appointed as SIFI. The debt buffer requirement is 2% if the mortgage company belong to an international financial group which fulfil a MREL requirement of 8%. If the 8% MREL requirement is not fulfilled, the debt buffer requirement is set to minimum 2%, and the debt buffer requirement and own funds in total have to be minimum 8% of the total liabilities in the mortgage company. The rule applies from 1 January 2022.

Finland

The Finnish FSA has the power to impose binding macroprudential policy requirements. The CCyB is currently set to 0%.

The Finnish Act on Credit institutions has been amended to give the Finnish FSA the mandate to apply the SRB. In June 2018, the Finnish FSA decided on the application of the SRB in Finland. For the Nordea Group the requirement will be to hold 3% CET1 capital from 1 July 2019. In November 2018, the Financial Stability Board (FSB) published the annual list of Global Systemically Important Banks (G-SIB) and Nordea was removed from the list. Based on this, the Board of the Finnish FSA removed the identification of Nordea as a Global Systemically Important Institution (G-SII). Nordea was however identified as O-SII with a 2% CET1 buffer requirement from 1 January 2019. However, these buffers are not additive as, according to current regulations, only the higher shall apply. Additionally, Nordea Mortgage Bank has been removed from the O-SII list from 1 January 2019, since the

new parent company Nordea Bank Abp is now included on the list of O-SIIs. As of Q4 2018, the O-SII CET1 buffer requirement for Nordea Mortgage Bank was 0.5%.

On 27 June 2018 the Finnish FSA decided to apply a minimum risk weight of 15% to residential mortgages in Finland applicable to credit institutions that have adopted the Internal Ratings Based Approach from 1 January 2018. This is in line with article 458 of the CRR which allows authorities to target asset bubbles in the residential sector by increasing the risk weights within Pillar 1.

On 20 December 2018 the Finnish FSA approved the Swedish FSA reciprocity request for a 25% risk weight floor for mortgages to be applied from 31 December 2018 to Finnish credit institutions.

Norway

In Norway, the CRR remains to be included in the EEA Agreement. The CRD IV and its related regulatory standards and guidelines are therefore not entirely implemented. For example, the Basel I floor related to REA is not removed as well as that the lower capital requirement to the SME segment is not implemented. Several other technical calculation rules are also pending implementation.

The minimum capital requirements are harmonised with a minimum CET1 capital ratio of 4.5%, a minimum Tier 1 ratio of 6% and a minimum Total capital ratio of 8%. In addition, a CCoB of 2.5% and a SRB of 3% apply. On 13 December 2018 the Ministry of Finance decided to increase the CCyB from 2% to 2.5% with effect from 31 December 2019. The decision is based on the advice from Norges Bank. The decision basis is high and increasing household debt as well as high property prices, thus the Norwegian financial system is seen as vulnerable by the Ministry of Finance.

Changes to the existing Finansforetaksforskriften and a new law (Act on the Banks Guarantee Fund) are implemented to cover Norwegian Crisis and Resolution rules, with effect from 1 January 2019. The Deposit and Guarantee Scheme is extended to include unlimited guarantee for certain deposits, and the Norwegian guarantee of NOK 2 million per depositor is continued, as well as harmonised BRRD rules are implemented.

Sweden

On 19 September 2018 the Swedish FSA decided to raise the CCyB rate from 2% to 2.5%. The Swedish FSA states that the reason for this change is that the systemic risk has increased, driven by low interest rates and increased residential and corporate lending growth rate. The amended buffer enters into force 19 September 2019.

On 19 October the Swedish FSA identified Nordea Hypotek AB as an O-SII. However, Nordea Hypotek AB will not be required to hold O-SII buffer on solo level as the company is included in the Nordea banking group (consolidated situation) which is required to hold an O-SII buffer on group level.

The Swedish FSA, on 23 August 2018, decided to change the method used to apply the current risk weight floor for Swedish mortgages through Pillar 2 by replacing it with a corresponding Pillar 1 requirement under Article 458 of the CRR. The Swedish FSA states that this change is necessary to safeguard financial stability, by upholding the current level of capital requirements for mortgage exposures in Sweden, and to maintain a level playing field on the Swedish mortgage market. The change entered into force on 31 December 2018 and will be in effect for two years.

The Swedish FSA had previously implemented a LCR requirement in addition to the CRR requirement where large Swedish banks have been required to fulfil the requirement also for Euro and USD. This requirement was removed as of 1 January 2018 when the CRR requirement to fulfil the LCR requirement was fully implemented. On 19 April, the Swedish FSA issued a memo where the authority states that former Swedish requirement to fulfil LCR for specific currencies is replaced by a similar Pillar 2 requirement.

On 31 May the Swedish FSA issued a memo on an amendment to its Pillar 2 method for the interest rate risk in the banking book. The amendment is, according to the Swedish FSA, a minor adjustment which removes own credit spreads from the calculation.

Regulation after Nordea's change of domicile

On 1 October 2018, Nordea completed the re-domiciliation of the parent company to Finland. The change of domicile to Finland means that Nordea is subject to Finnish legislation and ECB supervision. The change also means that it is the Single Resolution Board that sets the MREL requirement for Nordea. On 16 January 2019, the Single Resolution Board published an updated policy statement on the MREL requirement that will serve as a basis for setting the MREL targets for banks under the remit of Single Resolution Board.

In Finland, the implementation of EU Creditor Hierarchy Directive has been finalised and the changes in legislation were approved in November 2018. The changes enable Nordea to issue subordinated MREL eligible liabilities, so-called senior non-preferred (SNP) in statutory format, i.e. in the Terms & Conditions referring the ranking of SNP directly to the Finnish law. As a result of the changes in legislation, Nordea has aligned the SNP issued earlier in contractual format to statutory format.

Proposal on amended CRR, CRD IV, BRRD and SRMR

In November 2016, the European Commission published a proposal amending the BRRD, the SRMR, the CRD IV and the CRR. The amendments to the CRR and SRMR, being regulations, will be directly applicable in all EU countries once implemented whereas the amendments to the CRD IV and BRRD, being directives, need to be implemented into national legislation before being applicable. The proposal contains, among others, review to the Minimum Requirement for own funds and Eligible Liabilities (MREL), review to the market risk requirements (Fundamental Review of the Trading Book, FRTB), introduction of a binding Net Stable Funding Ratio (NSFR), introduction of a strict leverage ratio requirement of 3% to be met by Tier 1 capital and amendments to the Pillar 2 and macro prudential framework.

In November 2017, an agreement was reached on some of the proposals in the review in a so called fast tracking process, i.e. creditor hierarchy and transitional arrangements for IFRS 9, which entered into force from 1 January 2018. However, Nordea has decided not to use those transitional arrangements related to own funds.

In December 2018 a political agreement was reached on the remaining parts of the review. The review will enter into force after it has been published in the Official Journal which can be made after it is formally adopted, which is expected during spring 2019. Application of the revised requirement will generally start 2 years after entry into force with some parts having separate implementation dates and some parts being phased-in.

MREL

According to the proposal for amending BRRD and SRMR, institutions should meet a firm specific MREL requirement decided by the resolution authorities. The requirement consists of the sum of the loss absorption amount and re-capitalisation amount, both of which are determined by the minimum capital requirement of 8% and the Pillar 2 capital requirement. In addition, the resolution authorities can decide to impose a MREL market confidence buffer.

The firm specific MREL requirement should be met by own funds and MREL eligible liabilities. However, the resolution authorities shall ensure a subordination requirement for G-SIIs and Top Tier Banks (banks with balance sheet of at least EUR 100bn). The subordination requirement is at least 8% of total liabilities and own funds but capped at 27% of REA. The subordination requirement should be met by own funds and subordinated MREL eligible liabilities such as SNP bonds. In addition, the resolution authorities may decide under certain conditions to increase the subordination requirement.

In order to enable banks to issue eligible instruments in a cost-efficient and harmonised way, a directive to introduce a new insolvency hierarchy for non-preferred senior debt has been adopted and implemented in Finland and Sweden.

The EU proposal for CRR introduces a Pillar 1 minimum MREL requirement for G-SIIs. This requirement is the implementation of the FSB (Financial Stability Board) TLAC standard for G-SIBs (Global Systemically Important Banks).

On November 16, 2018, the FSB (Financial Stability Board) decided to remove Nordea from the list of G-SIBs. Nordea is not subject to the FSB TLAC requirement after this decision.

On 20 December 2018, the Finnish FSA decided that Nordea will not become a G-SII. Nordea will not be subject to the EU implementation of the TLAC requirement after this decision.

Pillar 2

The proposed changes to the rules governing Pillar 2 introduces a split of Pillar 2 add-ons into Pillar 2 Requirements (P2R) and Pillar 2 Guidance (P2G), where the P2R will increase the MDA level while the P2G does not affect the MDA level. ECB is already applying a practice where pillar 2 add-ons are split between P2R and P2G in line with the suggested changes to the CRD IV.

Net Stable Funding Ratio (NSFR)

The amended CRR will introduce a binding NSFR that requires institutions to finance their long-term activities (assets and off-balance sheet items) with stable funding. The NSFR proposal aligns NSFR governance, compliance and supervisory actions with the EU LCR, specifically;

- institutions are required to comply with NSFR requirements daily under both normal and stressed conditions,
- institutions are required to ensure consistency between currency denomination of available stable funding (ASF) and required stable funding (RSF),
- supervisors are allowed to set limits on significant currencies,
- the NSFR requirement is applied on individual and consolidated basis (possible to receive a waiver for individual requirements), and
- intragroup funding should receive symmetrical ASF and RSF factor.

Institutions will be required to comply with NSFR two years after the CRR enters into force.

Generally, the suggested NSFR is aligned with the Basel Committee on Banking Supervision (BCBS) standard, but the European Commission has included some adjustments as recommended by the European Banking Authority (EBA) to ensure that the NSFR does not hinder the financing of the European real economy.

Leverage ratio

The CRR introduced a non-risk-based measure, the leverage ratio, to limit build-up of leverage on banks' balance sheets in an attempt to contain the cyclicality of lending. The leverage ratio is calculated as the Tier 1 capital divided by an exposure measure, comprising of on-balance and off-balance sheet exposures with adjustments for certain items such as derivatives and securities financing transactions.

The amended CRR will introduce a binding leverage ratio requirement of 3% of Tier 1 capital, harmonised with the international BCBS standard. It further includes amendments to the calculation of the exposure measure with regards to exposures to public development banks, pass-through loans and officially granted export credits. Additionally, the initial margin received from clients for derivatives cleared through a Qualifying Central Counterparty (QCCP) can be excluded from the exposure measure.

Standardised Approach for Counterparty Credit Risk (SA-CCR)

In March 2014, the BCBS published a standard on a new standardised method to compute the exposure value of derivatives exposures, the so-called Standardised Approach for Counterparty Credit Risk, to address the shortcomings of existing standardised methods. The implementation of SA-CCR in the amended CRR is accomplished by removing the existing Standardised Approach and the Mark-to-Market Method and replacing them with the new SA-CCR.

Market risk

In January 2016, the BCBS concluded its work on the fundamental review of the trading book (FRTB) and published a new standard on the treatment of market risk. The European Commission's proposal incorporates the FRTB rules into EU regulation with some adjustments compared to the Basel version, such as postponing implementation to 2021 and including a three-year phase-in period. However, on 14 January 2019, the BCBS published a

revised version of the standard based on issues identified in the course of monitoring the implementation and impact of the 2016 framework, as expressed in a consultative paper from 2018. The revised standard comes into effect on 1 January 2022.

The key features of the framework include a revised boundary for trading book and non-trading book (banking book) exposures, a revised internal model approach and a revised standardised approach. The revised internal model approach includes a shift from value-at-risk to an expected shortfall measure of risk under stress and the incorporation of the risk of market illiquidity. The revised standardised approach is composed of three components; the sensitivities-based method, the residual risk add-on and the default risk charge.

Small and Medium-sized Enterprises (SME) supporting factor

The amended CRR extends the SME supporting factor. The current SME supporting factor provides a capital reduction of 23.81% for exposures up to EUR 1.5 million towards SMEs. The amendment is expected to extend this discount with an additional 15% reduction for the part above the threshold and also to increase the threshold, intended to further stimulate the lending to SMEs.

Fast track of IFRS 9, creditor hierarchy and large exposures

In November 2017, an agreement was reached on some of the proposals in the review in a so called fast tracking process.

While the BCBS is currently considering the longer-term regulatory treatment of the IFRS 9 international accounting standard, the fast track agreement introduces EU transitional arrangements to mitigate the potentially significant negative impact on CET1 capital. The transitional period will have a duration of 5 years starting 1 January 2018. Nordea decided to not apply the transitional rules.

The fast track also includes amendments of the BRRD on the ranking of unsecured debt instruments in insolvency proceedings (bank creditor hierarchy). The amendment makes it possible for banks to issue the new type of subordinated liabilities to meet the MREL requirement. Finally, the fast track also provides for a three-year phase-out of an exemption from the large exposure limit for banks' exposures to public sector debt denominated in the currency of another member state. These agreements entered into force on 1 January 2018.

Non-Performing Exposures

Non-performing exposures (NPEs) refers to loans where the respective borrower is not able to make scheduled interest and principal repayments. When the payments are more than 90 days past due, or the loan is assessed as unlikely to be repaid by the borrower, it is classified as an NPE. On 14 March 2018 the European Commission submitted a proposal to the European Council to amend the CRR with regards to minimum loss coverage for new NPEs aimed at reducing the current stock of NPEs held by European banks. This proposal also provides for a statutory prudential backstop against any excessive future build-up of NPEs without sufficient loss coverage on banks' balance sheets.

On 18 December 2018 co-legislators reached a provisional agreement which resulted in a final compromise text. The prioritisation of the remaining regulatory process indicates that an entry into force may take place early in 2019.

Finalised Basel III framework ('Basel IV')

Basel III is the global, regulatory framework on bank capital adequacy, stress testing, and liquidity risk. In December 2017, the finalised Basel III framework, often called the Basel IV package, was published by the BCBS. The Basel IV package will be implemented in 2022 and includes revisions to credit risk, operational risk, credit valuation adjustment (CVA) risk, leverage ratio and introduces a new output floor. In addition, revisions to market risk (so called Fundamental Review of the Trading Book) was initially agreed in 2016 (a revision was published on 14 January 2019) and will be implemented together with the Basel IV package in 2022.

On credit risk, the package includes revisions to both the IRB approach, where restrictions to the use of IRB for certain exposures are implemented, as well as to the standardised approach. For operational risk, the three approaches currently existing will be replaced by one standardised approach to be used by all banks. On CVA risk, the internally modelled approach is removed, and the standardised approach is revised. The package also includes the implementation of a minimum leverage ratio requirement of 3% to be met with Tier 1 capital with an additional leverage ratio buffer requirement for G-SIBs of half the size of G-SIB capital buffer requirement.

The output floor is to be set to 72.5% of the standardised approaches on an aggregate level, meaning that the capital requirement under the floor will be 72.5% of the total Pillar 1 REA calculated with the standardised approaches for credit-, market- and operational risk. The floor will be phased-in, starting with 50% from 2022 to be fully implemented at 72.5% from 1 January 2027.

Before being applicable to Nordea, the Basel IV package needs to be implemented into EU regulations and will therefore be subject to negotiations between the European Commission, Council and Parliament which might change the implementation and potentially also the timetable. In May 2018 the European Commission made a 'Call for Advice' to EBA on the impact of an implementation of the Basel IV package into EU regulations to which the EBA will answer by 30 June 2019.

Updated Pillar 3 disclosure requirements framework

On 11 December 2018 the BCBS published an updated framework on Pillar 3 disclosure requirements. Revisions mainly include alignment to the Basel IV framework on credit risk, operational risk, leverage ratio and CVA, but also asset encumbrance and a new requirement to disclose risk-weighted assets as calculated by the banks internal models according to the standardised approaches. Implementation deadline has been set to 1 January 2022, which aligns to the implementation of the Basel IV framework.

Capital requirement and position

Changes to the applicable capital requirements regime due to Nordea's re-domiciliation to Finland

When Nordea, on 1 October 2018, re-domiciled to Finland, the overall supervisory responsibility for the Nordea Group was transferred to the ECB. As part of the re-domiciliation Nordea received approval for continued use of internal models to calculate REA. Under the approval Nordea was required to migrate parts of the previous pillar 2 add-ons imposed by the Swedish FSA, into pillar 1 REA and impose limitations to certain models within credit and market risk. The ECB decision included migration of the risk weight floors on Norwegian mortgages and an updated PD-scale to include add-ons in the calculation imposed by the Swedish FSA. As a result, REA increased by EUR 35.8bn (of which EUR 10.6n due to Swedish risk weight floors on residential mortgages) which was the main driver behind the decrease in the CET1 ratio from 19.5% in Q4 2017 to 15.5% in Q4 2018.

However, simultaneously Nordea also received a transitional capital implementation letter from the ECB which confirmed that the corresponding pillar 2 capital add-ons should be removed from pillar 2 when implemented in pillar 1. As a result, the pillar 2 capital add-ons are reduced with approximately EUR 3.6bn in CET1 capital and EUR 4.6bn in own funds. In total the transitionary pillar 2 capital requirement is expected to be at a level of EUR 4.9bn in CET1 capital and EUR 5.7bn in own funds. Consequently, the regulatory capital requirement including pillar 2 decreased from 17.5% in Q4 2017 to 11.1% in Q4 2018 and the Total Capital Requirement from 22.5% to 15.1%. The regulatory CET1 capital requirement will increase by 2% in Q1 2019 when the Finnish FSA introduces a 2% buffer for systemic risk (O-SII) on Nordea. The CET1 capital requirement will further increase by 1% on 1 July 2019 when the 3% systemic risk buffer (SRB) is implemented.

Due to the uncertainty on the future capital requirements for Nordea, also considering that Finland has not yet fully introduced the systemic risk buffer, Nordea has voluntarily committed to comply with the nominal capital requirements from the 2018 Supervisory Review and Evaluation Process (SREP) until the ECB has issued a decision establishing prudential requirements, i.e. SREP, in 2019. This commitment amounts to EUR 27.8bn in total capital and 21.7bn in CET1 capital.

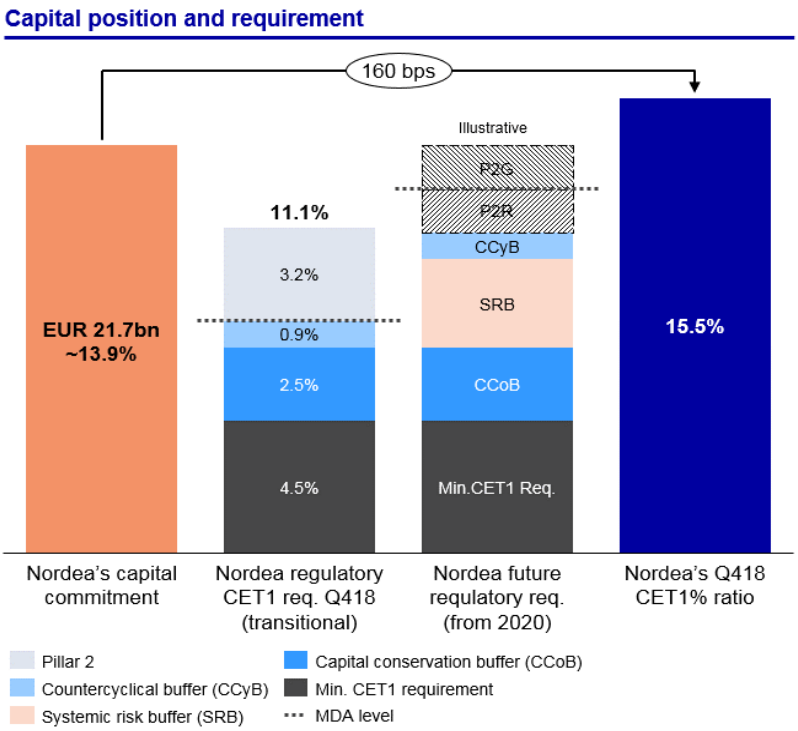
Although the above items lead to large changes in both the actual capital ratios and the capital requirement ratios and the interaction between pillar 1 and pillar 2, the nominal capital requirement is broadly unchanged and Nordea's nominal capital excess is also unchanged during the year as seen in table Capital requirements vs capital position.

Nordea expect to receive an ECB decision establishing prudential requirements in late 2019, effective from Q1 2020. Nordea expects that the ECB decision will contain a Pillar 2 Requirement (P2R) and a Pillar 2 Guidance (P2G) based on the ECB methodology. The transitional pillar 2 received by the ECB does not impact Nordea's Maximum Distributable Amount (MDA) level of 7.9% in Q4 2018, but it is expected to increase with P2R. Nordea's MDA level will thus be impacted by the introduction of the systemic risk buffers in Finland, changes to the level of countercyclical capital buffers and P2R.

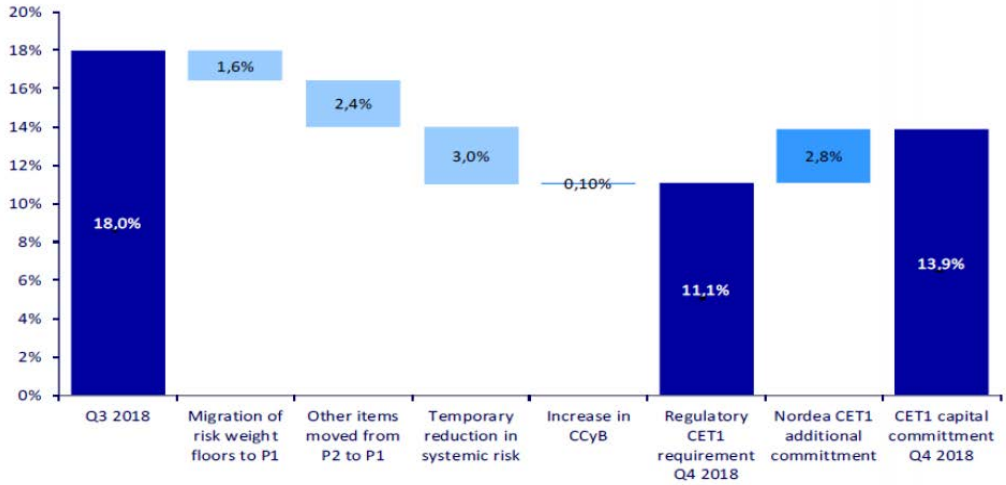
Development of Nordea's CET1 capital requirements, Capital policy

Given the implementation of the ECB items and the aim to maintain the same nominal management buffer, Nordea Board of Directors (BoD) decided to update the Groups capital policy. Nordea's capital policy states that the bank should have a management buffer above the regulatory CET1 capital requirement. The management buffer has been updated to a range of 40 – 120 bps from the previous level of 50 – 150bps, largely unchanged in nominal amount.

CET 1 requirement build-up (%)



Development of CET requirements between Q318 and Q418



Capital requirements vs capital position

2018	CET 1	Tier 1	Own funds	CET 1 EURm	Tier 1 EURm	Own funds EURm
Pillar 1	4.5%	6.0%	8.0%	7,015	9,353	12,471
FSA Add-on for systemic risk in Pillar 1	0.0%	0.0%	0.0%	0	0	0
Countercyclical buffer	0.9%	0.9%	0.9%	1,419	1,419	1,419
Capital conservation buffer	2.5%	2.5%	2.5%	3,897	3,897	3,897
MDA level	7.9%	N/A	N/A	12,331	N/A	N/A
Transitional Pillar 2	3.2%	3.2%	3.7%	4,945	4,945	5,749
Additional capital commitment	2.8%	2.8%	2.7%	4,375	4,375	4,252
Total Nordea capital commitment	13.9%	15.4%	17.8%	21,651	23,989	27,788
Capital position	15.5%	17.3%	19.9%	24,134	26,984	31,028
Excess	1.6%	1.9%	2.1%	2,483	2,995	3,240

2017	CET 1	Tier 1	Own funds	CET 1 EURm	Tier 1 EURm	Own funds EURm
Pillar 1	4.5%	6.0%	8.0%	5,660	7,547	10,062
FSA Add-on for systemic risk	3.0%	3.0%	3.0%	3,773	3,773	3,773
Countercyclical buffer	0.7%	0.7%	0.7%	880	880	880
Capital conservation buffer	2.5%	2.5%	2.5%	3,144	3,144	3,144
MDA level	10.7%	N/A	N/A	13,458	N/A	N/A
FSA Pillar 2 Guidance	3.3%	3.7%	4.3%	4,092	4,667	5,435
FSA Add-on for systemic risk	2.0%	2.0%	2.0%	2,516	2,516	2,516
FSA Add-on for mortgage loans	1.5%	1.6%	1.9%	1,937	1,950	2,428
Total requirement	17.5%	19.5%	22.5%	22,003	24,478	28,239
Capital position	19.5%	22.3%	25.2%	24515	28008	31747
Excess	2.0%	2.8%	2.7%	2,512	3,530	3,508

Part 1 Year end results and analysis

Quantitative information accompanied by qualitative analysis of the year end results of the Nordea Group

Capital position

Table

Table 1 Summary of items included in own funds

During the year 2018, the total own funds decreased by EUR 719m, mainly attributable to the decrease in Tier 1 capital by EUR 1,025m partly offset by Tier 2 capital which increased by EUR 306m. Main item that contributed to the Tier 1 capital decrease was the redemption of AT1 instruments of EUR 722m and increased amount of deductions in other intangible assets. Tier 2 capital increase is primarily stemming from the newly issued T2 instruments.

EURm	2018[3]	2017[3]
Calculation of own funds		
Equity in the consolidated situation	31,305	31,799
Proposed/actual dividend	-2,788	-2,747
Common Equity Tier 1 capital before regulatory adjustments	28,517	29,052
Deferred tax assets		-0
Intangible assets	-3,885	-3,834
IRB provisions shortfall (-)	-76	-291
Deduction for investments in credit institutions (50%)		
Pension assets in excess of related liabilities[1]	-117	-152
Other items, net	-305	-259
Total regulatory adjustments to Common Equity Tier 1 capital	-4,383	-4,536
Common Equity Tier 1 capital (net after deduction)	24,134	24,515
Additional Tier 1 capital before regulatory adjustments	2,860	3,514
Total regulatory adjustments to Additional Tier 1 capital	-10	-21
Additional Tier 1 capital	2,850	3,493
Tier 1 capital (net after deduction)	26,984	28,008
Tier 2 capital before regulatory adjustments	4,960	4,903
IRB provisions excess (+)	135	95
Deduction for investments in credit institutions (50%)		
Deductions for investments in insurance companies	-1,000	-1,205
Pension assets in excess of related liabilities		
Other items, net	-51	-54
Total regulatory adjustments to Tier 2 capital	-916	-1,164
Tier 2 capital	4,044	3,738
Own funds (net after deduction)[2]	31,028	31,747

1) Based on conditional FSA approval.

2) Own Funds adjusted for IRB provision, i.e. adjusted own funds equal EUR 30,969m by 31 Dec 2018

3) Including profit of the period.

Own funds, excluding profit

EURm	2018	2017
Common Equity Tier 1 capital, excluding profit	24,147	23,854
Total own funds, excluding profit	31,041	31,086

Table 2 Flow statements of movements in Own funds

Own funds as of year-end 2018 was EUR 31.0bn (31.7bn in 2017), of which CET1 capital constituted EUR 24.1bn (24.5bn); additional Tier 1 capital EUR 2.8bn (3.5bn) and Tier 2 capital EUR 4.0bn (3.7bn). Nordea's own funds decrease in 2018 was mainly due to redemption of AT1 instruments that amounted to EUR 722m, which was partially offset by favorable FX effect in Tier 1 capital. The CET1 decrease was mainly due to FX movements in retained earnings and effects in other comprehensive income. Tier 2 capital increase during the year was primarily driven by the newly issued T2 instruments of approximately EUR 974m. The increase was offset by the redemption of loans of EUR 241m and the decrease of cap value applied on securities with less than 5 years of maturity. Amortisation is only a regulatory prudential adjustment, the loans are still included in the balance sheet to the full amount.

EURm	Amount
Common Equity Tier 1, 2017	24,515
Profit attributable to owners of the parent	2,782
Dividend	(2,788)
Change in goodwill and intangible assets	(51)
Change in IRB provision shortfall deduction	215
Change in prudential filters	(21)
Change in unrealised gains on AFS	
Other	(518)
Common Equity Tier 1, 2018	24,134
Additional Tier 1 capital, 2017	3,493
Issued AT1 instruments	
Redeemed AT1 instruments	-722
FX effect	72
Change in Amount that exceeds the limits for AT1 grandfathering	
Other adjustments	7
Additional Tier 1 capital, 2018	2,850
Tier 2 capital, 2017	3,738
Issued T2 instruments	974
Redeemed T2 instruments	-241
FX effect	84
Change in Excess on the limit of AT1 grandfathered instruments	
Change in deduction due to significant investment	205
Change in IRB provision excess add-on	41
Other adjustments	-757
Tier 2 capital, 2018	4,044
Total Own funds, 2018	**31,028**

Table 3 Drivers behind the development of the CET1 capital ratio

The CET1 ratio has decreased from 19.5% in Q4 2017 to 15.5% in Q4 2018. Credit quality increased the ratio by 0.5 percentage points, meanwhile the volume remained rather stable during the period. The main drivers were ECB's permission for continued use of the internal models (IRB floors) and the move of the SE mortgage floor from Pillar 2 to Pillar 1.

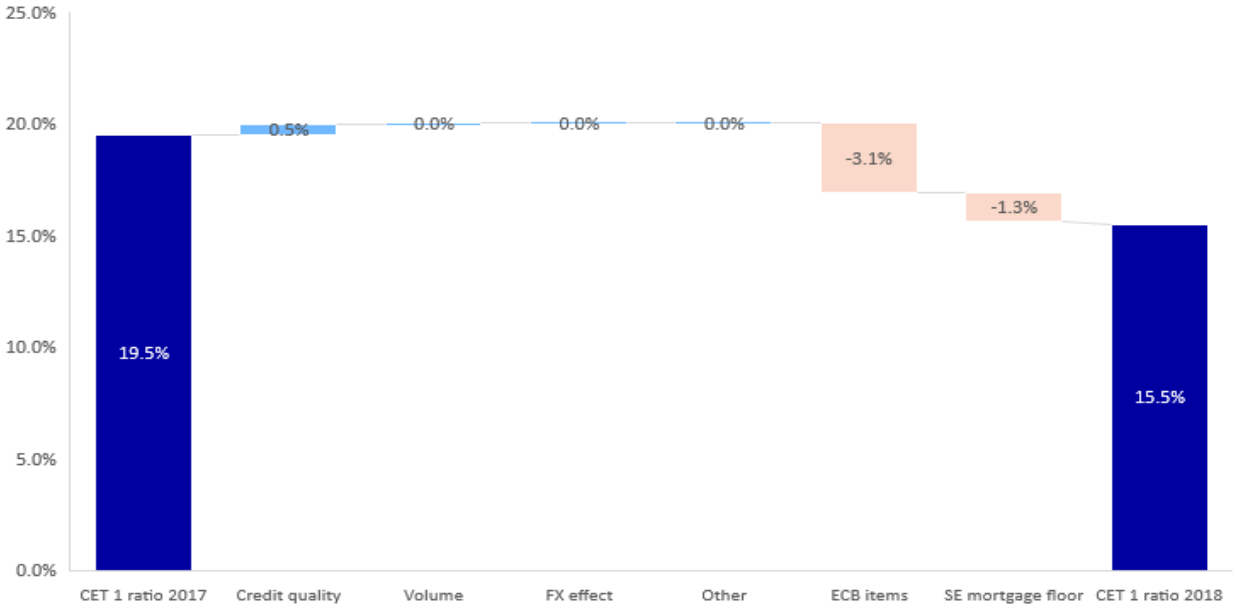


Table 4 Bridge between IFRS equity and CET1 capital

A bridge between IFRS equity and CET1 capital is provided in the table below. Nordea's CET1 capital has decreased over the period which was foremost driven by decreased balance sheet equity, together with higher proposed dividend, intangible assets and prudential deductions, partly offset by lower shortfall, pension deductions.

EURm	2018	2017
Balance sheet equity	32,901	33,316
Valuation adjustment for non-CRR companies	-871	-765
Other adjustments	-713	-694
CET1 before deductions	31,317	31,857
Dividend[1]	-2,788	-2,747
Goodwill	-1,684	-1,862
Intangible assets	-2,201	-1,972
Shortfall deduction	-76	-291
Pension deduction	-116	-152
Prudential filters	-273	-252
Transitional adjustments		
Other deductions	-44	-65
Common Equity Tier 1 capital	24,134	24,515

1) Proposed dividend for 2018.

Table 5 Capital ratios

The CET1 capital ratio (including profit) decreased with 4.8 percentage points during the last quarter of 2018. The change is mainly driven by an increase in Basel III REA, stemming from the implementation of the Swedish mortgage floor in Pillar 1 and IRB floors.

Risk based capital ratios

%	Q4 2018	Q3 2018
Common Equity Tier 1 capital ratio, including profit	15.5	20.3
Tier 1 capital ratio, including profit	17.3	22.6
Total capital ratio, including profit	19.9	26.3
Common Equity Tier 1 capital ratio, excluding profit	15.5	20.0
Tier 1 capital ratio, excluding profit	17.3	22.3
Total capital ratio, excluding profit	19.9	26.0

Leverage based capital ratios

	Q4 2018	Q3 2018
Tier 1 capital, EURm[1]	26,984	27,318
Tier 1 capital, transitional definition, EURm[1]	26,984	27,318
Leverage ratio exposure, EURm	528,163	554,553
Leverage ratio, transitional definition, percentage	5.1	4.9
Leverage ratio, percentage	5.1	4.9

1) Figures include profit of the period.

Table 6 EU OV1: Overview of REA

The table provides an overview of total REA and it also shows that credit risk (excluding counterparty credit risk) accounts for the largest risk type with approximately 71% of Pillar I REA at year end 2018. Operational risk and counterparty credit risk (including CVA) account for the second and third largest risk types respectively. REA increased EUR 35.1 bn in the last quarter of 2018. The increase is mainly stemming from the implementation of the Swedish mortgage floor in Pillar 1 and IRB floors.

	REA		Minimum capital requirement	
EURm	Q4 2018	Q3 2018	Q4 2018	Q3 2018
Credit risk (excluding counterparty credit risk) (CCR)	110,051	92,418	8,804	7,393
Of which standardised approach (SA)[1]	10,440	11,819	835	946
Of which foundation IRB (FIRB) approach	13,033	14,421	1,043	1,154
Of which advanced IRB approach	86,579	66,178	6,926	5,294
Of which AIRB	60,627	44,353	4,850	3,548
Of which Retail RIRB	25,952	21,825	2,076	1,746
Of which Equity IRB under the simple risk-weight or the IMA				
Counterparty credit risk	7,602	6,403	608	512
Of which Marked to market[2]	701	663	56	53
Of which Original exposure				
Of which standardised approach				
Of which internal model method (IMM)	5,263	4,091	421	327
Of which Financial collateral simple method (for SFTs)		883		71
Of which Financial collateral comprehensive method (for SFTs)	707		57	
Of which exposure amount for contributions to the default fund of a CCP		38		3
Of which CVA	931	728	74	58
Settlement risk	16	0	1	0
Securitisation exposures in banking book	1,648	840	132	67
Of which IRB supervisory formula approach (SFA)	1,648	840	132	67
Market risk	6,048	3,812	484	305
Of which standardised approach (SA)	1,661	1,093	133	87
Of which IMA	4,388	2,719	351	218
Large exposures				
Operational risk	16,487	16,487	1,319	1,319
Of which Standardised Approach	16,487	16,487	1,319	1,319
Amounts below the thresholds for deduction (subject to 250% risk weight)[3]	2,599	109	208	9
Additional risk exposure amount related to Finnish RW floor due to Article 458 CRR	657	607	53	49
Additional risk exposure amount related to Swedish RW floor due to Article 458 CRR	10,626		850	0
Article 3 CRR Buffer	152	152	12	12
Pillar 1 total	155,886	120,827	12,471	9,666

1) Excluding amounts below the thresholds for deduction (subject to 250% risk weight).

2) Excludes exposures to CCPs.

3) Includes equity exposures in 2018.

Table 7 Flow Statement of REA

REA increased by EUR 30.1bn from Q4 2017 to Q4 2018. Credit risk factors increased REA by EUR 27.9bn, market risk factors increased REA by EUR 2.5bn and operational risk factors decreased REA by EUR 0.3bn. Within credit risk the main driver was the ECB's permission for continued use of the internal models. The main offsetting effect was improved credit quality, mainly seen in the corporate portfolio. Furthermore, decreased REA within the standardised approach, mainly related to the sale of Luxembourg private banking business, as well as decrease in the Article 3 buffer were slightly offsetting the REA increase. Within market risk the REA increase was driven by increased interest rate risk and IRB floors.

EURm	Amount
Total REA, 2017	125,779
Credit risk factors	27,901
Book size (Exposure growth)	-102
Credit quality	-4,115
Model & methodology changes	752
Regulation	35,624
Foreign currency translation effects	201
Securitisation	-10
Additional buffer, Article 3	-1,348
Other	-3,101
Market risk factors	2,528
Model & methodology changes	
Regulation	671
Movements in risk levels	1,857
Operational risk factors	-322
Changes in Beta factors	
Income related changes	-322
Total REA, 2018	155,886

Credit risk

Table

Table 8 EU CRB-B: Total and average net amount of exposures

IRB exposure decreased by EUR 80.0bn mainly due to the sovereign portfolio reported in standardised approach from Q4 2018. The average IRB exposure declined by EUR 20bn, which was lower than the change of the exposure at the end of the period since the change of approach for sovereign exposures occurred in the last quarter of 2018. The corporates asset class decreased compared to the year end 2017, mainly due to the decrease in the Denmark exposure, across various industry sectors. Retails asset class net exposure had an increase compared to 2017 and the change was primarily driven by the increase of exposures in Swedish real estate management portfolio.

EURm	Net exposure at the end of the period	Average net exposure over the period
IRB approach		
Central governments or central banks		56,333
Institutions	37,919	39,238
Corporates	162,554	164,104
- of which Specialised Lending	356	389
- of which SME	53,228	55,126
Retail	187,164	187,469
- of which Secured by real estate property	149,109	149,030
- of which SME	1,223	1,243
- of which Non-SME	147,886	147,787
- of which Other Retail	38,055	38,439
- of which SME	1,994	1,989
- of which Non-SME	36,061	36,450
Equity		
Other non-credit obligation assets	2,674	3,043
Total IRB approach	390,311	450,187
Standardised approach		
Central governments or central banks	75,632	20,562
Regional governments or local authorities	8,492	2,213
Public sector entities	105	43
Multilateral Development Banks	1,453	363
International Organisations	233	58
Institutions	426	294
Corporates	5,250	5,410
- of which SME	2,602	1,332
Retail	6,160	6,724
- of which SME	1,586	1,593
Secured by mortgages on immovable property	2,796	3,373
- of which SME	72	30
Exposures in default	287	295
Items associated with particularly high risk	543	543
Covered bonds		
Claims on institutions and corporates with a short-term credit assessment		
Collective investments undertakings (CIU)		
Equity exposures	1,124	1,130
Other exposures	1,031	964
Total standardised approach	**103,531**	**41,972**
Total	**493,842**	**492,159**

2017 EURm	Net exposure at the end of the period	Average net exposure over the period
IRB approach		
Central governments or central banks	78,332	67,393
Institutions	36,829	39,222
Corporates	167,278	173,724
- of which Specialised Lending	427	637
- of which SME	55,599	55,073
Retail	184,871	186,695
- of which Secured by real estate property	147,825	149,624
- of which SME	1,254	1,271
- of which Non-SME	146,571	148,353
- of which Other Retail	37,046	37,070
- of which SME	1,975	1,976
- of which Non-SME	35,071	35,094
Equity		
Other non-credit obligation assets	2,818	3,162
Total IRB approach	470,129	470,196
Standardised approach		
Central governments or central banks	2,486	24,732
Regional governments or local authorities	135	2,262
Public sector entities	41	286
Multilateral Development Banks		452
International Organisations		103
Institutions	391	415
Corporates	5,565	6,591
- of which SME	1,069	1,190
Retail	6,977	7,916
- of which SME	1,645	1,969
Secured by mortgages on immovable property	4,502	6,570
- of which SME	10	18
Exposures in default	489	539
Items associated with particularly high risk	503	470
Covered bonds		
Claims on institutions and corporates with a short-term credit assessment		
Collective investments undertakings (CIU)		
Equity exposures	1,173	1,217
Other exposures	847	1,385
Total standardised approach	23,109	52,939
Total	493,238	523,135

Table 9 EU CRB-C: Geographical breakdown of exposures

The table EU CRB-C displays credit risk exposures by exposure class and domicile. Out of total net exposures, 79% were treated under IRB approach compared to 95% in 2017, the decrease is primiarily attributable to the sovereign portfolio reported under the standardised approach in Q4 2018, which holds approximately 64% of the exposure within the Nordic countries. Similarly, under the SA approach, Nordic countries had expansion of exposures during the year 2018. Corporate and retail portfolio exposures under the IRB approach remained relatively stable in the Nordic regions from 2017 to 2018.

	Net exposures									
2018	Nordic countries	of which Denmark	of which Finland	of which Norway	of which Sweden	Baltic countries	Russia	USA	Other geograph-ical areas	Total
IRB approach										
Central governments or central banks										
Institutions	34,498	18,655	293	5,608	9,942	3	125	408	2,886	37,919
Corporates	134,532	37,701	30,344	31,112	35,375	1,483	1,665	4,085	20,791	162,554
of which Specialised Lending	239	3	194	31	11				117	356
of which SME	50,825	16,321	12,150	10,699	11,655	997	0	40	1,366	53,228
Retail	185,358	51,954	44,309	34,513	54,583	39	16	213	1,537	187,164
of which Secured by real estate property	147,858	41,642	28,515	28,680	49,021	19	12	168	1,052	149,109
of which SME	1,223	99	960	51	113				0	1,223
of which Non-SME	146,635	41,543	27,555	28,630	48,908	19	12	168	1,052	147,886
of which Other Retail	37,500	10,312	15,794	5,833	5,562	20	4	45	485	38,055
of which SME	1,888	221	1,055	267	344	3	1	4	98	1,994
of which Non-SME	35,613	10,090	14,739	5,566	5,218	18	3	41	387	36,061
Equity										
Other non-credit obligation assets	2,651	699	928	253	771		15	7	2	2,674
Total IRB approach	357,039	109,008	75,873	71,486	100,671	1,525	1,820	4,712	25,215	390,311
Standardised approach										
Central governments or central banks	46,168	5,803	28,359	2,297	9,709	1,342	201	21,954	5,966	75,632
Regional governments or local authorities	8,334	2,092	481	67	5,694	110	2		46	8,492
Public sector entities	100		100			5				105
Multilateral Development Banks	105		105					5	1,343	1,453
International Organisations									233	233
Institutions	74	3	2	67	2	9		0	343	426
Corporates	1,747	1,763	10	5	-30	3,014	9	2	478	5,250
of which SME	1,591	1,589	2		0	991			19	2,602
Retail	4,704	1,297	3	1,048	2,355	1,345	2	5	104	6,160
of which SME	776	97	1	201	477	759	2	4	46	1,586
Secured by mortgages on immovable property	108	96	7	3	1	2,533	2	1	152	2,796
of which SME	58	58				14				72
Exposures in default	18	3	0	9	7	265	0	0	3	287
Items associated with particularly high risk	92	64	4		24	15		129	308	543
Covered bonds										
Claims on institutions and corporates with a short-term credit assessment										
Collective investments undertakings (CIU)	1,024	50	716	241	17	4		4	92	1,124
Equity exposures	1,024	50	716	241	17	4		4	92	1,124
Other exposures	704	35	46	503	120	241	0	0	87	1,031
Total standardised approach	63,177	11,206	29,833	4,239	17,899	8,882	216	22,100	9,156	103,531
Total	420,215	120,214	105,705	75,725	118,571	10,407	2,036	26,813	34,372	493,842

2017	Net exposures									
	Nordic countries	of which Denmark	of which Finland	of which Norway	of which Sweden	Baltic countries	Russia	USA	Other geograph-ical areas	Total
IRB approach										
Central governments or central banks	41,464	6,369	21,934	2,525	10,636		209	28,345	8,314	78,332
Institutions	30,891	14,544	169	5,404	10,775	2	3	587	5,346	36,829
Corporates	138,904	40,696	31,434	30,854	35,920	2,142	2,318	3,083	20,831	167,278
of which Specialised Lending	299	5	204	76	13		0	0	129	427
of which SME	53,975	19,016	12,325	11,130	11,503	148	0	34	1,442	55,599
Retail	183,064	51,597	43,789	32,917	54,760	49	14	219	1,526	184,871
of which Secured by real estate property	146,552	41,544	29,320	27,011	48,676	27	10	175	1,062	147,825
of which SME	1,254	91	972	71	119		0	0		1,254
of which Non-SME	145,298	41,453	28,348	26,940	48,557	27	10	175	1,062	146,571
of which Other Retail	36,512	10,053	14,469	5,907	6,084	22	4	44	464	37,046
of which SME	1,878	252	1,023	246	357	2	1	4	90	1,975
of which Non-SME	34,635	9,801	13,446	5,661	5,727	19	3	40	374	35,071
Equity										
Other non-credit obligation assets	2,520	878	405	331	905		45	251	2	2,818
Total IRB approach	396,844	114,084	97,731	72,031	112,997	2,193	2,588	32,485	36,019	470,129
Standardised approach										
Central governments or central banks	125	9	18		98	1,488	2		871	2,486
Regional governments or local authorities						135				135
Public sector entities						41				41
Multilateral Development Banks										
International Organisations										
Institutions	228	3	1	206	18	50	3	1	108	391
Corporates	202	145	9	5	44	2,799	40	1	2,523	5,565
of which SME	7	5	1		1	1,025			37	1,069
Retail	4,609	1,200	6	1,004	2,399	1,428	2	4	934	6,977
of which SME	752	85	3	195	468	845	2	3	44	1,645
Secured by mortgages on immovable property	12	1	7	2	1	2,502	3	2	1,984	4,502
of which SME						10				10
Exposures in default	12	2		4	6	453	1		22	489
Items associated with particularly high risk	79	70	3		6	18		100	306	503
Covered bonds										
Claims on institutions and corporates with a short-term credit assessment										
Collective investments undertakings (CIU)										
Equity exposures	1,092	32	26	220	814	4		3	75	1,173
Other exposures	503	34	36	387	47	259			84	847
Total standardised approach	6,863	1,496	107	1,827	3,433	9,176	51	111	6,908	23,109
Total	403,706	115,581	97,837	73,858	116,430	11,369	2,639	32,596	42,928	493,238

Table 10 EU CRB-D: Concentration of exposures by industry

Table CRB-D shows exposure split by industry group and by the main exposure classes. The industry breakdown mainly follows the Global Industries Classification Standard (GICS) and is based on NACE codes (statistical classification codes of economic activities in the European community). The corporate portfolio was well diversified between industry groups, Real estate management and investment and Other financial institutions contributed to the largest share of total corporate exposures. The retail portfolio consists mainly of residential mortgages classified under Other, public and organisations, which accounts for 98% of total retail IRB exposure. During 2018, sovereign exposures were reported under the standardised approach, and was mainly allocated to the industry group Other, public and organisations.

2018	Construction and engineering	Consumer durables (cars, appliances, etc.)	Consumer staples (food, agriculture etc.)	Energy (oil, gas, etc.)	Health care and pharmaceuticals	Industrial capital goods	Industrial commercial services	IT software, hardware and services	Media and leisure	Metals and mining materials	Other financial institutions	Other materials (chemical, building materials, etc.)	Other, public and organisations	Paper and forest materials	Real estate management and investment	Retail trade	Shipping and offshore	Telecommunication equipment	Telecommunication operators	Transportation	Utilities (distribution and production)	Total
IRB approach																						
Central governments or central banks																						
Institutions											37,919											37,919
Corporates	6,760	3,777	11,349	2,982	1,857	6,066	16,967	2,602	2,242	1,160	17,749	6,252	2,535	2,519	41,989	11,698	10,188	449	1,985	4,109	7,318	162,554
Retail	339	55	222	4	94	35	480	89	225	11	65	102	183,503	79	1,185	435	17	2	8	183	31	187,164
Equity																						
Other non-credit obligations													2,674									2,674
Total IRB approach	7,099	3,832	11,572	2,986	1,951	6,100	17,447	2,691	2,467	1,172	55,733	6,354	188,711	2,599	43,174	12,133	10,205	451	1,993	4,292	7,349	390,311
Standardised approach																						
Central governments or central banks	0	0	0	0	262	0	0	8	0	2	1,042	0	74,317	0	0	0	0	0	0	0	0	75,632
Regional governments or local authorities	0	0	0	0	0	0	0	0	0	0	0	0	8,485	0	0	0	0	0	0	6	0	8,492
Multilateral Development Banks	0	0	0	0	1	0	0	0	0	1	0	0	100	0	2	0	0	0	0	0	0	105
International Organisations	0	0	0	0	0	0	0	0	0	0	362	0	1,090	0	0	0	0	0	0	0	0	1,453
Public sector	0	0	0	0	0	0	0	0	0	0	0	0	233	0	0	0	0	0	0	0	0	233
Institutions	0	0	0	0	27	0	0	0	0	0	68	0	324	0	7	0	0	0	0	0	0	426
Corporates	271	269	296	98	88	23	211	114	46	28	28	226	597	29	1,928	583	2	0	15	299	98	5,250
Retail	264	64	298	3	21	16	123	63	51	22	9	58	4,688	26	88	176	35	0	3	146	7	6,160
Secured by mortgages on immovable property	3	0	2	0	12	0	1	2	1	0	0	1	2,709	1	50	4	0	0	0	1	8	2,796
Exposures in default	12	4	24	3	0	1	7	26	4	0	1	23	96	1	68	9	0	0	0	8	0	287
Items associated with particularly high risk	4	0	0	0	0	0	0	8	0	0	460	0	63	0	9	0	0	0	0	0	0	543
Equity exposures	0	0	0	0	0	0	0	0	0	0	1,041	0	83	0	0	0	0	0	0	0	0	1,124
Other exposures	13	2	7	1	5	1	30	17	4	2	2	5	862	1	3	22	0	0	0	9	44	1,031
Total standardised approach	567	340	627	105	417	42	373	239	106	54	3,013	312	93,649	57	2,156	794	37	0	18	468	156	103,531
Total	7,666	4,171	12,199	3,091	2,368	6,142	17,820	2,930	2,573	1,226	58,747	6,666	282,360	2,656	45,330	12,927	10,242	452	2,011	4,761	7,505	493,842

2017	Construction and engineering	Consumer durables (cars, appliances, etc.)	Consumer staples (food, agriculture etc.)	Energy (oil, gas, etc.)	Health care and pharmaceuticals	Industrial capital goods	Industrial commercial services	IT software, hardware and services	Media and leisure	Metals and mining materials	Other financial institutions	Other materials (chemical, building materials, etc.)	Other, public and organisations	Paper and forest materials	Real estate management and investment	Retail trade	Shipping and offshore	Telecommunication equipment	Telecommunication operators	Transportation	Utilities (distribution and production)	Total
IRB approach																						
Central governments or central banks													78,332									78,332
Institutions											36,829											36,829
Corporates	7,264	4,139	11,404	3,469	1,647	6,344	15,589	2,342	2,464	1,305	15,241	6,812	5,896	1,992	43,976	12,253	10,759	559	2,088	4,361	7,373	167,278
Retail	321	53	210	5	92	32	432	86	216	10	60	96	181,346	55	1,183	445	16	2	6	175	31	184,871
Equity																						
Other non-credit obligations													2,818									2,818
Total IRB approach	7,585	4,192	11,614	3,474	1,739	6,376	16,020	2,428	2,680	1,315	52,131	6,908	268,392	2,047	45,159	12,698	10,776	561	2,093	4,536	7,404	470,129
Standardised approach																						
Central governments or central banks									12				2,475									2,486
Regional governments or local authorities				2	0			1	0				132		0					0		135
Public sector entities	0		0	0	1		0	0	1				35		2	0				0	1	41
Institutions			0	0				30					352		8	0				0	0	391
Corporates	249		155	187	10		528	65	49	23	22		2,838	0	483	644			8	280	25	5,565
Retail	263	9	261	6	23	7	232	53	57	9	4	22	5,502	11	61	251	21	0	1	176	9	6,977
Secured by mortgages on immovable property	1		2		0		1	1	1		1,420		3,072		1	3				1		4,502
Exposures in default	43	0	8	2	0	0	72	2	5	1	0	0	114	0	96	114				28	2	489
Items associated with particularly high risk	0							10			422		58		12							503
Equity exposures	0				0		0	0			130		1,043		0							1,173
Other exposures	11	1	5	0	2	1	13	4	4	1	0	2	769	0	3	21	0	0	0	9	1	847
Total standardised	568	11	431	198	37	8	846	165	129	33	1999	24	16389	11	666	1034	21	1	9	493	37	23109
Total	8,152	4,203	12,045	3,672	1,775	6,384	16,866	2,593	2,809	1,348	54,130	6,932	284,781	2,058	45,826	13,732	10,797	562	2,102	5,030	7,441	493,238

Table 11 EU CRB-E: Maturity of exposures

EU CRB-E discloses net exposure values for on-balance sheet exposures. For exposures treated under the IRB approach, about 57% are in the >5 years bucket. For corporate IRB, most exposures are within the one to five year bucket, whereas retail exposures are mostly within the > 5 years maturity. Sovereign exposures are predominantly in the on demand category, mainly explained by accounts at central banks.

	Net exposure value					
2018	On demand	>= 1 year	> 1 year <= 5 years	>5 years	No stated maturity	Total
IRB approach						
Central governments or central banks						
Institutions	1,577	5,910	24,548	3,303	371	35,710
Corporates	347	35,128	41,831	24,686	4,901	106,893
- of which Specialised Lending		6	51	135	0	192
- of which SME	45	12,450	15,366	14,569	2,455	44,886
Retail	32	2,472	7,804	146,838	4,263	161,409
- of which Secured by real estate property	21	1,364	4,902	131,091	193	137,572
- of which SME	1	57	256	672	73	1,059
- of which Non-SME	21	1,307	4,646	130,420	119	136,513
- of which Other Retail	10	1,108	2,902	15,747	4,070	23,837
- of which SME	0	138	559	315	186	1,198
- of which Non-SME	10	973	2,343	15,428	3,885	22,639
Equity						
Other non-credit obligation assets	2	716	1,815	141		2,674
Total IRB approach	1,957	44,225	75,997	174,969	9,536	306,685
Standardised approach						
Central governments or central banks	50,639	5,945	15,976	2,413	100	75,074
Regional governments or local authorities	2	854	1,362	219	938	3,374
Public sector entities	0	1	4	0		5
Multilateral Development Banks		341	1,106		0	1,448
International Organisations			233		0	233
Institutions	31	35	35	323		425
Corporates	462	1,048	1,558	290	1,147	4,505
- of which SMEs	65	345	561	126	937	2,034
Retail	121	517	2,324	1,651	116	4,728
- of which SMEs	87	242	1,015	157	8	1,508
Secured by mortgages on immovable property	3	11	90	2,646	46	2,795
- of which SMEs	2	3	10	37	20	72
Exposures in default	40	75	102	69	0	285
Items associated with particularly high risk	5	9	1	0	528	543
Covered bonds						
Claims on institutions and corporates with a short-term credit assessment						
Collective investments undertakings (CIU)						
Equity exposures			1	3	1,120	1,124
Other exposures	1	171	722	72	65	1,031
Total standardised approach	51,303	9,007	23,514	7,685	4,060	95,570
Total	53,261	53,233	99,512	182,654	13,596	402,255

2018	Net exposure value					
	On demand	>= 1 year	> 1 year <= 5 years	>5 years	No stated maturity	Total
IRB approach						
Central governments or central banks	46,706	6,918	14,360	3,785	903	72,673
Institutions	1,567	5,954	23,148	2,071	711	33,452
Corporates	455	32,483	42,994	26,118	5,930	107,980
- of which Specialised Lending		45	48	135	0	229
- of which SME	42	12,633	14,858	14,694	3,376	45,602
Retail	19	3,007	9,156	145,996	4,392	162,569
- of which Secured by real estate property	12	1,670	5,635	130,703	196	138,217
- of which SME	0	96	261	642	81	1,080
- of which Non-SME	12	1,574	5,373	130,062	115	137,137
- of which Other Retail	7	1,336	3,521	15,308	4,181	24,352
- of which SME	1	156	541	304	196	1,198
- of which Non-SME	6	1,185	2,981	14,996	3,987	23,155
Equity						
Other non-credit obligation assets	1	666	1,822	268	0	2,758
Total IRB approach	48,748	49,029	91,481	178,238	11,936	379,432
Standardised approach						
Central governments or central banks	687	701	34	1,065		2,486
Regional governments or local authorities	0	9	62	64		135
Public sector entities		35	6	0		41
Multilateral Development Banks						
International Organisations						
Institutions	61	266	61	1		389
Corporates	68	1,544	2,250	243	0	4,106
- of which SMEs	10	362	629	68		1,069
Retail	33	588	2,404	1,665	125	4,815
- of which SMEs	21	293	1,101	160	5	1,580
Secured by mortgages on immovable property	0	22	68	2,953		3,043
- of which SMEs		1	2	6		10
Exposures in default	30	246	152	59	2	488
Items associated with particularly high risk		16	2		485	503
Covered bonds						
Claims on institutions and corporates with a short-term credit assessment						
Collective investments undertakings (CIU)						
Equity exposures		1	2		1,170	1,173
Other exposures	1	181	577	2	85	847
Total standardised approach	879	3,609	5,618	6,053	1,867	18,027
Total	49,628	52,638	97,099	184,291	13,803	397,459

Table 12 EU CR1-A: Credit quality of exposures by exposure class and instrument

The total net exposure value by year-end 218 was EUR 493.8bn (in comparison with EUR 489.6bn in Q2 218), out of which EUR 39.3bn (79.%, in comparison with 95.7% in Q2 218) were treated under the IRB approach and EUR 13.5bn (21.%, in comparison with 4.7% at the end of 218) under the Standardised approach. Most of this variation is explained by sovereign exposure, which are reported under the Standardised approach from Q4 218. Defaulted exposures decreased by EUR 0.6bn as a result of overall improved credit quality, and by year-end 218 mainly in the Corporate portfolio, particularly in the SME subportfolio.

2018 Q4, EURm	a	b	c	e	f	g
	Original exposures					
	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment (allowances)	Accumulated write-offs	Credit risk adjustment charges of the period	Net values (a+b-c-d)
IRB approach						
Central governments or central banks						
Institutions		37,922	2	-1	-28	37,919
Corporates	4,414	159,787	1,647	-97	5	162,554
of which Specialised Lending	28	334	6		0	356
of which SME	1,878	52,004	697	-1	-97	53,185
Retail	2,164	185,518	518	-79	19	187,164
of which Secured by real estate property	1,272	147,948	112	-7	0	149,109
of which SME	30	1,197	4	-1	1	1,223
of which Non-SME	1,242	146,752	108	-15	3	147,886
of which Other Retail	892	37,569	406			38,055
of which SME	125	1,904	34			1,994
of which Non-SME	768	35,666	372			36,061
Equity						
Other non-credit obligation assets	3	2,671				2,674
Total IRB approach	6,582	385,896	2,167	-178	-5	390,311
Standardised approach						
Central governments or central banks		75,634	2		0	75,631
Regional governments or local authorities	0	8,492	0			8,492
Public sector entities	0	105	0			105
Multilateral Development Banks		1,453	0			1,453
International Organisations		233	0			233
Institutions	0	428	2	0	0	426
Corporates	232	5,028	9		1	5,252
- of which SME	142	2,462	3			2,602
Retail	131	6,078	15	-9	-17	6,194
- of which SME	40	1,561	4			1,597
Secured by mortgages on immovable property	46	2,764	15			2,796
- of which SME	1	71	0			72
Exposures in default	0	412	125			287
Items associated with particularly high risk	11	539	7			543
Covered bonds						
Claims on institutions and corporates with a short-term credit assessment						
Collective investments undertakings (CIU)						
Equity exposures		1,124	0			1,124
Other exposures	2	1,029	0			1,031
Total standardised approach	423	103,283	176	-9	-16	103,530
Total	7,005	489,180	2,343	-186	-21	493,841
- of which loans	6,280	337,649	2,270			343,788
- of which debt securities		59,422				59,422
- of which off-balance sheet exposures	714	92,080	73			92,791

2018 Q2, EURm	a	b	c	e	f	g
	Original exposures					
	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment (allowances)	Accumulated write-offs	Credit risk adjustment charges of the period	Net values (a+b-c-d)
IRB approach						
Central governments or central banks		71,934	2		3	71,933
Institutions		40,277	24	-1	-17	40,253
Corporates	4,993	161,793	1,836	-30	4	164,951
of which Specialised Lending	36	374	4			406
of which SME	1,930	53,873	726	-6	14	55,077
Retail	2,227	186,491	503	-38	-37	188,215
of which Secured by real estate property	1,313	148,082	104	-1	-24	149,291
of which SME	28	1,226	3	-1	1	1,251
of which Non-SME	1,285	146,855	101	-21	-29	148,040
of which Other Retail	914	38,409	399			38,924
of which SME	117	1,907	33			1,992
of which Non-SME	797	36,502	367			36,932
Equity						
Other non-credit obligation assets	6	3,283	2			3,287
Total IRB approach	7,226	463,779	2,367	-68	-47	468,639
Standardised approach						
Central governments or central banks		2,076	0			2,076
Regional governments or local authorities	0	120	0		0	120
Public sector entities	0	23	0			23
Multilateral Development Banks						
International Organisations						
Institutions	0	295	0	0	2	294
Corporates	242	5,515	91			5,666
- of which SME	164	551	1			713
Retail	132	6,972	81	-4	-6	7,023
- of which SME	33	1,620	12	-4	-5	1,641
Secured by mortgages on immovable property	42	3,097	14			3,124
- of which SME	1	17	0			18
Exposures in default	416		137			295
Items associated with particularly high risk		556	13			543
Covered bonds						
Claims on institutions and corporates with a short-term credit assessment						
Collective investments undertakings (CIU)						
Equity exposures		1,146	0			1,146
Other exposures		946	0			945
Total standardised approach	416	20,744	200	-4	-4	20,960
Total	7,643	484,523	2,567	-72	-51	489,599
- of which loans	6,786	330,478	2,443	-72	-61	334,821
- of which debt securities		59,059	0			59,059
- of which off-balance sheet exposures	854	93,985	60		9	94,779

Table 13 EU CR1-B: Credit quality of exposures by industry or counterparty types

The industries with the highest total net exposure values were, by year-end 2018, "other, public and organisations", "other financial institutions" and "real estate management" with EUR 282.5bn (57.3%), EUR 58.7bn (11.9%) and EUR 45.4bn (9.2%), respectively. The industries with the highest defaulted exposures were, by year-end 2018, "other, public and organisations", "consumer staples" and "energy" with EUR 2.2bn (31.2%), EUR 0.9bn (12.2%) and EUR 0.8bn (11.7%), respectively.

Q4 2018	a	b	c	e	f	g
	Original exposures					
EURm	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment (allowances)	Accumulated write-offs	Credit risk adjustment charges of the period	(a+b-c)
Construction and engineering	179	7,515	43	-4	6	7,651
Consumer durables (cars, appliances, etc.)	250	3,960	42	0	0	4,168
Consumer staples (food, agriculture etc.)	857	11,537	211	-2	-36	12,183
Energy (oil, gas, etc.)	821	2,409	139	0	0	3,091
Health care and pharmaceuticals	7	2,350	0	0	1	2,357
Industrial capital goods	80	6,089	29	0	0	6,140
Industrial commercial services	281	17,600	70	-20	48	17,811
IT software, hardware and services	50	2,865	11	-15	-5	2,904
Media and leisure	40	2,538	8	-2	3	2,570
Metals and mining materials	39	1,196	12	-2	-29	1,223
Other financial institutions	228	58,658	142	-1	-27	58,744
Other materials (chemical, building materials, etc.)	246	6,487	78	0	0	6,655
Other, public and organisations	2,187	281,423	1,156	-117	48	282,453
Paper and forest materials	26	2,631	2	0	0	2,655
Real estate management and investment	549	44,986	135	-3	3	45,400
Retail trade	358	12,654	121	-6	-35	12,891
Shipping and offshore	685	9,675	117	0	0	10,242
Telecommunication equipment	2	450	0	0	0	452
Telecommunication operators	14	1,997	0	0	0	2,011
Transportation	104	4,661	25	-1	-19	4,740
Utilities (distribution and production)	3	7,498	1	-14	22	7,500
Total	7,005	489,180	2,343	-186	-21	493,842

Q2 2018	a	b	c	e	f	g
	Original exposures					
EURm	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment (allowances)	Accumulated write-offs	Credit risk adjustment charges of the period	(a+b-c)
Construction and engineering	189	7,706	46	-2	2	7,849
Consumer durables (cars, appliances, etc.)	238	3,732	27	-17	33	3,943
Consumer staples (food, agriculture etc.)	845	11,455	200	-1	41	12,100
Energy (oil, gas, etc.)	988	3,044	193	-1	-18	3,839
Health care and pharmaceuticals	6	1,920	1	0	-1	1,925
Industrial capital goods	112	6,515	51	-1	-6	6,575
Industrial commercial services	370	16,838	119	-2	-30	17,089
IT software, hardware and services	24	2,538	4	0	6	2,559
Media and leisure	45	2,738	9	-1	1	2,774
Metals and mining materials	43	1,193	14	0	0	1,222
Other financial institutions	285	56,922	160	-1	-15	57,047
Other materials (chemical, building materials, etc.)	277	6,639	71	0	-41	6,846
Other, public and organisations		278,516	1,217	-43	-33	279,585
Paper and forest materials	20	2,004	1	0	3	2,023
Real estate management and investment	622	44,728	144	-2	3	45,206
Retail trade	372	12,980	121	-2	-1	13,232
Shipping and offshore	733	10,058	126	0	5	10,665
Telecommunication equipment	1	471	1	0	0	472
Telecommunication operators	41	2,182	12	0	1	2,211
Transportation	105	4,634	28	0	-2	4,711
Utilities (distribution and production)	38	7,709	22	0	0	7,725
Total	7,643	484,523	2,567	-72	-51	489,599

Table 14 EU CR1-C: Credit quality of exposures by geography

Out of the total net exposure value of EUR 493.8bn by year-end 2018, a total of EUR 420.2bn (85.1%, in comparison with 82.4% in Q2 2018) corresponds to exposure in Nordic countries. The main increase is seen in Finland, where the increase is stemming from increase in exposures for checking accounts. Defaulted exposures decreased by EUR 0.638bn from Q2 2018 as a result of overall improved credit quality.

Q4 2018	a	b	c	e	f	g
		Original exposures				
EURm	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment (allowances)	Accumulated write-offs (write-offs not covered by allowances)	Credit risk adjustment charges of the period (allowances used to cover write-offs)	Net values (a+b-c)
Nordic countries	5,381	416,608	1,774	-187	20	420,215
- of which Denmark	2,389	118,704	878	-43	-117	120,214
- of which Finland	1,616	104,564	474	-42	40	105,705
- of which Norway	1,047	75,019	340	-68	86	75,725
- of which Sweden	329	118,322	82	-35	12	118,570
Baltic countries	389	10,060	145	0	0	10,304
United States	9	26,806	2	0	1	26,813
Poland	3	148	2	0	1	149
Russia	54	2,051	70	0	5	2,036
Other	1,168	33,507	349	1	-47	34,326
Total	7,005	489,180	2,343	-186	-21	493,842

Q2 2018	a	b	c	e	f	g
		Original exposures				
EURm	Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment (allowances)	offs (write-offs not covered by allowances)	charges of the period (allowances used to cover write-offs)	Net values (a+b-c)
Nordic countries	5,841	399,587	1,985	-72	16	403,443
- of which Denmark	2,653	120,494	856	-22	-28	122,292
- of which Finland	1,622	86,171	507	-17	6	87,286
- of which Norway	1,226	78,313	439	-22	35	79,100
- of which Sweden	340	114,609	184	-12	3	114,765
Baltic countries	375	10,210	167			10,418
United States	10	34,674	11		2	34,673
Poland	12	194	3			203
Russia	77	2,361	61		-70	2,377
Other	1,327	37,497	339	0	1	38,486
Total	7,643	484,523	2,567	-72	-51	489,599

Table 15 EU CR1-D: Ageing of past-due exposures

Past due is defined as a loan payment that has not been made as of its due date. Past due 6 days or more amounted to EUR 3.3bn at the end of 2018. 48 % of total past due loans are within the interval 6-30 days. Compared to 2017, the loan amount is reduced by EUR 0.3bn, with the major part of the reduction related to past due amounts overdue between 180-360 days.

2018	Gross carrying values					
EURm	≤ 30 days	> 30 days ≤ 60 days	> 60 days ≤ 90 days	> 90 days ≤ 180 days	> 180 days ≤ 1 year	> 1 year
Loans	1,586	354	158	305	222	673
Debt securities	0	0	0	0	0	0
Total	1,586	354	158	305	222	673

2017	Gross carrying values					
EURm	≤ 30 days	> 30 days ≤ 60 days	> 60 days ≤ 90 days	> 90 days ≤ 180 days	> 180 days ≤ 1 year	> 1 year
Loans	1,535	434	227	298	339	737
Debt securities	0	0	0	0	0	0
Total	1,535	434	227	298	339	737

Table 16 EU CR1-E: Non-performing and forborne exposures

Total gross carrying amount of exposures has increased by 3% during the second half of 2018 while non-performing loans decreased significantly compared to Q2 2018. At the end of 2018 non-performing loans amounted to EUR 6.4bn. This was mostly explained by improved credit quality and customers after write-offs. The improved credit quality has resulted in a lower level of accumulated impairments and provisions on both the performing and non performing portfolios.

2018 Q4

	Gross carrying amount of performing and non-performing exposures							Accumulated impairment and provisions and negative fair value adjustments due to credit risk				Collaterals and financial guarantees received	
				Of which non-performing				On performing exposures		On non-performing exposures			
EURm		Of which performing but past due > 30 days and <= 90 days	Of which performing forborne		Of which: defaulted	Of which: impaired	Of which: forborne		Of which: forborne		Of which: forborne	Of which non-performing forborne	Of which: forborne
Debt securities	59,389	0	0	0	0	0	0	-2	0	0	0	0	0
Loans and advances	355,236	566	1,322	6,444	6,310	4,946	2,360	-552	-696	-1,711	-709	3,866	747
Off-balance sheet exposures	96,260	0	42	1,171	1,171	2	50	24	1	145	0	7	30

2018 Q2

	Gross carrying amount of performing and non-performing exposures							Accumulated impairment and provisions and negative fair value adjustments due to credit risk				Collaterals and financial guarantees received	
				Of which non-performing				On performing exposures		On non-performing exposures			
EURm		Of which performing but past due > 30 days and <= 90 days	Of which performing forborne		Of which: defaulted	Of which: impaired	Of which: forborne		Of which: forborne		Of which: forborne	Of which non-performing forborne	Of which: forborne
Debt securities	69,760							-1					
Loans and advances	344,370	703	2,052	7,195	7,195	5,545	2,812	-637	-35	-1,866	-820	4,553	1,174
Off-balance sheet exposures	98,685		94	859	859		1,030	52	1	80	3	11	25

Table 17 EU CR2-A: Changes in stock of general and specific credit risk adjustments

Accumulated specific credit risk adjustment had an opening balance of EUR 2.5bn, and a closing balance of EUR 2.2bn at the end of 2018. Loan loss increase and reversals mostly cancelled each other out. The overall change was mostly driven by decreases due to amounts taken against accumulated credit risk adjustments in connection with write-off.

2018

EURm	Accumulated Specific credit risk adjustment
Closing balance according to IAS 39	-2,493
Opening balance acccording IFRS 9	-2,477
Increases due to amounts set aside for estimated loan losses during the period	-498
Decreases due to amounts reversed for estimated loan losses during the period	466
Net model losses (stage 1&2)	53
Net model losses (stage 3, model based)	-45
Decreases due to amounts taken against accumulated credit risk adjustments	321
Transfers betwen credit risk adjustments	1
Impact of exchange rate differences	0
Business combinations, including acquisitions and disposals of subsidiaries	0
Other adjustments	18
Closing balance	-2,162
Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	5
Specific credit risk adjustments recorded directly to the statement of profit or loss	-466

2017

EURm	Accumulated Specific credit risk adjustment
Opening balance	-2,471
Increases due to amounts set aside for estimated loan losses during the period	-975
Decreases due to amounts reversed for estimated loan losses during the period	651
Decreases due to amounts taken against accumulated credit risk adjustments	310
Transfers betwen credit risk adjustments	0
Impact of exchange rate differences	45
Business combinations, including acquisitions and disposals of subsidiaries	-50
Other adjustments	-3
Closing balance	-2,493
Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	55
Specific credit risk adjustments recorded directly to the statement of profit or loss	-126

Table 18 EU CR2-B: Changes in the stock of defaulted and impaired loans and debt securities

Impaired loans gross in the Group amounted to EUR 5.1bn end of 2018. Due to changed definitions under IFRS9 the level has decreased significantly from end 2017. The change in definition is shown under other changes in the table. Then main reason is that fair value lending is no longer reported under Impaired loans. During the year impaired exposures have increased by EUR 0.8bn while exposures returning to non-defaulted status and write-offs have decreased impaired loans by EUR 0.8bn in total.

2018	
EURm	Gross carrying value impaired exposures
Opening balance	6,391
Loans and debt securities that have defaulted or impaired since the last reporting period	836
Returned to non-defaulted (and non-impaired) status	-264
Amount written off	-530
Other changes	-1,437
Closing balance	5,052

2017	
EURm	Gross carrying value impaired exposures
Opening balance	5,549
Loans and debt securities that have defaulted or impaired since the last reporting period	1,604
Returned to non-defaulted (and non-impaired) status	-708
Amount written off	-468
Other changes	414
Closing balance	6,391

Table 19 EU CR3: Credit risk mitigation techniques – overview

Nordea's share of exposures (namely 53% of total) have at least one Credit Risk Mitigation (CRM) mechanism (collateral, financial guarantees, credit derivatives) at year end 2018. The majority of those are secured by real estate collaterals.

2018 Q4

EURm	Exposures unsecured - carrying amount	Exposures to be secured	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
Loans	115,079	234,070	206,748	10,901	
Total debt securities	59,454	13		13	
Total exposures	174,533	234,083	206,748	10,914	
- of which defaulted	2,181	4,036	3,254	305	

2018 Q2

EURm	Exposures unsecured - carrying amount	Exposures to be secured	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
Loans	116,993	227,526	207,912	8,950	
Total debt securities	59,046	13		13	
Total exposures	176,039	227,539	207,912	8,963	
- of which defaulted	2,602	4,105	3,292	305	

Table 20 EU CR4: Standardised approach – credit risk exposure and Credit Risk Mitigation (CRM) effects

Total exposure amount before CCF and CRM was EUR 103.5bn.The on-balance sheet exposure in Q4 amounted to EUR 94.4 bn of the exposure (compared to 12.7 in Q2 2018). The increase in on-balance exposure was mainly contributed by the sovereign asset class reported in standardised approach in Q4 2018, which also triggered a significant decrease in the REA density from 76% to 13%. The post-CRM on-balance exposure is higher than the pre-CRM exposure due to the sovereign guarantee of the Finnish retail portfolio, which increased the exposure value under the standardised approach for sovereign exposures. Amortisation of a major loan portfolio during the year 2018 also triggered a decrease of EUR 1.3 bn of the exposure value in the retail portfolio.

Q4 2018

EURm	Exposures before CCF and CRM		Exposures post-CCF and CRM			
Asset classes	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	REA	REA density
Central governments or central banks	75,067	558	78,134	372	557	1%
Regional governments or local authorities	3,366	5,125	4,356	487	16	0%
Public sector entities	4	101	17	50	2	3%
Multilateral development banks	1,448	5	1,459	2	0	0%
International organisations	233	0	233	0	0	0%
Institutions	391	10	379	9	82	21%
Corporate	3,630	1,612	3,565	391	3,888	98%
Retail	4,494	1,666	4,453	106	3,242	71%
Secured by mortgages on immovable property	2,790	5	2,790	1	984	35%
Exposures in default	279	7	277	2	344	123%
Exposures associated with particularly high risk	538	6	538	3	811	150%
Equity	1,124	0	1,124	0	2,472	220%
Other items	1,031	0	1,030	0	640	62%
Total	94,396	9,095	98,355	1,423	13,039	13%

Q2 2018

EURm	Exposures before CCF and CRM		Exposures post-CCF and CRM			
Asset classes	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	REA	REA density
Central governments or central banks	2,069	0	2,124	0	114	5%
Regional governments or local authorities	113	7	115	4	8	6%
Public sector entities	26	1	35	0	3	8%
Institutions	160	3	132	17	43	29%
Corporate	2,217	1,675	2,803	369	3,148	99%
Retail	3,826	2,182	4,461	124	3,265	71%
Secured by mortgages on immovable property	1,658	44	3,037	2	1,063	35%
Exposures in default	122	10	257	2	325	125%
Exposures associated with particularly high risk	540	12	533	5	807	150%
Equity	1,142		1,146		2,578	225%
Other items	788		944		610	65%
Total	12,660	3,934	15,588	523	11,963	74%

Table 21 EU CR5: Standardised approach - credit risk exposures by regulatory portfolio and risk

Exposures shown are on- and off-balance sheet exposures post conversion factor and post risk mitigation techniques. At the end of Q4 2018, the total exposure amount was EUR 99.8bn, up EUR 83.6bn from Q2 2018. The largest increase took place in the 0% risk weight bucket, which increased from EUR2.3bn to EUR 84.7 bn. This increase is stemming from the sovereign portfolio reported under standardised approach from Q4 2018. In the retail portfolio secured by immovable property, reduction was mainly caused by the repayment of major loan exposure during 2018. Other than the 0% risk bucket, the remaining exposures are mainly held in retail and corporate portfolios, within 75% and 100% risk weights.

Q4 2018

EURm	Risk weight															
Exposure classes	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Other	Total
Central governments or central banks	78,053				11		206			87	8	141				78,506
Regional governments or local authorities	4,763				78		2									4,843
Public sector entities	63						5									67
Multilateral development banks	1,461															1,461
International organisations	233															233
Institutions					373		15									388
Corporate										3,956						3,956
Retail									4,558							4,558
Secured by mortgages on immovable property						2,723	68									2,791
Exposures in default										149	130					279
Items associated with particularly high risk											541					541
Equity										226		899				1,124
Other items	98				38					288					606	1,030
Total	84,671				500	2,723	295		4,558	4,706	678	1,040			606	99,777

Q2 2018

EURm	Risk weight															
Exposure classes	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Other	Total
Central governments or central banks	2,070									13		40				2,124
Regional governments or local authorities	80				38											118
Public sector entities	29				0		5									35
Institutions					108		39			2						149
Corporate					0		1			3,171	0					3,172
Retail					0				4,599							4,599
Secured by mortgages on immovable property						3,040										3,040
Exposures in default										176	100					275
Associated with particularly high risk											538					538
Equity										191		955				1,146
Other items	98				56					310					479	944
Total	2,278				202	3,040	45		4,599	3,864	638	995			479	16,140

Table 22 EU CR6 Total IRB: Credit risk exposures by portfolio and PD scale

For the exposure classes under the IRB approach, the following tables show a comprehensive overview of exposures as well as statistics on the inputs used for their computation, such as EAD, average PD and average LGD. The amounts are broken down by exposure class and obligor grade. The movements during 2018 were mainly explained by the "IRB floors", the roll-back of Sovereign exposures from IRB to SA and improved credit quality.

2018, EURm

PD scale	Original exposure	Off-balance exposure	Average CCF	EAD	Average PD	Number of obligors. '000	Average LGD	Average maturity	REA	REA density	EL	Value adj. and provision
Total IRB exposures												
0.00 to < 0.15	152,052	36,938	58%	173,407	0.08%	1,311,052	18.8%	2.5	20,625	12%	29	23
0.15 to < 0.25	47,209	13,374	54%	54,208	0.20%	569,418	22.1%	2.5	11,949	22%	24	19
0.25 to < 0.50	47,381	17,996	47%	55,301	0.41%	479,387	25.6%	2.5	24,569	44%	59	53
0.50 to < 0.75	6,160	828	58%	6,465	0.60%	161,587	20.0%	2.5	1,242	19%	8	7
0.75 to < 2.50	32,968	10,487	48%	36,360	1.19%	409,507	25.9%	2.5	19,916	55%	111	126
2.50 to < 10.00	9,337	2,463	44%	9,404	4.26%	214,373	26.5%	2.6	5,748	61%	105	115
10.00 to < 100	5,127	904	46%	5,058	18.24%	80,816	26.9%	2.4	5,122	101%	239	176
100 (Default)	5,873	706	12%	5,675	100.00%	97,605	26.6%	2.7	8,253	145%	1,482	1,648
Total	306,108	83,696	53%	345,878	2.30%	3,323,745	21.7%	2.5	97,425	28%	2,058	2,167

2017, EURm

PD scale	Original exposure	Off-balance exposure	Average CCF	EAD	Average PD	Number of obligors. '000	Average LGD	Average maturity	REA	REA density	EL	Value adj. and provision
Total IRB exposures												
0.00 to < 0.15	223,163	42,507	49%	247,767	0.06%	1,354,192	27.0%	2.2	14,876	6%	27	1
0.15 to < 0.25	45,844	11,899	56%	52,287	0.18%	591,716	21.6%	2.5	7,289	14%	21	2
0.25 to < 0.50	49,012	20,417	49%	58,606	0.35%	474,571	26.1%	2.5	17,704	30%	53	14
0.50 to < 0.75	18,466	5,545	47%	20,312	0.65%	161,846	25.7%	2.7	8,412	41%	34	12
0.75 to < 2.50	20,729	6,263	50%	23,189	1.27%	414,755	24.2%	2.6	10,020	43%	71	46
2.50 to < 10.00	11,655	2,675	45%	11,786	4.88%	206,950	27.0%	2.6	8,212	70%	154	84
10.00 to < 100	3,031	414	50%	2,985	20.1%	79,183	23.8%	2.5	2,447	82%	138	64
100 (Default)	7,154	923	9%	6,929	100.0%	94,213	26.6%	2.6	11,162	161%	1,996	2,163
Total	379,055	90,642	49%	423,861	2.12%	3,377,426	26.0%	2.4	80,122	19%	2,494	2,387

Table 23 EU CR6 FIRB Sovereign: Credit risk exposures by PD scale

Sovereign exposure was reported under the standardised approach from Q4 2018, hence no data for the period.

2018, EURm

PD scale	Original exposure	Off-balance exposure	Average CCF	EAD	Average PD	Number of obligors. '000	Average LGD	Average maturity	REA	REA density	EL	Value adj. and provision
Sovereigns - FIRB												
0.00 to < 0.15												
0.15 to < 0.25												
0.25 to < 0.50												
0.50 to < 0.75												
0.75 to < 2.50												
2.50 to < 10.00												
10.00 to < 100												
100 (Default)												
Total												

2017, EURm

PD scale	Original exposure	Off-balance exposure	Average CCF	EAD	Average PD	Number of obligors. '000	Average LGD	Average maturity	REA	REA density	EL	Value adj. and provision
Sovereigns - FIRB												
0.00 to < 0.15	72,076	5,580	16%	76,253	0.00%	1,506	45.0%	1.6	1,548	2%	1	0
0.15 to < 0.25												
0.25 to < 0.50	209			209	0.29%	3	45.0%	1.3	91	44%	0	
0.50 to < 0.75	0	5	36%	2	0.61%	3	45.0%	2.6	1	82%	0	0
0.75 to < 2.50	101	40	75%	5	1.27%	4	45.0%	2.5	5	106%	0	0
2.50 to < 10.00	105	5	1%	23	5.18%	14	45.0%	2.5	37	161%	1	0
10.00 to < 100	185	30	75%	19	22.5%	4	45.0%	2.5	39	211%	2	3
100 (Default)												
Total	72,676	5,659	16%	76,510	0.01%	1,534	45.0%	1.6	1,721	2%	3	4

Table 24 EU CR6 FIRB Institutions: Credit risk exposures by PD scale

2018, EURm

PD scale	Original exposure	Off-balance exposure	Average CCF	EAD	Average PD	Number of obligors. '000	Average LGD	Average maturity	REA	REA density	EL	Value adj. and provision
Institutions - FIRB												
0.00 to < 0.15	32,725	921	40%	33,149	0.06%	610	13.8%	2.5	3,045	9%	3	1
0.15 to < 0.25	1,747	184	47%	1,844	0.17%	84	13.7%	2.5	259	14%	0	0
0.25 to < 0.50	871	613	15%	964	0.35%	189	22.7%	2.5	364	38%	1	0
0.50 to < 0.75	134	89	14%	146	0.66%	78	42.0%	2.5	125	85%	0	0
0.75 to < 2.50	72	183	32%	128	1.20%	92	45.0%	2.5	159	125%	1	0
2.50 to < 10.00	155	201	33%	170	4.50%	319	44.8%	2.5	300	177%	3	0
10.00 to < 100	8	18	22%	9	11.86%	42	43.1%	2.5	20	240%	0	0
100 (Default)												
Total	35,712	2,209	32%	36,409	0.10%	1,414	14.4%	2.5	4,272	12%	9	2

2017, EURm

PD scale	Original exposure	Off-balance exposure	Average CCF	EAD	Average PD	Number of obligors. '000	Average LGD	Average maturity	REA	REA density	EL	Value adj. and provision
Institutions - FIRB												
0.00 to < 0.15	30,638	2,137	25%	31,238	0.06%	746	15.3%	2.5	3,037	10%	3	0
0.15 to < 0.25	1,577	223	48%	1,691	0.15%	94	14.5%	2.5	233	14%	0	0
0.25 to < 0.50	900	569	5%	930	0.28%	253	42.8%	2.5	523	56%	1	0
0.50 to < 0.75	178	139	30%	214	0.57%	86	44.9%	2.5	185	87%	1	0
0.75 to < 2.50	71	206	33%	117	1.91%	146	45.0%	2.5	158	135%	1	0
2.50 to < 10.00	87	100	24%	94	4.99%	160	44.8%	2.5	168	178%	2	0
10.00 to < 100	0	4	24%	1	15.6%	12	41.7%	2.5	3	251%	0	0
100 (Default)	0	0	20%	0	100.0%	1	45.0%	2.5			0	
Total	33,452	3,378	23%	34,285	0.09%	1,498	16.3%	2.5	4,307	13%	8	0

Table 25 EU CR6: IRB Corporates: Credit risk exposures by PD scale

2018, EURm

PD scale	Original exposure	Off-balance exposure	Average CCF	EAD	Average PD	Number of obligors. '000	Average LGD	Average maturity	REA	REA density	EL	Value adj. and provision
Corporate - IRB, Total												
0.00 to < 0.15	32,494	20,944	50%	43,150	0.09%	12,435	30.1%	2.5	10,450	24%	12	19
0.15 to < 0.25	13,594	8,624	49%	17,789	0.22%	4,499	30.2%	2.5	8,106	46%	12	14
0.25 to < 0.50	29,659	14,978	46%	36,333	0.44%	14,014	28.9%	2.5	21,759	60%	46	44
0.50 to < 0.75[1]												
0.75 to < 2.50	21,954	8,188	45%	24,499	1.12%	14,009	28.6%	2.6	16,548	68%	79	83
2.50 to < 10.00	3,911	1,660	39%	3,756	3.27%	11,876	30.0%	2.7	3,091	82%	38	39
10.00 to < 100	3,026	756	44%	2,953	14.66%	5,855	29.9%	2.4	3,550	120%	130	90
100 (Default)	3,858	556	0%	3,607	100.00%	1,767	29.5%	2.8	3,697	102%	1,324	1,357
Total	108,495	55,706	47%	132,087	3.54%	64,455	29.5%	2.5	67,201	51%	1,641	1,646
Corporate - AIRB, Total												
0.00 to < 0.15	29,272	20,257	52%	39,485	0.09%	11,448	28.9%	2.5	9,294	24%	11	17
0.15 to < 0.25	11,990	8,169	51%	16,145	0.22%	4,122	29.0%	2.5	7,206	45%	10	13
0.25 to < 0.50	27,249	14,122	48%	33,919	0.44%	12,616	28.0%	2.5	20,225	60%	42	42
0.50 to < 0.75[1]												
0.75 to < 2.50	19,967	7,153	50%	22,458	1.12%	12,483	27.3%	2.6	14,860	66%	69	78
2.50 to < 10.00	2,974	1,223	53%	3,032	3.26%	9,352	27.6%	2.7	2,275	75%	28	34
10.00 to < 100	2,702	645	51%	2,640	14.59%	5,168	28.5%	2.4	3,070	116%	111	83
100 (Default)	3,738	507	0%	3,504	100.00%	1,667	29.1%	2.8	3,697	106%	1,280	1,324
Total	97,891	52,077	50%	121,183	3.68%	56,856	28.3%	2.5	60,627	50%	1,551	1,592
Corporate - AIRB, Corporates (exluding SMEs and specialised lending)												
0.00 to < 0.15	14,761	18,327	51%	22,899	0.11%	2,113	31.4%	2.4	6,392	28%	8	16
0.15 to < 0.25	7,729	7,316	50%	10,814	0.22%	1,296	30.2%	2.5	5,030	47%	7	11
0.25 to < 0.50	17,640	11,973	46%	22,197	0.44%	3,868	29.1%	2.5	14,527	65%	28	39
0.50 to < 0.75[1]												
0.75 to < 2.50	10,994	5,352	49%	12,118	1.09%	3,857	28.6%	2.6	8,658	71%	38	56
2.50 to < 10.00	1,644	847	52%	1,664	3.15%	4,096	29.1%	2.9	1,524	92%	16	19
10.00 to < 100	1,336	422	54%	1,271	14.16%	1,574	31.5%	2.3	1,828	144%	58	49
100 (Default)	2,069	350		1,927	100.00%	466	30.3%	3.1	1,889	98%	718	721
Sub-total	56,173	44,588	49%	72,889	3.35%	17,270	30.0%	2.5	39,848	55%	874	912
Corporate - AIRB, SMEs (excluding specialised lending)												
0.00 to < 0.15	14,502	1,875	53%	16,561	0.07%	9,334	25.3%	2.5	2,890	17%	3	1
0.15 to < 0.25	4,241	853	56%	5,312	0.22%	2,824	26.4%	2.6	2,170	41%	3	2
0.25 to < 0.50	9,492	2,141	54%	11,621	0.44%	8,743	25.8%	2.6	5,623	48%	13	3
0.50 to < 0.75[1]												
0.75 to < 2.50	8,909	1,755	55%	10,251	1.15%	8,619	25.7%	2.5	6,120	60%	30	22
2.50 to < 10.00	1,330	376	54%	1,368	3.40%	5,256	25.8%	2.5	751	55%	12	15
10.00 to < 100		223	47%	1,370	14.99%	3,594	25.7%	2.5	1,242	91%	53	33
100 (Default)	1,652	145		1,560	100.00%	1,198	27.7%	2.5	1,792	115%	556	597
Sub-total	41,494	7,368	53%	48,044	4.17%	39,568	25.7%	2.5	20,588	43%	671	674
Corporate - AIRB, Specialised lending												
0.00 to < 0.15	9	55	27%	25	0.15%	1	36.6%	4.9	12	49%	0	
0.15 to < 0.25	20	0	50%	20	0.22%	2	35.9%	2.5	6	31%	0	
0.25 to < 0.50	116	9	20%	101	0.48%	5	35.2%	3.9	75	75%	0	
0.50 to < 0.75[1]												
0.75 to < 2.50	63	45	56%	89	0.92%	7	30.6%	3.3	82	93%	0	1
2.50 to < 10.00												
10.00 to < 100												
100 (Default)	16	12		16	100.00%	3	16.5%	1.3	15	94%	5	5
Sub-total	224	121	35%	250	7.05%	18	32.5%	3.5	191	76%	6	6

1) For corporate exposure class the bucket 4 is empty, since no regulatory PD in the range 0,5% - 0,75%.

2018, EURm

PD scale	Original exposure	Off-balance exposure	Average CCF	EAD	Average PD	Number of obligors. '000	Average LGD	Average maturity	REA	REA density	EL	Value adj. and provision
Corporate - FIRB, Total												
0.00 to < 0.15	3,222	687	8%	3,665	0.10%	2,549	43.1%	2.5	1,156	32%	1	1
0.15 to < 0.25	1,604	454	10%	1,644	0.22%	1,349	41.8%	2.5	901	55%	2	0
0.25 to < 0.50	2,410	856	8%	2,414	0.44%	4,254	42.3%	2.5	1,534	64%	4	2
0.50 to < 0.75[1]												
0.75 to < 2.50	1,987	1,034	9%	2,041	1.15%	4,953	42.3%	2.5	1,688	83%	10	5
2.50 to < 10.00	937	437	3%	725	3.29%	4,442	39.9%	2.5	815	113%	9	5
10.00 to < 100	324	111	2%	313	15.22%	2,189	41.2%	2.5	480	154%	20	8
100 (Default)	120	49	1%	103	100.00%	336	42.7%	2.5	0	0%	44	34
Total	10,604	3,629	8%	10,904	1.98%	20,072	42.3%	2.5	6,575	60%	91	55
Corporate - FIRB, Corporates (excluding SMEs and specialised lending)												
0.00 to < 0.15	2,469	557	8%	2,618	0.09%	1,020	43.3%	2.5	873	33%	1	1
0.15 to < 0.25	797	332	7%	806	0.22%	430	42.0%	2.5	373	46%	1	0
0.25 to < 0.50	1,440	648	9%	1,400	0.44%	1,339	42.7%	2.5	936	67%	3	1
0.50 to < 0.75[1]												
0.75 to < 2.50	956	740	10%	995	1.04%	1,321	42.9%	2.5	940	94%	4	2
2.50 to < 10.00	725	350	2%	524	3.23%	1,907	39.2%	2.5	638	122%	7	3
10.00 to < 100	59	34	7%	57	15.28%	417	41.2%	2.5	116	204%	4	2
100 (Default)	64	24	0%	49	100.00%	68	43.9%	2.5			22	23
Sub-total	6,510	2,686	8%	6,450	1.48%	6,502	42.6%	2.5	3,876	60%	41	32
Corporate - FIRB, SMEs (excluding specialised lending)												
0.00 to < 0.15	747	130	6%	1,040	0.11%	1,528	42.5%	2.5	282	27%	0	0
0.15 to < 0.25	807	122	18%	837	0.22%	919	41.6%	2.5	528	63%	1	0
0.25 to < 0.50	970	208	5%	1,014	0.44%	2,915	41.7%	2.5	598	59%	2	1
0.50 to < 0.75[1]												
0.75 to < 2.50	1,020	295	7%	1,036	1.26%	3,631	41.7%	2.5	736	71%	5	3
2.50 to < 10.00	212	87	7%	200	3.43%	2,535	41.8%	2.5	177	88%	3	2
10.00 to < 100	264	77	0%	256	15.21%	1,772	41.2%	2.5	364	142%	16	6
100 (Default)	56	25	2%	54	100.00%	268	41.6%	2.5	0	0%	22	11
Sub-total	4,077	943	7%	4,438	2.71%	13,568	41.8%	2.5	2,686	61%	50	23
Corporate - FIRB, Specialised Lending												
0.00 to < 0.15	6			6	0.06%	1	45.0%	2.5	1	23%	0	
0.15 to < 0.25												
0.25 to < 0.50												
0.50 to < 0.75[1]												
0.75 to < 2.50	11			11	1.29%	1	45.0%	2.5	11	107%	0	
2.50 to < 10.00												
10.00 to < 100												
100 (Default)												
Sub-total	17			17	0.84%	2	45.0%	2.5	13	76%	0	

1) For corporate exposure class the bucket 4 is empty, since no regulatory PD in the range 0,5% - 0,75%.

2017, EURm

PD scale	Original exposure	Off-balance exposure	Average CCF	EAD	Average PD	Number of obligors. '000	Average LGD	Average maturity	REA	REA density	EL	Value adj. and provision
Corporate - IRB, Total												
0.00 to < 0.15	32,465	21,621	49%	43,073	0.08%	18,188	29.6%	2.5	6,794	16%	10	1
0.15 to < 0.25	12,655	7,840	49%	16,319	0.18%	6,837	29.9%	2.6	4,540	28%	9	1
0.25 to < 0.50	31,385	17,772	48%	39,514	0.35%	18,279	28.9%	2.5	14,926	38%	40	13
0.50 to < 0.75	12,492	4,767	44%	13,870	0.67%	7,526	28.4%	2.8	7,168	52%	27	11
0.75 to < 2.50	8,743	4,212	43%	10,035	1.24%	8,968	29.7%	2.7	6,461	64%	37	41
2.50 to < 10.00	6,433	2,059	39%	6,295	4.86%	4,315	29.9%	2.6	5,736	91%	90	67
10.00 to < 100	709	246	35%	729	17.28%	1,659	28.3%	2.5	860	118%	36	39
100 (Default)	5,029	784	0%	4,716	100.00%	2,127	29.1%	2.6	6,757	143%	1,660	1,759
Total	109,910	59,301	47%	134,550	4.14%	67,899	29.3%	2.6	53,242	40%	1,907	1,933
Corporate - AIRB, Total												
0.00 to < 0.15	28,767	21,035	50%	38,924	0.08%	16,070	28.1%	2.5	5,794	15%	8	0
0.15 to < 0.25	11,640	7,419	51%	15,281	0.18%	5,864	29.0%	2.6	4,143	27%	8	1
0.25 to < 0.50	28,421	16,913	50%	36,475	0.35%	15,729	27.7%	2.5	13,237	36%	36	11
0.50 to < 0.75	11,436	4,321	49%	12,800	0.67%	6,377	27.3%	2.8	6,401	50%	24	10
0.75 to < 2.50	7,775	3,658	48%	9,027	1.24%	7,458	28.3%	2.7	5,602	62%	32	38
2.50 to < 10.00	5,121	1,590	52%	5,298	4.94%	5,671	27.8%	2.7	4,513	85%	72	55
10.00 to < 100	623	188	47%	646	17.28%	1,387	26.7%	2.5	727	112%	30	34
100 (Default)	4,862	720	0%	4,569	100.00%	2,009	28.7%	2.6	6,757	148%	1,598	1,695
Total	98,646	55,845	49%	123,021	4.33%	60,565	28.0%	2.6	47,173	38%	1,807	1,845
Corporate - AIRB, Corporates (exluding SMEs and specialised lending)												
0.00 to < 0.15	13,237	18,161	50%	21,042	0.09%	3,445	30.8%	2.5	4,024	19%	6	0
0.15 to < 0.25	7,727	6,284	51%	10,409	0.18%	1,996	30.5%	2.6	3,154	30%	6	1
0.25 to < 0.50	17,766	14,401	49%	23,413	0.35%	5,486	28.9%	2.5	9,410	40%	24	9
0.50 to < 0.75	6,478	3,499	47%	7,403	0.67%	2,135	28.5%	3.1	4,325	58%	14	6
0.75 to < 2.50	4,202	2,896	45%	5,004	1.24%	2,458	30.2%	2.8	3,700	74%	19	21
2.50 to < 10.00	2,696	948	50%	2,657	4.80%	1,563	29.7%	2.8	2,792	105%	37	35
10.00 to < 100	141	75	55%	150	17.56%	232	30.4%	2.5	243	162%	8	19
100 (Default)	2,770	556	0%	2,590	100.00%	619	29.8%	2.8	4,321	167%	852	913
Sub-total	55,017	46,819	49%	72,667	4.09%	17,934	29.8%	2.6	31,970	44%	965	1,004
Corporate - AIRB, SMEs (excluding specialised lending)												
0.00 to < 0.15	15,514	2,813	50%	17,850	0.06%	12,623	24.8%	2.5	1,760	10%	3	0
0.15 to < 0.25	3,887	1,133	54%	4,845	0.18%	3,865	26.0%	2.5	981	20%	2	0
0.25 to < 0.50	10,472	2,490	56%	12,890	0.35%	10,237	25.6%	2.5	3,718	29%	12	2
0.50 to < 0.75	4,951	810	54%	5,383	0.67%	4,239	25.7%	2.5	2,072	38%	9	4
0.75 to < 2.50	3,555	763	56%	4,005	1.25%	4,998	25.8%	2.5	1,882	47%	13	17
2.50 to < 10.00	2,402	642	54%	2,617	5.07%	4,105	25.7%	2.5	1,701	65%	34	20
10.00 to < 100	482	113	42%	496	17.20%	1,155	25.5%	2.5	483	97%	22	15
100 (Default)	2,070	146	0%	1,957	100.00%	1,386	27.2%	2.5	2,394	122%	742	777
Sub-total	43,333	8,912	53%	50,044	4.65%	42,608	25.4%	2.5	14,992	30%	837	836
Corporate - AIRB, Specialised lending												
0.00 to < 0.15	16	61	27%	33	0.09%	2	35.3%	4.3	10	32%	0	
0.15 to < 0.25	26	2	69%	27	0.18%	3	35.2%	2.5	7	27%	0	
0.25 to < 0.50	184	22	23%	172	0.37%	6	34.2%	3.6	108	63%	0	
0.50 to < 0.75	7	12	57%	14	0.67%	3	13.4%	2.2	3	22%	0	
0.75 to < 2.50	18			18	1.53%	2	35.6%	4.2	20	113%	0	
2.50 to < 10.00	24			24	5.25%	3	31.4%	2.5	20	84%	0	
10.00 to < 100												
100 (Default)	23	18	0%	23	100.00%	4	22.5%	1.9	43	190%	4	4
Sub-total	296	114	26%	310	8.03%	23	32.5%	3.4	211	68%	5	4

2017, EURm

PD scale	Original exposure	Off-balance exposure	Average CCF	EAD	Average PD	Number of obligors. '000	Average LGD	Average maturity	REA	REA density	EL	Value adj. and provision
Corporate - FIRB, Total												
0.00 to < 0.15	3,697	586	13%	4,148	0.08%	3,770	43.6%	2.5	1,000	24%	1	0
0.15 to < 0.25	1,015	420	9%	1,038	0.18%	2,041	42.7%	2.5	397	38%	1	0
0.25 to < 0.50	2,964	859	7%	3,038	0.35%	5,230	42.9%	2.5	1,689	56%	4	2
0.50 to < 0.75	1,056	446	6%	1,070	0.67%	2,499	42.4%	2.5	767	72%	3	1
0.75 to < 2.50	969	554	10%	1,007	1.19%	3,166	42.5%	2.5	859	85%	5	3
2.50 to < 10.00	1,311	469	2%	998	4.48%	2,661	41.3%	2.5	1,223	123%	18	12
10.00 to < 100	86	58	0%	83	17.23%	763	40.8%	2.5	134	162%	6	5
100 (Default)	166	64	0%	147	100.00%	411	42.6%	2.5	0	0%	62	64
Total	11,264	3,456	8%	11,529	2.08%	20,541	42.9%	2.5	6,068	53%	101	88
Corporate - FIRB, Corporates (excluding SMEs and specialised lending)												
0.00 to < 0.15	3,099	425	16%	3,409	0.07%	1,496	43.8%	2.5	842	25%	1	0
0.15 to < 0.25	702	295	6%	695	0.18%	710	43.0%	2.5	290	42%	0	0
0.25 to < 0.50	2,190	642	9%	2,220	0.34%	1,861	43.2%	2.5	1,321	60%	3	2
0.50 to < 0.75	587	331	7%	597	0.67%	756	43.0%	2.5	487	82%	2	1
0.75 to < 2.50	500	405	13%	536	1.15%	917	43.2%	2.5	526	98%	3	2
2.50 to < 10.00	916	315	2%	622	4.44%	676	41.3%	2.5	865	139%	11	9
10.00 to < 100	13	12	0%	13	16.15%	92	41.7%	2.5	27	217%	1	1
100 (Default)	95	32	0%	76	100.00%	124	44.1%	2.5			34	38
Sub-total	8,102	2,457	9%	8,169	1.56%	6,632	43.3%	2.5	4,359	53%	54	52
Corporate - FIRB, SMEs (excluding specialised lending)												
0.00 to < 0.15	598	160	6%	739	0.09%	2,274	42.5%	2.5	158	21%	0	0
0.15 to < 0.25	313	126	17%	343	0.18%	1,331	42.1%	2.5	106	31%	0	0
0.25 to < 0.50	767	218	2%	810	0.35%	3,368	42.2%	2.5	364	45%	1	0
0.50 to < 0.75	469	115	2%	473	0.67%	1,743	41.7%	2.5	280	59%	1	0
0.75 to < 2.50	455	149	2%	458	1.24%	2,248	41.5%	2.5	320	70%	2	1
2.50 to < 10.00	395	154	3%	375	4.55%	1,985	41.3%	2.5	358	95%	7	3
10.00 to < 100	73	46	0%	70	17.43%	671	40.6%	2.5	106	152%	5	5
100 (Default)	71	33	1%	71	100.00%	287	40.9%	2.5			29	26
Sub-total	3,142	1,000	4%	3,339	3.38%	13,907	41.9%	2.5	1,692	51%	46	36
Corporate - FIRB, Specialised Lending												
0.00 to < 0.15												
0.15 to < 0.25												
0.25 to < 0.50	8			8	0.31%	1	45.0%	2.5	4	58%	0	
0.50 to < 0.75												
0.75 to < 2.50	13			13	1.04%	1	45.0%	2.5	13	99%	0	
2.50 to < 10.00												
10.00 to < 100												
100 (Default)												
Sub-total	21			21	0.77%	2	45.0%	2.5	17	84%	0	

Table 26 EU CR6: IRB Retail: Credit risk exposures by PD scale

2018, EURm

PD scale	Original exposure	Off-balance exposure	Average CCF	EAD	Average PD	Number of obligors. '000	Average LGD	Average maturity	REA	REA density	EL	Value adj. and provision
Retail - RIRB, total												
0.00 to < 0.15	86,833	15,073	69%	97,108	0.09%	1,298,007	15.6%	2.5	7,130	7%	13	3
0.15 to < 0.25	31,868	4,566	64%	34,575	0.19%	564,835	18.4%	2.5	3,584	10%	12	5
0.25 to < 0.50	16,852	2,405	62%	18,003	0.36%	465,184	19.2%	2.5	2,446	14%	12	9
0.50 to < 0.75	6,026	738	63%	6,319	0.60%	161,509	19.5%	2.5	1,118	18%	7	7
0.75 to < 2.50	10,943	2,117	61%	11,733	1.33%	395,406	20.3%	2.5	3,209	27%	32	43
2.50 to < 10.00	5,271	601	60%	5,478	4.94%	202,178	23.6%	2.5	2,357	43%	64	75
10.00 to < 100	2,093	130	64%	2,097	23.31%	74,919	22.6%	2.5	1,552	74%	108	86
100 (Default)	2,015	150	56%	2,068	100.00%	95,838	21.6%	2.5	4,556	220%	158	291
Total	161,901	25,781	66%	177,381	1.82%	3,257,876	17.4%	2.5	25,952	15%	408	518
Retail - RIRB, Non-SME (excluding exposures secured by immovable property)												
0.00 to < 0.15	5,398	6,325	63%	9,234	0.09%	1,105,317	29.9%	2.5	677	7%	3	1
0.15 to < 0.25	4,014	3,174	65%	5,870	0.19%	523,309	29.7%	2.5	720	12%	3	3
0.25 to < 0.50	3,673	1,681	62%	4,381	0.36%	441,245	29.7%	2.5	813	19%	5	5
0.50 to < 0.75	1,449	482	61%	1,569	0.60%	148,022	29.8%	2.5	393	25%	3	4
0.75 to < 2.50	2,796	1,130	63%	3,048	1.35%	336,951	29.7%	2.5	1,059	35%	12	25
2.50 to < 10.00	3,726	446	52%	3,831	4.89%	174,332	25.5%	2.5	1,526	40%	48	67
10.00 to < 100	1,274	98	57%	1,256	21.27%	69,797	26.6%	2.5	792	63%	72	71
100 (Default)	659	109	56%	698	100.00%	86,200	30.8%	2.5	2,041	292%	121	195
Sub-total	22,988	13,445	63%	29,887	4.14%	2,885,173	29.1%	2.5	8,020	27%	266	372
Retail - RIRB, SME (excluding exposures secured by immovable property)												
0.00 to < 0.15	1	6	72%	5	0.10%	1,746	33.2%	2.5	0	7%	0	0
0.15 to < 0.25	9	10	59%	14	0.19%	1,399	33.9%	2.5	2	11%	0	0
0.25 to < 0.50	40	75	66%	88	0.38%	8,067	30.7%	2.5	15	18%	0	0
0.50 to < 0.75	44	80	79%	105	0.60%	7,285	27.6%	2.5	21	20%	0	0
0.75 to < 2.50	617	464	61%	851	1.51%	43,650	28.3%	2.5	258	30%	4	2
2.50 to < 10.00	355	115	79%	424	4.99%	25,599	28.1%	2.5	159	38%	6	5
10.00 to < 100	74	15	82%	81	23.47%	3,993	26.2%	2.5	43	54%	5	3
100 (Default)	90	34	57%	100	100.00%	6,909	29.5%	2.5	314	315%	15	24
Sub-total	1,230	798	66%	1,667	9.23%	98,648	28.3%	2.5	813	49%	29	34
Retail - RIRB, SME exposures secured by immovable property												
0.00 to < 0.15	4	10	40%	8	0.09%	859	17.4%	2.5	0	3%	0	0
0.15 to < 0.25	373	22	41%	382	0.19%	6,770	17.6%	2.5	21	5%	0	0
0.25 to < 0.50	116	20	51%	127	0.36%	2,149	17.2%	2.5	11	9%	0	0
0.50 to < 0.75	75	15	53%	84	0.60%	1,313	16.8%	2.5	11	13%	0	0
0.75 to < 2.50	399	85	49%	441	1.29%	8,439	17.6%	2.5	98	22%	1	1
2.50 to < 10.00	55	8	53%	59	3.92%	1,132	17.3%	2.5	25	43%	0	0
10.00 to < 100		1	55%	13	26.06%	244	17.0%	2.5	11	82%	1	0
100 (Default)	27	3	56%	29	100.00%	666	18.0%	2.5	62	217%	1	2
Sub-total	1,062	165	49%	1,142	3.66%	21,572	17.5%	2.5	240	21%	3	4
Retail - RIRB, Non-SME exposures secured by immovable property												
0.00 to < 0.15	81,431	8,733	74%	87,861	0.09%	630,382	14.1%	2.5	6,453	7%	11	2
0.15 to < 0.25	27,473	1,359	61%	28,309	0.19%	200,904	16.1%	2.5	2,842	10%	8	2
0.25 to < 0.50	13,023	629	61%	13,408	0.36%	100,456	15.7%	2.5	1,607	12%	7	3
0.50 to < 0.75	4,458	161	64%	4,561	0.60%	34,447	15.8%	2.5	693	15%	4	2
0.75 to < 2.50	7,131	438	60%	7,394	1.30%	56,069	15.6%	2.5	1,793	24%	15	14
2.50 to < 10.00	1,135	31	1	1,164	5.15%	8,009	15.9%	2.5	646	55%	10	3
10.00 to < 100	732	17	1	747	26.68%	6,999	15.6%	2.5	706	94%	31	13
100 (Default)	1,239	4	65%	1,241	100.00%	11,652	15.9%	2.5	2,139	172%	22	69
Sub-total	136,621	11,373	71%	144,685	1.24%	1,048,918	14.8%	2.5	16,878	12%	109	108

2017, EURm

PD scale	Original exposure	Off-balance exposure	Average CCF	EAD	Average PD	Number of obligors. '000	Average LGD	Average maturity	REA	REA density	EL	Value adj. and provision
Retail - RIRB, total												
0.00 to < 0.15	87,984	13,170	70%	97,203	0.09%	1,333,752	15.6%	2.5	3,497	4%	13	0
0.15 to < 0.25	31,612	3,836	69%	34,277	0.19%	584,785	18.1%	2.5	2,516	7%	12	1
0.25 to < 0.50	16,519	2,076	69%	17,953	0.36%	456,036	18.9%	2.5	2,164	12%	12	1
0.50 to < 0.75	5,796	635	68%	6,227	0.60%	154,231	19.1%	2.5	1,058	17%	7	1
0.75 to < 2.50	11,813	1,805	67%	13,033	1.30%	405,637	19.8%	2.5	3,397	26%	34	5
2.50 to < 10.00	5,030	511	67%	5,374	4.90%	202,461	23.2%	2.5	2,272	42%	61	16
10.00 to < 100	2,136	134	74%	2,236	20.96%	77,508	22.1%	2.5	1,545	69%	101	21
100 (Default)	2,126	139	63%	2,213	100.00%	92,085	21.3%	2.5	4,404	199%	335	404
Total	163,017	22,304	69%	178,516	1.89%	3,306,495	17.2%	2.5	20,852	12%	576	450
Retail - RIRB, Non-SME (excluding exposures secured by immovable property)												
0.00 to < 0.15	5,715	5,948	71%	9,927	0.09%	1,149,476	30.5%	2.5	739	7%	3	0
0.15 to < 0.25	4,087	2,651	73%	6,019	0.19%	545,125	30.6%	2.5	762	13%	4	0
0.25 to < 0.50	3,724	1,440	71%	4,744	0.36%	435,549	29.5%	2.5	879	19%	5	1
0.50 to < 0.75	1,331	368	68%	1,580	0.60%	140,056	29.5%	2.5	391	25%	3	1
0.75 to < 2.50	3,171	939	72%	3,848	1.39%	348,881	28.2%	2.5	1,275	33%	15	3
2.50 to < 10.00	3,493	364	62%	3,718	4.79%	175,980	25.3%	2.5	1,463	39%	46	12
10.00 to < 100	1,290	104	70%	1,363	19.90%	72,056	25.9%	2.5	810	59%	69	16
100 (Default)	705	104	65%	773	100.00%	83,159	30.8%	2.5	2,057	266%	283	331
Sub-total	23,517	11,918	71%	31,973	4.14%	2,950,282	29.2%	2.5	8,375	26%	427	364
Retail - RIRB, SME (excluding exposures secured by immovable property)												
0.00 to < 0.15	4	8	67%	10	0.10%	2,209	34.3%	2.5	1	9%	0	0
0.15 to < 0.25	20	10	63%	27	0.20%	3,328	36.7%	2.5	4	14%	0	0
0.25 to < 0.50	36	72	74%	89	0.39%	6,827	31.1%	2.5	16	18%	0	0
0.50 to < 0.75	52	93	81%	128	0.60%	7,416	27.8%	2.5	27	21%	0	0
0.75 to < 2.50	616	438	64%	897	1.48%	41,798	28.1%	2.5	280	31%	4	1
2.50 to < 10.00	336	110	80%	425	5.05%	24,346	27.9%	2.5	163	38%	6	2
10.00 to < 100	80	17	85%	94	21.29%	4,387	26.6%	2.5	51	54%	5	2
100 (Default)	84	29	54%	100	100.00%	6,385	28.6%	2.5	256	256%	21	28
Sub-total	1,230	778	69%	1,772	8.82%	96,696	28.3%	2.5	799	45%	36	32
Retail - RIRB, SME exposures secured by immovable property												
0.00 to < 0.15	114	14	43%	120	0.11%	2,786	17.6%	2.5	4	4%	0	0
0.15 to < 0.25	299	20	40%	307	0.18%	5,428	17.6%	2.5	16	5%	0	0
0.25 to < 0.50	90	19	59%	101	0.37%	1,647	17.3%	2.5	9	9%	0	0
0.50 to < 0.75	102	23	60%	116	0.60%	2,013	17.2%	2.5	15	13%	0	0
0.75 to < 2.50	386	87	52%	431	1.30%	8,344	17.7%	2.5	97	22%	1	0
2.50 to < 10.00	51	8	54%	56	3.79%	1,096	17.4%	2.5	23	42%	0	0
10.00 to < 100	15	1	60%	16	24.50%	309	17.3%	2.5	13	81%	1	0
100 (Default)	25	2	65%	27	100.00%	638	18.3%	2.5	48	180%	2	3
Sub-total	1,083	175	52%	1,174	3.41%	22,261	17.6%	2.5	226	19%	4	3
Retail - RIRB, Non-SME exposures secured by immovable property												
0.00 to < 0.15	82,150	7,199	69%	87,146	0.09%	640,722	13.9%	2.5	2,753	3%	11	0
0.15 to < 0.25	27,205	1,154	62%	27,924	0.19%	202,186	15.3%	2.5	1,734	6%	8	0
0.25 to < 0.50	12,669	545	64%	13,018	0.36%	99,381	14.9%	2.5	1,259	10%	7	1
0.50 to < 0.75	4,311	150	61%	4,403	0.60%	33,865	15.2%	2.5	624	14%	4	0
0.75 to < 2.50	7,640	340	64%	7,856	1.23%	60,916	14.9%	2.5	1,745	22%	14	1
2.50 to < 10.00	1,149	29	89%	1,175	5.23%	8,146	15.0%	2.5	623	53%	9	2
10.00 to < 100	751	12	95%	763	22.73%	6,992	15.0%	2.5	671	88%	26	3
100 (Default)	1,311	4	63%	1,313	100.00%	11,619	15.3%	2.5	2,043	156%	30	43
Sub-total	137,187	9,433	68%	143,598	1.29%	1,063,827	14.4%	2.5	11,452	8%	108	50

Table 27 EU CR7: Effect on REA of credit derivatives used as CRM techniques

Outside of the synthetic securitisation of certain corporate exposures, Nordea does not use credit derivatives as a credit risk mitigation technique in the banking book. The REA increase during the year for FIRB and AIRB are mainly driven by IRB floors.

Q4 2018		
	Pre-credit derivatives	
EURm	REA	Actual REA
Exposures under Foundation IRB		
Central governments and central banks		
Institutions	4,272	4,272
Corporates - SME	2,686	2,686
Corporates - Specialised Lending	13	13
Corporates - Other	3,876	3,876
Exposures under Advanced IRB		
Corporates - SME	20,588	20,588
Corporates - Specialised Lending	191	191
Corporates - Other	39,848	39,848
Retail - Secured by real estate SME	240	240
Retail - Secured by real estate non-SME	16,878	16,878
Retail - Other SME	813	813
Retail - Other non-SME	8,020	8,020
Other non credit-obligation assets	2187	2,187
Total	99,611	99,611

Q2 2018[1]		
	Pre-credit derivatives	
EURm	REA	Actual REA
Exposures under Foundation IRB		
Central governments and central banks	1,778	1,778
Institutions	4,317	4,317
Corporates - SME	2,081	2,081
Corporates - Specialised Lending	16	16
Corporates - Other	4,031	4,031
Other non credit-obligation assets	2,726	2,726
Exposures under Advanced IRB		
Corporates - SME	14,190	14,190
Corporates - Specialised Lending	205	205
Corporates - Other	30,457	30,457
Retail - Secured by real estate SME	241	241
Retail - Secured by real estate non-SME	12,025	12,025
Retail - Other SME	861	861
Retail - Other non-SME	8,563	8,563
Total	81,492	81,492

1) 2018 Q2 table was restated to reflect the change in the interpretation of the regulation, i.e. to exclude securitisation.

Table 28 EU CR8: REA flow statements of credit risk exposures under IRB

Over the year credit risk REA increased EUR 17.5bn, driven by the IRB floors, increased portfolio size and other model updates, such as LGD & CCF validations and PD alignment. This was somewhat countered by improved credit quality, mainly in the corporate portfolio.

EURm	REA	Capital requirement
REA 2017	82,141	6,571
Asset size	1,096	88
Credit quality	-4,148	-332
Model updates	752	60
Methodology and policy	20,580	1,646
Acquisitions and disposals		
Foreign exchange movements	-155	-12
Other	-654	-52
REA 2018	99,611	7,969

EURm	REA	Capital requirement
REA 2016	84,627	6,770
Asset size	-2,302	-184
Credit quality	-2,233	-179
Model updates	6,161	493
Methodology and policy		
Acquisitions and disposals	-1,170	-94
Foreign exchange movements	-3,097	-248
Other	156	12
REA 2017	82,141	6,571

Table 29 EU CR9: IRB approach - Backtesting of PD per exposure class

The table shows a backtesting of the probability of default (PD) by comparing the regulatory PD with the actual default frequency (ADF). PD and ADF are calculated per exposure class and sub-exposure class as well as approach in Corporate (FIRB vs AIRB). The percentages of Risk Exposure Amount (REA) that Institution, Corporate and Retail IRB portfolio stand for are 5%, 59% and 21%, respectively. The exposure class and PD range are specified in column a and b. Column d and e contain, the exposure-weighted average PD per exposure class and the simple arithmetic average PD at the end of reporting period [1]. Column f illustrates the distribution of obligors between PD buckets during the reporting period by showing the number of obligors at the end of previous and the reporting period per PD range. Column g shows the number of obligors who defaulted in the year including obligors with no exposure at the beginning of period and defaulted during the reporting period (column h). Obligors already in default at the beginning of the reporting period are not included in column g. Column i displays the five-year historical average ADF per PD bucket. Comparing i and e indicates the performance of our current regulatory PD in the medium term (five years). Since the Advanced Internal-Ratings Based (AIRB) approach was first approved and implemented on part of the Corporate exposure class in 2014, the existing available historical reporting data gives a mere four-year average in column i.

a	b	d	e	f		g	h	i
				Number of obligors				
Exposure class	PD range	Weighted average PD 2018	Arithmetic averaged PD by obligors 2018	2017	2018	Defaulted obligors in the year	Of which new obligors	Average historical annual default rate
Retail RIRB Of which secured by immovable property	0.00 to < 0.15	0.09%	0.09%	622,212	602,825	177	0.00%	0.03%
	0.15 to < 0.25	0.19%	0.19%	204,685	204,120	203	0.00%	0.11%
	0.25 to < 0.50	0.36%	0.36%	99,616	100,977	299	0.01%	0.25%
	0.50 to < 0.75	0.60%	0.60%	35,495	35,319	143	0.03%	0.41%
	0.75 to < 2.50	1.30%	1.30%	68,383	63,375	678	0.06%	0.81%
	2.50 to < 10.00	5.09%	4.80%	9,147	9,019	820	0.21%	6.54%
	10.00 to < 100	26.67%	27.74%	7,254	7,179	1,361	0.45%	20.47%
	100 (Default)	100.00%	100.00%	12,257	12,318			

a	b	d	e	f		g	h	i
				Number of obligors				
Exposure class	PD range	Weighted average PD 2018	Arithmetic averaged PD by obligors 2018	2017	2018	Defaulted obligors in the year	Of which new obligors	Average historical annual default rate
Retail RIRB Of which other retail	0.00 to < 0.15	0.09%	0.09%	1,151,685	1,107,063	577	0.01%	0.05%
	0.15 to < 0.25	0.19%	0.19%	548,453	524,708	746	0.02%	0.12%
	0.25 to < 0.50	0.36%	0.36%	442,376	449,312	1,825	0.04%	0.29%
	0.50 to < 0.75	0.60%	0.60%	147,472	155,307	1,114	0.06%	0.59%
	0.75 to < 2.50	1.38%	1.33%	390,679	380,601	5,220	0.29%	0.95%
	2.50 to < 10.00	4.90%	4.91%	200,326	199,931	5,731	0.24%	2.64%
	10.00 to < 100	21.40%	22.38%	76,443	73,790	7,489	0.06%	9.58%
	100 (Default)	100.00%	100.00%	89,544	93,109			

a	b	d	e	f		g	h	i
				Number of obligors				
Exposure class	PD range	Weighted average PD 2018	Arithmetic averaged PD by obligors 2018	2017	2018	Defaulted obligors in the year	Of which new obligors	Average historical annual default rate
Corporate FIRB	0.00 to < 0.15	0.10%	0.11%	2,670	2,615	1	0.00%	0.06%
	0.15 to < 0.25	0.22%	0.22%	1,425	1,349	1	0.00%	0.06%
	0.25 to < 0.50	0.44%	0.44%	3,653	4,268	4	0.00%	0.24%
	0.50 to < 0.75			1,769	0	3	0.00%	0.34%
	0.75 to < 2.50	1.15%	1.30%	2,289	4,944	15	0.00%	0.93%
	2.50 to < 10.00	3.29%	3.01%	7,767	4,398	55	0.01%	0.89%
	10.00 to < 100	15.22%	17.29%	565	2,159	17	0.00%	6.40%
	100 (Default)	100.00%	100.00%	403	334			

a	b	d	e	f		g	h	i
				Number of obligors				
Exposure class	PD range	Weighted average PD 2018	Arithmetic averaged PD by obligors 2018	2017	2018	Defaulted obligors in the year	Of which new obligors	Average historical annual default rate
Corporate AIRB	0.00 to < 0.15	0.09%	0.08%	12,502	11,800	3	0.01%	0.04%
	0.15 to < 0.25	0.22%	0.22%	4,442	4,248	2	0.00%	0.12%
	0.25 to < 0.50	0.44%	0.44%	11,723	12,797	11	0.00%	0.27%
	0.50 to < 0.75			4,719	0	21	0.00%	0.44%
	0.75 to < 2.50	1.12%	1.27%	5,474	12,383	46	0.02%	1.24%
	2.50 to < 10.00	3.26%	2.90%	18,664	9,034	198	0.06%	1.37%
	10.00 to < 100	14.59%	17.53%	1,039	4,931	78	0.10%	12.82%
	100 (Default)	100.00%	100.00%	1,999	1,662			

a	b	d	e	f		g	h	i
				Number of obligors				
Exposure class	PD range	Weighted average PD 2018	Arithmetic averaged PD by obligors 2018	2017	2018	Defaulted obligors in the year	Of which new obligors	Average historical annual default rate
Institution FIRB	0.00 to < 0.15	0.06%	0.08%	656	616	0	0.00%	0.00%
	0.15 to < 0.25	0.17%	0.17%	81	84	0	0.00%	0.00%
	0.25 to < 0.50	0.35%	0.36%	220	186	0	0.00%	0.00%
	0.50 to < 0.75	0.66%	0.66%	76	77	0	0.00%	0.00%
	0.75 to < 2.50	1.20%	1.26%	129	95	0	0.00%	0.20%
	2.50 to < 10.00	4.50%	4.39%	323	318	0	0.00%	0.04%
	10.00 to < 100	11.86%	12.36%	11	40	0	0.00%	0.00%
	100 (Default)	100.00%	100.00%	1	0			

[1] For corporate exposure class the bucket 4 is empty, since no regulatory PD in the range 0,5% - 0,75% after implementation of a new PD scale

Table 30 Minimum capital requirements for credit risk, split by exposure class

The table shows a comprehensive overview of regulatory exposures and capital requirements for credit risk split by exposure class. IRB exposures remain the largest component of REA, comprising EUR 106.0bn (89%) of a EUR 119.3bn total (compared to EUR 86.0bn of EUR 98.2bn Q3 2018). The movements in Q4 2018 are explained by IRB floors as well as changes in credit quality.

Q4 2018, EURm

EURm	Original exposure	Exposure	Average risk weight	REA	Capital requirement
IRB exposure classes					
Sovereign	0	0	0%	0	0
Institution	42,822	41,309	14%	5,953	476
Corporate	172,479	140,365	51%	71,868	5,749
- of which advanced	149,968	121,183	50%	60,627	4,850
Retail	187,753	177,452	15%	25,979	2,078
- of which mortgage	149,220	145,827	12%	17,118	1,369
- of which other retail	38,533	31,625	28%	8,861	709
- of which SME	3,281	2,835	38%	1,063	85
Other non-credit obligation assets	2,674	2,509	87%	2,187	175
Total IRB approach	405,727	361,636	29%	105,987	8,479
Standardised exposure classes					
Central government and central banks	77,893	80,772	1%	601	48
Regional governments and local authorities	9,763	6,115	1%	86	7
Institution	2,583	2,568	10%	248	20
Corporate	5,271	3,974	98%	3,904	312
Retail	6,175	4,559	71%	3,243	259
Exposure secured by real estate	2,810	2,791	35%	984	79
Other[1]	5,642	5,468	78%	4,269	342
Total standardised approach	110,138	106,248	13%	13,334	1,067
Total	515,865	467,884	26%	119,321	9,546

1) Includes exposure classes Administrative bodies and non-commercial undertakings, Multilateral development banks, International organisations, Past due items, Items belonging to regulatory high-risk categories, Other items and Equity.

Q3 2018, EURm					
EURm	Original exposure	Exposure	Average risk weight	REA	Capital requirement
IRB exposure classes					
Sovereign	87,440	85,089	2%	2,071	166
Institution	45,719	44,238	14%	6,137	491
Corporate	175,551	142,924	38%	53,612	4,289
- of which advanced	152,655	123,167	36%	44,353	3,548
Retail	190,377	181,024	12%	21,851	1,748
- of which mortgage	149,723	146,020	8%	12,157	973
- of which other retail	37,349	32,058	27%	8,544	684
- of which SME	3,305	2,946	39%	1,150	92
Other non-credit obligation assets	2,968	2,733	87%	2,375	190
Total IRB approach	502,055	456,008	19%	86,046	6,884
Standardised exposure classes					
Central government and central banks	2,178	2,202	6%	122	10
Regional governments and local authorities	116	114	7%	8	1
Institution	3,456	3,437	6%	207	17
Corporate	5,614	3,189	98%	3,138	251
Retail	6,956	4,624	71%	3,291	263
Exposure secured by real estate	3,132	3,006	35%	1,051	84
Other[1]	3,077	2,931	148%	4,338	347
Total standardised approach	24,530	19,503	62%	12,154	972
Total	526,585	475,511	21%	98,200	7,856

1) Includes exposure classes Past due items, Items belonging to regulatory high-risk categories, Other items and Equity.

Table 31 Original Exposure split by exposure class and exposure type

The table shows a comprehensive overview of original exposures split by exposure class and exposure type. By year-end 2018, 79% of total credit risk exposures were calculated using the IRB approach, compared to 95% in year-end 2017. This is mainly related to sovereign exposures reported under the standardised approach. Compared to year-end 2017, total original exposure decreased by EUR 2.8bn, mainly driven by a decrease in the corporate exposure class by EUR 6.3bn.

2018, EURm	On-balance sheet items	Off-balance sheet items	Securities financing Transactions	Derivatives	Total
IRB exposure classes					
Sovereign					
Institution	35,712	2,209	1,410	3,490	42,822
Corporate	108,495	55,706	1,134	7,144	172,479
- of which advanced	97,891	52,077	0	0	149,968
Retail	161,901	25,781	0	71	187,753
- of which mortgage	137,683	11,538	0	0	149,220
- of which other retail	24,218	14,243	0	71	38,533
- of which SME	2,292	963	0	26	3,281
Other non-credit obligation assets	2,674	0	0	0	2,674
Total IRB approach	308,782	83,696	2,544	10,705	405,727
Standardised exposure classes					
Central government and central banks	75,069	558	656	1,611	77,893
Regional governments and local authorities	3,367	5,125	0	1,271	9,763
Institution	393	10	1,226	954	2,583
Corporate	3,638	1,613	0	19	5,271
Retail	4,508	1,666	0	1	6,175
Exposures secured by real estate	2,805	5	0	0	2,810
Other[1]	4,790	119	429	305	5,642
Total standardised approach	94,569	9,097	2,311	4,161	110,138
Total	403,351	92,793	4,855	14,866	515,865

1) Includes exposure classes Administrative bodies and non-commercial undertakings, Multilateral development banks, International organisations, Past due items, Items belonging to regulatory high-risk categories, Other items and Equity.

2017, EURm	On-balance sheet items	Off-balance sheet items	Securities financing Transactions	Derivatives	Total
IRB exposure classes					
Sovereign	72,676	5,659	1,662	3,969	83,967
Institution	33,452	3,378	1,339	4,502	42,671
Corporate	109,910	59,301	1,168	7,861	178,241
- of which advanced	98,646	55,845			154,491
Retail	163,017	22,304	2	78	185,400
- of which mortgage	137,187	9,433			146,621
- of which other retail	23,517	11,918	2	45	35,482
- of which SME	2,312	953		32	3,298
Other non-credit obligation assets	2,761	60	3	12	2,835
Total IRB approach	381,816	90,702	4,174	16,423	493,115
Standardised exposure classes					
Central government and central banks	2,420	60		7	2,486
Regional governments and local authorities	125	10			135
Institution	260	24	1,217	921	2,423
Corporate	3,301	2,280		248	5,829
Retail	4,550	2,439		7	6,996
Exposures secured by real estate	3,041	1,464			4,505
Other[1]	3,126	67			3,193
Total standardised approach	16,823	6,344	1,217	1,183	25,567
Total	398,639	97,046	5,391	17,605	518,682

1) Includes exposure classes Past due items, Items belonging to regulatory high-risk categories, Other items and Equity.

Table 32 Average quarterly original exposure, split by exposure class and exposure type

The table shows average quarterly exposures by exposure class and type, providing a comprehensive picture of the average original exposures during the year. Average numbers are broadly in line with year-end numbers, where the sovereign exposures reported under the standardised approach contributed to the largest change during the period. This mainly explains the difference between the average quarterly values and the year-end values reported under both SA and IRB approaches .

2018, EURm	On-balance sheet items	Off-balance sheet items	Securities financing Transactions	Derivatives	Total
IRB exposure classes					
Sovereign	52,008	4,327	1,173	2,762	60,271
Institution	37,098	2,156	2,020	3,948	45,221
Corporate	109,571	56,289	1,390	7,569	174,818
- of which Advanced	98,811	52,860	0	0	151,672
Retail	162,041	25,944	5	73	188,063
- of which mortgage	137,494	11,641	0	0	149,135
- of which other retail	24,547	14,303	5	73	38,928
- of which SME	2,323	947	0	28	3,299
Other non-credit obligation assets	3,015	29	0	3	3,048
Total IRB approach	363,733	88,745	4,588	14,355	471,422
Standardised exposure classes					
Central government and central banks	20,402	154	164	408	21,127
Regional governments and local authorities	926	1,287	0	318	2,531
Institution	224	15	1,837	937	3,013
Corporate	3,482	1,932	0	76	5,490
Retail	4,579	2,167	0	9	6,755
Exposures secured by real estate	3,003	382	0	0	3,385
Other[1]	3,502	41	107	76	3,726
Total standardised approach	36,118	5,978	2,108	1,823	46,027
Total	399,851	94,723	6,696	16,178	517,449

1) Includes exposures classes Administrative bodies and non-commercial undertakings, Multilateral development banks, International organisations, Past due items, Items belonging to regulatory high-risk categories, Other items and Equity.

2017, EURm	On-balance sheet items	Off-balance sheet items	Securities financing Transactions	Derivatives	Total
IRB exposure classes					
Sovereign	62,913	4,481	1,558	3,138	72,090
Institution	35,967	3,256	2,075	4,771	46,069
Corporate	114,499	61,273	1,805	9,133	186,710
- of which Advanced	101,128	57,122			158,250
Retail	164,531	22,653	15	81	187,279
- of which mortgage	138,752	9,659			148,411
- of which other retail	23,452	12,034	15	52	35,553
- of which SME	2,327	960		28	3,315
Other non-credit obligation assets	3,120	45	1	3	3,169
Total IRB approach	381,030	91,708	5,454	17,126	495,317
Standardised exposure classes					
Central government and central banks	23,378	236	597	548	24,759
Regional governments and local authorities	798	1,363		475	2,637
Institution	151	7	1,958	1,868	3,984
Corporate	2,603	1,745		231	4,579
Retail	4,400	2,440		13	6,853
Exposures secured by real estate	3,069	1,601			4,670
Other[1]	3,867	68	239	40	4,214
Total standardised approach	38,266	7,461	2,794	3,175	51,696
Total	419,296	99,169	8,248	20,301	547,014

1) Includes exposure classes Administrative bodies and non-commercial undertakings, Multilateral developments banks, International organisations, Past due items, Items belonging to regulatory high-risk categories, Other items and Equity.

Table 33 Exposure secured by collaterals, guarantees and credit derivatives, split by exposure class

In Q4 2018, the share of total exposure secured by eligible collateral remained relatively stable, 44% compared to 45% in Q4 2017. The corresponding figure for the IRB portfolio was 57% (45%), and for SA portfolio was 0% (26%) which increased due to the sovereign portfolio reported in standardised approach instead of IRB in Q42018.

2018 EURm	Original exposure	Exposure	- of which secured by guarantees and credit derivatives	- of which secured by collateral	Average weighted LGD[1]
IRB exposure classes					
Sovereign					
Institution	42,822	41,309	154	165	17.8%
Corporate	172,479	140,365	11,150	62,867	30.4%
- of which Advanced	149,968	121,183	10,510	58,290	28.3%
Retail	187,753	177,452	2,247	141,865	17.4%
- of which secured by immovable property	147,994	144,685		137,819	14.8%
- of which other retail	36,478	29,932	1,901	2,579	29.1%
- of which SME	3,281	2,835	346	1,467	24.0%
Other non-credit obligation assets	2,674	2,509	3		n.a.
Total IRB approach	405,727	361,636	13,554	204,897	22.5%
Standardised exposure classes					
Central government and central banks	77,893	80,772	350		
Regional governments and local authorities	9,763	6,115			
Institution	2,583	2,568	13	0	
Corporate	5,271	3,974	24	51	
Retail	6,175	4,559	36	10	
Exposures secured by real estate	2,810	2,791		224	
Other[2]	5,642	5,468	3		
Total standardised approach	110,138	106,248	426	284	
Total	515,865	467,884	13,981	205,182	

1) IRB total average LGD is excluding other non-credit obligation assets.

2) Includes exposures classes past due items, items belonging to regulatory high-risk categories, other items and equity.

2017 EURm	Original exposure	Exposure	- of which secured by guarantees and credit derivatives	- of which secured by collateral	Average weighted LGD[1]
IRB exposure classes					
Sovereign	83,967	82,141	522	893	45.0%
Institution	42,671	40,127	188	114	20.3%
Corporate	178,241	143,580	10,840	59,960	30.3%
- of which Advanced	154,491	123,021	10,354	56,450	28.0%
Retail	185,400	178,595	2,248	142,036	17.2%
- of which secured by immovable property	146,621	143,598		138,424	14.4%
- of which other retail	35,482	32,019	1,849	2,121	29.3%
- of which SME	3,298	2,978	399	1,491	24.2%
Other non-credit obligation assets	2,835	2,550	18	52	
Total IRB approach	493,115	446,993	13,817	203,055	26.8%
Standardised exposure classes					
Central government and central banks		2,484			
Regional governments and local authorities	135	133			
Institution	2,423	2,306	17	82	
Corporate	5,829	3,324	9	717	
Retail	6,996	4,560	38	103	
Exposures secured by real estate	4,505	4,388		4,388	
Other[2]	3,193	3,020	23		
Total standardised approach	25,567	20,216	87	5,290	
Total	518,682	467,209	13,903	208,346	

1) IRB total average LGD is excluding other non-credit obligation assets.

2) Includes exposures classes past due items, items belonging to regulatory high-risk categories, other items and equity.

Table 34 Distribution of collateral

The table shows that residential real estate accounts for 73% of total eligible collateral, a slight decrease from 74% in 2017. Commercial real estate increased from 17% in 2017 to 18% in 2018. For the other collateral categories, the proportions remained relatively stable in 2018.

	2018	2017
Financial collateral	1.1%	1.2%
Receivables	0.9%	0.9%
Residential real estate	72.9%	73.6%
Commercial real estate	18.3%	16.6%
Other physical collateral	6.8%	7.6%
Total	100.0%	100.0%

Table 35 Credit risk adjustments by customer

	Specific credit risk adjustments charges (on balance)				
	Individually calculated		Collectively calculated		Total
2018, EURm	Provisions	Reversals	Net model losses (stage 1&2)	Net model losses (stage 3, model based)	Total
To central banks and credit institutions	0	0	10	-3	6
- of which central banks	0	0	-1	0	-1
- of which credit institutions	0	0	10	-3	7
	0	0	0	0	0
To the public	-498	466	43	-42	-31
- of which corporate	-454	421	36	-7	-4
	-11	12	-2	-5	-6
Construction and engineering					
Consumer durables (cars, appliances, etc.)	-21	36	1	0	16
Consumer staples (food, agriculture, etc.)	-47	11	-6	-3	-45
Energy (oil, gas, etc.)	-101	70	-7	4	-34
Financial institutions	-40	19	-7	-17	-45
Health care and pharmaceuticals	0	1	0	0	1
Industrial capital goods	-14	3	0	0	-11
Industrial commercial services, etc.	-44	67	2	1	25
IT software, hardware and services	-2	10	-2	0	5
Media and leisure	-4	5	0	-1	0
Metals and mining materials	0	3	-6	0	-4
Other materials (chemical, building materials, etc.)	1	27	-21	0	6
Other, public and organisations	-2	17	30	12	57
Paper and forest materials	0	0	-1	-2	-3
Real estate management and investment	-22	34	4	7	23
Retail trade	-61	18	1	2	-40
Reversed repurchase agreements	0	0	0	0	0
Shipping and offshore	-80	47	54	-3	18
Telecommunication equipment	0	0	0	0	0
Telecommunication operators	0	15	1	0	16
Transportation	-3	3	-4	-1	-5
	-1	23	0	0	22
Utilities (distribution and production)					
- of which household	-45	45	4	-35	-29
Mortgage financing	-2	1	-10	-23	-33
Consumer financing	-43	44	15	-12	4
- of which public sector	0	0	2	0	2
Total loans	-498	466	53	-45	-25

This table is not covering all net loan losses. The difference is recoveries, write-offs and allowances used to cover write-offs. These are not included in this table.

	Specific credit risk adjustments charges					
	Individually		Collectively		Total	
2017, EURm	Provisions	Reversals	Provisions	Reversals	Provisions	Reversals
To central banks and credit institutions			-1	1	-1	1
- of which central banks						
- of which credit institutions			-1	1	-1	1
To the public	-814	392	-160	258	-974	650
- of which corporate	-658	258	-146	238	-805	497
Construction and engineering	-26	11	-3	3	-29	14
Consumer durables (cars, appliances, etc.)	-19	4	-2	11	-21	15
Consumer staples (food, agriculture, etc.)	-44	36	-2	24	-46	60
Energy (oil, gas, etc.)	-163	14	-15	11	-178	25
Financial institutions	-55	13	0	-7	-55	6
Health care and pharmaceuticals	-1	2	-1	1	-2	3
Industrial capital goods	-23	4	-2	2	-25	6
Industrial commercial services, etc.	-58	26	-7	8	-65	34
IT software, hardware and services	-10	12	-2	1	-12	12
Media and leisure	-5	5	-3	4	-8	9
Metals and mining materials	-2	4	-2	1	-3	5
Other materials (chemical, building materials, etc.)	-40	15	0	5	-40	21
Other, public and organisations	-19	30	-23	32	-42	62
Paper and forest materials	-1	1	-1	1	-2	1
Real estate management and investment	-52	15	-18	20	-70	35
Retail trade	-69	37	-5	6	-74	43
Reversed repurchase agreements	0	0	0	0	0	0
Shipping and offshore	-39	26	-57	111	-97	137
Telecommunication equipment	0	0	0	0	0	0
Telecommunication operators	-7	0	0	0	-8	0
Transportation	-12	4	-3	2	-14	6
Utilities (distribution and production)	-12	0	-1	1	-13	2
- of which household	-156	134	-14	19	-169	153
Mortgage financing	-61	40	-10	9	-71	49
Consumer financing	-94	94	-4	10	-98	104
- of which public sector	0	0	0	0	0	0
Total loans	-814	392	-161	259	-975	651
- of which in the life insurance operations						

Table 36 Loans, impaired loans, allowances and provisioning ratios, split by customer type

EURm	Loans after allowances 2017	Loans after allowances 2018	Impaired loans before allowances	Impaired loans in % of loans	Allowances on balance stage 1&2	Allowances on balance stage 3	Allowances in relation to impaired loans (stage 3)
To central banks and credit institutions	13,574	19,034	0	0%	12	3	
- of which central banks	4,807	7,660	0	0%	1	0	
- of which credit institutions	8,767	11,374	0	0%	12	3	
To the public	316,078	261,837	5,052	2%	454	1,693	34%
- of which corporate	150,210	128,919	3,634	3%	264	1,405	39%
Construction and engineering	4,893	4,213	128	3%	13	75	59%
Consumer durables (cars, appliances, etc.)	2,228	1,656	138	8%	3	44	32%
Consumer staples (food, agriculture, etc.)	10,078	5,153	412	8%	21	213	52%
Energy (oil, gas, etc.)	1,965	1,842	666	36%	9	159	24%
Financial institutions	15,409	14,165	287	2%	32	55	19%
Health care and pharmaceuticals	1,423	983	5	0%	2	2	37%
Industrial capital goods	1,661	1,351	59	4%	3	39	66%
Industrial commercial services, etc.	11,330	10,680	351	3%	23	81	23%
IT software, hardware and services	1,956	1,614	14	1%	8	11	80%
Media and leisure	2,379	1,687	34	2%	4	13	36%
Metals and mining materials	713	671	34	5%	7	13	38%
Other materials (chemical, building materials, etc.)	4,119	4,064	173	4%	30	88	51%
Other, public and organisations	5,034	3,084	6	0%	11	160	2765%
Paper and forest materials	1,331	1,268	21	2%	3	6	26%
Real estate management and investment	42,501	36,032	322	1%	22	114	35%
Retail trade	9,141	8,381	311	4%	27	163	52%
Reversed repurchase agreements	16,292	16,711	0	0%	0	0	
Shipping and offshore	8,380	7,635	588	8%	34	135	23%
Telecommunication equipment	29	18	1	7%	0	1	46%
Telecommunication operators	893	859	6	1%	1	5	89%
Transportation	3,473	3,299	73	2%	11	27	38%
Utilities (distribution and production)	4,982	3,553	5	0%	2	1	27%
- of which household	161,156	128,995	1,418	1%	188	289	20%
Mortgage financing	133,378	103,869	776	1%	66	85	11%
Consumer financing	27,777	25,126	642	3%	122	204	32%
- of which public sector	4,712	3,923	0.00	0%	1	0	
Total loans	329,652	280,871	5,052	2%	465	1,697	34%

Provisions for off-balance sheet items for 2018 were EUR 121m.

Table 37 Impaired loans to the public: gross, allowances and past due gross loans split by geography and industry

Impaired loans decreased significantly by EUR 1.3bn to EUR 5.1bn, primarily driven by the exclusion of the fair value portfolio. The decrease is primarily related to the corporate portfolio which decrease by EUR 0.9bn, while the household portfolio decreased by EUR 0.5bn

EURm	Total 2017	Total 2018	Denmark	Finland	Norway	Sweden	Russia	Outside Nordic	Total allowances on balance	Past due gross carrying amounts
To the public	6,390	5,052	1,230	1,289	1,088	295	9	1,141	2,147	3,023
- of which corporate	4,495	3,634	1,048	511	921	184	9	961	1,669	977
Construction and engineering	168	128	37	33	22	13	0	23	88	94
Consumer durables (cars, appliances, etc.)	213	138	23	25	82	4	0	3	47	85
Consumer staples (food, agriculture, etc.)	749	412	335	49	5	4	0	20	234	74
Energy (oil, gas, etc.)	860	666	0	0	281	0	7	377	168	8
Financial institutions	353	287	195	8	64	19	0	2	86	29
Health care and pharmaceuticals	15	5	2	3	0	0	0	0	4	7
Industrial capital goods	60	59	9	46	0	3	0	1	42	21
Industrial commercial services, etc.	358	351	89	35	54	54	2	116	104	74
IT software, hardware and services	52	14	8	5	0	0	0	0	19	31
Media and leisure	36	34	8	15	4	1	0	6	17	36
Metals and mining materials	41	34	0	6	28	0	0	0	20	28
Other materials (chemical,	280	173	14	128	6	9	0	16	117	38
building materials, etc.)		0	0	0	0	0	0	0	0	0
Other, public and organisations	29	6	3	0	0	0	0	3	171	135
Paper and forest materials	7	55	17	1	0	0	0	36	9	18
Real estate management and investment	540	298	82	84	66	2	0	65	136	164
Retail trade	327	301	164	48	14	67	0	7	190	63
Reversed repurchase agreements		0	0	0	0	0	0	0	0	0
Shipping and offshore	275	588	51	0	266	1	0	269	169	1
Telecommunication equipment	1	1	0	1	0	0	0	0	1	0
Telecommunication operators	15	8	0	3	0	2	0	2	6	3
Transportation	85	71	10	20	27	4	0	9	39	62
Utilities (distribution and production)	31	5	1	0	1	0	0	4	4	5
- of which household	1,895	1,418	182	778	167	111	0	180	477	1,769
Mortgage financing	1,053	776	0	438	127	53	0	158	151	1,361
Consumer financing	842	642	182	341	40	58	0	21	326	408
- of which public sector	0	0	0	0	0	0	0	0	1	277
Total impaired loans	6,390	5,052	1,230	1,289	1,088	295	9	1,141	122	220
Past due loans	2,430	3,023	544	1,233	715	247	10	274	0	2,803
Allowances	2,484	2,147	820	472	317	172	9	357	2,147	0

Table 38 Reconciliation of allowance accounts

Accumulated allowances had an opening balance of EUR 2.5bn, and a closing balance of EUR 2.2bn at the end of 2018. The reduced allowance level for loans in stages 1&2 was mainly related to reversals in the net model losses while the change in individually assessed allowances are primarily driven by write-offs covered by allowances.

	Specific credit risk adjustments		
2018, EURm	Individually assessed (stage 3)	Collectively assessed (stage 1&2)	Total
Closing balance according to IAS 39	-2,078.2	-415.0	-2,493.2
Opening balance acccording IFRS 9	-1,924.3	-552.8	-2,477.1
Changes through the income statement	-79.9	50.0	-29.9
- Of which Provisions	-497.6	-0.8	-498.4
- Of which Reversals	465.0	0.9	466.0
- Net model losses	-45.2	52.6	7.4
Allowances used to cover write-offs	320.7	0.0	320.7
Reclassificaitons	7.2	-6.4	0.8
Currency translation differences	16.5	1.8	18.3
Closing balance	-1,657.7	-504.6	-2,162.3

For loan losses directly recognised through the income statement (not affecting the allowance accounts), refer to the note "Net loan losses" in the Annual Report.

	Specific credit risk adjustments		
2017, EURm	Individually assessed	Collectively assessed	Total
Opening balance	-1,952.8	-518.2	-2,470.9
Changes through the income statement	-421.6	97.5	-324.1
- Of which Provisions	-813.3	-162.0	-975.2
- Of which Reversals	391.7	259.5	651.1
Allowances used to cover write-offs	309.5		309.5
Reclassificaitons	-45.2	-7.5	-52.8
Currency translation differences	31.9	13.2	45.1
Closing balance	-2,078.2	-415.0	-2,493.2

For loan losses directly recognised through the income statement (not affecting the allowance accounts), refer to the note "Net loan losses" in the Annual Report.

Table 39 Loan losses, split by customer type

EURm	New provisions and write-offs (stage 3, individually calculated)	Reversals and recoveries (stage 3 individually calculated)	Net model losses (stage 1&2, stage 3 model based)	Net losses, Total	Loan loss ratio bps
To central banks and credit institutions	-1	2	6	7	-4
- of which central banks	0	0	-1	-1	1
- of which credit institutions	-1	2	7	8	-7
To the public	-745	586	-15	-175	7
- of which corporate	-598	500	22	-76	6
Construction and engineering	-17	19	-8	-5	13
Consumer durables (cars, appliances, etc.)	-38	52	1	14	-86
Consumer staples (food, agriculture, etc.)	-64	26	-14	-52	101
Energy (oil, gas, etc.)	-103	70	-3	-37	199
Financial institutions	-47	19	-23	-52	36
Health care and pharmaceuticals	-1	2	0	1	-7
Industrial capital goods	-14	4	0	-9	70
Industrial commercial services, etc.	-79	76	-1	-5	5
IT software, hardware and services	-4	10	-3	4	-22
Media and leisure	-6	5	-1	-2	10
Metals and mining materials	0	3	-6	-4	55
Other materials (chemical, building materials, etc.)	-1	27	-21	4	-10
Other, public and organisations	-9	6	50	47	-152
Paper and forest materials	-1	0	-3	-3	23
Real estate management and investment	-32	45	11	24	-7
Retail trade	-70	29	-4	-45	54
Reversed repurchase agreements	0	0	0	0	0
Shipping and offshore	-82	65	53	35	-46
Telecommunication equipment	0	0	0	0	39
Telecommunication operators	-9	15	1	7	-84
Transportation	-4	3	-6	-6	19
Utilities (distribution and production)	-16	23	1	8	-22
- of which household	-147	86	-40	-101	8
Mortgage financing	-10	3	-20	-27	3
Consumer financing	-138	84	-20	-74	29
- of which public sector	0	0	3	3	-6
Total	-746	588	-9	-167	6

Table 40 Standardised exposure classes, distributed by credit quality step

The table presents the exposures and the equivalent S&P ratings. Nordea reports sovereign exposures under standardised approach from Q4 2018, which triggered the significant increase in the original exposure in central governments and central banks, regional governments or local authorities as well as multilateral development banks. Almost all of the exposures in the sovereign portfolio fall under the highest credit quality step. The lowest credit quality step includes Deferred Tax Assets (DTAs), subject to a risk weight of 100% or 250%, depending on the nature of the tax asset. Furthermore, exposures towards institutions all fall under the highest credit quality step. The largest exposure class is the corporate portfolio with most of the exposures fall under 100% risk weight for both 2018 and 2017.

EURm			Original Exposure		Exposure	
Credit quality step	Standard & Poor's rating	Risk weight	31 Dec 2018	31 Dec 2017	31 Dec 2018	31 Dec 2017
(a) Central Governments or Central banks						
1	AAA to AA-	0%	77,006	2,365	80,248	2,363
2	A+ to A-	20%	45		45	
3	BBB+ to BBB-	50%	214		206	
4 to 6 or blank	BB+ and below, or without rating	100-250%	628	122	273	122
Sub-total			77,893	2,486	80,772	2,484
(b) Regional Governments or local authorities						
1	AAA to AA-[1]	0% - 20%[1]	9,762	135	6,113	133
2	A+ to A-	50%	2		2	
3 to 6 or blank	BBB+ and below, or without rating	100-250%				
Sub-total			9,763	135	6,115	133
(c) Public sector entites						
1	AAA to AA-[1]	0% - 20%[1]	100	15	63	46
2	A+ to A-	50%	5	27	4	7
3 to 6 or blank	BBB+ and below, or without rating	100-250%				
Sub-total			105	41	67	52
(d) Multilateral Developments Banks						
1	AAA to AA-[2]	0% - 20%[2]	2,096		2,105	
2	A+ to A-	50%				
3 to 6 or blank	BBB+ and below, or without rating	100-250%				
Sub-total			2,096		2,105	
(e) Institutions[3]						
1	AAA to AA-	20%	375	304	374	219
2	A+ to A-	50%	53	74	39	60
3 to 6 or blank	BBB+ and below, or without rating	100-150%		20		3
Sub-total			428	398	413	282
(f) Corporates						
1	AAA to AA-	20%				
2	A+ to A-	50%				
3 to 4	BBB+ to BB-	100%	5,270	5,768	3,974	3,322
5 to 6 or blank	without rating	150%		61		2
Sub-total			5,270	5,829	3,974	3,324

1) Includes exposures treated as exposures to the central government, regional government or local authority as provisioned by CRR and that receives a 0%-risk weight.
2) Includes exposures to specific entities and receives a 0%-risk weight as provisioned by CRR.
3) Excludes exposures towards CCPs.

Table 41 Comparison on parameter estimates against actual outcomes

The table shows the comparison between estimated expected losses (EL) and actual losses and between exposure-weighted estimated and realised LGD and CCF for IRB exposures. Estimated EL follows the calculation rules defined in the CRR. Actual losses is defined as the full year net loss. LGD estimates measure the net present value of the nominal loss including costs caused by a customer's default. CCF is a statistical multiplier used to predict the EAD by predicting the drawdown of the off-balance exposure. The estimates are based on internal data regarding drawings prior to default. Realised LGD and CCF values for the retail portfolio are based on a minimum of seven default years and a three years' work-out period. For the corporate portfolio the averages are also based on at least seven years of data. The estimated LGD and CCF displayed are the available reporting data at the date in question. The estimated values include a downturn add-on and a safety margin, hence the difference between estimated and realised values. The development in actual losses in the corporate portfolio was mainly driven by lower loan losses during 2018 in the Oil and Offshore sector. Furthermore, reversals for Real Estate Management and Investment as well as for Other, Public and Organisations drove

	Expected loss		CCF		LGD	
	Estimated	Actual	Estimated	Realised	Estimated	Realised
2018						
Retail	-245	-102	52.2%	44.2%	17.6%	9.8%
Of which secured by immovable proper	-87	-28	40.8%	37.8%	15.0%	7.6%
Of which other retail	-158	-74	55.1%	45.8%	29.1%	19.2%
Corporate[1]	-287	-82	59.7%	51.7%	30.1%	14.9%
Institution	-11	8	n/a	n/a	n/a	n/a
Government	-6	3	n/a	n/a	n/a	n/a
2017						
Retail	-225	-48	61.2%	55.8%	17.4%	10.0%
Of which secured by immovable proper	-80	-16	42.6%	39.7%	14.5%	7.7%
Of which other retail	-145	-32	66.3%	60.2%	29.8%	20.1%
Corporate[1]	-313	-321	60.7%	53.4%	30.3%	14.6%
Institution	-14	0	n/a	n/a	n/a	n/a
Government	-4	0	n/a	n/a	n/a	n/a
2016						
Retail	-245	-74	55.2%	50.2%	17.3%	9.5%
Of which secured by immovable proper	-90	-28	42.1%	38.9%	14.2%	6.9%
Of which other retail	-155	-46	58.9%	53.3%	31.5%	21.3%
Corporate[1]	-334	-427	61.2%	53.3%	30.8%	13.8%
Institution	-20	0	n/a	n/a	n/a	n/a
Government	n/a	0	n/a	n/a	n/a	n/a

1) Includes SME Retail

Table 42 Exposure weighted average PD and LGD, IRB exposure classes

Parameters are calculated excluding defaulted exposures. During 2018, sovereign exposures were moved from IRB to SA which had an significant impact on exposure weighted PD and LGD, as PD was significantly lower for the sovereign portfolio while LGD has been higher as exposures are typically unsecured. In Russia average PD has decreased as part of the de-risking strategy.A

	Denmark		Finland		Norway		Sweden		Baltic countries		Russia		US		Other	
Percent (%)	PD	LGD	PD	LGD	PD	LGD	PD	LGD	PD	LGD	PD	LGD	PD	LGD	PD	LGD
Sovereign																
Institution	0.09%	11.6%	0.62%	28.2%	0.04%	12.3%	0.07%	15.6%	0.05%	45.0%	1.07%	45.0%	0.10%	45.0%	0.25%	42.8%
Corporate	0.93%	28.7%	1.00%	30.2%	0.74%	29.6%	0.52%	30.6%	0.62%	40.2%	0.30%	42.3%	0.34%	31.7%	1.03%	32.9%
- of which advanced	0.96%	26.8%	0.95%	28.0%	0.73%	28.0%	0.50%	28.3%	0.72%	30.6%	0.25%	37.6%	0.33%	31.6%	1.08%	31.3%
Retail	0.69%	20.7%	1.29%	17.8%	0.57%	20.6%	0.24%	12.0%	1.90%	21.8%	1.29%	16.7%	0.64%	15.9%	0.75%	17.1%
- of which secured by immovable property	0.57%	17.7%	0.63%	14.5%	0.22%	19.7%	0.19%	10.0%	0.91%	13.8%	1.05%	13.2%	0.52%	13.1%	0.43%	13.3%
- of which by other retail	1.21%	34.6%	2.81%	25.8%	2.25%	24.8%	0.60%	30.4%	3.30%	25.6%	2.24%	28.2%	1.09%	30.8%	1.70%	28.0%
- of which SME	2.27%	21.3%	2.62%	21.9%	2.86%	30.3%	1.88%	29.4%	2.25%	36.0%	2.00%	35.7%	4.76%	33.5%	2.05%	33.9%
Other non-credit obligation assets	2.50%	45.0%	2.46%	44.2%	1.68%	37.5%	2.28%	43.3%			2.50%	45.0%	2.50%	45.0%	2.50%	44.9%
Total 2018	0.67%	21.9%	1.20%	22.9%	0.59%	23.6%	0.33%	18.5%	0.65%	39.7%	0.36%	42.2%	0.32%	33.2%	0.82%	34.5%
Total 2017	0.55%	23.6%	0.80%	28.3%	0.49%	25.5%	0.29%	21.0%	0.35%	42.5%	0.45%	42.5%	0.05%	44.0%	0.47%	37.4%

Counterparty credit risk

Table

Table 43 EU CCR1 Analysis of counterparty credit risk by approach

Nordea is using two methodologies when calculating the counterparty credit risk amounts. These methodologies are the Mark to Market Method and Internal Model Method (IMM). For Securities Financing Transactions (SFT) Nordea is using the financial collateral comprehensive method. During Q4 REA increased by approximately EUR 1bn mostly driven by the implementation of the ECB decision for continued use of internal models. Exposure amounts decreased during the quarter mainly driven by reduced SFT volumes as of year end.

2018							
EURm	Notional	Replace-ment cost/ Current market value	Potential future value	EEPE	Multiplier	EAD post-CRM	REA
Mark to market		261	1,902			2,162	701
Original exposure	0					0	0
Standardised approach		0			0	0	0
Internal Model Method (for derivatives and SFTs)			6,338	9,051	1	12,672	5,263
- Of which securities Financing Transactions			0	0	0	0	0
- Of which derivatives & Long Settlement Transactions			6,338	9,051	1	12,672	5,263
- Of which from Contractual Cross Product Netting			0	0	0	0	0
Financial collateral simple method (for SFTs)						0	0
Financial collateral comprehensive method (for SFTs)						4,886	707
VaR for SFTs						0	0
Total							6,671

Q3-2018

EURm	Notional	Replacement cost/ Current market value	Potential future value	EEPE	Multiplier	EAD post-CRM	REA
Mark to market		504	1,723			2,227	685
Original exposure	0					0	0
Standardised approach		0			0	0	0
Internal Model Method (for derivatives and SFTs)			6,338	9,277	1	12,988	4,091
- Of which securities Financing Transactions			0	0	0	0	0
- Of which derivatives & Long Settlement Transactions			6,338	9,277	1	12,988	4,091
- Of which from Contractual Cross Product Netting			0	0	0	0	0
Financial collateral simple method (for SFTs)						7,373	883
Financial collateral comprehensive method (for SFTs)						0	0
VaR for SFTs						0	0
Total							5,659

Luminor Bank CCR exposures of EUR 42m are not considered in the table.

Table 44 EU CCR2 Credit valuation adjustment (CVA) capital charge

The CVA risk capital charge computes the amount required to cover the potential losses arising from marking to market the counterparty credit risk of the OTC derivative portfolio. It is calculated using either an advanced approach or a standardised approach where the advanced approach is based on a VaR model and calculated as a 60 day average. Increase in ACVA REA numbers since last reporting period is driven by the implementation of a new stressed period for stressed VaR in Q3-2018.

2018		
EURm	Exposure value	REA
Total portfolios subject to the Advanced Method	2,706	721
(i) VaR component (including the 3×multiplier)		104
(ii) Stressed VaR component (including the 3×multiplier)		617
All portfolios subject to the Standardised Method	1,482	210
Based on Original Exposure Method		
Total subject to the CVA capital charge	4,189	931

Q2-2018		
EURm	Exposure value	REA
Total portfolios subject to the Advanced Method	3,526	564
(i) VaR component (including the 3×multiplier)		110
(ii) Stressed VaR component (including the 3×multiplier)		454
All portfolios subject to the Standardised Method	1,523	218
Based on Original Exposure Method		
Total subject to the CVA capital charge	5,049	781

Table 45 EU CCR3 Standardised approach - Counterparty credit risk exposures by regulatory portfolio and risk

EU CCR3 shows EAD for counterparty credit risk (CCR) according to the standardised approach broken down by exposure class and risk weight. The total amount of EAD for this approach increased from EUR 2.9bn in Q2 2018 to EUR 6.5bn in Q4 2018, mostly explained by the the sovereign exposures reported under the standardised approach in Q4 2018. Naturally, most of these exposures had 0% risk-weight. The second most significant EAD was from the Institutional exposures, with a total of EUR 2.2bn at the end of 2018. Most of these exposures were classified within 2% risk weight.

2018

EURm	Risk weight												
Exposure classes	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	Other	Total
Central governments or central banks	2,196				34					37			2,266
Regional governments or local authorities	925				346								1,272
Public sector entities	0												0
Multilateral development banks	644												644
International organisations	89												89
Institutions	92	1,664			347							77	2,180
Corporate	8									11			18
Retail	1								0				1
Exposures in default	0												0
Total	3,955	1,664			727				0	48	0	77	6,471

Q2 2018

EURm	Risk weight												
Exposure classes[1]	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	Other	Total
Institutions		2,760										113	2,873
Corporate										36			36
Retail									1				1
Total		2,760							1	36		113	2,910

[1]Luminor Bank CCR exposures of EUR 64m are not considered in the table.

Table 46 EU CCR4: Counterparty credit risk exposures by portfolio and PD scale

EU CCR4 tables show EAD for counterparty credit risk (CCR) according to the IRB approach broken down by exposure class and obligor grade, providing a comprehensive overview of original and regulatory exposures as well as statistics on the inputs used for their computation, such as EAD, average PD and average LGD. During 2018, EAD decreased by EUR 7.3bn and REA increased by EUR 0.6bn, which translates into an increase in average risk weight from 28% to 48%. EAD's variation is mostly explained by the sovereign exposures reported under the standardised approach and REA's variation is mostly explained by the introduction of IRB floors.

PD scale	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	REA	REA density
Total IRB							
0.00 to < 0.15	8,364	0.08%	1,875	44.4%	2.0	2,469	30%
0.15 to < 0.25	1,002	0.21%	782	44.8%	2.3	590	59%
0.25 to < 0.50	2,308	0.43%	1,715	44.0%	2.2	1,759	76%
0.50 to < 0.75	90	0.66%	70	44.1%	2.5	89	99%
0.75 to < 2.50	1,208	1.16%	2,058	44.9%	2.3	1,140	94%
2.50 to < 10.00	162	3.40%	514	44.6%	2.0	198	122%
10.00 to < 100	45	12.56%	344	44.9%	2.5	77	169%
100 (Default)	70	100.00%	159	44.7%	2.5	54	78%
Total IRB	13,249	0.86%	7,517	44.4%	2.1	6,375	48%
Sovereigns FIRB							
0.00 to < 0.15							
0.15 to < 0.25							
0.25 to < 0.50							
0.50 to < 0.75							
0.75 to < 2.50							
2.50 to < 10.00							
10.00 to < 100							
100 (Default)							
Soverigns FIRB							
Institutions FIRB							
0.00 to < 0.15	4,087	0.08%	155	43.8%	1.9	1,143	28%
0.15 to < 0.25	238	0.17%	41	45.0%	2.1	112	47%
0.25 to < 0.50	464	0.39%	53	40.4%	1.8	298	64%
0.50 to < 0.75	82	0.66%	18	45.0%	2.5	86	106%
0.75 to < 2.50	20	1.05%	8	45.0%	2.5	25	125%
2.50 to < 10.00	10	3.78%	3	45.0%	2.5	16	159%
10.00 to < 100							
100 (Default)							
Institutions FIRB	4,900	0.13%	278	43.5%	1.9	1,681	34%
Retail RIRB							
0.00 to < 0.15	9	0.09%	94	35.0%	2.5	1	8%
0.15 to < 0.25	15	0.20%	134	35.1%	2.5	2	15%
0.25 to < 0.50	11	0.33%	92	35.2%	2.5	2	20%
0.50 to < 0.75	8	0.60%	52	35.0%	2.5	2	29%
0.75 to < 2.50		1.59%	543	36.4%	2.5	8	42%
2.50 to < 10.00	7	4.72%	182	36.1%	2.5	3	50%
10.00 to < 100	1	23.12%	33	35.4%	2.5	0	80%
100 (Default)	2	100.00%	26	34.9%	2.5	8	437%
Retail RIRB	71	3.82%	1,156	35.5%	2.5	27	38%

Corporate FIRB, Total

PD scale	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	REA	REA density
0.00 to < 0.15	4,269	0.08%	1,626	45.0%	2.2	1,325	31%
0.15 to < 0.25	748	0.22%	607	45.0%	2.3	476	64%
0.25 to < 0.50	1,833	0.44%	1,570	45.0%	2.3	1,459	80%
0.50 to < 0.75							
0.75 to < 2.50	1,169	1.15%	1,507	45.0%	2.3	1,107	95%
2.50 to < 10.00	146	3.32%	329	45.0%	1.9	179	122%
10.00 to < 100	45	12.42%	311	45.0%	2.5	76	170%
100 (Default)	68	100.00%	133	45.0%	2.5	46	68%
Corporate FIRB, Total	8,278	1.26%	6,083	45.0%	2.2	4,667	56%

Corporate FIRB, Corporate exposures excluding SMEs and specialised lending

PD scale	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	REA	REA density
0.00 to < 0.15	3,548	0.08%	794	45.0%	2.1	1,091	31%
0.15 to < 0.25	598	0.22%	249	45.0%	2.3	369	62%
0.25 to < 0.50	1,481	0.44%	589	45.0%	2.2	1,188	80%
0.50 to < 0.75							
0.75 to < 2.50	799	1.19%	475	45.0%	2.1	780	98%
2.50 to < 10.00	122	3.27%	94	45.0%	1.8	155	127%
10.00 to < 100	16	11.86%	35	45.0%	2.5	33	208%
100 (Default)	32	100.00%	21	45.0%	2.5	33	104%
Sub-total	6,595	0.88%	2,257	45.0%	2.2	3,651	55%

Corporate FIRB, SME exposures excluding specialised lending

PD scale	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	REA	REA density
0.00 to < 0.15	721	0.07%	832	45.0%	2.5	234	32%
0.15 to < 0.25	151	0.22%	358	45.0%	2.5	107	71%
0.25 to < 0.50	353	0.44%	981	45.0%	2.5	270	77%
0.50 to < 0.75							
0.75 to < 2.50	370	1.07%	1,032	45.0%	2.5	327	88%
2.50 to < 10.00	24	3.56%	235	45.0%	2.5	23	100%
10.00 to < 100	29	12.73%	276	45.0%	2.5	43	149%
100 (Default)	36	100.00%	112	45.0%	2.5	13	35%
Sub-total	1,683	2.78%	3,826	45.0%	2.5	1,017	60%

Corporate FIRB, Specialised lending exposures

PD scale	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	REA	REA density
0.00 to < 0.15							
0.15 to < 0.25							
0.25 to < 0.50							
0.50 to < 0.75							
0.75 to < 2.50							
2.50 to < 10.00							
10.00 to < 100							
100 (Default)							
Sub-total							

2017 , EURm

Total IRB

PD scale	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	REA	REA density
0.00 to < 0.15	14,822	0.04%	2,411	44.7%	2.0	2,246	15%
0.15 to < 0.25	1,055	0.17%	870	45.0%	2.2	425	40%
0.25 to < 0.50	3,052	0.35%	1,975	43.1%	2.3	1,769	58%
0.50 to < 0.75	756	0.67%	884	44.9%	2.5	581	77%
0.75 to < 2.50	491	1.28%	1,426	44.6%	2.4	465	95%
2.50 to < 10.00	230	3.66%	860	44.8%	2.0	289	126%
10.00 to < 100	11	17.13%	172	44.5%	2.5	19	177%
100 (Default)	166	100.00%	207	44.9%	2.5	10	6%
Total IRB	20,582	1.00%	8,805	44.5%	2.1	5,803	28%

Sovereigns FIRB

PD scale	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	REA	REA density
0.00 to < 0.15	5,631	0.00%	327	45.0%	1.9	147	3%
0.15 to < 0.25							
0.25 to < 0.50							
0.50 to < 0.75							
0.75 to < 2.50							
2.50 to < 10.00							
10.00 to < 100							
100 (Default)							
Sovereigns FIRB	5,631	0.00%	327	45.0%	1.9	147	3%

Institutions FIRB

PD scale	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	REA	REA density
0.00 to < 0.15	4,868	0.06%	143	44.1%	2.0	1,266	26%
0.15 to < 0.25	200	0.15%	39	45.0%	2.1	92	46%
0.25 to < 0.50	681	0.33%	67	36.6%	2.2	387	57%
0.50 to < 0.75	23	0.57%	15	45.0%	2.5	22	97%
0.75 to < 2.50	11	1.37%	11	45.0%	2.5	13	126%
2.50 to < 10.00	59	2.62%	5	45.0%	0.6	76	129%
10.00 to < 100							
100 (Default)							
Institutions - FIRB	5,842	0.13%	280	43.3%	2.0	1,857	32%

Retail RIRB

PD scale	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	REA	REA density
0.00 to < 0.15	11	0.10%	142	38.2%	2.5	1	10%
0.15 to < 0.25	7	0.20%	159	38.3%	2.5	1	15%
0.25 to < 0.50	10	0.36%	136	38.3%	2.5	2	22%
0.50 to < 0.75	11	0.60%	60	38.2%	2.5	4	31%
0.75 to < 2.50	30	1.63%	616	38.4%	2.4	14	47%
2.50 to < 10.00	7	4.64%	189	38.4%	2.5	4	53%
10.00 to < 100	1	19.83%	37	38.3%	2.5	1	80%
100 (Default)	2	100.00%	19	38.2%	2.5	10	478%
Retail - RIRB	79	3.98%	1,358	38.3%	2.5	36	46%

Corporate FIRB, Total

PD scale	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	REA	REA density
0.00 to < 0.15	4,311	0.06%	1,811	45.0%	2.1	832	19%

0.15 to < 0.25	848	0.18%	672	45.0%	2.2	331	39%
0.25 to < 0.50	2,361	0.35%	1,772	45.0%	2.4	1,380	58%
0.50 to < 0.75	722	0.67%	809	45.0%	2.5	556	77%
0.75 to < 2.50	451	1.26%	799	45.0%	2.4	437	97%
2.50 to < 10.00	163	4.00%	654	45.0%	2.5	208	128%
10.00 to < 100	10	16.93%	135	45.0%	2.5	18	184%
100 (Default)	164	100.00%	188	45.0%	2.5		
Corporate FIRB, Total	9,030	2.16%	6,840	45.0%	2.2	3,762	42%

Corporate FIRB, Corporate exposures excluding SMEs and specialised lending

PD scale	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	REA	REA density
0.00 to < 0.15	3,555	0.06%	808	45.0%	2.0	712	20%
0.15 to < 0.25	689	0.18%	230	45.0%	2.1	276	40%
0.25 to < 0.50	1,866	0.35%	643	45.0%	2.3	1,128	60%
0.50 to < 0.75	469	0.67%	258	45.0%	2.5	394	84%
0.75 to < 2.50	309	1.29%	221	45.0%	2.3	324	105%
2.50 to < 10.00	83	3.41%	156	45.0%	2.5	116	139%
10.00 to < 100	2	17.07%	6	45.0%	2.5	5	243%
100 (Default)	108	100.00%	39	45.0%	2.5		
Sub-total	7,083	1.81%	2,361	45.0%	2.2	2,955	42%

Corporate FIRB, SME exposures excluding specialised lending

PD scale	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	REA	REA density
0.00 to < 0.15	756	0.06%	1,003	45.0%	2.5	119	16%
0.15 to < 0.25	159	0.18%	442	45.0%	2.5	56	35%
0.25 to < 0.50	494	0.36%	1,129	45.0%	2.5	251	51%
0.50 to < 0.75	253	0.67%	551	45.0%	2.4	161	64%
0.75 to < 2.50	141	1.19%	578	45.0%	2.5	113	80%
2.50 to < 10.00	80	4.60%	498	45.0%	2.5	92	115%
10.00 to < 100	8	16.89%	129	45.0%	2.5	13	169%
100 (Default)	55	100.00%	149	45.0%	2.5		
Sub-total	1,947	3.40%	4,479	45.0%	2.5	807	41%

Corporate FIRB, Specialised lending exposures

PD scale	EAD post CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	REA	REA density
0.00 to < 0.15							
0.15 to < 0.25							
0.25 to < 0.50							
0.50 to < 0.75							
0.75 to < 2.50							
2.50 to < 10.00							
10.00 to < 100							
100 (Default)							
Sub-total							

Table 47 EU CCR5-A: Impact of netting and collateral held on exposure values

Lower SFT and cleared-derivatives volumes for year end had driven gross and netted exposures down during the last quarter of 2018 which translated into lower netting benefits as well as lower called collateral. Note that collateral held (d) is the residual between (c) and (e) why excess collateral received was not recognised. This reflected the actual risk mitigation coming from held collateral. At the end of the year the current exposure net (after close-out netting and collateral reduction) was EUR 6.8bn.

2018, EURm

EURm	Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
Derivatives	113,068	99,970	13,099	6,749	6,350
SFTs	34,656	21,509	13,147	12,676	471
Cross-product netting	0	0	0	0	0
Total	147,724	121,479	26,245	19,425	6,821

Q2-2018

EURm	Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
Derivatives	170,380	154,615	15,765	7,717	8,048
SFTs	61,338	28,829	32,509	31,766	743
Cross-product netting	0	0	0	0	0
Total	231,718	183,443	48,274	39,483	8,791

Table 48 EU CCR5-B: Composition of collateral for exposures to CCR

Collateral used in derivative transactions reflect the total amounts of posted and received collateral on the day of reporting. For the SFT's the trade collateral (the counterparties obligation in the transaction) is included as collateral. Most significant development since last reporting date is lower SFT volumes experienced during the last quarter of 2018.

2018, EURm

	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
EURm	Segregated	Unsegregated	Segregated	Unsegregated		
Cash	0	6,846	0	9,538	34,806	46,600
Government bonds	0	829	323	1,383	23,307	21,941
Mortgage bonds	0	115	10	214	13,085	8,376
Bonds	0	40	128	4	5,992	5,431
Equity	0	0	0	0	0	581
Total	0	7,831	461	11,138	77,191	82,929

Q2-2018

	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
EURm	Segregated	Unsegregated	Segregated	Unsegregated		
Cash	0	7,201	0	9,465	61,663	64,109
Government bonds	0	901	417	1,417	33,622	41,189
Mortgage bonds	0	450	52	558	17,161	13,288
Bonds	0	45	18	126	7,860	6,549
Equity	0	0	0	0	0	769
Total	0	8,597	487	11,566	120,306	125,904

Table 49 EU CCR6: Credit derivatives exposures

Contracts that existed in Q2 have decreased value in Q4, countered by new agreements to offset the decrease.

EURm	Credit derivative hedges	
	Protection bought	Protection sold
Notionals		
Credit default swaps	65,324	65,387
Credit options	105	105
Total notionals	65,429	65,492
Fair values		
Positive fair value (asset)	430	103
Negative fair value (liability)	362	390

2018 Q2, EURm

EURm	Credit derivative hedges	
	Protection bought	Protection sold
Notionals		
Credit default swaps	49,491	49,304
Credit options	150	150
Total notionals	49,641	49,454
Fair values		
Positive fair value (asset)	645	61
Negative fair value (liability)	160	645

Table 50 EU CCR7: REA flow statements of CCR exposures under the IMM

The breakdown of REA movements into the components shown in the table is done on a best effort basis. Only exposures calculated under IMM are included in this breakdown. Methodology and policy was the main factor driving IMM REA up for the quarter which was driven by the impact from ECB's permission on continued use of IRB model.

EURm	REA amounts	Capital requirements
REA 2018 Q3	4,091	327
Asset size	-10	-1
Credit quality of counterparties	92	7
Model updates (IMM only)	5	0
Methodology and policy (IMM only)	1,045	84
Acquisitions and disposals	0	0
Foreign exchange movements	28	2
Interest rate movements	13	1
Other	0	0
REA 2018 Q4	5,263	421

EURm	REA amounts	Capital requirements
REA 2018 Q2	4,691	375
Asset size	-407	-33
Credit quality of counterparties	42	3
Model updates (IMM only)	-21	-2
Methodology and policy (IMM only)		0
Acquisitions and disposals	0	0
Foreign exchange movements	-108	-9
Interest rate movements	-107	-9
Other	1	0
REA 2018 Q3	4,091	327

Table 51 EU CCR8 Exposures to central counterparties

Exposure towards QCCPs decreased mainly as a consequence of lower repo volumes since last reporting period. On the other hand, total REA increased due to a change in the method used for calculating REA for one of Nordea's major CCPs. The change in method gives a higher REA contribution from trade exposure and reduces REA derived from default fund contribution for the same CCP.

2018 Q4		
EURm	EAD (post-CRM)	REA
Exposures to QCCPs (total)		159
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	2,061	108
(i) OTC derivatives	610	75
(ii) Exchange-traded derivatives	235	5
(iii) Securities financing transactions	1,215	29
(iv) Netting sets where cross-products netting has been approved	0	0
Segregated initial margin	440	
Non-segregated initial margin	0	0
Pre-funded default fund contribution	143	32
Unfunded default fund contribution	2	19
Exposures to non-QCCPs (total)		0

2018 Q2		
EURm	EAD (post-CRM)	REA
Exposures to QCCPs (total)		138
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	2,810	60
(i) OTC derivatives	670	13
(ii) Exchange-traded derivatives	188	4
(iii) Securities financing transactions	1,952	43
(iv) Netting sets where cross-products netting has been approved	0	0
Segregated initial margin	487	
Non-segregated initial margin	0	0
Pre-funded default fund contribution	113	78
Unfunded default fund contribution	0	0
Exposures to non-QCCPs (total)		0

Table 52 Counterparty credit risk exposures and REA split by exposure class

During 2018, total CCR EAD has decreased by EUR 3.1bn, and total CCR REA has increased by EUR 0.6bn. This represents an increase in total risk weight to 33.8% by year-end 2018 from 26.7% at the end of 2017. The EAD variation under the IRB is mostly explained by the sovereign exposures reported under the standardised approach in Q4 2018, which is also reflected in the standardised approach, where the EAD increased from EUR 2.2bn in 2017 to EUR 6.5bn in 2018. The deviation in REA is mostly explained by the introduction of IRB floors under the ECB supervision, and since sovereign exposures have majority of the exposure in 0% risk weight, the REA does not show the same increase in EAD.

	2018		2017	
EURm	Exposure	REA	Exposure	REA
IRB exposure classes				
Sovereign	0	0	5,631	147
Institution	4,900	1,681	5,842	1,857
Corporate	8,278	4,667	9,030	3,762
Retail	71	27	79	36
Other non-credit obligation assets	0	0	15	15
Total IRB approach	13,249	6,375	20,597	5,818
Standardised exposure classes				
Central government and central banks	2,266	44	7	
Regional Governments or local authorities	1,272	69		
Other	2,933	182	2,227	278
of which cleared through CCPs	2,155	154	2,025	95
Total standardised approach	6,471	295	2,234	278
Total	19,720	6,671	22,830	6,096

Exposures include derivatives as well as securities financing transactions.

Securitisation

Table 53 Securitisation

The REA of Nordea's securitisation position is fully calculated using the IRB approach, where a supervisory formula method is applied. Based on the estimated exposure value of EUR 8.3bn, the REA of the securitisation position was EUR 1,65m at year-end 2018. The increase in REA relative year-end 2017 is a consequence of the introduction of IRB floors. in accordance with the supervisory formula method, the increased averaged risk-weight of the underlying portfolio results in higher risk-weights being applied when calculating securitisation REA.

Securitisation positions - by capital approach

	Banking book			
	Exposure values		REA	
2018, EURm	Securitisation	Re-securitisation	Securitisation	Re-securitisation
IRB approach				
Supervisory formula method	8,265		1,648	
Total	8,265		1,648	

	Banking book			
	Exposure values		REA	
2017, EURm	Securitisation	Re-securitisation	Securitisation	Re-securitisation
IRB approach				
Supervisory formula method	8,400		850	
Total	8,400		850	

Nordea as originator - asset value and impairment charges

The total amount of outstanding securitisation exposures where Nordea stands as an originator, measured as exposure at default after concentration adjustment, amounted to EUR 8.3bn at year-end 2018. The amount risk-weighted at 1,250% was EUR 27m and recognised losses amounted to EUR 17m.

	Banking book					
55	Traditional	Synthetic	Total	Of which deducted from own funds or risk-weighted at 1250%	Of which past due	Recognised losses
Loans to corporates or SME's		8,265	8,265	27	21	17
		8,265	8,265	27	21	17

	Banking book					
2017, EURm	Traditional	Synthetic	Total	Of which deducted from own funds or risk-weighted at 1250%	Of which past due	Recognised losses
Loans to corporates or SME's		8,400	8,400		2	0
Total (originator)		8,400	8,400		2	0

Special purpose entities where Nordea is the sponsor

The Special purpose Vehicles (SPVs) are not consolidated for capital adequacy purposes. Instead, loans and loan commitments to the SPVs are included in the banking book and capital requirements are calculated accordingly. Bonds and notes issued by the SPV and held by Nordea as well as credit derivative transactions between Nordea and the SPV are reported in the trading book. Nordea has been approved to calculate the general and specific market risk of these transactions under the VaR model. The counterparty credit risk of credit derivative transactions is calculated in accordance with the mark to marked method.

EURm	Type	Securitisation	Duration	Accounting treatment	Book	Nordea's loans to SPEs	Total assets of SPEs
Viking ABCP Conduit	Traditional	Receivables Securitisation	< 5 years	Consolidated	Banking	938	971
AR Finance[1]	Traditional	Receivables Securitisation	< 5 years	Consolidated	Banking	114	117
Total						1,052	1,088

1) Includes all assets towards SPEs (such as bonds, subordinated loans and drawn credit facilities).

2017, EURm	Type	Securitisation	Duration	Accounting treatment	Book	Nordea's loans to SPEs	Total assets of SPEs
Viking ABCP Conduit		Receivables Securitisation	< 5 years	Consolidated	Banking	895	923
AR Finance[1]	Traditional	Receivables Securitisation	< 5 years	Consolidated	Banking	122	125
Total						1,017	1,048

1) Includes all assets towards SPEs (such as bonds, subordinated loans and drawn credit facilities).

Market risk

Table

Table 54 EU MR1: Market risk under standardised approach

Compared to Q2 2018, the Market risk under the standardised approach increased due to increased REA related to structural FX risk. The Interest rate risk REA decreased with 321 EURm mainly driven by position changes in mortgage bonds. The Equity risk REA amounted to 279 EURm by the end of Q4 2018, which corresponded to an increase of 213 EURm from Q2 2018. The increase was driven by inclusion of contingent convertible bonds previously capitalised under Pillar II. The Foreign exchange risk was only required to be capitalised if the corresponding own fund is above the 2% of the total funds as per Article 351 of the Captial Requirements Regulation (CRR). Q4 2018 it amounted to 606 EURm which was above the 2% threshold compared to for Q2 2018 when the corresponding REA was zero.

2018, EURm

EURm	REA	Capital requirements
Outright products[1]	1,567	125
Interest rate risk (general and specific)	652	52
Equity risk (general and specific)	279	22
Foreign exchange risk	606	48
Commodity risk	30	2
Options	93	7
Simplified approach	0	0
Delta-plus method	0	0
Scenario approach	93	7
Securitisation	0	0
Total	1,661	133

1) Outright products refer to positions in products that are not optional.

2018 Q2, EURm

EURm	REA	Capital requirements
Outright products[1]	1,112	89
Interest rate risk (general and specific)	972	78
Equity risk (general and specific)	66	5
Foreign exchange risk	0	0
Commodity risk	74	6
Options	73	6
Simplified approach	0	0
Delta-plus method	0	0
Scenario approach	73	6
Securitisation	0	0
Total	1,075	86

1) Outright products refer to positions in products that are not optional.

Table 55 EU MR2-A: Market risk under the internal models approach

By the end of the Q4 period, the Value-at-Risk (VaR) REA amounts to EUR 724m which corresponds to an increase of EUR 204m from Q2 2018. The increase in VaR is mainly driven by higher levels of interest rate risk. The total stressed Value-at-Risk (sVaR) increased with EUR 925m driven by increased interest rate risk and methodology changes. Furthermore, the Incremental Risk Charge (IRC) increased with EUR 795m predominantly due to ECB methodology changes. Lastly, the Comprehensive Risk Method (CRM) decreased with 259 EURm driven by position changes.

2018 Q4, EURm

EURm	REA	Capital requirements
VaR[1] (higher of values a and b)	724	58
Previous day's VaR (Article 365 (1)(VaRt-1))	233	19
Average of daily VaR (article 365 (1)) on each of the preceding 60 business days (VaRavg) x multiplication factor ((mc) in accordance with article 366)	724	58
SVaR (higher of values a and b)	2,173	174
Latest SVaR (Article 365 (2) (sVARt-1)	774	62
Average of the SVaR (article 365 (2)) during the preceding 60 business days (sVaRavg) x multiplication factor (ms) (article 366)	2,173	174
Incremental risk charge - IRC (higher of values a and b)	1,066	85
Most recent IRC value (incremental default and migration risks section 3 calculated in accordance with Section 3 articles 370/371)	1,066	85
Average of the IRC number over the preceding 12 weeks	987	79
Comprehensive risk method - CRM (higher of values a,b and c)	425	34
Most recent risk number for the correlation trading portfolio (article 377)	412	33
Average of the risk numbers for the correlation trading portfolio over the preceding 12-weeks	353	28
8% of the own funds requirement in SA on most recent risk number for the correlation trading portfolio (Article 338 (4))	425	34
Total	4,388	351

1)Of which Equity Event Risk (EER) REA is EUR 5m. EER is an official IMA measure from Q3 2018.

2018 Q2, EURm

EURm	REA	Capital requirements
VaR (higher of values a and b)	520	42
Previous day's VaR (Article 365 (1)(VaRt-1))	144	12
Average of daily VaR (article 365 (1)) on each of the preceding 60 business days (VaRavg) x multiplication factor ((mc) in accordance with article 366)	520	42
SVaR (higher of values a and b)	1,248	100
Latest SVaR (Article 365 (2) (sVARt-1)	335	27
Average of the SVaR (article 365 (2)) during the preceding 60 business days (sVaRavg) x multiplication factor (ms) (article 366)	1,248	100
Incremental risk charge - IRC (higher of values a and b)	271	22
Most recent IRC value (incremental default and migration risks section 3 calculated in accordance with Section 3 articles 370/371)	271	22
Average of the IRC number over the preceding 12 weeks	258	21
Comprehensive risk method - CRM (higher of values a,b and c)	684	55
Most recent risk number for the correlation trading portfolio (article 377)	684	55
Average of the risk numbers for the correlation trading portfolio over the preceding 12-weeks	384	31
8% of the own funds requirement in SA on most recent risk number for the correlation trading portfolio (Article 338 (4))	404	32
Total	2,722	218

Table 56 EU MR2-B: REA flow statements of market risk exposures under the IMA

By the end of the Q4 period, the IMA REA amounts to EUR 4,388m which corresponds to an increase of EUR 1,669m from Q3 2018, whereof EUR 671m stems from methodology changes going into effect Q4 2018. Furthermore, the increase in the Value-at-Risk (VaR) REA is primarily driven by higher levels of interest rate risk. The increase in stressed Value-at-Risk (sVaR) is mainly driven by higher levels of interest rate risk and from methodology changes. The Incremental Risk Charge increased predominantly due to ECB methodology changes implemented in Q4 2018. Lastly, the slight increase in Comprehensive Risk Charge (CRC) was mainly driven by CRC floor.

EURm	VaR[1]	SVaR	IRC	CRC	Total REA	Total capital requirements
REA before regulatory adjustments 2018 Q3	523	1,480	291	424	2,719	218
Regulatory adjustment						
REA 2018 Q3	523	1,480	291	424	2,719	218
Movement in risk levels	222	630	144	1	998	80
Model updates/changes						
Methodology and policy	-22	62	631		671	54
Aquisitions and disposals						
Foreign exchange movements						
Other						
REA before regulatory adjustments 2018 Q4	724	2,173	1,066	425	4,388	351
Regulatory adjustment						
REA 2018 Q4	724	2,173	1,066	425	4,388	351

1)Of which Equity Event Risk (EER) REA is EUR 5m. EER is an official IMA measure from Q3 2018.

EURm	VaR	SVaR	IRC	CRC	Total REA	Total capital requirements
REA before regulatory adjustments 2018 Q2	520	1,248	271	684	2,722	218
Regulatory adjustment						
REA 2018 Q2	520	1,248	271	684	2,722	218
Movement in risk levels	-20	-66	20	-260	-3	0
Model updates/changes						
Methodology and policy	23	298			0	0
Aquisitions and disposals						
Foreign exchange movements						
Other						
REA before regulatory adjustments 2018 Q3	523	1,480	291	424	2,719	218
Regulatory adjustment						
REA 2018 Q3	523	1,480	291	424	2,719	218

Table 57 EU MR3: IMA values for trading portfolios[1]

Market risk measured by VaR showed an average utilisation of EUR 14m in the second half of 2018 and was primarily driven by interest rate VaR. Stressed VaR showed an average utilisation of EUR 38m which is higher compared to first half of 2018, and was primarily driven by interest rate exposure with additional contributions from credit spreads. The highs in VaR and stressed VaR were reached in Q4 2018. Average IRC increased by EUR 4m, stemming from increased default and migration risk. During second half of 2018 the CRC was stable around average of EUR 26m. The reduction in average CRC compared to first half of 2018 was mainly driven by increased short index positions.

2018 Q4, EURm	
	EURm
VaR (10 day 99%)	
Maximum	22
Average	13
Minimum	8
Period end	18
SVaR (10 day 99%)	
Maximum	70
Average	33
Minimum	18
Period end	62
IRC (10 day 99%)	
Maximum	41
Average	25
Minimum	11
Period end	35
Comprehensive capital charge (99.9%)	
Maximum	55
Average	25
Minimum	12
Period end	29

1) Equity Event Risk, which equalled EUR 5m at end of 2018, is an official IMA measure from Q3 2018.

2018 Q2, EURm	
	EURm
VaR (10 day 99%)	
Maximum	16
Average	12
Minimum	8
Period end	12
SVaR (10 day 99%)	
Maximum	41
Average	28
Minimum	18
Period end	27
IRC (10 day 99%)	
Maximum	38
Average	23
Minimum	11
Period end	22
Comprehensive capital charge (99.9%)	
Maximum	55
Average	24
Minimum	12
Period end	55

Table 58 EU MR4: Comparison of VaR estimates with gains/losses

Figure below shows the VaR backtest of the trading book for 2018. The VaR models are considered being of a satisfactory quality if less than five exceptions are recorded within the last 250 banking days. By the end of Q4 2018, both backtests based on actual profit/loss (APL) and hypothetical profit/loss (SPL) were in the green zone, with zero APL exceptions and four SPL exceptions during the last business 250 days. The backtest deciding the capital multiplier is the one with the highest number of exceptions based on hypothetical profit/loss or actual profit/loss.

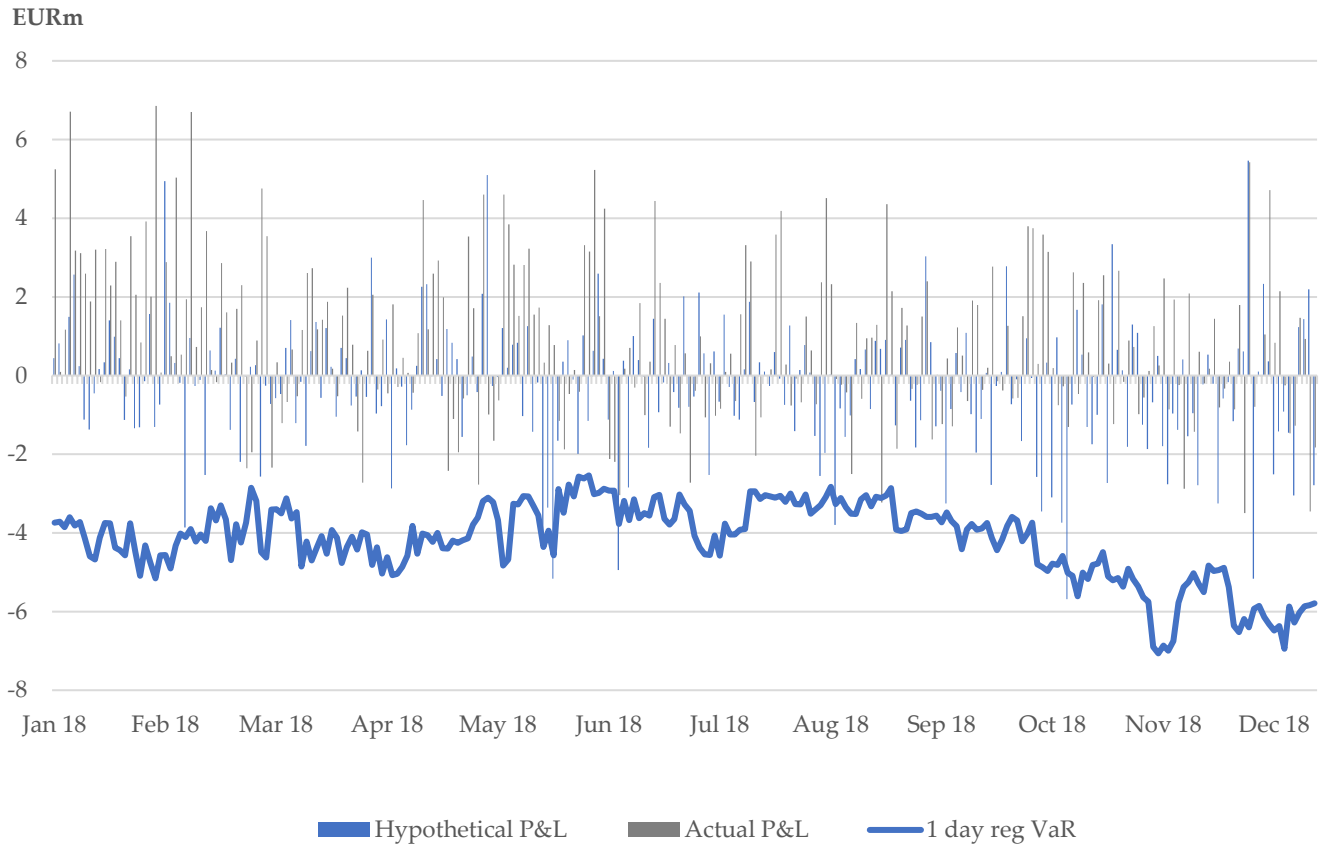


Table 59 Market risk figures for the trading book[1]

Market risk measured by VaR showed an average utilisation of EUR 13m in 2018 (in line with 2017 levels) and was driven primarily by interest rate VaR. Stressed VaR showed an average utilisation of EUR 33m which is higher compared to 2017 and is primarily driven by interest rate exposure with additional contributions from credit spreads. The peaks in VaR and stressed VaR were reached in Q4 2018. Market risk is primarily concentrated in Europe and Nordics.

The IRC at the end of 2018 was slightly lower compared to the end of 2017 driven by reduced default exposure. The lowest exposure occurred during Q2 2018, while IRC peaked in Q4 2018. The average IRC increased by EUR 6.4 m compared to the previous year, especially driven by a consistently higher IRC in the second half of 2018.

CRC in 2018 was higher than end of 2017 driven by increased default exposure. The lowest exposure occurred during Q2 2018, while CRC peaked during Q4 2018. Average CRC for 2018 dropped by 7.4 m EUR compared to 2017 driven by increased short index positions.

EURm	31 Dec 2018	2018 High	2018 Low	2018 Avg	31 Dec 2017
Total VaR	18	22	8	13	11
Interest rate risk	16	22	7	13	10
Equity risk	2	7	1	3	4
Credit spread risk	6	7	2	4	3
Foreign exchange risk	2	8	1	4	5
Inflation risk	2	3	1	2	-
Diversification effect	38%	59%	28%	44%	50%
Total Stressed VaR	62	70	18	33	25
Interest rate risk	59	66	18	32	25
Equity risk	14	27	2	10	5
Credit spread risk	24	35	8	18	10
Foreign exchange risk	4	18	2	7	12
Inflation risk	4	7	3	4	4
Diversification effect	40%	67%	37%	52%	55%
Incremental Risk Charge	35	41	11	25	38
Comprehensive Risk Charge	29	55	12	25	20

1) Equity Event Risk, which equalled EUR 0.3m at end of 2018, is an official IMA measure from Q3 2018. Its not in the table due to immateriality.

Table 60 Market risk figures for the banking book

The total VaR in the banking book was EUR 38m at the end of 2018 (EUR 46m at the end of 2017). The VaR reduction was driven by reduced government positions in the Liquidity Buffer.

EURm	31 Dec 2018	2018 High	2018 Low	2018 Avg	31 Dec 2017[1]
Total VaR	38	60	32	44	46

1) The banking book VaR for end of 2017 contained Nordea Life & Pensions (NLP).

Table 61 Economic value sentitivity for the banking book[1], 6 scenarios from Basel Committee on Banking Supervision

The main driver of the worst loss were short term DKK covered bonds.

2018, EURm	Parallel shock up	Parallel shock down	Steepener shock	Flattener shock	Short rates shock up	Short rates shock down
DKK	302.4	-561.4	182.7	-163.9	12.9	-77.2
SEK	160.5	-474.9	10.4	-60.5	51.5	-17.3
EUR	354.4	864.9	168.2	-0.7	133.5	383.6
NOK	0.8	145.5	12.1	-18.7	-16.6	222.0
USD	-41.5	44.6	16.3	-25.7	-40.5	38.7
OTH	-17.3	-3.8	8.1	-13.8	-18.1	8.9
Total	759.3	15.0	397.9	-283.2	122.8	558.7

1) Economic value is a new internal IRRBB measure from October 2018

Table 62 Net interest income sensitivities for the banking book over a one-year horizon (SIIR), 6 scenarios from Basel Committee on Banking Supervision

At the end of the year, the worst loss out of the 6 Basel scenarios for SIIR was driven by the Steepener Basel scenario, where the loss was of EUR 1,176m (against the worst loss in 2017 of EUR 1,132m taken from the Steepener shock scenario). These figures imply that net interest income would decrease if short term interest rates fall while long rates rise.

2018, EURm	Parallel shock up	Parallel shock down	Steepener shock	Flattener shock	Short rates shock up	Short rates shock down
DKK	261	-266	-269	315	394	-412
EUR	917	-507	-575	993	1,227	-766
SEK	33	51	8	11	19	265
NOK	269	-351	-406	299	360	-218
CHF	-20	20	19	-23	-29	30
USD	-62	36	37	-79	-100	32
Other	-45	0	9	-43	-54	-4
Total	1,352	-1,017	-1,176	1,473	1,817	-1,073

2017, EURm	Parallel shock up	Parallel shock down	Steepener shock	Flattener shock	Short rates shock up	Short rates shock down
DKK	366	-396	-402	448	556	-610
EUR	871	-400	-429	889	1,113	-573
SEK	-6	164	118	-27	-28	344
NOK	274	-322	-357	277	323	-161
CHF	31	-52	-71	55	63	-70
USD	-6	6	5	-6	-8	9
Other	-16	-1	3	-17	-21	0
Total	1,515	-1,001	-1,132	1,618	1,998	-1,061

Table 63 Equity holdings in the banking book

The increase was driven by increased value in investments from Denmark and new investments.

2018, EURm	Book value	Fair value	Unrealised gains/losses	Realised gains/losses	Capital requirement
Investment portfolio[1]	713	713	18	-1	57
Other[2]	27	27	0	30	2
Total	740	740	18	29	59

1) Of which listed equity holdings, book value 59m
2) Of which listed equity holdings, book value 16m

2017, EURm	Book value	Fair value	Unrealised gains/losses	Realised gains/losses	Capital requirement
Investment portfolio[1]	555	555	71		44
Other[2]	49	60	-40	6	4
Total	604	615	31	6	48

1) Of which listed equity holdings, book value 2m
2) Of which listed equity holdings, book value 25m

Table 64 REA and minimum capital requirements for market risk

By the end of 2018, REA for market risk was 6 048 EURm, an increase of 2 528 EURm compared to the end of 2017. The increase in Trading Book REA is mainly explained by the Q3 approval of additional risk factors in the Value-at-Risk model as well as the Q4 ECB methodology changes for IRC. Additionally, interest rate risk has contributed to an increase in VaR and Stressed VaR for the Trading Book while foreign exchange risk have been the main driver of the stardardised approach for the Banking Book.

	Trading book		Banking book		Total	
2018, EURm	REA	Capital requirement	REA	Capital requirement	REA	Capital requirement
Total VaR (IA)	719	58			719	58
Interest rate risk	715	57			715	57
Equity risk	88	7			88	7
Credit spread risk	180	14			180	14
Foreign exchange risk	132	11			132	11
Inflation risk	71	6			71	6
Diversification effect	-464	-37			-464	-37
Total Stressed VaR (IA)	2,173	174			2,173	174
Interest rate risk	1,971	158			1,971	158
Equity risk	596	48			596	48
Credit spread risk	1,045	84			1,045	84
Foreign exchange risk	262	21			262	21
Inflation risk	158	13			158	13
Diversification effect	-1,859	-149			-1,859	-149
Incremental Risk Charge (IA)	1,066	85			1,066	85
Comprehensive Risk Charge (IA)	425	34			425	34
Equity Event Risk (IA)[1]	5	0			5	0
Standardised Approach	1,055	84	606	48	1,661	133
Interest rate risk	652	52			652	52
Equity risk	371	30			371	30
Commodity Risk	32	3			32	3
Foreign exchange risk			606	48	606	48
Total	5,442	435	606	48	6,048	484

1) Equity Event Risk is an official IMA measure from Q3 2018.

	Trading book		Banking book		Total	
2017, EURm	REA	Capital requirement	REA	Capital requirement	REA	Capital requirement
Total VaR (IA)	513	41			513	41
Interest rate risk	372	30			372	30
Equity risk	150	12			150	12
Credit spread risk	185	15			185	15
Foreign exchange risk	281	22			281	22
Inflation risk						
Diversification effect	-475	-38			-475	-38
Total Stressed VaR (IA)	1,043	83			1,043	83
Interest rate risk	863	69			863	69
Equity risk	277	22			277	22
Credit spread risk	513	41			513	41
Foreign exchange risk	684	55			684	55
Inflation risk						
Diversification effect	-1,294	-104			-1,294	-104
Incremental Risk Charge (IA)	477	38			477	38
Comprehensive Risk Charge (IA)	411	33			411	33
Standardised Approach	1,075	86			1,075	86
Interest rate risk	918	73			918	73
Equity risk	108	9			108	9
Commodity Risk	49	4			49	4
Foreign exchange risk						
Total	3,520	282			3,520	282

Operational risk

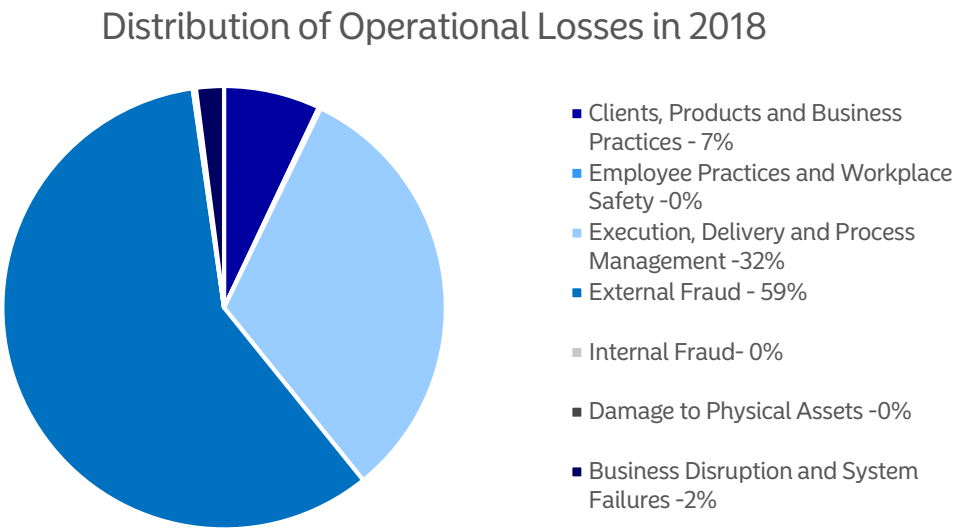
Table 65 Operational risk incidents

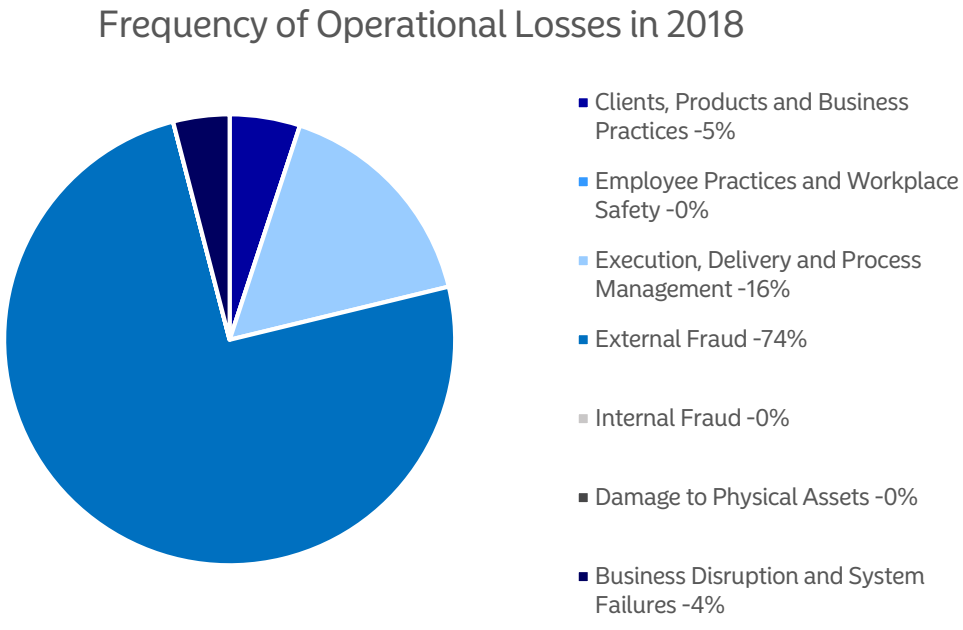
As of December 31, 2018, operational loss decreased by 10.7% or EURm 3.7 compare to year-end 2017. The decrease was mainly driven by the event type "Clients, Products and Business Practices", where the incident losses reduced significantly during the year 2018. "External Fraud" continues to be the event type that has the largest amount of operational losses, due to the high number of card fraud incidents.

The total number of incidents amounted to 28,142 in 2018 and 28,167[1] in 2017, corresponding to a 0.9% decrease.

Operational Risk Losses by Event Type in EURm	2017	2018
Clients, Products and Business Practices	5	2
Employee Practices and Workplace Safety	0	0
Execution, Delivery and Process Management	11	10
External Fraud	18	18
Internal Fraud	0	0
Damage to Physical Assets	0	0
Business Disruption and System Failures	1	1
Total	35	31

[1]Changed 2017 number of incidents due to subsequent capture of losses.





Liquidity

Table 66 LIQ 1: LCR Disclosures

Nordea Group's short liquidity risk exposure measured by Liquidity Coverage Ratio (LCR) according to EBA Delegated act remained on good and stable level throughout 2018, yearly average being at 182%.

		Total unweighted value (average)				Total weighted value (average)			
	EURm	Q4 18	Q3 18	Q2 18	Q1 18	Q4 18	Q3 18	Q2 18	Q1 18
	Number of data points used in the calculation of averages	12	12	12	12	12	12	12	12
	High-quality liquid assets								
1	Total high-quality liquid assets (HQLA)					95,976	97,381	101,208	108,146
	Cash-outflows								
2	Retail deposits & deposits from small business customers	86,033	85,776	86,134	86,402	5,733	5,755	5,796	5,843
3	- Of which stable deposits	68,071	67,796	68,136	68,366	3,404	3,390	3,407	3,418
4	- Of which less stable deposits	17,962	17,980	17,998	18,036	2,330	2,366	2,389	2,425
5	Unsecured wholesale funding	104,295	108,197	112,372	115,714	46,981	50,908	54,086	56,976
6	- Of which Operational deposits (all counterparties) and deposits in networks of cooperative banks	43,804	43,549	43,858	44,306	9,985	9,927	10,015	10,115
7	- Of which Non-operational deposits (all counterparties)	50,031	53,359	56,057	59,099	26,536	29,692	31,613	34,553
8	- Of which unsecured debt	10,460	11,289	12,458	12,309	10,460	11,289	12,458	12,309
9	Secured wholesale funding					2,676	2,512	2,470	2,182
10	Additional requirements	50,383	50,443	51,699	51,515	11,492	11,591	12,320	12,331
11	- Of which outflows related to derivative exposures and other collateral requirements	8,488	8,697	9,531	9,776	7,879	7,949	8,630	8,625
12	- Of which Outflows related to loss Of funding on debt products	0	0	0	0	0	0	0	0
13	- Of which credit and liquidity facilities	41,895	41,746	42,168	41,740	3,612	3,642	3,689	3,706
14	Other contractual funding obligations	3,136	3,043	3,493	3,680	2,740	2,652	3,102	3,289
15	Other contingent funding obligations	52,666	53,342	54,457	56,121	2,831	2,918	3,027	3,123
16	Total cash outflows					72,452	76,336	80,801	83,744
	Cash inflows								
17	Secured lending (e.g. reverse repos)	33,068	32,871	31,487	31,540	2,908	2,681	2,370	2,036
18	Inflows from fully performing exposures	12,094	12,135	11,774	11,561	5,915	5,976	5,912	5,849
19	Other cash inflows	13,785	13,812	14,056	13,547	10,161	10,167	10,518	10,063
EU-19a	(Difference between total weighted inflows and total weighted outflows arising from transactions in third countries where there are transfer restrictions or which are denominated in non-convertible currencies)					0	0	0	0
EU-19b	(Excess inflows from a related specialised credit institution)					0	0	0	0
20	Total cash inflows	58,947	58,818	57,317	56,648	18,984	18,824	18,800	17,947
EU-20a	Fully exempt inflows	0	0	0	0	0	0	0	0
EU-20b	Inflows Subject to 90% Cap	0	0	0	0	0	0	0	0
EU-20c	Inflows subject to 75% cap	58,947	58,818	57,317	56,648	18,984	18,824	18,800	17,947
21	Liquidity buffer					95,976	97,381	101,208	108,146
22	Total net cash outflows					53,469	57,512	62,000	65,797
23	Liquidity coverage ratio (%)					182%	171%	164%	165%

Table 67 Encumbered and unemcumbered assets

The main source of encumbrance for Nordea is covered bond issuance programs where the required overcollateralisation levels are defined according to the relevant statutory regimes. Other contributors to encumbrance are derivatives and repos where the activity is concentrated to Finland. Historically, the evolution of asset encumbrance for Nordea has been stable over time which illustrates the fact that the asset encumbrance for Nordea is a reflection of a structural phenomenon of the Scandinavian financial markets and savings behaviour. Major part of the unencumbered assets are loans and the rest are equity instruments, debt securities and other assets.

2018, EURm

	Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
		of which EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA
Assets of the reporting institution	162,591	42,733			364,819	89,088		
Equity instruments	3,099	0			1,427	0		
Debt securities	20,353	16,733	20,353	16,733	53,549	45,713	53,069	45,713
of which: covered bonds	6,007	4,969	6,007	4,969	33,890	27,947	33,890	27,947
of which: asset-backed securities	0	0	0	0	0	0	0	0
of which: issued by general governments	11,078	10,165	11,078	10,165	9,041	8,612	9,041	8,612
of which: issued by financial corporations	8,262	5,191	8,262	5,191	40,425	35,313	40,425	35,313
of which: issued by non-financial corporations	773	435	773	435	1,367	582	1,367	582
Other assets	140,006	26,917			309,812	42,737		

Collateral received

	Encumbered		Unencumbered	
	Fair value of encumbered collateral received or own debt securities issued		Fair value of encumbered collateral received or own debt securities issued	
		of which notionally eligible EHQLA and HQLA		of which notionally eligible EHQLA and HQLA
Collateral received by the reporting institution	18,896	16,672	44,246	39,756
Loans on demand	0	0	0	0
Equity instruments	0	0	791	0
Debt securities	18,896	16,672	17,514	14,337
of which: covered bonds	6,500	5,685	6,380	4,781
of which: asset-backed securities	0	0	0	0
of which: issued by general governments	11,224	10,443	8,906	8,311
of which: issued by financial corporations	6,718	5,713	8,026	5,145
of which: issued by non-financial corporations	499	398	1,326	533
Loans and advances other than loans on demand	0	0	21,414	21,414
Other collateral received	0	0	3,844	3,844
Own debt securities issued other than own covered bonds or asset-backed securities	0	0	0	0
Own covered bonds and asset-backed securities issued and not yet pledged			2,650	2,650
Total assets, collateral received and own debt securities issued	180,435	58,251		

Sources of encumbrance

	Matching liabilities, contingent liabilities or securities lent	and own debt securities issued other than covered bonds and ABSs encumbered
Carrying amount of selected financial liabilities	162,439	177,685
of which: covered bonds issued	108,155	111,949

2017, EURm

	Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
		of which EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA
Assets of the reporting institution	161,618	43,200			380,227	102,263		
Equity instruments	2,155	0			4,573	0		
Debt securities		16,707	19,322	16,707	52,968	50,857	52,968	50,857
of which: covered bonds	6,448	5,616	6,448	5,616	28,938	27,423	28,938	28,091
of which: asset-backed securities	0	0	0	0	0	0	0	0
of which: issued by general governments	9,871	9,438	9,871	9,438	13,958	13,490	13,958	13,490
of which: issued by financial corporations	10,596	6,018	10,596	6,603	37,700	34,727	37,700	34,727
of which: issued by non-financial corporations	711	475	711	475	1,424	1,096	1,424	1,096
Other assets	24,395	24,395			53,759	0		

Collateral received

	Encumbered		Unencumbered	
	Fair value of encumbered collateral received or own debt securities issued		Fair value of encumbered collateral received or own debt securities issued	
		of which notionally eligible EHQLA and HQLA		of which notionally eligible EHQLA and HQLA
Collateral received by the reporting institution	16,826	16,329	43,961	40,300
Loans on demand	0	0	0	0
Equity instruments	1	0	1,502	0
Debt securities	16,825	16,329	15,574	13,309
of which: covered bonds	5,733	5,451	5,717	5,209
of which: asset-backed securities	0	0	0	0
of which: issued by general governments	10,137	10,122	8,297	7,841
of which: issued by financial corporations	5,733	5,449	6,022	5,205
of which: issued by non-financial corporations	804	758	893	682
Loans and advances other than loans on demand	0	0	22,454	22,454
Other collateral received	0	0	4,961	4,961
Own debt securities issued other than own covered bonds or asset-backed securities	1	0	18	0
Own covered bonds and asset-backed securities issued and not yet pledged			2,165	2,165
Total assets, collateral received and own debt securities issued	178,419	59,529		

Sources of encumbrance

	Matching liabilities, contingent liabilities or securities lent	and own debt securities issued other than covered bonds and ABSs encumbered
Carrying amount of selected financial liabilities	161,910	176,019
of which: covered bonds issued	108,160	110,103

Table 68 LCR sub-components

On 1 October 2018, Nordea completed a re-domiciling of the parent company of the Nordea Group from Sweden to Finland and the European Banking Union . The re-domiciliation was an important strategic step in positioning Nordea on a par with its European peers. As part of the preparation for the re-domiciliation, Nordea enhanced its liquidity prior to October cut-over and liquidity remained very strong for the rest of 2018. Consequently, LCR in combined currencies was 185% at end of 2018,w which was clear higher level than at the end of 2017 (147%)

	Combined		USD		EUR	
2018, EURm	Unweighted value	Weighted value	Unweighted value	Weighted value	Unweighted value	Weighted value
Liquid assets level 1	99,890	97,810	22,222	22,179	32,157	32,045
Liquid assets level 2	4,040	3,434	448	381	920	782
Cap on level 2	0	0	0	0	0	0
A. Liquid assets total	103,930	101,244	22,670	22,560	33,077	32,827
Retail deposits & deposits from small business customers	86,862	5,741	319	46	26,674	1,811
Unsecured wholesale funding	106,355	48,389	16,544	10,287	34,973	15,071
Secured wholesale funding	22,233	3,020	4,357	537	6,968	508
Additional requirements	49,194	9,252	35,125	30,955	45,367	32,866
Other funding obligations	53,153	3,474	5,803	287	16,292	877
B. Cash outflows total	317,797	69,876	62,147	42,113	130,274	51,133
Secured lending (e.g. reverse repos)	29,103	4,063	2,482	1,892	8,187	246
	9,329	4,072	751	359	3,447	1,185
Inflows from fully performing exposures						
Other cash inflows	10,155	6,978	38,532	38,426	39,733	39,412
Limit on inflows		0		-9,092		-2,493
C. Cash inflows total	48,587	15,113	41,765	31,585	51,368	38,350
Liquidity coverage ratio [A/(B-C)]		185%		214%		257%

Liquidity Coverage Ratio (LCR) according to EBA Delegated Regulation (EU) 2015/61

	Combined		USD		EUR	
2017, EURm	Unweighted value	Weighted value	Unweighted value	Weighted value	Unweighted value	Weighted value
Liquid assets level 1 [1]	67,028	67,028	30,024	30,024	24,300	24,300
Liquid assets level 2	30,281	35,624	1,897	2,232	3,149	3,705
Cap on level 2						
A. Liquid assets total	97,309	102,653	31,921	32,256	27,449	28,005
Customer deposits	44,312	167,339	10,304	15,557	10,430	49,044
Market borrowing [2,3]	27,947	46,357	14,262	17,241	4,126	12,361
Other cash outflows	16,229	56,617	687	5,906	3,010	16,532
B. Cash outflows total	88,488	270,313	25,253	38,704	17,566	77,936
Lending to non-financial customers	7,531	15,062	488	975	1,740	3,479
Other cash inflows	14,897	41,604	6,042	6,942	5,130	12,760
Limit on inflows						
C. Cash inflows total	22,428	56,667	6,529	7,917	6,870	16,239
Liquidity coverage ratio [A/(B-C)]	147%		170%		257%	

1) Level 1&2 were based on the old Swedish LCR calibration.

2) Corresponds to chapter 4, articles 10-13 in the Swedish LCR regulation, containing e.g. portion of corporate deposits, market funding, repos and other

3) Corresponds to chapter 4, articles 14-25 in the Swedish LCR regulation, containing unutilised credit and liquidity facilities, collateral need for derivatives

Table 69 Liquidity buffer split by type of asset and currency

Liquidity buffer remained on strong level throughout 2018. The exposure is focused on Nordic and core (EUR & USD) central bank cash, government bonds and Nordic covered bonds.

2018	Currency distribution, market values in EURbn				
Type of asset	SEK	EUR	USD	Other CCY	Total
Level 1 Assets[1]	16.5	32.2	22.2	29.0	99.9
Cash and balances with central banks	4.8	26.1	12.7	4.1	47.8
Securities issued or guaranteed by sovereigns, central banks or multilateral development banks	1.4	3.9	6.6	4.6	16.6
Securities issued or guaranteed by municipalities or other public sector entities	2.4	0.5	2.2	0.6	5.8
Covered bonds	7.9	1.6	0.6	19.6	29.7
Level 2 Assets[1]	0.4	0.9	0.4	2.3	4.0
Covered bonds	0.4	0.9	0.4	2.3	4.0
Other level 2 assets	0.0	0.0	0.0	0.0	0.0
Total (according to Nordea definition)	16.9	33.1	22.7	31.3	103.9
Balances with other banks	0.0	1.2	0.1	0.5	1.9
Covered bonds issued by the own bank or related unit	0.0	0.1	0.0	2.1	2.2
All other securities[2]	0.2	0.1	3.2	0.1	3.6
Total (including other liquid assets)	17.1	34.4	26.0	34.0	111.6

1) Level 1 & Level 2 assets according to EBA LCR Delegated Act
2) All other unencumbered securities held by Treasury

2017	Currency distribution, market values in EURbn				
Type of asset	SEK	EUR	USD	Other CCY	Total
Cash and balances with central banks	0.1	20.1	22.9	4.8	47.9
Balances with other banks	0.0	0.0	0.0	0.0	0.0
Securities issued or guaranteed by sovereigns, central banks or multilateral development banks1)	2.5	2.5	6.9	3.2	15.1
Securities issued or guaranteed by municipalities or other public sector entities 1)	0.0	0.3	0.9	0.2	1.5
Covered bonds issued by other bank or financial institute 1)	8.6	2.8	1.0	17.0	29.5
Covered bonds issued by the own bank or related unit 1)	0.0	0.2	0.0	0.8	1.1
Securities issued by non-financial corporates 1)	0.0	0.0	0.1	0.0	0.1
Securities issued by financial corporates, excluding covered bonds2)	0.3	0.2	0.5	0.0	1.0
All other eligible and unencumbered securities 2)	0.0	0.0	0.0	0.0	0.0
Total liquidity buffer3)	11.4	26.2	32.5	26.1	96.2
Adjustments to Nordeas official buffer: Eligible but encumbered securities (+), cash and balances with other banks/central banks (-), central banks haircuts (-)	1.5	-0.3	-2.3	4.2	3.2
Total liquidity buffer (Nordea definition)	13.0	25.9	30.2	30.3	99.4

1) 0-20 % risk weight.
2) All other eligible and unencumbered securites held by Group Treasury.
3) According to Swedish Bankers´ Association's definition 2011-10-07.

Table 70 Historical quarterly development of the liquidity buffer

Liquidity buffer remained on strong level throughout 2018. The exposure is focused on Nordic and core (EUR & USD) central bank cash, government bonds and Nordic covered bonds.

Type of asset	Q4/2018	Q3/2018	Q2/2018	Q1/2018	Q4/2017
Level 1 Assets*	99.9	103.7	91.2	87.3	96.1
Cash and balances with central banks	47.8	50.0	38.1	36.4	45.6
Securities issued or guaranteed by sovereigns, central banks or multilateral development banks	16.6	15.2	14.0	15.4	14.2
Securities issued or guaranteed by municipalities or other public sector entities	5.8	6.7	5.8	5.4	5.9
Covered bonds	29.7	31.8	33.4	30.1	30.4
Level 2 Assets*	4.0	3.8	4.3	4.0	3.3
Covered bonds	4.0	3.8	4.3	4.0	3.3
Other level 2 assets	0.0	0.0	0.0	0.0	0.0
Total (according to Nordea definition)	103.9	107.5	95.5	91.3	99.4
Balances with other banks	1.9	1.2	2.6	2.0	1.3
Covered bonds issued by the own bank or related unit	2.2	1.5	1.5	1.6	1.1
All other securities**	3.6	2.7	2.9	1.3	2.1
Total (including other liquid assets)	111.6	112.8	102.4	96.3	103.9

*Level 1 & Level 2 assets according to EBA LCR Delegated Act

**All other unencumbered securities held by Treasury

Table 71 Net balance of stable funding

The aim of always maintaining a positive NBSF was comfortably achieved throughout 2018, totalling to 42.6bn in 2018.

2018	EURm
Stable liabilities and equity	
Tier 1 and tier 2 capital	32,054
Secured/unsecured borrowing > 1y	125,678
Stable retail deposits	65,422
Less stable retail deposits	15,788
Wholesale deposits < 1y	72,119
Total stable liabilities	311,059
Stable assets	
Wholesale and retail loans > 1y	239,647
Long-term lending to banks and financial companies	1,006
Other illiquid assets	25,804
Total stable assets	266,457
Off-balance sheet items	2,028
Net balance of stable funding (NBSF)	42,574

2017	EURm
Stable liabilities and equity	
Tier 1 and tier 2 capital	33,315
Secured/unsecured borrowing > 1y	124,346
Stable retail deposits	65,117
Less stable retail deposits	15,767
Wholesale deposits < 1y	72,934
Total stable liabilities	311,479
Stable assets	
Wholesale and retail loans > 1y	232,920
Long-term lending to banks and financial companies	1,845
Other illiquid assets	4,230
Total stable assets	238,996
Off-balance sheet items	2,092
Net balance of stable funding (NBSF)	70,392

Table 72 Funding sources

During 2018, Nordea continued to benefit from its prudent liquidity risk management, in terms of maintaining a diversified and strong funding base and a diversified liquidity buffer. As of year-end 2018, the total volume utilised under short-term programmes was EUR 46.8bn with an average maturity of 0.3 years. The total volume under long-term programmes was EUR 152.8bn with an average maturity of 6.0 years, largely stable comparing to 2017 both in volume and maturity.

2018

Liability type	Interest rate base	Average maturity (years)	EURm
Deposits by credit institutions			
- shorter than 3 months	Euribor, etc.	0.0	39,083
- longer than 3 months	Euribor, etc.	1.5	3,336
Deposits and borrowings from the public			
- Deposits on demand	Administrative	0.0	144,656
- Other deposits	Euribor, etc.	0.2	20,302
Debt securities in issue			
- Certificates of deposits	Euribor, etc.	0.3	29,693
- Commercial papers	Euribor, etc.	0.2	17,078
- Mortgage covered bond loans	Fixed rate, market-based	7.0	108,028
- Other bond loans	Fixed rate, market-based	2.8	35,623
Derivatives			39,547
Other non-interest bearing items			53,776
Subordinated debentures			
- Dated subordinated debenture loans	Fixed rate, market-based	7.0	7,869
- Undated and other subordinated debenture loans	Fixed rate, market-based		1,286
Equity			32,901
Total			533,178
Liabilities to policyholders			18,230
Total, including life insurance operations			551,408

2017

Liability type	Interest rate base	Average maturity (years)	EURm
Deposits by credit institutions			
- shorter than 3 months	Euribor, etc.	0.0	35,589
- longer than 3 months	Euribor, etc.	2.3	4,394
Deposits and borrowings from the public			
- Deposits on demand	Administrative	0.0	140,873
- Other deposits	Euribor, etc.	0.1	31,561
Debt securities in issue			
- Certificates of deposits	Euribor, etc.	0.3	10,743
- Commercial papers	Euribor, etc.	0.2	24,441
- Mortgage covered bond loans	Fixed rate, market-based	7.3	106,714
- Other bond loans	Fixed rate, market-based	3.0	37,216
Derivatives			42,713
Other non-interest bearing items			85,654
Subordinated debentures			
- Dated subordinated debenture loans	Fixed rate, market-based	4.9	5,942
- Undated and other subordinated debenture loans	Fixed rate, market-based		3,045
Equity			33,316
Total			562,201
Liabilities to policyholders			19,412
Total, including life insurance operations			581,612

Table 73 Assets and liabilities split by currency

Nordea Group's loan portfolio remained focused on four Nordic markets. A strong and diversified funding base was maintained across all main currencies throughout 2018.

2018, EURbn	EUR	DKK	NOK	SEK	USD	Other	Not distributed	Total
Cash balances with central banks	27.9	3.5	0.8	3.8	13.2	0.1		49.2
Loans to the public	77.6	80.9	49.9	82.8	15.1	2.1		308.3
Loans to credit institutions	3.2	0.4	0.1	2.6	4.5	0.5		11.
Interest-bearing securities including treasury bills	11.9	22.5	8.2	16.3	13.7	0.6	10.5	83.8
Derivatives	18.6	4.2	0.6	2.6	9.6	1.4		37.0
Other assets							61.7	61.7
Total assets	139.2	111.5	59.5	108.3	56.0	4.7	72.2	551.4
Deposits and borrowings from the public	52.3	39.6	21.4	39.9	9.5	2.3		165.0
Deposits by credit institutions	14.2	2.3	3.2	7.2	13.6	2.0		42.4
Debt securities in issue	42.8	49.9	8.2	33.7	38.5	17.4		190.4
- of which CD & CPs with original	6.9				24.4	11.2		42.6
- of which CDs with original maturity					4.2			4.2
- of which covered bonds	19.4	49.7	7.1	30.7		1.2		108.0
- of which other bonds	16.5	0.2	1.1	3.0	9.9	5.0		35.6
Subordinated liabilities	3.7		0.2	0.8	4.1	0.4		9.2
Derivatives	18.3	4.3	1.0	2.5	12.3	1.1		39.5
Other liabilities							72.0	72.0
Equity	20.7	4.5	3.0	4.2	0.1	0.4		32.9
Total liabilities and equity	151.9	100.7	36.9	88.3	78.1	23.6	72.0	551.4
Position not reported on the balance sheet	12.7	- 10.8	- 22.6	- 20.0	22.1	18.9		
Net position, currencies		- 0.4		- 0.3				

2017, EURm	EUR	DKK	NOK	SEK	USD	Other	distributed	Total
Cash balances with central banks	20.1	3.0	1.6	0.1	22.9	0.3		47.9
Loans to the public	78.2	77.5	47.4	87.7	16.8	2.4		310.2
Loans to credit institutions	4.2	0.1	0.4	1.1	2.2	0.6		8.5
Interest-bearing securities including treasury bills	15.0	20.3	7.9	15.8	11.3	0.4	11.2	81.8
Derivatives	29.7	4.8	2.1	4.2	3.8	1.4		46.1
Other assets							87.1	87.1
Total assets	147.2	105.6	59.4	109.0	57.0	5.1	98.3	581.6
Deposits and borrowings from the public	52.7	39.6	22.0	41.3	14.0	2.8		172.4
Deposits by credit institutions	10.1	2.3	5.1	3.5	17.6	1.4		40.0
Debt securities in issue	43.1	50.3	8.0	36.5	23.8	17.4		179.1
- of which CD & CPs with original	8.4			2.5	11.2	11.0		33.1
- of which CDs with original maturity					2.1			2.1
- of which covered bonds	18.2	49.9	7.0	30.8		0.8		106.7
- of which other bonds	16.5	0.4	1.0	3.2	10.5	5.6		37.2
Subordinated liabilities	4.0		0.1	0.6	3.8	0.4		9.0
Derivatives	26.7	4.6	1.8	3.5	4.9	1.3		42.7
Other liabilities							105.1	105.1
Equity	21.5	4.7	2.9	3.6	0.1	0.5		33.3
Total liabilities and equity		101.5	39.9	89.0	64.2	23.8	105.1	581.6
Position not reported on the balance sheet	11.0	- 4.2	- 19.5	- 20.1	7.2	18.5		
Net position, currencies		- 0.1		- 0.1		- 0.2		

Table 74 Maturity analysis for assets and liabilities

Maturity mismatch remained on good level throughout 2018.

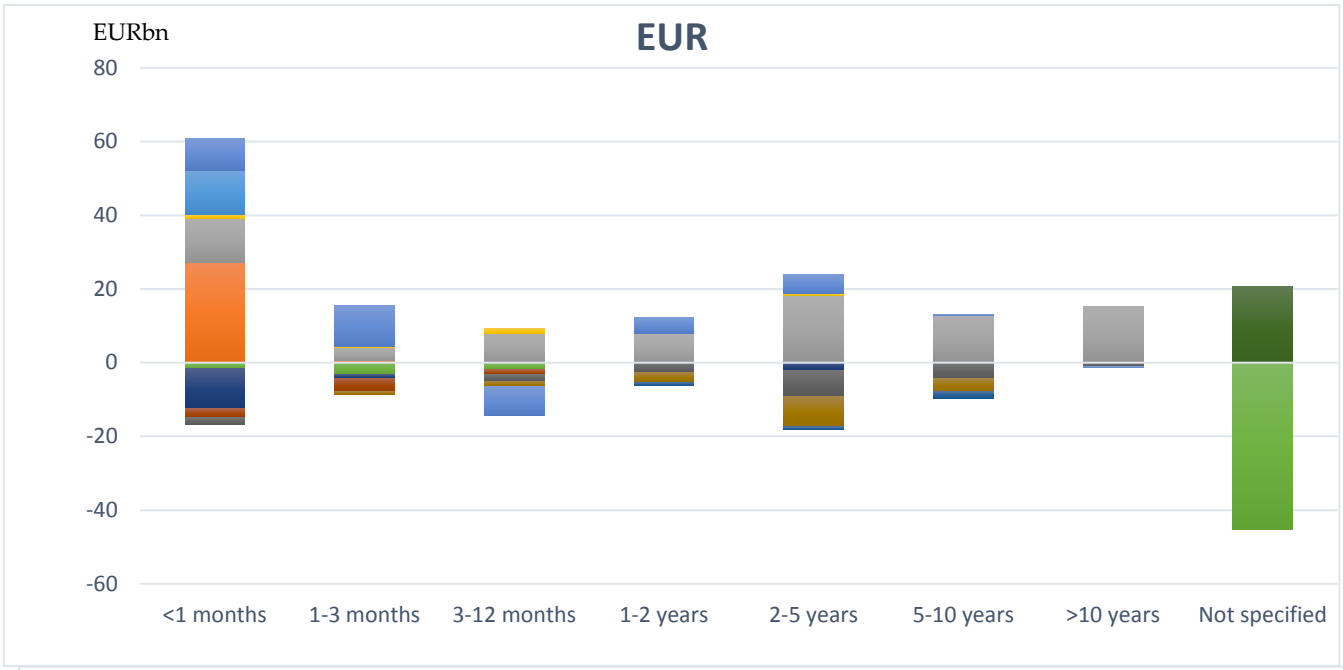
2018, EURbn	<1 months	1-3 months	3-12 months	1-2 years	2-5 years	5-10 years	>10 years	Not specified	Total
Cash and balances with central	48.6	0.6							49.2
Loans to the public	45.5	14.0	25.0	23.4	54.8	40.3	105.3		308.3
- of which repos	12.7	3.7	0.4						16.7
Loans to credit institutions	6.5	2.4	1.7	0.2	0.5				11
- of which repos	4.6	2.3	0.1						7.0
Interest-bearing securities including treasury bills	73.3							10.5	83.8
Derivatives								37.0	37.0
Other assets								61.7	61.7
Total assets	173.9	17.0	26.7	23.6	55.2	40.3	105.3	109.3	551.4
Deposits and borrowings from the public	11.1	5.4	3.5	0.2	0.1			144.7	165.0
- of which repos	1.8	2.9							4.7
Deposits by credit institutions	34.6	4.5	1.2	0.1	2.0				42.4
- of which repos	9.4	2.5							11.9
Debt securities in issue	12.7	23.4	34.0	26.7	62.1	10.2	21.4		190.4
- of which CD & CPs with original maturity less than 1 year	9.2	21.4	11.9						42.6
- of which CDs with original maturity over 1 year	0.3	0.7	1.4	1.8					4.2
-of which covered bonds	3.0	0.1	15.2	15.4	47.7	5.4	21.3		108.0
-of which other bonds	0.2	1.2	5.5	9.5	14.4	4.8	0.1		35.6
Subordinated liabilities				1.0	2.7	2.6	1.6	1.3	9.2
Derivatives								39.5	39.5
Other liabilities								72.0	72.0
Equity								32.9	32.9
Total liabilities and equity	58.5	33.4	38.6	27.9	66.8	12.8	22.9	290.4	551.4

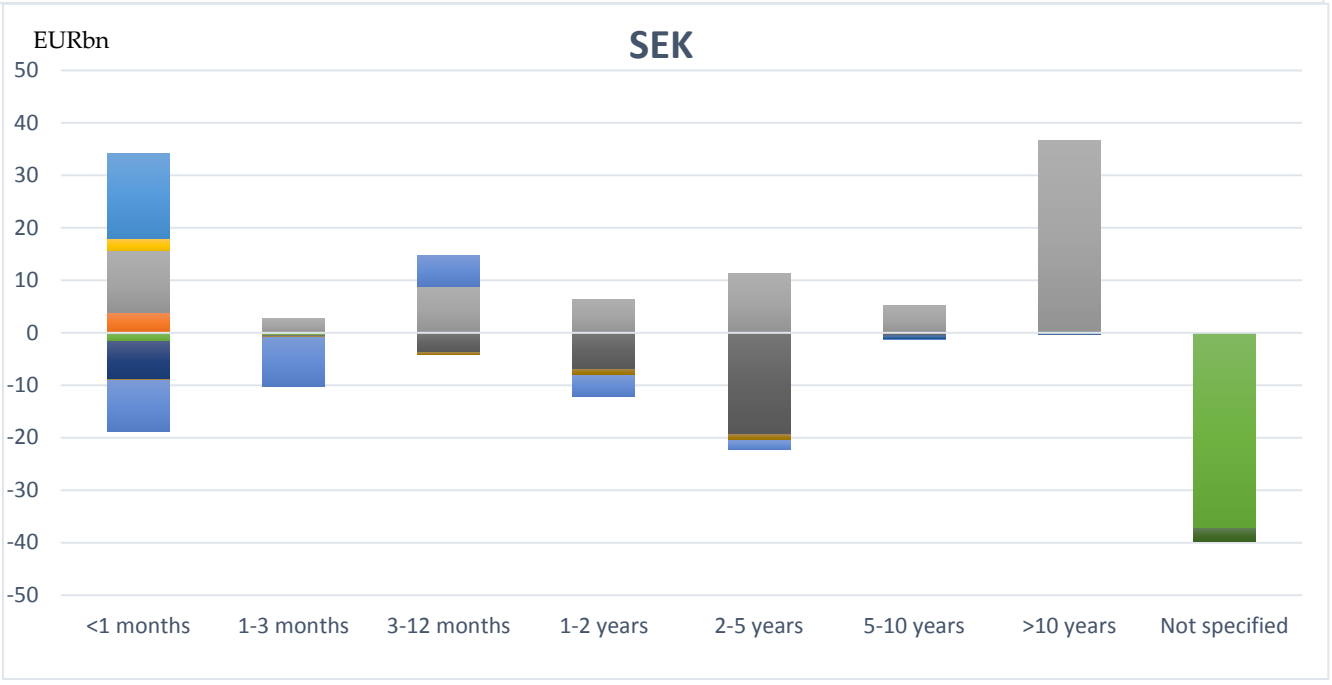
Maturity analysis is based on both contractual and behavioural information of remaining maturity of items.
Amortisation are included in time bucket corresponding the estimated cash flow date.
Time bucket 'Not specified' includes items which are lacking specific timing of cash flows.

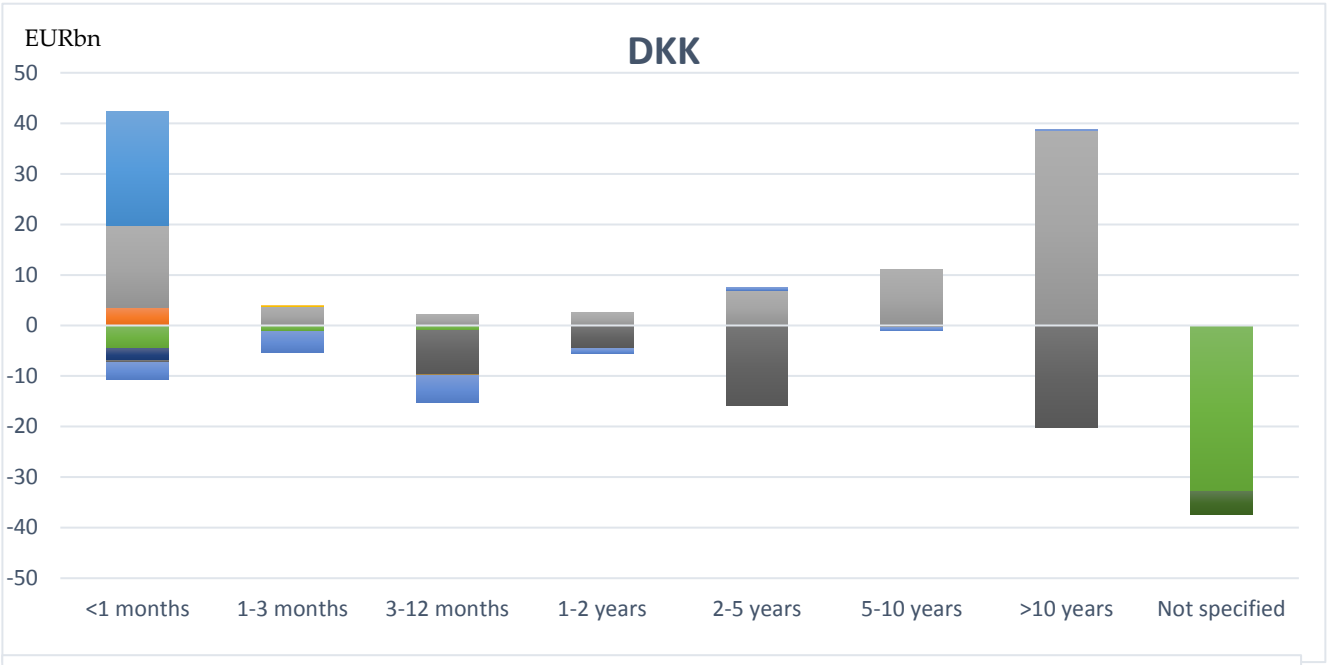
2017, EURbn	<1 months	1-3 months	3-12 months	1-2 years	2-5 years	5-10 years	>10 years	Not specified	Total
Cash and balances with central	47.9								47.9
Loans to the public	49.0	11.3	24.4	21.9	55.0	42.0	106.5		310.2
- of which repos	14.9	1.0	0.4						16.3
Loans to credit institutions	4.8	0.9	1.4	0.5	0.9				8.5
- of which repos	3.1	0.3							3.4
Interest-bearing securities including treasury bills	70.6							11.2	81.8
Derivatives								46.1	46.1
Other assets								87.1	87.1
Total assets	172.4	12.2	25.8	22.4	55.9	42.0	106.5	144.4	581.6
Deposits and borrowings from the public		4.6	4.2	0.7	0.1			140.9	172.4
- of which repos	5.9	1.1							7.0
Deposits by credit institutions	30.7	4.9	0.8		3.6				40.0
- of which repos	6.1	1.4	0.1						7.6
Debt securities in issue	12.3	13.7	34.4	28.6	56.5	11.9	21.4		179.1
- of which CD & CPs with original	10.6	12.9	9.6						33.1
- of which CDs with original			0.7	1.3					2.1
-of which covered bonds	1.4	0.6	17.9	20.4	38.9	6.4	21.0		106.7
-of which other bonds	0.3	0.2	6.2	6.9	17.6	5.5	0.4		37.2
Subordinated liabilities					3.7	2.3		3.0	9.0
Derivatives								42.7	42.7
Other liabilities								105.1	105.1
Equity								33.3	33.3
Total liabilities and equity	64.9	23.3	39.5	29.5	63.8	14.2	21.5	325.0	581.6

Table 75 Maturity analysis of assets and liabilities, split by currency

During 2018, Nordea continued to benefit from its prudent liquidity risk management, in terms of maintaining a diversified and strong funding base and a diversified liquidity buffer in all of the main currencies.



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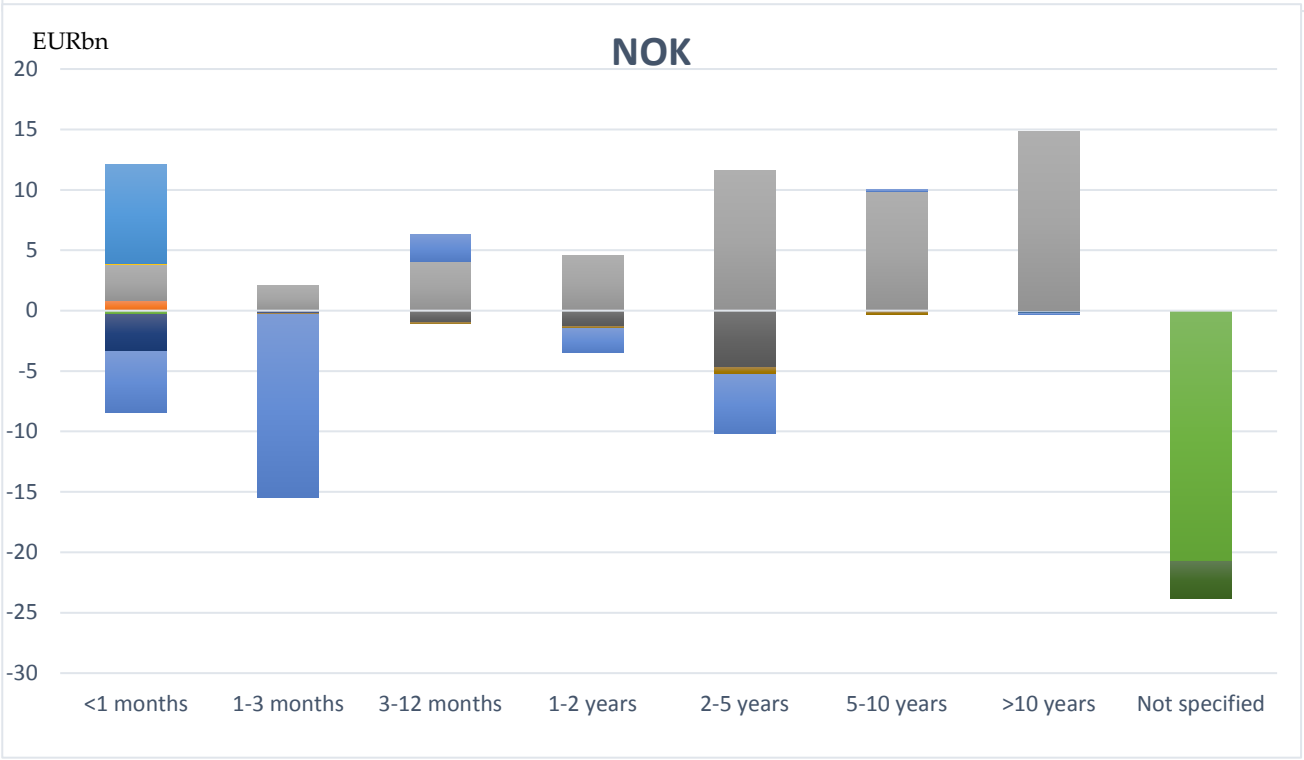
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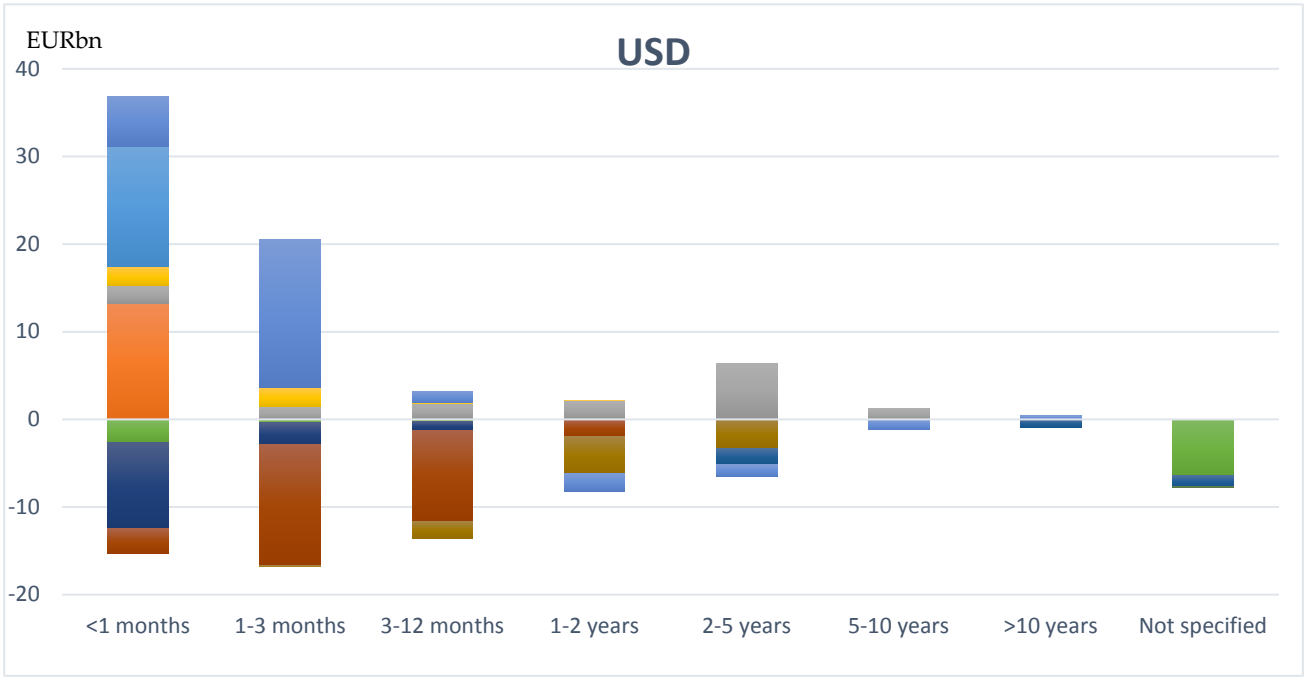
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USD
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>10 years
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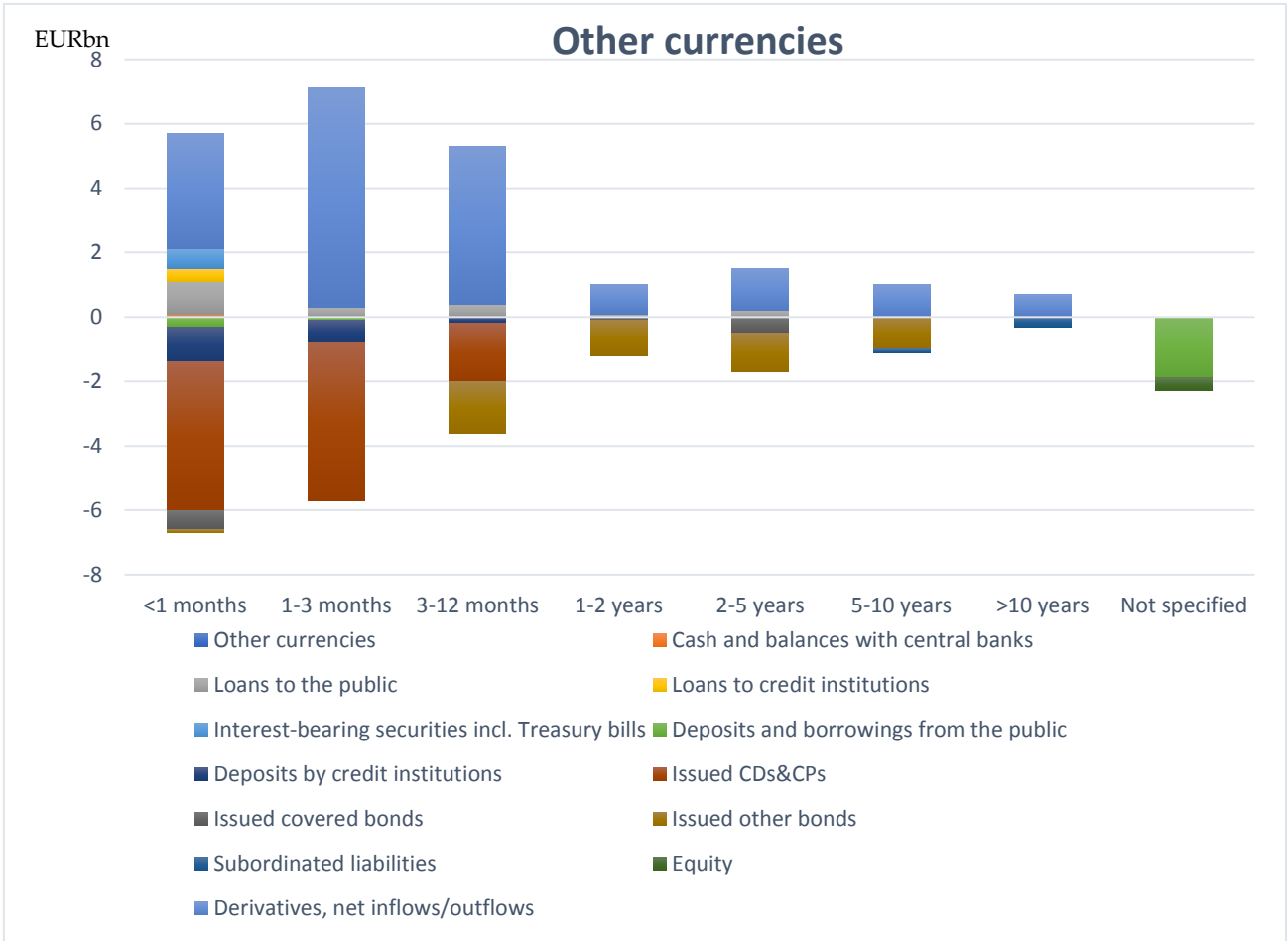
EURbn
Other currencies
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2
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-2
-4
-6
-8
<1 months
1-3 months
3-12 months
1-2 years
2-5 years
5-10 years
>10 years
Not specified
Other currencies
Cash and balances with central banks
Loans to the public
Loans to credit institutions
Interest-bearing securities incl. Treasury bills
Deposits and borrowings from the public
Deposits by credit institutions
Issued CDs&CPs
Issued covered bonds
Issued other bonds
Subordinated liabilities
Equity
Derivatives, net inflows/outflows

Other tables

Table 76 EU LI 1: Differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories

			Carrying values of items				
EURm	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation [1,2]	Subject to the credit risk framework	Subject to the counterparty credit risk framework	Subject to the securitisation framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital [3]
Assets							
Cash and balances with central banks	41,578	43,422	43,422				
Loans to central banks	7,642	7,652	6,457	1,196		1,196	-1
Loans to credit institutions	11,320	9,129	2,044	7,100		2,493	-14
Loans to the public	308,304	316,137	289,545	20,771	6,946	20,771	-1,125
Interest bearing securities	76,222	65,888	55,602			10,287	-2
Financial instruments pledged as collateral	7,568	7,568	3,381			4,188	
Shares	12,452	2,561	735			1,826	
Assets in pooled schemes and unit-linked investment contracts	24,583	3,475				4	3,472
Derivatives	37,025	36,962		36,962		34,887	
Fair value changes of the hedged items in portfolio hedge of interest rate risk	169	169				169	
Investments in associated undertakings and joint ventures	1,601	1,016	1,016				
Intangible assets	4,035	3,885	0				3,885
Properties and equipment	546	508	508				
Investment properties	1,607	30	30				
Deferred tax assets	164	158	158				
Current tax assets	284	284	284				
Retirement benefit assets	246	246	0				246
Other assets	14,749	14,413	1,483			12,930	
Prepaid expenses and accrued income	1,313	1,297	1,213				84
Assets held for sale		2					2
Total assets	551,408	514,801	405,877	66,028	6,946	88,750	6,547
Liabilities							
Deposits by credit institutions	42,419	43,483		13,083		8,486	30,401
Deposits and borrowings from the public	164,958	170,925	2,514	6,525		6,525	161,886
Deposits in pooled schemes and unit-linked investment contracts	25,653	3,964					3,964
Liabilities to policyholders	18,230						
Debt securities in issue	190,422	190,886					190,886
Derivatives	39,547	39,546		39,546		38,790	
Fair value changes of the hedged items in portfolio hedge of interest rate risk	1,273	1,273				1,273	
Current tax liabilities	414	399					399
Other liabilities	23,315	20,120					20,120
Accrued expenses and prepaid income	1,696	1,698					1,698
Deferred tax liabilites	706	626					626
Provisions	321	321					321
Retirement benefit obligations	398	373					373
Subordinated liabilities	9,155	9,157					9,157
Liabilities held for sale	0	0					
Total equity	32,901	32,030					32,030
Total liabilities		514,801	2,514	59,153		55,073	451,861

1) The amounts shown in the second column do not always equal the sum of the amounts shown in the remaining columns of the table, since there are items that attract capital charges according to more than one risk framework. These items are derivatives and repurchase agreements which are shown in the market and counterparty credit risk framework.
2) Including Luminor values according to the proportional method.
3) Provisions for loans are shown in the last column as negative values.

Table 77 EU LI 2: Main sources of differences between regulatory exposure amounts and carrying values in financial statements

The following table provides information regarding the main sources of differences between the accounting carrying values and regulatory exposures. Additionally, off-balance sheet amounts are included in the exposure amounts considered for regulatory purposes, while the items are subject to deductions from capital are not risk weighted and are thus excluded from the table below.

	a	b	c	d	e
		Items subject to:			
EURm	Total[1]	Credit risk framework	Counterparty credit risk framework	Securitisation framework [2,3]	Market risk framework[4]
Assets carrying value amount under the scope of regulatory consolidation (as per template EU LI 1)	508,255	405,877	66,028	6,946	88,750
Liabilities carrying amount under the regulatory scope of consolidation (as per template EU LI1)	62,940	2,514	59,153	0	55,073
Total net amount under the regulatory scope of consolidation	445,315	403,363	6,875	6,946	33,677
Off-balance sheet amounts (pre CRM and CCF)	95,123	92,793		2,329	
Differences due to different netting rules	19,348		19,348		
Differences due to considerations for provisions in Standardised Approach	-176	-176			
Differences due to regulatory future exposures	12,921		12,921		
Differences due to credit mitigation techniques (CRMs), with substitution effects on the exposure	-19,423	2	-19,425		
Differences due to Credit Conversion Factor (CCF)	-48,756	-47,746		-1,010	
Differences due to the use of financial collateral in Standardised Approach	-60	-60			
Other differences not stated above	-28,141	-11			-33,677
Exposure amounts considered for regulatory purposes	476,150	448,165	19,720	8,265	0

1) Total values in column a may not equal the sum of the remaining columns in this table (b to e) as certain items are treated under both the counterparty credit risk as well as the market risk framework (as per template EU LI 1).

2) As Nordea's securitisation position is synthetic, all is classified as on-balance according to the securitisation framework. But as the securitisation is including e.g. loan promises, an off-balance part is deducted, stemming from adjustments related to Credit Conversion Factors (CCFs).

3) Sponsor activities are not included in the table above (although are included in the Securitisation chapter).

4) Exposure at default is not calculated under the market risk framework, resulting in a difference between carrying values and exposure amounts considered for regulatory purposes. Therefore the total amount of carrying values according to the market risk framework is deducted in the final line Other differences not stated above.

Table 78 Transitional own funds disclosure template

EURm		(A) Amount at disclosure date	(B) regulation (EU) no 575/2013 article reference	(C) Amounts subject to pre-regulation treatment or prescribed residual amount of regulation, (EU) no 575/2013
Common Equity Tier 1 capital: instruments and reserves				
1	Capital instruments and the related share premium accounts	5,130	26 (1), 27, 28, 29, EBA list 26	
	of which: Instrument type 1	4,050	EBA list 26 (3)	
	of which: Instrument type 2		EBA list 26 (3)	
	of which: Instrument type 3		EBA list 26 (3)	
2	Retained earnings	23,943	26 (1) (c)	
3	Accumulated other comprehensive income (and other reserves, to include unrealised gains and losses under the applicable accounting standards)	-541	26 (1)	
3a	Funds for general banking risk		26 (1) (f)	
4	Amount of qualifying items referred to in Article 484 (3) and the related share premium accounts subject to phase out from CET1		486 (2)	
	Public sector capital injections grandfathered until 1 January 2018		483 (2)	
5	Minority Interests (amount allowed in consolidated CET1)		84, 479, 480	
5a	Independently reviewed interim profits net of any foreseeable charge or dividend		26 (2)	
6	Common Equity Tier 1 (CET1) capital before regulatory adjustments	28,532		
Common Equity Tier 1 (CET1) capital: regulatory adjustments				
7	Additional value adjustments (negative amount)	-210	34, 105	
8	Intangible assets (net of related tax liability) (negative amount)	-3,885	36 (1) (b), 37, 472 (4)	
9	Empty Set in the EU	NA		
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability where the conditions in Article 38 (3) are met) (negative amount)		36 (1) (c), 38, 472 (5)	
11	Fair value reserves related to gains or losses on cash flow hedges	12	33 (a)	
12	Negative amounts resulting from the calculation of expected loss amounts	-76	36 (1) (d), 40, 159, 472 (6)	
13	Any increase in equity that results from securitised assets (negative amount)		32 (1)	
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	-108	33 (b)	
15	Defined-benefit pension fund assets (negative amount)	-116	36 (1) (e) , 41, 472 (7)	
16	Direct and indirect holdings by an institution of own CET1 instruments (negative amount)	-9	36 (1) (f), 42, 472 (8)	
17	Holdings of the CET1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)		36 (1) (g), 44, 472 (9)	
18	Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above the 10% threshold and net of eligible short positions) (negative amount)		36 (1) (h), 43, 45, 46, 49 (2) (3), 79, 472 (10)	

19	Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)		36 (1) (i), 43, 45, 47, 48 (1) (b), 49 (1) to (3), 79, 470, 472 (11)	
20	Empty Set in the EU			
20a	Exposure amount of the following items which qualify for a RW of 1250%, where the institution opts for the deduction alternative		36 (1) (k)	
20b	of which: qualifying holdings outside the financial sector (negative amount)		36 (1) (k) (i), 89 to 91	
20c	of which: securitisation positions (negative amount)		36 (1) (k) (ii) 243 (1) (b) 244 (1) (b) 258	
20d	of which: free deliveries (negative amount)		36 (1) (k) (iii), 379 (3)	
21	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability where the conditions in 38 (3) are met) (negative amount)		36 (1) (c), 38, 48 (1) (a), 470, 472 (5)	
22	Amount exceeding the 15% threshold (negative amount)	NA	48 (1)	
23	of which: direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities		36 (1) (i), 48 (1) (b), 470, 472 (11)	
24	Empty Set in the EU			
25	of which: deferred tax assets arising from temporary differences		36 (1) (c), 38, 48 (1) (a), 470, 472 (5)	
25a		-6	36 (1) (a), 472 (3)	
25b	Foreseeable tax charges relating to CET1 items (negative amount)		36 (1) (l)	
26	Regulatory adjustments applied to Common Equity Tier 1 in respect of amounts subject to pre-CRR treatment			
26a	Regulatory adjustments relating to unrealised gains and losses pursuant to Articles 467 and 468			
	Of which: ...filter for unrealised loss on AFS debt instruments		467	39
	Of which: ...filter for unrealised loss 2		467	
	Of which: ...filter for unrealised gain on AFS debt instruments		468	177
	Of which: ...filter for unrealised gain 2		468	
26b	Amount to be deducted from or added to Common Equity Tier 1 capital with regard to additional filters and deductions required pre CRR		481	
	Of which: ...		481	
27	Qualifying AT1 deductions that exceed the AT1 capital of the institution (negative amount)		36 (1) (j)	
28	Total regulatory adjustments to Common equity Tier 1 (CET1)	-4,398		
29	Common Equity Tier 1 (CET1) capital	24,134		

Additional Tier 1 (AT1) capital: instruments

30	Capital instruments and the related share premium accounts	2,878	51, 52	
31	of which: classified as equity under applicable accounting standards	749		
32	of which: classified as liabilities under applicable accounting standards	2,128		
33	Amount of qualifying items referred to in Article 484 (4) and the related share premium accounts subject to phase out	0	486 (3)	
	from AT1	0		
	Public sector capital injections grandfathered until 1 January 2018	0	483 (3)	

34	Qualifying Tier 1 capital included in consolidated AT1 capital (including minority interests not included in row 5) issued by subsidiaries and held by third parties	0	85, 86, 480
35	of which: instruments issued by subsidiaries subject to phase out		486 (3)
36	Additional Tier 1 (AT1) capital before regulatory adjustments	2,878	

Additional Tier 1 (AT1) capital: regulatory adjustments

37	Direct and indirect holdings by an institution of own AT1 Instruments (negative amount)	-29	52 (1) (b), 56 (a), 57, 475 (2)
38	Holdings of the AT1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	0	56 (b), 58, 475 (3)
39	Direct and indirect holdings of the AT1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above the 10% threshold and net of eligible short positions)	0	56 (c), 59, 60, 79, 475 (4)
	(negative amount)	0	
40	Direct and indirect holdings by the institution of the AT1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above the 10% threshold net of eligible short positions)	0	56 (d), 59, 79, 475 (4)
	(negative amount)	0	
41	Regulatory adjustments applied to additional tier 1 in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase out as prescribed in Regulation (EU) No 575/2013 (i.e. CRR residual amounts)	0	
41a	Residual amounts deducted from Additional Tier 1 capital with regard to deduction from Common Equity Tier 1 capital during the transitional period pursuant to article 472 of Regulation (EU) No 575/2013	0	472, 472(3)(a), 472 (4), 472 (6), 472 (8) (a), 472 (9), 472 (10) (a), 472 (11) (a)
	Of which shortfall		
41b	Residual amounts deducted from Additional Tier 1 capital with regard to deduction from Tier 2 capital during the transitional period pursuant to article 475 of Regulation (EU) No 575/2013	0	477, 477 (3), 477 (4) (a)
	Of which items to be detailed line by line, e.g. Reciprocal cross holdings in Tier 2 instruments, direct holdings of non-significant investments in the capital of other financial sector entities, etc		
41c	Amount to be deducted from or added to Additional Tier 1 capital with regard to additional filters and deductions required pre- CRR		467, 468, 481
	Of which: ...possible filter for unrealised losses	0	467
	Of which: ...possible filter for unrealised gains		468
	Of which: ...		481
42	Qualifying T2 deductions that exceed the T2 capital of the institution (negative amount)		56 (e)
43	Total regulatory adjustments to Additional Tier 1 (AT1) capital	-29	
44	Additional Tier 1 (AT1) capital	2,849	
45	Tier 1 capital (T1 = CET1 + AT1)	26,984	

Tier 2 (T2) capital: instruments and provisions

46	Capital instruments and the related share premium accounts	4,973	62, 63
47	Amount of qualifying items referred to in Article 484 (5) and the related share premium accounts subject to phase out from T2		486 (4)

	Public sector capital injections grandfathered until 1 January 2018		483 (4)
48	Qualifying own funds instruments included in consolidated T2 capital (including minority interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties		87, 88, 480
49	of which: instruments issued by subsidiaries subject to phase out		486 (4)
50	Credit risk adjustments	135	62 (c) & (d)
51	Tier 2 (T2) capital before regulatory adjustments	5,108	
	Tier 2 (T2) capital: regulatory adjustments		
52	Direct and indirect holdings by an institution of own T2 instruments and subordinated loans (negative amount)	-64	63 (b) (i), 66 (a), 67, 477 (2)
53	Holdings of the T2 instruments and subordinated loans of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)		66 (b), 68, 477 (3)
54	Direct and indirect holdings of the T2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)		66 (c), 69, 70, 79, 477 (4)
54a	Of which new holdings not subject to transitional arrangements		
54b	Of which holdings existing before 1 January 2013 and subject to transitional arrangements		
55	Direct and indirect holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	-1,000	66 (d), 69, 79, 477 (4)
56	Regulatory adjustments applied to tier 2 in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase out as prescribed in Regulation (EU) No 575/2013 (i.e. CRR residual amounts)		
56a	Residual amounts deducted from Tier 2capital with regard to deduction from Common Equity Tier 1 capital during the transitional period pursuant to article 472 of Regulation (EU) No 575/2013		472, 472(3)(a), 472 (4), 472 (6), 472 (8) (a), 472 (9), 472 (10) (a), 472 (11) (a)
	Of which shortfall		
56b	Residual amounts deducted from Tier 2 capital with regard to deduction from Additional Tier 1 capital during the transitional period pursuant to article 475 of Regulation (EU) No 575/2013		475, 475 (2) (a), 475 (3), 475 (4) (a)
	Of which items to be detailed line by line, e.g. reciprocal cross holdings in at1 instruments, direct holdings of non significant investments in the capital of other financial sector entities, etc		
56c	Amount to be deducted from or added to Tier 2 capital with regard to additional filters and deductions required pre CRR		467, 468, 481
	Of which: ...possible filter for unrealised losses		467
	Of which: ...possible filter for unrealised gains		468
	Of which: ...		481
57	Total regulatory adjustments to Tier 2 (T2) capital	-1,064	
58	Tier 2 (T2) capital	4,045	
59	Total capital (TC = T1 + T2)	31,028	

59a	Risk weighted assets in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase out as prescribed in Regulation (EU) No 575/2013(i.e. CRR residual amounts)		
	Of which: ...items not deducted from CET1 (Regulation (EU) No 575/2013residual amounts) (items to be detailed line by line, e.g. Deferred tax assets that rely on future profitability net of related tax liablity, indirect holdings of own CET1, etc)		472, 472 (5), 472 (8) (b), 472 (10) (b), 472 (11) (b)
	Of which: ...items not deducted from AT1 items (Regulation (EU) No 575/2013residual amounts) (items to be detailed line by line, e.g. Reciprocal cross holdings in T2 instruments, direct holdings of non-significant investments in the capital of other financial sector entities, etc)		475, 475 (2) (b), 475 (2) (c), 475 (4) (b)
	Items not deducted from T2 items (Regulation (EU) No 575/2013residual amounts) (items to be detailed line by line, e.g. Indirect holdings of own t2 instruments, indirect holdings of non significant investments in the capital of other financial sector entities, indirect holdings of significant investments in the capital of other financial sector entities etc)		477, 477 (2) (b), 477 (2) (c), 477 (4) (b)
60	Total risk weighted assets	155,886	
	Capital ratios and buffers		
61	Common Equity Tier 1 (as a percentage of risk exposure amount)	15.5%	92 (2) (a), 465
62	Tier 1 (as a percentage of risk exposure amount)	17.3%	92 (2) (b), 465
63	Total capital (as a percentage of risk exposure amount)	19.9%	92 (2) (c)
64	Institution specific buffer requirement (CET1 requirement in accordance with article 92 (1) (a) plus capital conservation and countercyclical buffer requirements, plus systemic risk buffer, plus the systemically important institution buffer (G-SII or O-SII buffer), expressed as a percentage of risk exposure amount)	3.4%	CRD 128, 129, 130
65	of which: capital conservation buffer requirement	2.5%	
66	of which: countercyclical buffer requirement	0.9%	
67	of which: systemic risk buffer requirement	0.0%	
67a	of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	0.0%	CRD 131
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	11.0%	CRD 128
69	[non relevant in EU regulation]	NA	
70	[non relevant in EU regulation]	NA	
71	[non relevant in EU regulation]	NA	
	Amounts below the thresholds for deduction (before risk weighting)		
72	Direct and indirect holdings of the capital of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	299	36 (1) (h), 45, 46, 472 (10) 56 (c), 59, 60, 475 (4) 66 (c), 69, 70, 477 (4)
73	Direct and indirect holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	909	36 (1) (i), 45, 48, 470, 472 (11)
74	Empty Set in the EU		

75	Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability where the conditions in Article 38 (3) are met)			36 (1) (c), 38, 48, 470, 472 (5)

Applicable caps on the inclusion of provisions in Tier 2

76	Credit risk adjustments included in T2 in respect of exposures subject to standardized approach (prior to the application of the cap)			62
77	Cap on inclusion of credit risk adjustments in T2 under standardised approach			62
78	Credit risk adjustments included in T2 in respect of exposures subject to internal ratings-based approach (prior to the application of the cap)	135		62
79	Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	646		62

Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2013 and 1 Jan 2022)

80	Current cap on CET1 instruments subject to phase out arrangements			484 (3), 486 (2) & (5)
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)			484 (3), 486 (2) & (5)
82	Current cap on AT1 instruments subject to phase out arrangements	788		484 (4), 486 (3) & (5)
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)			484 (4), 486 (3) & (5)
84	Current cap on T2 instruments subject to phase out arrangements	443		484 (5), 486 (4) & (5)
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)			484 (5), 486 (4) & (5)

Table 79 Leverage ratio disclosure templates

Table LRSum: Summary reconciliation of accounting assets and leverage ratio exposures

	EURbn	Applicable Amounts
1	Total assets as per published financial statements	551,408
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	-36,607
3	(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure in accordance with Article 429(13) of Regulation (EU) No 575/2013 "CRR")	
4	Adjustments for derivative financial instruments	25,423
5	Adjustments for securities financing transactions "SFTs"	-6,084
6	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	35,405
EU-6a	(Adjustment for intragroup exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (7) of Regulation (EU) No 575/2013)	
EU-6b	(Adjustment for exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (14) of Regulation (EU) No 575/2013)	
7	Other adjustments	-41,382
8	Total leverage ratio exposure	528,163

Table LRCom: Leverage ratio common disclosure

	EURbn	CRR leverage ratio exposures
	On-balance sheet exposures (excluding derivatives and SFTs)	
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	448,773
2	(Asset amounts deducted in determining Tier 1 capital)	-4,421
3	Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets) (sum of lines 1 and 2)	444,353
	Derivative exposures	
4	Replacement cost associated with all derivatives transactions (ie net of eligible cash variation margin)	6,316
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	22,240
EU-5a	Exposure determined under Original Exposure Method	
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-8,286
8	(Exempted CCP leg of client-cleared trade exposures)	
9	Adjusted effective notional amount of written credit derivatives	65,229
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-60,077
11	Total derivative exposures (sum of lines 4 to 10)	25,423
	Securities financing transaction exposures	
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	41,514
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	-18,855
14	Counterparty credit risk exposure for SFT assets	323
EU-14a	Derogation for SFTs: Counterparty credit risk exposure in accordance with Article 429b (4) and 222 of Regulation (EU) No 575/2013	

15	Agent transaction exposures	
EU-15a	(Exempted CCP leg of client-cleared SFT exposure)	
16	Total securities financing transaction exposures (sum of lines 12 to 15a)	22,983
Other off-balance sheet exposures		
17	Off-balance sheet exposures at gross notional amount	95,121
18	(Adjustments for conversion to credit equivalent amounts)	-59,716
19		35,405
Exempted exposures in accordance with CRR Article 429 (7) and (14) (on and off balance sheet)		
EU-19a	(Exemption of intragroup exposures (solo basis) in accordance with Article 429(7) of Regulation (EU) No 575/2013 (on and off balance sheet))	
EU-19b	(Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off balance sheet))	
Capital and total exposures		
20	Tier 1 capital	26,984
21	Total leverage ratio exposures (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)	528,163
Leverage ratio		
22	Leverage ratio	5.11%
Choice on transitional arrangements and amount of derecognised fiduciary		
EU-23	Choice on transitional arrangements for the definition of the	Transitional
EU-24	Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) NO 575/2013	

LRSpl: Split-up of on balance sheet exposures (excluding derivatives, SFTs and exempted exposures)

		CRR leverage ratio exposures
EU-1	Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:	448,773
EU-2	Trading book exposures	37,806
EU-3	Banking book exposures, of which:	410,967
EU-4	Covered bonds	34,242
EU-5	Exposures treated as sovereigns	72,989
EU-6	Exposures to regional governments, MDB, international organisations and PSE NOT treated as sovereigns	4,603
EU-7	Institutions	3,090
EU-8	Secured by mortgages of immovable properties	139,167
EU-9	Retail exposures	27,968
EU-10	Corporate	108,020
EU-11	Exposures in default	4,536
EU-12	Other exposures (eg equity, securitisations, and other non-credit obligation assets)	16,351

LRQua: Free format text boxes for disclosure on qualitative items

1	Description of the processes used to manage the risk of excessive leverage	The risk of excessive leverage is included in the Group's planning, monitoring and resource allocation processes, and is monitored by the Group Board and CEO. The leverage ratio as defined in the CRD IV/CRR is further an integrated part of the Risk Appetite framework and the Capital management framework for which internal limits and targets are set.
2	Description of the factors that had an impact on the leverage Ratio during the period to which the disclosed leverage Ratio refers	The leverage ratio has increased slightly from 5.0% in Q2 2018 to 5.1% in Q4 2018. During the period, total leverage ratio exposure decreased mainly as a result of the decline in the loans to the public and derivatives assets. This is partially offset by the decrease in the Tier 1 capital, mainly due to higher dividend in Q4 2018.

Table 80 Loans to the real estate management industry, split by geography

	2018		2017	
EURm	Loans	%	Loans	%
Denmark	9,851	22.5	9,490	22.3
Finland	7,963	18.2	7,690	18.1
Norway	9,070	20.7	8,750	20.6
Sweden	15,410	35.2	15,850	37.3
Russia	18	0.0	145	0.3
Other	1,443	3.3	576	1.3
Total	43,754	100.0	42,501	100.0

Table 81 Loans to the shipping and offshore industry, split by segment

	2018		2017	
EURm	Loans	%	Loans	%
Bulk carriers	1,060	13.9	1,190	14.2
Product tankers	439	5.7	586	7.0
Crude tankers	1,041	13.6	1,298	15.5
Chemical tankers	419	5.5	471	5.6
Gas Tankers	1,334	17.5	1,422	17.0
Other shipping	1,389	18.2	1,390	16.6
Offshore and oil services	1,956	25.6	2,024	24.2
Total	7,638	100.0	8,380	100.0

Table 82 Loans to corporate customers, split by size of loans

	2018		2017	
Loan size, EURm	Loans	%	Loans	%
0-10	64,897	43.1	66,769	44.5
10-50	35,689	23.7	36,363	24.2
50-100	19,613	13.0	19,598	13.0
100-250	17,407	11.6	17,027	11.3
250-500	5,407	3.6	5,897	3.9
500-	7,545	5.0	4,558	3.0
Total	150,558	100.0	150,210	100.0

Table 83 Loan-to-value distribution, retail mortgage exposure, on-balance

The loan-to-value (LTV) ratio is considered a useful measure to evaluate collateral's quality, i.e. the credit extended divided by the market value of the collateral pledged. In the table, IRB retail mortgage exposures are distributed by LTV buckets based on the LTV ratio. The loan-to-value distribution remained stable from 2017 to 2018.

	31 Dec 2018		31 Dec 2017	
EURbn	Exposure	%	Exposure	%
<50%	111	81.2	110	80.4
50-70%	20	14.4	20	14.7
70-80%	4	3.1	5	3.3
80-90%	1	0.9	1	1.0
>90%	1	0.4	1	0.5
Total	137	100.0	137	100.0

The exposure is continuously distributed by LTV buckets. For example, an exposure of 540 with an LTV of 54% is distributed 500 to the <50% bucket and 40 to the 50-70% bucket.

Table 84. Countercyclical capital buffer

	General credit risk exposures		Trading book exposures		Own funds requirement					
EURm	Standardised approach	IRB approach	Standardised approach	Internal models approach	General credit exposures	Trading book exposures	Securitisation exposures	Total	Own funds requirement weight	Counter-cyclical buffer rate
Countries with existing CCyB rate										
Czech Republic	0	42	0	0	2	0	0	2	0.0	1.0
United Kingdom	147	1,841	10	48	88	7	0	94	0.9	1.0
Hong Kong	0	95	0	0	4	0	0	5	0.0	1.9
Iceland	0	191	0	15	4	1	0	5	0.0	1.3
Lithuania	3,023	316	2	0	185	0	0	185	1.8	0.5
Norway	1,805	57,369	145	362	2,014	27	0	2,040	19.8	2.0
Slovakia	0	20	0	0	1	0	0	1	0.0	1.3
Sweden	1,520	93,119	1,218	216	2,363	62	132	2,557	24.8	2.0
Sub-total	6,495	152,992	1,375	640	4,660	97	132	4,889	47.4	
Countries with own funds requirements weight 1% or above and no existing CCyB rate										
Bermuda	0	1,663	0	4	129	3	0	132	1.3	
Denmark	2,279	87,504	30	102	2,133	16	0	2,148	20.8	
Estonia	1,778	690	0	6	137	0	0	137	1.3	
Finland	779	65,951	15,526	192	1,742	124	0	1,866	18.1	
Latvia	1,960	485	2	0	124	0	0	124	1.2	
Marshall [illegible]	0	1,525	0	0	121	0	0	121	1.2	
USA	137	2,456	16	14	80	82	0	162	1.6	
Sub-total	6,933	160,273	15,573	318	4,466	226	0	4,691	45.5	
Countries with own funds requirement below 1% and no existing CCyB rate										
Sub-total	899	15,326	25	109	719	15	0	733	7	
Total	14,326	328,591	16,973	1,067	9,845	337	132	10,314	100	

Table 85. LI3 Specification of undertakings

			Method of consolidation					
Owner	Company Name	Voting power of holding %	Accounting consolidation	Regulatory consolidation	Neither consoli-dated nor deducted	Ded-ucted	Description of entity	Domicile
Nordea Bank Abp	Nordea Finance Finland Ltd	100	Acquisition method	Full consolidation			Credit institution	Finland
	Nordea Mortgage Bank Plc	100	Acquisition method	Full consolidation			Credit institution	Finland
	Nordea Funds Ltd	100	Acquisition method	Full consolidation			Financial institution	Finland
	Automatia Pankkiautomaatit Oy	33	Equity method	Equity method			Financial institution	Finland
Nordea Finance Finland Ltd	Tukirahoitus Oy	100	Acquisition method	Full consolidation			Financial institution	Finland
Nordea Bank Abp	Nordea Eiendomskreditt AS	100	Acquisition method	Full consolidation			Credit institution	Norway
	Nordea Finans Norge AS	100	Acquisition method	Full consolidation			Financial institution	Norway
	Eksportfinans ASA	23	Equity method	Equity method			Credit institution	Norway
	Nordea Utvikling AS	100	Acquisition method	Full consolidation			Financial institution	Norway
Nordea Bank Abp	Nordea Finans Danmark A/S	100	Acquisition method	Full consolidation			Financial institution	Denmark
	Nordea Kredit Realkreditaktieselskab	100	Acquisition method	Full consolidation			Credit institution	Denmark
	LR-Realkredit A/S	39	Equity method	Equity method			Credit institution	Denmark
	Fionia Asset Company A/S	100	Acquisition method	Full consolidation			Financial institution	Denmark
Nordea Finans Danmark A/S	BH Finance K/S	100	Acquisition method	Full consolidation			Financial institution	Denmark
	NAMIT 10 K/S	100	Acquisition method	Full consolidation			Financial institution	Denmark
	UL Transfer Aps	100	Acquisition method	Full consolidation			Financial institution	Denmark
	DT Finance K/S	100	Acquisition method	Full consolidation			Financial institution	Denmark
	BAAS 2012 K/S	100	Acquisition method	Full consolidation			Financial institution	Denmark
Fionia Asset Company A/S	Ejendomsselskabet Vestre Stationsvej 7, Odense A/S	100	Acquisition method	Full consolidation			Ancillary services undertaking	Denmark
Nordea Bank Abp	LLC Promyshlennaya Kompaniya Vestkon	100	Acquisition method	Full consolidation			Financial institution	Russia
Promyshlennaya Companiya Vestkon / Nordea Bank Abp	Joint Stock Company Nordea Bank	100	Acquisition method	Full consolidation			Credit institution	Russia
Joint Stock Company Nordea Bank	Nordea Leasing LLC	100	Acquisition method	Full consolidation			Financial institution	Russia
Nordea Bank Abp	Nordea Hypotek AB (publ)	100	Acquisition method	Full consolidation			Credit institution	Sweden
	Nordea Finans Sverige AB (publ)	100	Acquisition method	Full consolidation			Credit institution	Sweden
	Nordea Asset Management Holding AB	100	Acquisition method	Full consolidation			Financial institution	Sweden
	Bankomat AB	20	Equity method	Equity method			Financial institution	Sweden
	Getswish AB	20	Equity method	Equity method			Financial institution	Sweden
	Luminor Group AB	49.9	Equity method	Proportional consolidation			Credit institution	Sweden
	Nordea Markets Holding Company INC	100	Acquisition method	Full consolidation			Financial institution	USA
Nordea Markets Holding Company LLC	Nordea Markets LLC	100	Acquisition method	Full consolidation			Financial institution	USA
Nordea Asset Management Holding AB	Nordea Investment Management AB	100	Acquisition method	Full consolidation			Financial institution	Sweden
	Nordea Investment Funds S.A.	100	Acquisition method	Full consolidation			Financial institution	Luxembourg
	Madrague Capital Partners AB	40	Equity method	Equity method			Financial institution	Sweden
	NAM Alternative Investment AB	100	Acquisition method	Full consolidation			Financial institution	Sweden

Nordea Investment Management AB	Nordea Investment Management North America Inc	100	Acquisition method	Full consolidation			Financial institution	USA
	Nordea Investment Management AG	100	Acquisition method	Full consolidation			Financial institution	Germany
		100	Acquisition method	Full consolidation			Financial institution	UK
Nordea Bank Abp	Nordea Bank S.A.	100	Acquisition method	Full consolidation			Credit institution	Luxembourg
Entities not included in the consolidation								
Nordea Bank Abp	Nordea Life Holding AB including related subsidiaries and participations						Insurance entity	Sweden

			Method of consolidation					
Owner	Company Name	Voting power of holding %	Accounting consolidation	Regulatory consolidation	Neither consoli-dated nor deducted	Ded-ucted	Description of entity	Domicile
	Bohemian Wrappsody				X		Non CRR	Sweden
	Danbolig A/S				X		Non CRR	Denmark
	Eiendomsverdi AS				X		Non CRR	Norway
	First Card AS				X		Non CRR	Norway
	Kiinteistö Oy Kaarenritva				X		Non CRR	Finland
	Kiinteistö Oy Kellokosken Tehtaat				X		Non CRR	Finland
	Myyrmäen Autopaikoitus Oy				X		Non CRR	Finland
	Nordea Essendropsgate Eiendomsforvaltning AS				X		Non CRR	Norway
	Nordea Global Trade Services Limited				X		Non CRR	Hong Kong
	Nordea Hästen Fastighetsförvaltning AB				X		Non CRR	Sweden
	Nordea Limited				X		Non CRR	Great Britain
	Nordea Putten Fastighetsförvaltning AB				X		Non CRR	Sweden
	Nordea Vallila Fastighetsförvaltning Ab				X		Non CRR	Finland
	Nordic Baltic Holding (NBH) AB				X		Non CRR	Sweden
	PFC Technology AB				X		Immaterial financial institution, article 19	Sweden
	Privatmegleren AS				X		Non CRR	Norway
	Relacom Management AB				X		Non CRR	Sweden
	Securus Oy				X		Non CRR	Finland
	Structured Finance Servicer A/S				X		Non CRR	Denmark
	Suomen Luotto-osuuskunta				X		Non CRR	Finland
	Suomen Sviittiasunnot Oy				X		Non CRR	Finland
	Svenska e-fakturabolaget AB				X		Immaterial financial institution, article 19	Sweden
	Swipp Holding APS				X		Immaterial financial institution, article 19	Denmark
	Tordarius AB				X		Immaterial financial institution, article 19	Sweden
Nordea Kredit Realkreditaktieselskab	E-nettet Holding A/S				X		Non CRR	Denmark
Nordea Finans Danmark A/S	Fleggaard Busleasing				X		Non CRR	Germany
Nordea Finance Finland Ltd	Koy Levytie 6				X		Immaterial financial institution, article 19	Finland
	Koy Raahen Tiiranpesä				X		Immaterial financial institution, article 19	Finland
	Koy Tulppatie 7				X		Immaterial financial institution, article 19	Finland
	Porin Sokos Koy				X		Immaterial financial institution, article 19	Finland
	NF Fleet Oy				X		Non CRR	Finland

Join Stock Company Nordea Bank	Lanvin				X		Immaterial financial institution, article 19	Russia
	Matis				X		Immaterial financial institution, article 19	Russia
Nordea Finans Sverige AB (publ)	NF Fleet AB				X		Non CRR	Sweden
Nordea Finans Norge AS	NF Fleet AS				X		Non CRR	Norway
Nordea Finans Danmark A/S	NF Fleet A/S				X		Non CRR	Denmark
Nordea Bank Abp / Nordic Baltic Holding (NBH) AB	Nordea Do Brasil Representações LTDA				X		Non CRR	Brazil
Nordea Investment Funds S.A	Nordea Funds Service Germany Gmbh				X		Non CRR	Germany
	NAM Chile SpA				X		Immaterial financial institution, article 19	Chile
	Nordea Asset Management Schweiz GmbH				X		Immaterial financial institution, article 19	Switzer-land
Nordea Investment Management AB	Nordea Private Equity Holding A/S				X		Immaterial financial institution, article 19	Denmark
Nordea Private Equity Holding A/S	Nordea Private Equity I A/S				X		Immaterial financial institution, article 19	Denmark
	Nordea Private Equity II - EU Mezz A/S				X		Immaterial financial institution, article 19	Denmark
	Nordea Private Equity II - EU MM Buyout A/S				X		Immaterial financial institution, article 19	Denmark
	Nordea Private Equity II - Global A/S				X		Immaterial financial institution, article 19	Denmark
	Nordea Private Equity III - GLOBAL A/S				X		Immaterial financial institution, article 19	Denmark
	PWM Global PE III ApS				X		Immaterial financial institution, article 19	Denmark

			Method of consolidation					
Owner	Company Name	Voting power of holding %	Accounting consolidation	Regulatory consolidation	Neither consoli-dated nor deducted	Ded-ucted	Description of entity	Domicile

Table 86 Capital and risk information guide

Reference	Capital and Risk Management report	Annual rePort	www.nordea.com
Quantification			
End of year results			
Minimum capital requirements	Part 1, table 6	Pages 62, 265	
Business area results	Board risk statement	Page 46-47	Nordea.com > Latest interim results > Factbook
Development of REA	Part 1, table 7	Page 63, 265	
Development of Own funds	Part 1, table 6	Page 64, 263	
Capital ratios	Capital requirements and position	Page 64	
Leverage ratio	Part 1, table 79	Page 266	
Capital requirements parameters			
Credit Risk	Part 1, Credit risk	Page 49-55, note G1, G46, page 265	
Counterparty Credit Risk	Part 1, Counterparty credit risk	Page 56, G1	
Market Risk	Part 1, Market risk	Page 56-57, page 265	
Operational Risk	Part 1, Operational risk	Page 57-58, page 265	
Securitisations	Part 1, Securitisations	Page 63, note G46	
Liquidity Risk	Part 1, Liquidity risk	Page 61-62	
Frameworks			
Governance, measurement, management and mitigation of risks			Nordea.com > About Nordea > Corporate Governance >
Credit Risk	Part 2, Credit risk	Page 49-55	
Counterparty Credit Risk	Part 2, Counterparty credit	Page 56	
Market Risk	Part 2, Market risk	Page 56	
Operational Risk	Part 2, Operational and compliance risk	Page 57	
Compliance Risk	Part 2, Operational and compliance risk	Page 59	
Liquidity Risk	Part 2, Liquidity risk	Page 61-62	
Securitisations	Part 2, Securitisations	Page 63, note G46	
Life and pensions operation	Part 2, NLP	Page 60	
Indicators of global systemic importance	N/A	NA	
Capital instruments	Capital requirements and position		Nordea.com > Investor relations > Reports and presentations > Capital instruments
New regulations	Regulatory developments	Page 65-67	
Remuneration	N/A	Page 79-81	nordea.com > About Nordea > Corporate Governance > Remuneration > Nordea's Remuneration Policy

Table 87 Table of reference to Part Eight of Regulation (EU) No 575/2013

CRR ref.	High level summary	Reference
Title I: General Principles		
Article 431	Scope of disclosure requirement	
1	General disclosure requirements.	This report and disclosures at nordea.com addresses the requirement.
2	Requirement to disclose operational risk information.	Part 1 & part 2, Operational risk
3	Requirement to have a formal policy to comply with the disclosure requirements.	Nordea Bank Abp and its subsidiaries have adopted formal policies for complying with the disclosure requirements and has established policies for assessing the appropriateness of these disclosures, including their verification and frequency.
4	On request, an explanation of rating decisions to the loan applicants.	Could be provided upon request.
Article 432	Non-material, proprietary or confidential information	
(1) - (4)	Institutions may, under certain conditions, omit information that is not material, proprietary or confidential.	Part 1, table 88
Article 433	Frequency of disclosure	
	Requirements on frequency of Pillar 3 disclosures.	The disclosures are made annually in conjunction with the date of publication of Nordea Group's financial statements. For items where more frequent disclosures are assessed needed, information is given in the interim financial reports or on the Investor Relations pages on www.nordea.com.
Article 434	Means of disclosures	
1	Medium for Pillar 3 disclosures and cross-reference for synonymous information.	This table, table 86 and throughout the text where applicable.
2	Indicate location of equivalent dislosures that could satisfy both CRR and accounting or similar requirements.	Table 86
Title II: Technical criteria on transparency and disclosure		
Article 435	Risk management objectives and policies	
(1) (a)	Risk management strategies.	Throughout Part 2
(1) (b)	Organisation and governance.	Throughout Part 2
(1) (c)	Reporting systems.	Throughout Part 2
(1) (d)	Hedging policies	Part 2, Credit risk
(1) (e)	Management declaration on risk management adequacy.	Part 1, Executive Summary - footer in the end.
(1) (f)	Risk profile.	Introduction, Board risk statement
(2) (a) - (e)	Disclosures regarding governance arrangements.	Nordea.com > About Nordea > Corporate Governance
Article 436	Scope of application	
(a)	Name of the institution.	Part 1, Executive Summary - footer in the end.
(b) (i)-(iv)	Outline of the differences in the basis of consolidation for accounting and prudential purposes	Part1, table 85
(c)	Practical or legal impediments to transfer funds between parent and subsidiaries.	Part 2, ICAAP, stress testing and capital requirement
(d)	Capital shortfalls in subsidiaries outside the scope of consolidation.	N/A
(e)	Making use of articles on derogations from a) prudential requirements (Article 7) and b) liquidity requirements for individual subsidiaries/entities (Article 9).	N/A
Article 437	Own funds	
(1) (a)	General disclosure requirements regarding own funds.	Part 1, table 1,2

(1) (b)		Nordea.com > Investor relations > Reports and presentations > Capital instruments
(1) (c)		Nordea.com > Investor relations > Reports and presentations > Capital instruments
(1) (d) (i)-(iii)		Part 1, table 78
(1) (e)		Part 1, table 78
(1) (f)		N/A
Article 438	Capital requirements	
(a)	Summary of the approach to assessing adequacy of capital to its activities.	Part 2, ICAAP, stress testing and capital requirement
(b)	Upon demand from the authorities, result of the ICAAP.	Could be provided upon request.
(c) - (f)	Own funds requirements for credit risk (Standardised and IRB approach), market and operational risk.	Part 1, table 6
Article 439	Exposure to counterparty credit risk	
(a)	Methodology for credit limits and internal capital allocation for counterparty credit risk.	Part 2, Counterparty credit risk
(b)	Policies for securing collateral and establishing credit reserves.	Part 2, Counterparty credit risk
(c)	Policies for wrong-way risk exposures.	Part 2, Counterparty credit risk
(d)	Impact of any collateral postings upon credit rating downgrade.	Part 2, Counterparty credit risk
(e)	Net derivative credit exposure built-up.	Part 1, tables 43, 44, 47, 48, 51
(f)	Methods for exposure value measurement.	Part 1, tables 44, 51, 52
(g)	Notional value of credit derivatives hedges and distribution of current credit exposure by type of exposure.	Part 1, table 49
(h)	Notional amounts of credit derivatie transactions and distribution of credit derivatives products.	Part 1, table 49
(i)	Estimate of alfa if the institution has received permission of the competent authorities to estimate alfa.	N/A
Article 440	Capital buffers	
(1) - (2)	Geographical distribution and amount of institution-specific countercyclical capital buffer.	Part 1, table 84
Article 441	Indicators of global systemic importance	
(1) - (2)	Indicator values used for determing the score of the institution.	N/A
Article 442	Credit risk adjustments	
(a)	Definitions of 'past due' and 'impaired'.	Part 2, Credit risk
(b)	Methodology used for determining specific and general credit risk adjustments.	Part 2, Credit risk
(c)	The total amount of original exposures and the average amount of the exposures over the period per exposure class.	Part 1, table 31, 32
(d)	Exposures distributed by exposure class and geography.	Part 1, table 9, table 22-26
(e)	Distribution of exposures by industry broken down by exposure classes.	Part 1, table 10
(f)	The residual maturity breakdown of all the exposures, broken down by exposure classes.	Part 1, table 11
(g) (i) - (iii)	Breakdown of impaired exposures and past due exposures, specific and general credit risk adjustments, charges for the period, by industry or counterparty type.	Part 1, table 36
(h)	Impaired and past due exposures broken down by geographical areas.	Part 1, table 37

(i) (i) - (v)	Reconciliation of changes in the specific and general credit risk adjustments for impaired exposures covering description of the type of adjusments, the opening balances, the amounts taken against the credit risk adjustments and the amounts that have ben set aside for estimated probable losses on the exposures.	Part 1, table 38, Nordea has no general credit risk adjustments
Article 443	Unencumbered assets	
	Disclosure on unencumbered assets according to EBA Guidelines EBA/GL/2014/03	Part 1, table 67
Article 444	Use of ECAIs	
(a)	Names of nominated ECAIs.	Part 2, Credit risk
(b)	The Exposure classes for which each ECAI is used.	Part 2, Credit risk
(c)	Description of the process for translating external ratings into credit quality steps.	Part 2, Credit risk
(d)	Mapping of external ratings from each nominated ECAI to the credit quality steps.	Part 2, Credit risk & Part 1, table 40
(e)	The exposure values before and after credit risk mitigation associated with each credit quality step.	Part 1, table 20, table 45
Article 445	Exposure to market risk	
	Own Funds requirements for market risk.	Part 1, table 64
Article 446	Operational risk	
	Approach used to calculate Own Funds requirements for operational risk.	Part 1, table 6, Part 2, Operational and compliance risk
Article 447	Exposures in equities not included in the trading book	
(a)	Differentiation between exposures based on their objectives.	Part 1, table 63
(b)	The balance sheet value, the fair value and, for those exchange-traded, a comparison to the market price where it is materially different from the fair value.	Part 1, table 63
(c)	The types, nature and amounts of equity exposures.	Part 1, table 63
(d)	Cumulative realised gains or losses arising from sales and liquidations in the period.	Part 1, table 63
(e)	Total unrealised gains or losses.	Part 1, table 63
Article 448	Exposure to interest rate risk on positions not included in the trading book	
(a)	Nature, key assumptions and frequency of measurement of the interest rate risk.	Part 2, Non traded market risk measurement
(b)	The variation in earnings, economic value or other relevant measure used by the management for upward and downward rate shocks, broken down by currency.	Part 1, table 67
Article 449	Exposure to securitisation positions	
(a)	Objectives in relation to securitisation activity.	Part 2, Securitisation
(b)	Nature of other risks including liquidity risk inherent in securitised assets.	Part 2, Securitisation
(c)	Type of risks in terms of seniority of underlying securitisation positions and in terms of assets underlying those latter securitisation positions assumed and retained with re-securitisation activity.	Part 1, tables 53
(d) -(e)	Different roles played by the institution in the securitisation process and the extent of its involvement.	Part 1, tables 53, Part 2, Securitisation
(f)	Description of the processes in place to monitor changes in the credit and market risk of securitisation exposures.	Part 2, Credit risk & Market risk
(g)	Description of the institution's policy governing the use of hedging and unfunded protection to mitigate the risks of retained securitisation and re-securitisation exposures.	N/A

(h)	Approaches used to calculate REA for its securitisation activities.	Part 2, Securitisation
(i)	Types of SSPE that the institution, as sponsor, uses to securitise third-party exposures.	Part 1, table 53 and Part 2, Securitisation
(j) (i) - (vi)	Summary of the institutions accounting policies for securitisations activities.	Part 2, Securitisation
(k)	Names of ECAIs used for securitisations.	N/A
(l)	Description of Internal Assessment Approach.	N/A
(m)	Explanation of changes to any of the quantitative disclosures.	N/A
(n) (i) - (vi)	Information on banking and trading book securitisation exposures broken down by exposure type.	Part 1, table 53. Nordea does not have any securitisation exposures in the trading book
(o) (i) - (ii)	Additional information on banking book and trading book securitisation exposures.	Part 1, table 53. Nordea does not have any securitisation exposures in the trading book
(p)	Amount of impaired/past due assets securitised and the losses recognised related to banking book securitisations, by exposure type.	N/A
(q)	Outstanding exposures securitised by the institution and subject to a capital requirement for market risk, broken down into traditional/synthetic and by exposure type.	N/A
(r)	Whether the institution has provided support to securitisation vehicles and the impact on own funds.	N/A
Article 450	Remuneration policy	
1	Remuneration policy and practices:	Nordea annual report and Nordea.com > About Nordea > Corporate Governance > Remuneration > Nordea's Remuneration Policy
(1) (a)	- decision making of remuneration committee	See references above
(1) (b)	- link between pay and performance	See references above
(1) (c) - (f)	- criteria for performance measurement, variable components parameters	See references above
(1) (g) - (i)	- aggregate quantitative information including necessary splits	See references above
(1) (j)	- total remuneration for each member of the management body, upon request	Annual report
2	- quantitative information per member of the management body for significant institutions	Annual report
Article 451	Leverage	
(1) (a) - (e)	Leverage ratio and its components	Part 1, table 79

Title III: Qualifying requirements for the use of particular instruments or methodologies

Article 452	Use of the IRB Approach to credit risk	
(a)	Permission from the authority to use IRB approach.	Part 2, Credit risk
(b)	An explanation of:	
(b) (i)	Internal ratings and relation to external ratings.	N/A
(b) (ii)	Use of internal ratings other than for calculating REA.	Part 2. Credit risk
(b) (iii)	The process for managing and recognising credit risk mitigation.	Part 2. Credit risk
(b) (iv)	Control mechanisms for rating systems.	Part 2. Credit risk
(c) (i) - (v)	Description of the internal ratings process, separately for each IRB exposure class.	Part 2. Credit risk
(d)	Exposure values, separately for each IRB exposure class.	Part 1, table 22-26
(e) (i) - (iii)	For exposures towards IRB corporate and institutions, split of total exposure, 'Exposure-weighted average risk weight and Undrawn commitments per risk grade.	Part 1, table 24, table 25

(f)	Information on Retail exposures under the IRB approach.	Part 1, table 26
(g)	Actual specific credit risk adjustments during the period.	Part 1, tables 17, table 35
(h)	The factors that impacted on the loan losses during the period.	Executive Summary & Part 1, table 39
(i)	Historical comparison of parameter estimates against the realised outcomes.	Part 1, table 41
(j) (i) - (ii)	PD and LGD for all IRB exposure classes, split down on relevant geographical locations.	Part 1, table 42
Article 453	Use of credit risk mitigation techniques	
(a)	Policies and processes for the use of on- and off-balance sheet netting.	Part 2, Credit risk
(b)	Policies and processes for collateral valuation and management.	Part 2, Credit risk
(c)	Main types of collateral.	Part 1, table 34
(d)	Types of guarantor and credit derivative counterparty and their creditworthiness.	Part 2, Credit risk
(e)	Information about market or credit risk concentrations within the credit mitigation taken.	Part 2, Credit risk and Market risk
(f)	The exposure value covered by eligible collateral for exposures under the Standardised or Foundation IRB approach.	Part 1, table 20, table 33
(g)	Exposures covered by guarantees or credit derivatives.	Part 1, table 33
Article 454	Use of the Advanced Measurement Approaches to operational risk	
	Description of the use of risk transfer mechanisms for the purpose of mitigation of operational risk.	N/A
Article 455	Use of Internal Market Risk Models	
(a) (i)	Characteristics of the models used.	Part 2, Market risk
(a) (ii)	The methodologies used for the internal models for incremental default and migration risk and for correlation trading.	Part 2, Market risk
(a) (iii)	Description of stress testing applied to the sub-portfolio.	Part 2, Market risk
(a) (iv)	Approaches used for back-testing and validating the accuracy and consistency of the internal models.	Part 2, Market risk
(b)	Scope of permission by the competent authority.	Part 2, Market risk
(c)	Description of the extent and methodologies for inclusion in the trading book, comply with prudential valuation requirements.	Part 2, Market risk
(d) (i) - (iii)	The highest, lowest and average of VaR, sVaR, Incremental risk charge and Comprehensive Risk Charge.	Part 1, table 59
(e)	The elements of the own fund requirements for market risk.	Part 1, table 69
(f)	Weighted average liquidity horizon for each sub-portfolio covered by the internal models.	Part 2, Market risk
(g)	Comparison of the daily end-of-day VaR measures to the one-day changes of the portfolio's value.	Part 1, table 58

Table 88 Information not disclosed due to non-materiality, proprietary or confidential nature

Regulatory reference	Reason for not including	Detailed reason for not including	Reference to information provided
EU GL OVA CRR 435 (1)(B) The approved limits to which the institutions is exposed to	Risk appetite limits are strictly confidential	Thresholds for risk appetite limits are not disclosed, they are of confidential strategic nature. The relevant supervisory authorities have access to the full report including limits.	The metrics, to which risk appetite limits apply, are stated in Part 2 Governance
EBA RTS on CCB	The information is immaterial	Detailed information on domicile with 0 countercyclical buffer and less than 1% of Nordeas own fund contribution is not material countribition to the calculation of the Nordea CCyB rate.	Summary of these countries countribution to the CCyB calculation is included in table 84

Nordea Life and Pension

Table

Table 89 Assets and liabilities of NLP

The table shows NLP assets and liabilities at 31 December 2018 on an IFRS basis. The development of assets and liabilities is determined predominantly by in- and outflows of insurance premiums, claims, investment returns and holding of capital in NLP.

EURm	2018	2017
Assets		
Investment properties	1,588	1,436
Shares	8,780	6,328
Alternative investments	1,112	1,220
Debt securities - At fair value	7,361	8,138
Debt securities - Held to maturity	3,135	3,000
Bonds pledged as collateral		
Deposits and treasury bills	827	1,217
1) Data for both years are excluding Velliv Pension & Livsforsikringsselskab A/S, Denmark (formerly Nordea Liv & Pension, livsforsikringsselskab A/S, Denmark).	21,689	22,016
Other financial assets	489	327
Other assets	471	605
Assets held for sale	0	30,478
Total assets	45,452	74,764
Liabilities		
Traditional provisions	6,187	6,263
Collective bonus potential	1,930	2,243
Unit-linked provisions	6,375	6,922
Investment contracts with guarantees	3,234	3,486
Investment contracts without risk and guarantees	21,689	22,016
Other insurance provisions	504	498
Other financial liabilities	500	501
Other liabilities	2,508	283
Liabilities held for sale	0	29,536
Shareholders' equity	1,525	1,643
Minority interest	0	168
Subordinated loans	1,000	1,206
Total liabilities and equity	45,452	74,764

Assets and Liabilities held for sale at 31 December 2017 include assets and liabilities in Nordea Liv & Pension, livsforsikringsselskab A/S, Denmark, where in December 2017 further 45% of the shares was communicated to be sold to the costumer owned association Norliv. The transaction was concluded in 2018 and is reflected in the change of assets and liabilities from 31 December 2017 to 31 December 2018.

Table 90 Effects of market risk on NLP

The table shows the sensitivity of the financial accounts to changes in market risks with the impact split between the effect on policyholders and Nordea Group's own account.

	2018[1]		2017[1]	
EURm	Effect on policyholders	Effect on Nordea Group's Account	Effect on policyholders	Effect on Nordea Group's Account
50 bp increase in interest rates	-287.3	-5.6	-266.1	-2.9
50 bp decrease in interest rates	288.7	5.6	266.9	2.9
12% decrease in all shares	-680.8	-0.8	-724.1	-1.3
8% decrease in property values	-115.9	-0.8	-106.3	-0.6
8% loss of counterparties	-1.5	0.0	-4.7	0.0

"+" means that policyholders liabilities or Nordea Group's account (profit/equity) increase and "-" means that policyholders liabilities or Nordea Group's account (profit/equity) decrease

1) Data for both years are excluding Velliv Pension & Livsforsikringsselskab A/S, Denmark (formerly Nordea Liv & Pension, livsforsikringsselskab A/S, Denmark).

Table 91 Effects of life and insurance risks

The table shows the sensitivity of the financial accounts to changes in life insurance risk. The impact is split between the effect on policyholders and Nordea Group's own account. Increases in mortality and disability rates have a small negative impact on Nordea Group's own account due to the contract type and buffer.

	2018[1]		2017[1]	
EURm	Effect on policyholders	Effect on Nordea Group's Account	Effect on policyholders	Effect on Nordea Group's Account
Mortality - increased living with 1 year	23.2	-17.9	23.4	-18.7
Mortality - decreased living with 1 year	-0.4	0.3	-0.5	0.4
Disability - 10% increase	8.9	-6.9	9.4	-7.5
Disability - 10% decrease	-6.3	4.9	-6.4	5.1

"+" means that policyholders liabilities or Nordea Groups account (profit/equity) increase and "-" means that policyholders liabilities or Nordea Group's account (profit/equity) decrease

1) Data for both years are excluding Velliv Pension & Livsforsikringsselskab A/S, Denmark (formerly Nordea Liv & Pension, livsforsikringsselskab A/S, Denmark).

Table 92 Investment return, traditional life insurance

The table shows the investment return of traditional business for the consolidated life companies. Assets under management (AuM) are affected by the investment return and the in- and outflows of business.

	2018[1]		2017[1]	
EURm	AuM	Investment return	AUM	Investment return
Interest-bearing securities and deposits	7,230	0.8%	7,401	4.8%
Shares	1,228	-1.1%	1,480	8.8%
Alternative investments	576	2.8%	473	11.4%
Investment property	979	5.5%	866	9.3%
Total return	10,013	1.1%	10,220	5.9%

1) Data for both years are excluding Velliv Pension & Livsforsikringsselskab A/S, Denmark (formerly Nordea Liv & Pension, livsforsikringsselskab A/S, Denmark).

Table 93 Insurance provisions (technical provisions) and provisions on investment contracts divided into guarantee levels (technical interest rates)

The table shows the insurance provisions and provisions on investment contracts divided into guarantee levels.

EURm	None	0%	0-2%	2-3%	3-4%	>4%	Total liabilities
2018[1]							
Technical provisions	6,447	1,367	2,772	2,181	2,175	849	15,791
2017[1]							
Technical provisions	7,006	1,502	2,924	2,185	2,225	825	16,667

1) Data for both years are excluding Velliv Pension & Livsforsikringsselskab A/S, Denmark (formerly Nordea Liv & Pension, livsforsikringsselskab A/S, Denmark).

Table 94 Financial buffers

	Financial buffers[1]		% of guaranteed liabilities[1]	
EURm	2018	2017	2018	2017
Norway	316	317	6.7%	6.8%
Sweden	1,000	1,150	43.4%	45.6%
Finland	1,007	1,197	52.0%	59.9%
Total	2,322	2,664	26.0%	28.8%

1) Data for both years are excluding Velliv Pension & Livsforsikringsselskab A/S, Denmark (formerly Nordea Liv & Pension, livsforsikringsselskab A/S, Denmark).

Table 95 Solvency sensitivity

EURm	2018[2]	2017[1]
Solvency position	174%	169%
Equity drops 20%	174%	174%
Interest rates down 50bp	168%	169%
Interest rates up 50bp	179%	173%

1) The solvency position is as at 30 November 2017 and does not include the end- of- year dividend payment. The sensitivities show a 12% drop in equities.
2) The solvency position is as at 30 November 2018 and does not include the anticipated dividend for 2018. The dividend will be reflected in the figures for Q1/2019.

Table 96 Solvency position

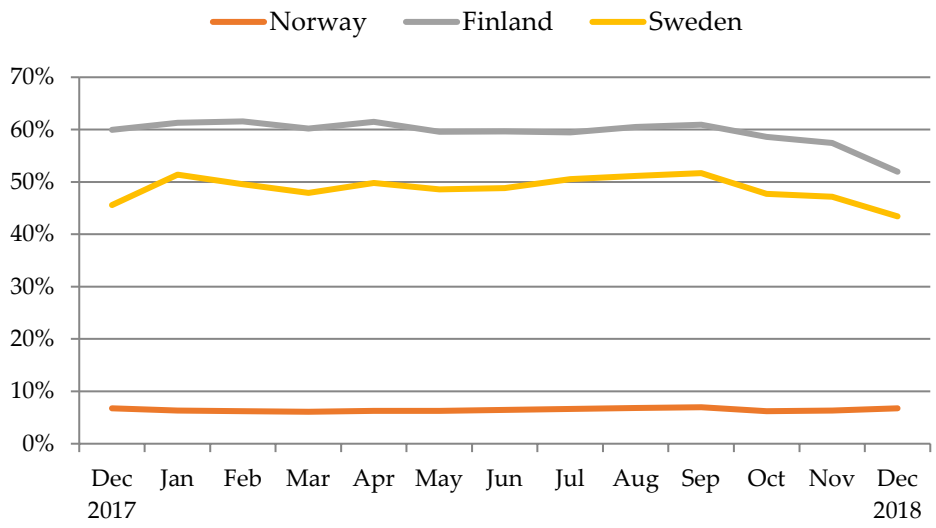
EURm	2018[2]	2017[1]
Solvency capital requirement	1,914	2,674
Own funds	3,338	4,516
Solvency margin	1,424	1,842
Solvency position	174%	169%

1) The solvency position is as at 30 November 2017 and does not include the end- of- year dividend payment. The sensitivities show a 12% drop in equities.

2) The solvency position is as at 30 November 2018 and does not include the anticipated dividend for 2018. The dividend will be reflected in the figures for Q1/2019.

Table 97 Financial buffers compared to insurance provisions, rolling 12 months

The figure shows the development of the financial buffers during 2018.



Part 2 Risk management, Methodologies and Governance

Information on common processes, methods and assumptions for assessing capital adequacy in the Nordea Group

Governance of risk and capital management

This chapter gives an overview of Nordea's governance structure as defined by the internal rules contained within Nordea's group directives, approved by the BoD of Nordea or within Nordea's group instructions, approved by the Chief Executive Officer (CEO) in Group Executive Management (GEM). The internal rules are reviewed at least annually and are applicable for all of Nordea, including all subsidiaries under supervision, unless local regulations specify otherwise.

Risk and capital management

The key principle for the management of risk in Nordea is the Three Lines of Defense (LoD)

The 1st LoD refers to all units and employees that are neither in the 2nd nor the 3rd LoD.

The 1st LoD is responsible for the daily risk management and for compliance with applicable rules. All employees in the 1st LoD have a role of understanding and adhering to prudent risk management and of complying with both external rules and regulation and Nordea's internal rules.

Group Risk Management and Control (GRMC) and Group Compliance (GC) represent the 2nd LoD responsible to maintain Nordea's internal control framework, including its implementation across Nordea. GRMC implements the risk policies, controls Nordea's risk management framework and ensures that all material risks Nordea is or could be exposed to, are identified, assessed, monitored, managed and reported. GC is responsible for identifying compliance risks and perform monitoring and control to ensure that the risks are managed by the relevant functions.

Group Internal Audit (GIA) represents the 3rd LoD and is an independent and objective assurance function. GIA supports BoD and GEM in protecting the assets, reputation and sustainability of the organisation. This is done by assessing whether all significant risks are identified and appropriately reported by management and the risk functions to the BoD, its committees and GEM. Furthermore, GIA assesses whether all significant risks are adequately controlled, and challenges GEM to improve the effectiveness of governance, risk management and internal controls.

Risk and capital management principles and control

Risk and capital management in Nordea are governed by principles and procedures stated in Nordea's internal rules, in effect throughout the organisation. The BoD's group directives and the CEO's group instructions define authorities and key responsibilities for themselves and other units. These internal rules form part of the Nordea internal control framework which all legal entities within Nordea are subject to.

Risks taken by Nordea are categorised according to Nordea's Risk Taxonomy, which is the starting point of the risk identification process. Nordea monitors aggregated risks via specific committees, as well as through reporting to GEM and BoD. More specifically, Nordea's risks, capital and liquidity are monitored by the Risk Committee (RC) and the Asset and Liability Committee (ALCO) respectively.

Table.: Business Model and Internal Control Framework: Three Lines of Defence (LoD)

1st LoD	2nd LoD	3rd LoD
All units and employees that are neither in the 2nd nor in the 3rd LoD	Group Compliance, Group Risk Management & Control	Group Internal Audit
Business Areas (BAs) and Group Functions (GFs) are responsible for their own risk management and for operating their business in accordance with adopted framework for internal control and risk management and within the set limits for risk exposure. This covers identifying, assessing, performing quality assurance and reporting of issues related to all material financial and non-financial risks.	GC and GRMC are independent control and risk functions with the purpose and authority to support and challenge 1st LoD in identifying and managing risk and compliance. The internal control framework covers: • Control environment • Risk assessment • Control activity • Information and communication • Monitoring	GIA is an independent unit. GIA assesses the internal control framework, i.e. whether all significant risks are identified, appropriately reported and controlled. GIA supports the Group Board and GEM in protecting the assets, reputation and sustainability of the organisation.

Board of Directors and Board Risk Committee

BoD has the ultimate responsibility for deciding on Nordea's risk appetite, comprising all of the bank's risk types. The BoD is also responsible for the risk strategy, setting the overall risk appetite limits and overseeing that Nordea has an adequate and effective internal control framework. BoD decides on the Group Board Directive on Risk and the Group Board Directive on Risk Appetite which cover all risks that Nordea is or could be exposed to, including credit risk, counterparty credit risk, market risk, liquidity risk, operational risk, model risk, compliance risk and insurance risk. Risk is measured, managed and reported on according to common principles further covered by group instructions approved by the CEO.

In defining the Group Board Directive on Risk and Risk Appetite, the BoD decides on powers-to-act for major credit committees at different levels within the BAs. These authorisations vary for different decision-making levels, mainly in terms of the size of limits but also depending on the internal risk categorisation of customers.

The Board Risk Committee (BRIC) assists BoD in fulfilling its oversight responsibilities concerning the management and control of risk, risk frameworks and controls and processes associated with Nordea's operations. BRIC met on 8 occasions during 2018.

Responsibility of CEO, GEM and its committees

The CEO has overall responsibility for developing and maintaining effective risk, liquidity and capital management principles and control of Nordea.

The CEO and GEM regularly review reports on risk exposure and have established several committees for risk, liquidity and capital management.

ALCO, chaired by the Chief Financial Officer (CFO), and within the scope of resolutions adopted by the Group CEO in GEM or the Group Board, monitors and decides on principles for the performance management framework, the financial planning and coordinates balance sheet management activities. ALCO monitors and steers the Group's overall balance sheet, capital position and its development. Within their given mandate, ALCO also decides on issuances and capital injections for all legal entities consolidated by Nordea. ALCO has established sub-committees for its work and decision- making within specific risk areas. ALCO met on 11 occasions during 2018.

The RC, chaired by the Chief Risk Officer (CRO), oversees the management and control of Nordea's risks on an aggregate level and evaluates the adequacy of the frameworks, controls and processes associated with the various risks. The Risk Committee furthermore decides, within the scope of resolutions adopted by BoD, the allocation of credit risk, market risk as well as liquidity risk limits to the risk-taking units. The risk limits are communicated through the risk appetite decided on by BoD. Unit heads allocate respective risk limits decided by the risk committees within their units and may introduce more detailed limits and/or require other risk mitigation techniques to be used, such as stop-loss rules. The Risk Committee has established sub-committees for its work and for decision-making within specific risk areas. The Risk Committee met on 14 occasions during 2018.

The GEM Credit Committee is chaired by the CEO. The Executive Credit Committee (ECC) is chaired by the Head of Group Credit Risk Management (GCRM), while the Group Credit Committee Commercial and Business Banking and the Group Credit Committee Wholesale Banking are chaired by either the Head of Credit for Business Banking or Wholesale Banking or by an appointee within the business units as appointed by the ECC. These credit committees approve major internal credit risk limits constituting the maximum credit risk appetite on the customer in question. Individual credit decisions, within approved internal credit risk limits, are taken by the customer responsible units (CRUs). Internal credit risk limits are set individually for customers or consolidated customer groups, as well as for certain defined industries.

Table: Nordea's governance structure of risk management and compliance

Nordea Board of Directors Board Risk Committee		
Chief Executive Officer (CEO) / Group Executive Management (GEM)		
Asset and Liability, Committee, ALCO, (Chairman: CFO)	**Risk Committee (RC)** (Chairman: CRO)	**GEM Credit Committee** (Chairman: CEO) **Executive Credit Committee** (Chairman: Head of GCRM) **Group Credit Committee Commercial and Business Banking** (Chairman: Head of Credit) **Group Credit Committee Wholesale Banking** (Chairman: Head of Credit)
Risk, liquidity and capital management responsibilities		
Chief Financial Officer (CFO)	Chief Risk Officer (CRO)	Group Compliance (GCO)
Group Finance & Treasury (Head: CFO) Capital and liquidity management framework Capital adequacy framework	**Group Risk Management & Control** (Head: CRO) Risk management framework Liquidity management framework Control, monitor and report	**Group Compliance** (Head: GCO) Compliance Risk framework advise, train and monitor

Governance of risk management and compliance

The flow of risk related information from the BAs and the group functions to BoD, passes through RC and BRIC. Reporting from GC is presented directly to BoD and it is also discussed in the Board Operations and Compliance Committee (BOCC).

GRMC is organised in the following divisions: Group Credit Risk and Control, Group Market and Counterparty Credit Risk, Group Operational Risk, Balance Sheet Risk Controls, Risk Models, Group Risk COO, CRO Functions. The flow of information starts with the divisions that monitor and analyse information on each respective risk type. Risks are presented to, and discussed in the Risk Committee and its sub committees. Information on risk is brought to BRIC, where risk issues are discussed and prepared before being presented to BoD.

GC, consists of central units as well as business area specific divisions, facilitating and overseeing the effectiveness and integrity of the group's compliance risk management. GC adds value to the group and its stakeholders by providing an independent view on compliance with applicable rules and regulations, largely based on monitoring activities conducted. Furthermore, GC advises and supports the 1st LoD on ways to effectively and efficiently manage compliance obligations.

Subsidiary governance

At a legal entity level, the subsidiary BoD is responsible for approving risk appetites and capitalisation actions, following proposals put forward by applicable committees in Nordea.

BoD has oversight responsibilities concerning the management and control of risk, risk frameworks as well as the controls and processes associated with the subsidiary's operations. In addition, there are risk management functions responsible for the risk management framework and processes within the subsidiary.

The CEO is a member of the Executive Management and part of the decision-making process at the legal entity level and is responsible for the daily operations.

Risk appetite

Nordea's risk capacity is defined as the maximum level of risk Nordea is deemed able to assume given capital, regulatory constraints, risk management and control capabilities. The risk appetite within Nordea is defined as the aggregate level and types of risk Nordea is willing to assume within the risk capacity, and in line with its business model, to achieve its strategic objectives.

The BoD is ultimately responsible for deciding on the group's risk strategy and the risk appetite framework (RAF). Updates are done annually, and additional updates are done if needed. The updates support that the risk appetite and risk strategy are in line with the business strategy, objectives, corporate culture and values. BRIC assists BoD in fulfilling these responsibilities by advising and supporting the BoD.

Nordea's RAF refers to the overall approach, including the internal rules framework, processes, controls, and systems through which risk appetite is established, communicated, and monitored. It includes risk appetite statements (RAS), risk limits, and describes the roles and responsibilities of those overseeing the implementation and monitoring of the RAF. The RAS articulates the BoD approved risk appetite and is comprised of high level statements that link closely to the risk strategy. On a more granular level the RAS is specified in quantitative and qualitative statements, that express the levels and types of risk that Nordea is willing to take. Quantitative statements are articulated in specific risk metrics and related risk appetite limits and triggers.

Credit concentration metrics cover industries and geographic regions of size or importance. Stress test metrics are applied to credit and market risk metrics to ensure a forward-looking approach to risk management. Operational risk metrics are given in terms of status of group key risk indicators, actions to mitigate important risks, size of operational risk losses and incidents.

Table: Overview of risk appetite metrics and statements

Risk type	Metric
Credit risk	Non-performing loans
	Expected loss
	Stressed loan loss
	Industry limits
	Geographic limits
	Top 25 client group limit
	Single client limit – Corporate/Financial institutions
	Underwriting cap
	LBO-limit
	Covenant Lite cap
Counterparty credit risk	Credit portfolio loss
	Max settlement limit
Market risk	Group Total VaR
	Traded risk stress loss
	Banking book stress loss
	Structural FX CET1 ratio impact
	Economic value limit
	Staff Pension stress loss
Liquidity risk	Survival horizon 3m
	Internal LCR
	Regulatory LCR
Model risk	Qualitative model risk assessement
Solvency	Common Equity Tier 1 capital ratio
	Leverage ratio
	NLP Solvency Ratio
Operational risk	Operational risks
	Incidents and losses
	Group key risk indicators
Operational and Compliance risk Conduct risk	Code of Conduct
	Customer outcomes and market integrity
Compliance	Compliance risk appetite

Nordea's RAF can be represented by an end-to-end process cycle with the following steps:

- **Risk capacity setting based on the capital position.** On an annual basis, the group's overall risk capacity is aligned with the financial and capital planning process, based on Nordea's risk strategy. The risk capacity is Nordea's capital position adjusted by an appropriate stress absorbing capacity.

- **Risk appetite allocation to risk type.** Risk appetite includes risk appetite limits for the main risk types that Nordea is or could be exposed to. Risk appetite triggers are also set for these main risk types, to act as early indicators for key decision-makers that the risk profile for a particular risk type is approaching its risk appetite limit.
- **Risk limit setting.** Measurable risk limits are established and set at an appropriate level to manage risk-taking effectively. They are articulated in terms of risk types and business lines and set such that they ensure business is conducted within the risk appetite limit.
- **Monitoring and controlling risk exposures.** Regular controlling and monitoring of risk exposures compared to risk limits for financial risks are carried out to ensure that risk-taking activity remains within risk appetite. Regular reporting is carried out, including a follow-up of actions taken to remedy any breaches.
- **Reporting on risk appetite**. Management of breaches and follow-up on actions to remedy these. The reporting includes a consistent status indicator to communicate the current risk exposure compared to risk appetite limit for all risk types covered by the RAS, which are:
  – Green: Within risk appetite – No additional action is required.
  – Amber: Within risk appetite but the risk appetite trigger has been breached - Consideration of action to be taken to ensure the risk appetite limit is not breached.
  – Red: Outside risk appetite as the risk appetite limit has been breached – Remediation action must be taken. The breach is escalated, and status of remediation actions is followed up on a monthly basis until the risk exposure is within appetite.

Nordea's end-to-end risk appetite process cycle is aligned with other strategic processes, including the Internal Capital Adequacy Assessment Process (ICAAP), Internal Liquidity Adequacy Assessment Process (ILAAP) and the Recovery and Resolution Plan (RRP). It is embedded in business processes and communicated across the organisation in order to meet Nordea's objectives of maintaining a sound risk culture. This includes, but is not limited to, ensuring a strong link between the assessed risk appetite and the business plans and budgets, capital and liquidity position, systemic risk profile, recoverability and resolvability assessments as well as the incentive structures and remuneration framework.

The Group Risk Report, produced and distributed on a monthly basis, compares the actual risk profile with the risk appetite and analyses drivers for change since the last month. The analysis and status of the risk appetite is presented regularly to the Risk Committee, GEM, BRIC and BoD. Separate RAFs are in place for material subsidiaries.

Monitoring and reporting

Nordea's internal control framework is described in the Group Board Directive on Internal Governance. The internal control framework is applied in Nordea and includes the BoD and senior management responsibilities towards internal control, all group functions and BAs including outsourced activities and distribution channels.

The internal control framework is designed to ensure effective and adequate identification, measurement, mitigation of risks and compliance with laws, regulations, supervisory requirements and Nordea's internal rules. It is also designed to support efficient operations, prudent conduct of business, sound administrative and accounting procedures and reliability of financial and non-financial information.

The internal control process is based on five main components: control environment, risk assessment, control activities, information and communication and monitoring. It aims to create the necessary fundamentals for the entire organisation to contribute to the effectiveness and high quality of internal control through, for instance, clear definitions, assignments of roles and responsibilities and common tools and procedures.

As part of the overall internal control framework, one common Nordea risk management framework is continuously developed to ensure consistent processes for managing and controlling risks at Nordea. Management of risks includes all activities aiming at identifying, measuring, assessing, monitoring and controlling risks as well as measures to limit and mitigate the consequences of the risks. Management of risks are proactive and emphasise training and risk awareness. It is mandatory for Nordea employees to annually undergo a licence to work training. The online training includes information on code of conduct and interactive examples aimed at enhancing the Nordea risk culture.

Monitoring and reporting of risk is conducted daily for market, liquidity and counterparty credit risk. Credit, operational and IT risk as well as capital adequacy are followed up on monthly.

Detailed risk information, covering all risks as well as capital adequacy, is regularly reported to the Risk Committee, GEM, BRIC and BoD. In addition to this, Nordea's compliance with regulatory requirements is reported to GEM and BoD. BoD and CEO in each legal entity receive local risk reporting on a regular basis.

Planned material changes in 2019

Nordea is strengthening the risk management and compliance areas by establishing two new units, Group Business Risk Management and Group Risk & Compliance, as from 1 January 2019.

Group Business Risk Management will strengthen risk management in the 1st LoD by consolidating existing Group units to build one new 1st LoD risk function. A new Group Risk & Compliance function will consolidate the existing 2nd LoD functions, Group Compliance and Group Risk Management & Control, into one unit headed by the CRO.

Credit risk

Credit risk is defined as the risk of loss due to failure of counterparties to meet their obligations to clear a debt in accordance with agreed terms and conditions. The risk of loss is lowered by means of credit risk mitigation techniques, such as guarantees or collaterals. The risk stems mainly from various forms of lending, but also from issued guarantees and documentary credits. Credit risk also includes counterparty credit risk, transfer risk and settlement risk. This chapter discusses the governance, management and measurement of credit risk in broad terms.

Management of credit risk

Credits granted within Nordea conform to established common principles. The fundamental principles are outlined in the credit instructions for Nordea. The key principles for managing Nordea's risk exposures are:

- a risk-based approach, i.e. the risk management functions should be aligned to the nature, size and complexity of Nordea's business, ensuring that efforts undertaken are proportional to the risks in question;
- independency, i.e. the risk management function should be independent of the business it controls; and
- the three LoD, as further described in the group directive on internal governance.

The basis of credit risk management in Nordea is credit risk limits that are set for customer and customer groups. In addition, Nordea uses sector concentration risk limits for industries, segments, products and geographies. These limits are aggregated and assigned to units that are responsible for their continuous monitoring and development.

Credit decision making is delegated from the BoD down to various sub-levels of credit decision making bodies. All internal credit risk limits within Nordea are based on credit decisions or authorisations made by a relevant decision-making body, with the right to decide upon that limit as evidenced in Nordea's powers to act.

Nordea's credit customers are continuously assessed and periodically reviewed based on internal rules dependent on segment, limit amounts and level of risk.

If credit weakness is identified in relation to a customer exposure it receives special attention in terms of more frequent review. In addition to continuous monitoring, an action plan is established outlining how to minimise the potential credit loss. If necessary, a special work-out team is set up to support the customer responsible units (CRU).

A financial asset is credit impaired when one or more credit events have occurred with a detrimental impact on the estimated future cash flows to the extent that full repayment is unlikely (pledged collaterals considered).

The follow-up of individual work-out cases forms part of the quarterly credit risk review process managed by GCRM. In this process both the individual credit impairment and the collective credit impairment are assessed.

Table: Credit decision making structure for main operations

<table>
<tr><td colspan="9">Board of Directors / Board risk Committee</td></tr>
<tr><td colspan="9">Chief Executive Officer (CEO) Credit Committee / Executive Credit Committee</td></tr>
<tr><td colspan="3">Commercial and Business Banking Group Credit Committee</td><td colspan="6">Wholesale Banking Group Credit Committee</td></tr>
<tr><td>Private Banking Global Credit Committee</td><td>Personal Banking Nordic Credit Committee</td><td>Business Banking Country Credit Committees</td><td colspan="2">Leverage Buyout Credit Committee
Real Estate Management Industry Credit Committee</td><td>Corporate & Investment Banking Credit Committee</td><td>International Banks & Countries Credit Committee</td><td>Shipping, Offshore and Oil Services Credit Committee</td><td>Financial Institutions Group Credit Committee</td><td>Russia Credit Committee</td></tr>
<tr><td colspan="4">Personal Banking and Private Banking Country Credit Committees
Local Credit Committees Business Banking</td><td colspan="5">Local Credit Committees Wholesale Banking</td></tr>
<tr><td colspan="9">Four eyes principle</td></tr>
<tr><td colspan="9">Personal powers to act</td></tr>
</table>

There is currently an additional level 4 Baltic Desk Credit Committee. This committee handles carve out cases from the merger to Luminor. This committee will continue to exist as long as there are remaining customers to handle, or until other decision is taken.

Nordea has specific industry credit policies in place to monitor the distribution of the credit portfolio and to limit credit risk. Concentration risk in specific industries is monitored by industry groups. Industry credit policies are established for industries where at least two of the following criteria are fulfilled:

- Significant weight in the Nordea loan portfolio
- High cyclicality and/or volatility of the industry
- Special skills and knowledge required

Nordea has currently implemented industry credit policies for the following industries:

- Shipping, Oil and Offshore
- Energy
- Financial institutions
- Commercial real estate

All industry credit policies are approved annually by RC and confirmed by BRIC. The rating and scoring processes are an integral part of Nordea´s credit risk management process.

Credit risk appetite

For credit risk, Nordea aims to have a well-diversified credit portfolio that is adapted to the structure of Nordea home markets and economies, and this is reflected in the RAF limit setting. Credit risk appetite statements are covering the following key areas:

- Credit risk concentration (limits for single names, specific industries and geographies)
- Long-term credit quality (expected loss) and short-term forward-looking credit quality (loan losses under plausible stress scenarios)
- Non-performing Loan Ratio in line with regulatory definition
- Limits addressing specific sub-portfolios and financing structures

Furthermore, the principles in Nordea sustainability policy guide the choice of which customers to serve and what transactions to finance.

Governance of credit risk

Nordea has internal framework for credit risk which is approved independently of business decision-making and financial performance. The framework is approved by senior management and the Board of Directors and aligns the risk appetite with the credit risk strategy of the bank.

1st LoD – Group Credit Risk Management

GCRM is an independent credit risk management function. The main areas of responsibility for GCRM are:

- Own and ensure a harmonised, aligned and efficient end-to-end credit process decreasing lead times and enabling great customer experience
- Act as a competence centre, enabling high quality and maintaining the strong and compliant credit risk management in Nordea
- Meet the changes in the competitive environment and enable business opportunities through the digitalised market
- Take prudent credit decisions together with the BAs
- Optimise the credit risk profile of the bank
- Review and approve rating assignment independently from BAs

2nd LoD – Group Credit Risk & Control (GCRC) and Risk Models (RiMO)

GCRC is Nordea's independent credit risk control unit. Two units within GCRC, Group Credit Risk Models and the IRB Materiality team, were transferred to the newly established unit RiMO.
The main areas of responsibility for GCRC and RiMO are:

- Independent oversight, monitoring and control of credit risk
- Developing the 2nd LoD credit risk framework
- Proposing credit risk metrics and limits in RAF
- Advising on interpretation and implementation of existing and upcoming credit risk regulations
- Developing, maintaining and monitoring IRB parameters and internal models for rating and scoring. Credit related model development efforts are validated in a separate process governed by Balance Sheet Risk Controls (BSRC)
- Assessing materiality of changes to the IRB approach

Measurement of credit risk

1st LoD Responsibilities

1st LoD is responsible for identifying, quantitatively and qualitatively assessing, deciding upon, controlling and reporting credit risk. This includes:

- Conducting operational credit risk monitoring and control activities to manage and mitigate risks
- Defining the relevant controls and acceptable tolerances
- Providing relevant management reporting to ensure management oversight and operative reporting to enable remedial actions
- Taking remedial actions

2nd LoD Responsibilities

In the 2nd LoD, GCRC is responsible for supporting prudent risk management and credit processes within the established credit risk appetite, models, policies and frameworks by providing an independent source of information for credit risk reporting.

Also, GCRC Reporting is responsible for independently analysing and reporting the status and development of the credit risk in Nordea's portfolio and in the credit processes both internally and externally.

Credit risk reports, provided by 2nd LoD, are included in the monthly holistic Risk Report to the GEM and BoD, as well as in the quarterly reports to the BoDs in the relevant subsidiaries on behalf of the CRO. The RAF limits set by BoD is regularly followed up in reporting.

Credit risk is measured, monitored and segmented in several dimensions. Credit risk in lending is measured and presented as on-balance sheet loans as well as off-balance sheet items on customers and counterparts net after allowances. Credit risk is measured utilising internal credit risk IRB models for large portion of the portfolio. Standardised approach is used for the remaining portfolios not covered by the IRB models. Nordea's loan portfolio is broken down by segment, industry and geography and reported monthly, quarterly and annually.

GCRC Reporting and the other analytical units are reconciling and using different IT-solutions and data sources in their analysing and reporting. The Common Data Warehouse and Capital Adequacy Data warehouse are the primary data sources for the production of data. A service level agreement exists between the Group Function Information & Reporting as application owner and GCRC as end-user of the data.

Credit risk in the capital adequacy framework

Central governments and central banks

Nordea uses the Standardised Approach (SA) to calculate own funds requirements for exposures towards central governments and central banks.

Institutions

Nordea uses the Foundation IRB (FIRB) approach to calculate own funds requirements for exposures towards institutional customers.

The Probability of Default (PD) is estimated based on internal historical data and validated annually. The validation includes both a quantitative and a qualitative assessment. The quantitative validation includes statistical tests to ensure that estimates remain valid when new data is added. The validation is performed by the unit Credit Risk Model Validation (CRMV), being independent from the model owners.

PD estimates are based on observed long-term default frequency in available internal data and are adjusted to long term default frequencies through an addon. The adjustment for the length of internal data available is embedded in the margin of conservatism which also includes an addon to compensate for statistical uncertainty in the estimation.

Corporate

For exposures towards corporate customers the main approach used to calculate own funds requirement is the Advanced IRB (AIRB). However, for minor parts of the portfolio FIRB or SA is used. The AIRB covers banking and mortgage exposures in general in the Nordic countries and the international units. FIRB is used for derivatives and securities lending exposures as well as exposures in the Finance companies as well as exposures in Russia. SA is used for a small segment of non-profit customers in Denmark. Exposures to corporates includes exposures towards rated Small and Medium-sized Enterprises (SMEs) and specialised lending

The PD for FIRB and AIRB and the LGD and CCF for AIRB, are estimated based on internal historical data and are validated annually. The validation includes both a quantitative and a qualitative assessment. The quantitative validation includes statistical tests to ensure that estimates remain valid when new data is added. The validation is performed by CRMV, being independent from the model owners.

PD estimates are based on observed long-term default frequency in available internal data and are adjusted to long term default frequencies through an addon. The adjustment for the length of internal data available is embedded in the margin of conservatism which also includes an addon to compensate for statistical uncertainty in the estimation.

LGD estimates are based on internal data for historical loss experiences, measuring the net present value of the nominal loss including costs incurred by a customer's default. The LGD estimates are adjusted to reflect a downturn period and includes a safety margin for statistical uncertainty in the estimation.

CCF estimates are based on internal historical data regarding drawings prior to default as well as drawings after default. The CCF estimates are adjusted to reflect a downturn period and includes a safety margin for statistical uncertainty in the estimation.

Retail

Nordea uses the AIRB approach to calculate own funds requirements for banking and mortgage exposures towards retail customers in the Nordic countries. as well as in Nordea Finance Finland. Other entities use the SA approach to calculate own funds requirements for retail exposures.

The PD, LGD and CCF for AIRB are estimated based on internal data and validated annually. The validation includes both a quantitative and a qualitative validation. The quantitative validation includes statistical tests to ensure that estimates remain valid when new data is added. The validation is performed by CRMV, being independent from the model owners.

PD estimates are based on observed long-term default frequency in available internal data and are adjusted to long term default frequencies through an addon. The adjustment for the length of internal data available is embedded in the margin of conservatism which also includes an addon to compensate for statistical uncertainty in the estimation.

LGD estimates are based on internal data for historical loss experience, measuring the net present value of the nominal loss including costs incurred by a customer's default including further drawings by the customer after default. The LGD estimates are adjusted to reflect a downturn period and includes a safety margin for statistical uncertainty in the estimation.

CCF estimates are based on historical data regarding drawings prior to default. The CCF estimates are adjusted to reflect a downturn period and includes a safety margin for statistical uncertainty in the estimation.

Equities

Nordea uses the SA to calculate own funds requirements for equities exposures in the banking book.

Credit risk mitigation (CRM)

CRM is an inherent part of the credit decision process. In every credit decision and review, the market value of collaterals is considered as well as the adequacy of covenants and other risk mitigation techniques.

The market value of a collateral is defined as the estimated amount for which the asset would exchange between a buyer and seller under current market conditions. On this market value, a haircut is applied. The haircut is defined as a percentage by which the asset's market value is reduced ensuring a margin against loss. The margin reflects the adjustments needed to assess the cash proceeds when the collateral is liquidated in a forced sale situation. A maximum collateral ratio is set for each collateral type.

The same principles of calculation are used for all exposures. However, for high-risk customers and/or specific collaterals, the foreclosure value may differ from the maximum collateral values to secure a realistic assessment for a certain asset at the specific point in time.

Risk transfer to other creditworthy parties, through guarantees and insurance, is based on legally enforceable documentation.

With respect to significantly large exposures, syndication of loans is the primary tool for managing concentration risk, while CRM using credit default swaps is applied to a limited extent.

Covenants in credit agreements are an important CRM add-on for both secured and unsecured exposures. Most exposures of substantial size and complexity include appropriate covenants. Financial covenants are designed to react to early warning signs and are carefully monitored.

CRM techniques are used related to real estate, vessels, financial collateral, cash collateral and other physical assets.

Nordea has permission to use the techniques for both FIRB and AIRB approaches (including retail) within the limitations of the regulation for each approach and according to fulfilment of the minimum requirements as laid out in relevant regulation.

Link between the balance sheet and credit risk exposure

This section discloses the link between the loan portfolio as defined by accounting standards and exposure as defined in the Capital Requirements Regulation (CRR). The main differences are outlined in this section to illustrate the link between the different reporting methods.

Original exposure is the exposure before substitution effects stemming from CRM, CCFs for off-balance sheet exposure and allowances within the SA. Exposure is defined as exposure at default (EAD) for IRB exposures and as exposure value for SA exposures. In accordance with the CRR, credit risk exposures are divided into exposure classes where each exposure class is divided into exposure types as follows:

- On-balance sheet items
- Off-balance sheet items (e.g. guarantees, credit commitments and unutilised lines of credit)
- Securities financing (e.g. repurchase agreements and securities lending)
- Derivatives

Items presented in the Annual Report (AR) are divided as follows (in accordance with accounting standards):

- On-balance sheet items (e.g. loans to central banks and credit institutions, loans to the public, reversed repurchase agreements, positive fair value for derivatives and interest-bearing securities)
- Off-balance sheet items (e.g. guarantees and unutilised lines of credit)

On-balance sheet items excluded from the capital requirement reporting

The following items are excluded from the balance sheet, when on-balance sheet exposure is calculated in accordance with the CRR:

- Balance sheet items not governed by the CRR, such as Nordea Life and Pension (NLP)
- Market risk related items in the trading book, such as certain interest-bearing securities and pledged instruments.
- Other, mainly allowances and intangible assets

Off-balance sheet items

The following off-balance sheet items specified in the AR are excluded when off-balance sheet exposure is calculated in accordance with the CRR:

- Non CRR related items, these items are not part of consolidated situation of CRR, e.g. NLP
- Assets pledged as security for own liabilities and other assets pledged (apart from leasing), these transactions are reported as securities financing (i.e. a separate exposure type)
- Derivatives

Derivatives and securities financing

The fair value of derivatives is recognised on the balance sheet, while the nominal amount on derivatives are reported off-balance sheet in accordance with accounting standards. However, in the CRR, derivatives and securities financing are reported as separate exposure types. Also, repurchase agreements and securities lending/borrowing transactions are included in the balance sheet calculated based on nominal value. In the CRR, estimation of these exposure types is performed net of collateral.

Rating and scoring definition

Rating and scoring of customers is used for rank ordering of the customers according to their respective default risk. Rating and scoring serves as the base for the PD estimation and used as integrated parts of the credit risk management and decision-making process, including but not limited to:

- The credit approval process
- Calculation of own funds requirements
- Calculation of economic capital (EC) and expected loss (EL)
- Monitoring and reporting of credit risk
- Performance measurement using the economic profit (EP) framework
- Input for collective impairment

Rating

Rating is used for corporate and institutional customers. The rating is a rank ordering estimate that reflects the creditworthiness of a customer. The rating scale consists of 18 distinct grades for non-defaulted customers; from 6+ to 1- and three grades for defaulted customers from 0+ to 0-. The default risk of each rating grade is quantified as a one-year PD. Rating grades 2+ and lower are considered as high risk indicating financial difficulties for the customer and require special attention in the credit process.

The consistency and transparency of the ratings are ensured using rating models. A rating model employs a set of specified and distinct rating criteria to produce a rating. These are called input factors and are, together with the criteria for assigning a customer to a specific rating model, the fundamental building blocks of a rating model. Typical input factors are financial factors, customer factors and qualitative factors.

Nordea has different rating models for different customer segments, e.g. real estate management, shipping, financial institutions and hedge funds. There are also risk rating frameworks for countries etc. Depending on the segment in question different methods, ranging from statistical to expert-based, have been used when developing rating models.

A rating is assigned in conjunction with credit proposals, reviews and the annual review of customers, approved independently by representatives from 1st LoD credit organisation. However, a customer is assigned a new rating as soon as new information indicates the need for it. If the calculated rating is assessed and deemed to not reflect the risk of default, specific override arguments or exception rules can be used within the model to adjust the calculated rating.

Exposures by credit quality step

Nordea applies the standardised approach primarily for exposures to central and regional governments, central banks and equity holdings. In this approach, the rating from an eligible rating agency is converted to a credit quality step (mapping as defined by the financial supervisory authorities). Each credit quality step corresponds to a fixed risk weight, according to standard association published by the EBA. Nordea uses Standard & Poor's (S&P) as eligible rating agency. Table 40 presents the exposures for which the S&P's rating is used to arrive at regulatory credit quality steps. Exposures in the remaining standardised exposure classes are either immaterial or the risk weight is regulatory defined.

Scoring

Scoring is used for retail customers. The score is a rank ordering estimate that reflects the creditworthiness of a customer. The risk grade scale for scored customers consists of 18 grades; A+ to F- for non-defaulted customers, and three grades from 0+ to 0– for defaulted customers.

The credit scoring models are statistically derived and based on internal Nordea data. To predict the future performance of customers, certain characteristics are defined based on the customer's previous performance, the products held and behavioural information. The models also take policy requirements and credit processes into account. The customers' credit risk behaviour scores and corresponding risk grades are recalculated monthly.

The models are used to support business processes, the credit approval process and the risk management process, including monitoring of various portfolio risks. In the credit process, for example, credit bureau information is used as a supplement.

Scoring in Nordea uses a customer level approach, as opposed to a product-oriented approach. To calculate the score, the customer status as well as the customer's behaviour on all accounts/products, including potential joint commitments, is taken into consideration. The corresponding risk grade is assigned across all the customer's facilities in Nordea.

The scorecards are tailored to country specific variations, taking country specific product features, customer behaviour, macroeconomic development, debt collection process and national legislation into account. Different scorecards are used to score the household and SME portfolios, as these portfolios exhibit different payment and behavioural patterns. The household portfolio is in turn segmented into smaller sub-populations based upon product combinations held by the customer. The scorecards are segmented according to the following dimensions:

- Country
- Household / SME
- Product combination (mortgage, revolving credits, other retail exposure)
- Delinquency (depending on volumes), which in this context refers to the customers that are not up to date with the account specific payment terms and conditions

Rating and scoring migration

The rating and scoring distribution changes mainly due to three factors:

- Changes in rating/scoring for existing customers (migration)
- Different rating/scoring distribution of new customers compared to customers leaving Nordea
- Changes in exposure per rating/scoring for existing customers

The rating distribution is affected by macroeconomic developments, industry sector developments, changes in business opportunities and changes to customers' financial situation and other company-specific factors. Scoring distribution is among other things affected by macroeconomic development and the customers' behaviour.

The rating models are hybrid models having characteristics of both through-the-cycle (TTC) and point-in-time (PIT), whereas the scoring models are closer to PIT. Following this, the migration due to cyclicality is greater for the scored customers than for the rated customers which is also reflected through changes in the own funds requirements.

Collateral

Collateral management principles are governed through the collateral instruction owned by GCRC in the 2nd LoD. There is a strong relationship between the data used for collateral management and the data used in calculating capital requirements.

Pledge of collateral is a fundamental CRM technique used by the bank. For corporate exposures, the main collateral types are real estate, floating charges and leasing objects. Collateral coverage should generally be higher for exposures to financially weaker customers than for those who are financially strong.

Valuation principles of collateral

Collaterals in Nordea shall always be valued in a conservative manner with current market values. Valuation and hence utility of collaterals is based on all the four following principles:

- **Market value principle**: The market value of the collateral must always be assessed. The market value is defined as the estimated amount for which the asset or liability would exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion. Collateral may only be assessed as eligible where there is a liquid market with public prices readily available.
- **Forced sale principle:** The assessment of the collateral value must reflect that realisation of collaterals is initiated by Nordea and takes place in a distressed situation and converted into cash within a reasonable short timeframe.
- **Reassessment principle**: The value of the collateral shall be monitored in regular intervals depending

on the type of collateral. More frequent monitoring shall be carried out where the market is subject to significant changes in conditions. If the type, location or character (such as deterioration and obsolescence) of the asset indicates uncertainty regarding the sustainability of the market value, the collateral value shall be reduced. Such assessment shall also reflect previously experienced volatility of market.

- **Legal certainty principle:** No collateral value is to be assigned if a pledge is not legally enforceable and/or if the underlying asset is not adequately insured against damage.

Nordea monitors the value of pledged collaterals on a frequent basis and at least once every year. Monitoring should also include processes in place to secure timely and correct collateral registration, including updates in relevant systems. The monitoring process may use statistical information to assess when a significant change has occurred, and to identify the pledged properties for which a re-evaluation is required.

Collateral in the capital requirements calculation

CRM (CRM) constitutes techniques used by a credit institution to reduce the credit risk associated with an exposure which the credit institution continues to hold. CRM techniques can be divided into unfunded credit protection, such as guarantees and derivatives, and funded credit protection ,such as real estate, other physical assets, financial collateral and receivables, etc.

The collateral management in Nordea follows the specific collateral eligibility requirements in CRR and related guidelines, as well as national regulations, and includes valuation principles of collaterals, legal certainty, and other qualitative requirements that are connected to each collateral type.

Credit risk models rank ordering, parameter estimation and validation

Nordea's estimation and validation process includes quality controls to assess the performance of models, procedures and systems and thereby secure the accuracy of the parameters through adjustments where necessary.

The rating and scoring rank ordering models are validated quantitatively and qualitatively annually. The quantitative validation includes statistical tests of the models' discriminatory power, i.e. the models' ability to distinguish default risk, and absolute accuracy, i.e. the ability to predict default levels.

Nordea's rating models for the exposure classes corporate and institution are hybrid models having characteristics of both TTC and PIT ratings, whereas the scoring models Nordea uses for the retail exposure class are closer to PIT.

The PD, LGD and CCF parameters are re-estimated and validated annually by a quantitative and qualitative assessment. The quantitative assessment includes statistical tests to ensure that the estimates remain valid when new data is added. The validation is performed by CRMV, independent from the model owners.

PD estimates are based on observed default frequency in available internal data and adjusted to long term default frequencies through an addon. The adjustment for the length of historical internal data available considers that the rating models used for the corporate and institution exposure classes have a higher degree of TTC whereas the scoring models used for the retail exposure class are closer to PIT. The adjustment for the length of internal data available is embedded in the margin of conservatism which also includes an addon to compensate for statistical uncertainty in the estimation.

LGD estimates are based on historical losses. LGD measures the net present value of the expected loss including costs caused by a customer's default. The LGD estimates are adjusted to reflect a downturn period and includes a safety margin for statistical uncertainty in the estimation.

CCF is a statistical multiplier used to calculate EAD by predicting the drawdown of the off-balance exposure. The CCF estimates for retail exposure class are based on internal data on drawings prior to default whereas drawings after default are included in the LGD. The CCF estimates for corporate exposure class are also based on internal data but includes both drawings prior to default and drawings after default. The CCF estimates are adjusted to reflect a downturn period and includes a safety margin for statistical uncertainty in the estimation.

Definition and methodology of impairment

The impairment requirements in IFRS 9 were implemented by Nordea as of 1 January 2018. The impairment requirements in IFRS 9 are based on an expected loss model as opposed to the incurred loss model in IAS 39.

The assets to test for impairment are divided into three groups depending on the stage of credit deterioration. Stage 1 includes assets where there has been no significant increase in credit risk, stage 2 includes assets where there has been a significant increase in credit risk and stage 3 includes defaulted assets. All assets are assessed individually for staging. Significant assets in stage 3 are tested for impairment individually. Assets in stage 1, stage 2 and insignificant assets in stage 3 are tested for impairment collectively. Impairment testing (individual and collective) is applying three forward looking and weighted scenarios.

Throughout the process of identifying and mitigating credit impairment, Nordea continuously reviews the quality of credit exposures. Weak and credit impaired exposures are closely monitored and reviewed at least on a quarterly basis in terms of current performance, business outlook, future debt service capacity, and the possible need for provisions.

Individual provisioning

A need for individual provisioning is recognised if based on credit events and observable data, a negative impact is likely on the customer's expected future cash flow to the extent that full repayment is unlikely (collaterals taken into account).

Exposures with individually assigned provisions are considered as credit impaired. The size of the provision is equal to the estimated loss, which is the difference between the book value of the outstanding exposure and the discounted value of the expected future cash flow, including the value of pledged collateral.

Nordea recognises only specific credit risk adjustments (SCRA). SCRA comprise individually and collectively assessed provisions. SCRA during the year is referred to as loan losses, while SCRA in the balance sheet is referred to as allowances and provisions.

Default

Customers with exposures that are past due more than 90 days, being in bankruptcy or considered unlikely to pay are regarded as defaulted and can be either servicing or non-servicing debt.

If a customer recovers from being in default, the customer is seen as cured. Typically, this situation occurs if the customer succeeds in creating a balance in financials. In order to be cured the recovery should include the customer's total liabilities in Nordea and elsewhere, an established satisfactory repayment plan and an assessment that the recovery is underway.

Collective provisioning

The collective model is executed quarterly and assessed for each legal unit/branch. One important driver for provisions is the trigger for transferring of assets from stage 1 to stage 2. For assets recognised from 1 January 2018 changes to the lifetime PD are used as the trigger. In addition, customers with forbearance measures and customers with payments more than thirty days past due are also transferred to stage 2. In stage 1, the provisions equal the 12 months expected loss. In stage 2 and 3, the provisions equal the lifetime expected loss. The output is complemented with an expert-based analysis process to ensure adequate provisioning. Defaulted customers without individual provisions have collective provisions.

Forbearance

Forbearance is negotiated terms or restructuring due to the borrower experiencing or about to experience financial difficulties. The intention with granting forbearance for a limited period is to ensure full repayment of the outstanding debt. Examples of negotiated terms are changes in amortisation profile, repayment schedule, customer margin as well as ease of financial covenants. Forbearance is undertaken on a selective and individual basis and followed by impairment testing. Loan loss provisions are recognised if necessary.

The definition of a restructured exposure used for the implementation of CRR Article 178 in terms of default is considered relating to distressed restructuring/debt forgiveness while the definition of forbearance can be related to both defaulted and non-defaulted customers that are experiencing or about to experience financial difficulties.

Counterparty credit risk

Counterparty credit risk is the risk that Nordea's counterpart in an FX, interest, equity, credit or commodity derivative contract defaults prior to maturity of the contract and that Nordea at that time has a claim on the counterpart. In addition, counterparty credit risk also appears in repurchasing agreements and other securities financing contracts.

Derivative contracts are financial instruments, such as futures, forwards, swaps or options that derive their value from underlying interest rates, currencies, equities, credit spreads or commodity prices. The derivative contracts are often traded over-the-counter (OTC), which means the terms connected to the specific contract are individually defined and agreed on with the counterpart.

Nordea enters into derivative contracts based on customer demand, both directly and in order to hedge positions that arise through such activities. Interest rate swaps and other derivatives are used in hedging activities of asset and liability mismatches in the balance sheet. Furthermore, Nordea may, within clearly defined risk limits, use derivatives to take open positions in the bank's operations. Derivatives affect counterparty credit risk, market risk as well as operational and liquidity risk.

Counterparty credit risk, including that towards Central Counterparties (CCPs), is subject to credit limits like other credit exposures and is treated accordingly. To assess the counterparty credit risk towards CCPs, clearing limits are based on the potential size of the clearing related exposure on each CCP, taking regulatory requirements and the market development into account.

Pillar 1 method for counterparty credit risk

Nordea has approval from the financial authorities to use the Internal Model Method (IMM) to calculate the regulatory counterparty credit risk exposures in accordance with CRR. The method is used for standard FX and interest rate products which constitute the predominant share of the exposure.

The expected IMM exposure is calculated by simulating a large set of future scenarios for underlying price factors and then revaluing the contracts in each scenario at different time horizons. In these calculations, netting is done of the exposure on contracts within the same legally enforceable netting agreement. Nordea uses a stressed calibration of the IMM for calculation of the counterparty credit risk exposures. Under the IMM approach, simulated exposure is subject to a regulatory multiplier of 1.4 to reflect the potential for correlation in risk across the portfolio.

For the part of the portfolio not covered by IMM, Nordea uses the Mark to Market method for calculating the regulatory exposure, which is essentially the sum of current net exposure and potential future exposure. The potential future exposure is an estimate reflecting possible changes in the future market value of the individual contract during the remaining life of the contract and is measured as the notional principal amount multiplied by an add-on factor. The size of the CRR add-on factor, depends on contracts' underlying asset and time to maturity.

Credit value adjustment (CVA) represents the market cost of hedging counterparty credit risk and the capital requirement, CVA risk charge, reflects the variability in CVA. Calculation of the CVA risk charge is based on either IMM exposure curves that are used in the advanced CVA risk charge calculation or the Mark to Market exposure amounts that are used in the standardised CVA risk charge calculation.

Mitigation of counterparty credit risk exposure

To reduce exposure towards single counterparties, Nordea employs risk mitigation techniques. The most significant one is the use of legally enforceable closeout netting agreements, which allows Nordea to net positive and negative market values on contracts within the same agreement in the event of default of the counterparty. It is Nordea's policy to have legally enforceable closeout netting agreements in place with all trading counterparties, and thereby being able to fully account for netting.

Secondly, Nordea mitigates the exposure mainly towards banks, institutional counterparties and hedge funds primarily with financial collateral agreements, where collateral is placed or received to protect the current net exposure. The collateral is mainly cash (EUR, USD, DKK, SEK and NOK), but also government bonds and to a lesser extent mortgage bonds. Separate credit guidelines are in place for handling financial collateral agreements.

Nordea's financial collateral agreements do not normally contain any trigger dependent features, e.g. rating triggers. Some agreements though, still contain clauses that may require collateral postings in case of a Nordea downgrading; however, these would not impose any material impact on Nordea's liquidity and collateral preparedness. A three-notch downgrade of Nordea would trigger a collateral increase equivalent to approximately 1.5%.

In order to reduce bilateral counterparty credit risk, CCPs are increasingly used for clearing of OTC derivatives. By the end of 2018, CCPs were mainly used by Nordea to clear interest rate derivatives, repo transactions and to some extent credit derivatives. Nordea continues to assess the possibility to clear more derivative volumes through CCPs in order to further reduce bilateral counterparty credit risk and to comply with the clearing obligation. Nordea's policy is to use CCPs if possible.

As well as exposure risk mitigation methods described above, Nordea employs credit default swap protection to hedge CVA risk.

Wrong Way Risk exposures

GMCCR (Group Market Risk and Counterparty Credit Risk) undertakes systematic analysis and reporting of general wrong way risk (GWWR), where cases of GWWR are escalated to senior management. GWWR is identified performing historical trend analysis to highlight correlations within the portfolio between the counterparty's exposure and rating.

Moreover, automatic identification procedures are in place to identify potential specific wrong-way risk (SWWR), i.e. situations where the future exposure to a counterparty is positively correlated to the counterparty's PD for a reason that is specific to the counterparty. The significance of SWWR is determined through a number of checks assessing correlation and presence of mitigating parameters. Legal connection is decided based upon principles for customer consolidation as defined in the credit guideline. Transactions that are assessed to have significant degree of SWWR and legal connection, are named Eligible SWWR transactions and are subject to tightened monitoring and increased capital requirements as defined in the CRR.

Counterparty credit risk and settlement risk for internal credit limit purposes

Counterparty credit risk for internal credit limit purposes is for the main part of the portfolio calculated using IMM. Model parameters are based on data from a specific three-year period, including a one-year period identified to have the most significant increase in credit spreads in recent times.

The exposures included in IMM are subject to daily and periodic stress tests with the aim to identify adverse scenarios affecting exposures on counterparty, industry and country level.

Settlement risk is a type of risk arising during the process of settling a contract or executing a payment.

The risk amount is the principal of the transaction, and a loss could occur if a counterpart was to default after Nordea has given irrevocable instructions for a transfer of a principal amount or security, but before receipt of the corresponding payment or security.

The settlement risk on individual counterparts is restricted by settlement risk limits. Each counterpart is assessed in the credit process and clearing agents, correspondent banks and custodians are selected with a view to minimise settlement risk.

Nordea is a shareholder of CLS (Continuous Linked Settlement) Bank, and member in the global FX clearing system run by CLS. The system eliminates settlement risk for FX trades in 18 different currencies between eligible counterparties in CLS.

For those counterparts and FX trades that are not eligible for CLS clearing, it is Nordea's policy to settle via in-house accounts. Only with specific credit approval from appropriate credit committee external settlement is allowed, and in those situations, Nordea make use of bilateral payment netting in order to reduce the exchanged amounts to the greatest extent possible.

Market risk

Market risk is defined as the risk of loss in the Group's holdings and transactions as a result of changes in risk factors that affect the market value of these positions, for example changes in interest rates, credit spreads, FX rates or share prices.

Market risk management principles

The management of risk in Nordea is governed by principles and procedures which are stated in the Group's internal rules and adhered to throughout the organization. This includes the key LoD principle.

More specifically, market risk is managed based on guiding principles and overall rules set out in the "Group CEO Instructions on Market and IRRBB Risk". These instructions are supplemented by Guidelines issued by the 2nd LoD and relevant 1st LoD units. Key elements of market risk management in Nordea are summarised below:

- *Risk identification and measurement*
  - The Group uses an adequate range of measures to capture the material aspects of market risk.
  - Stress tests are carried out on a regular basis to estimate the possible losses that may occur under severe, but plausible, market conditions.
- *Market risk mitigation and management*
  - Market risk is managed through clearly defined risk mandates in terms of limits and restrictions on which instruments may be traded and by which desk.
  - Where there is a hedging strategy (or use of alternative methods of mitigation) in place, then all hedges must be monitored.
  - The framework for the approval and valuation of traded financial instruments requires the analysis and documentation of each instrument's features and risk factors.
- *Risk limits and monitoring*
  - Market risks are controlled through daily monitoring of profit and loss, daily measurement and control of risk exposures and daily monitoring of market risk limits.

Governance of market risk

The market risk governing bodies are the Group BoD, BRIC, RC and ALCO. Additional decision-making bodies with responsibilities specific to market risk are shown in the Figure below.

1st LoD responsibilities - BAs and GFs

Relevant 1st LoD BAs and GFs are responsible for providing sufficient information in their business plan on the expected future risk profile of their business so that this can be used as an input to the independent determination of the risk appetite by the 2nd LoD. In addition, the 1st LoD is responsible for implementing the risk framework as designed by the 2nd LoD.

2nd LoD responsibilities - GRMC

GRMC provides all relevant risk-related information to the BoD to enable it to set the market risk strategy and risk appetite. GRMC is also responsible for ensuring appropriate risk identification and monitoring in the business through the design of the risk framework. Furthermore, GRMC is responsible for ensuring the risk framework is appropriately implemented by the 1st LoD.

3rd LoD responsibilities - GIA

GIA performs audits and provides additional assurance to the BoD and GEM on the adequacy of internal controls and risk management processes, thereby constituting the 3rd LoD.

Traded market risk

Traded market risk arises mainly from client-driven trading activities and related hedges in Nordea Markets which is part of Wholesale Banking.

Traded market risk management

Nordea Markets takes market risks as part of its business model to support corporate and institutional clients through a range of fixed income, equity, foreign exchange

Figure: Governance of market risk

and structured products. The market risks Nordea Markets is exposed to include interest rate risk, credit spread risk, equity risk, foreign exchange risk and inflation risk.

Furthermore, Nordea is a major Nordic mortgage lenders and market makers in Nordic corporate and government bonds. Holding inventory is a consequence of providing secondary market liquidity. As a result, Nordea's business model naturally gives rise to a concentration in Nordic mortgage and corporate bonds as well as in local market currencies.

Traded market risk measurement

Nordea uses several quantitative risk measurement methods for market risk: value-at-risk, stress testing, sensitivity analysis, parametric methods and Monte Carlo simulation.

Value-at-Risk is based on historical scenarios and is the primary market risk measurement metric, complemented by stress testing.

Parametric methods are used to capture equity event risk including the impact of defaults on equity related positions (these risks are part of specific equity risk).

Monte Carlo simulation is used in the Incremental Risk Charge model and the Comprehensive Risk Charge model to capture the default and migration risks.

The Value-at-Risk, Stressed Value-at-Risk, Equity Event Risk, Incremental Risk Charge and the Comprehensive Risk Charge models were all approved by the Swedish FSA for use in calculating market risk own funds requirements under the Internal Model Approach (IMA). The same models, with same calibration and settings, as used for regulatory capital requirements are used for internal risk management purposes.

Value-at-Risk (VaR)

Nordea's Value-at-Risk (VaR) model is based on the expected shortfall measure (ES) instead of a quantile-based VaR measure, due to the advantages of ES-based VaR, e.g. more accurate and robust modelling of the tail of the portfolio loss distribution.

Nordea calculates VaR using historical simulation. The current portfolio is revalued based on historical daily changes in market prices, rates and other market risk factors observed during the last 500 business days and translated to changes in the current market risk factors. Nordea uses absolute, relative and mixed translation methods for different risk categories.

The revaluation of the current portfolio is performed for each position using either a linear approximation method or a full revaluation method, depending on the nature of the position.

The historical data window is updated every business day to cover the last 500 business days. From the empirical distribution of returns, ES is used to calculate a VaR number as the average of the 6 worst outcomes from the distribution of portfolio value changes. The resulting ES confidence level is 98.8%. The quality of the approximation depends on the magnitude of the worst observed losses (i.e. the heaviness of the tail of the portfolio loss distribution), which is reassessed periodically as part of Nordea's risk model maintenance processes. The mixed translation method scales historical returns to take into account the dependencies that exist between risk factor levels and changes in these levels. No weighting method is used for historically simulated returns. The one-day VaR number is subsequently scaled to a 10-day number using the square root method.

The total VaR number used for regulatory capital requirements includes interest rate, credit spread, foreign exchange rate, equity and inflation risks in a single model. This allows for diversification amongst all these risk categories including general and specific risk factors in scope for the IMA VaR model.

Stressed Value-at-Risk (Stressed VaR)

The Stressed VaR number is calculated using a similar methodology to the VaR. However, whereas the VaR model is based on data from the last 500 business days, the Stressed VaR is based on a specific historical 250-business day period with considerable stress in financial markets. In addition, Stressed VaR is calculated as the average of the 3 worst returns of the empirical distribution of portfolio value changes. The ES confidence level is 98.8%. Since the relevant period with stressed markets will depend on the current portfolio composition, the level of Stressed VaR in relation to the VaR is monitored daily and the stressed period can be changed if deemed necessary to adequately measure the risk in a stressed market environment. The specific historical 250-business day period to be used is reviewed at least annually. Currently, the stressed period covers a period during the latest global financial crisis.

Incremental Risk Charge (IRC)

The Incremental Risk Charge (IRC) model measures the risk of losses due to credit migration or defaults of issuers of tradable debt in bond and credit derivative positions held in the trading book (excluding the correlation trading portfolio which is covered by the Comprehensive Risk Charge model). The model uses a Monte Carlo simulation approach based on a Gaussian copula model. The correlation structure between issuers is specified via a factor model. The liquidity horizon is one year, over which a constant portfolio is assumed, in line with CRR article 374.

The model is based on transition matrices, where the elements are probabilities of migration from the current rating class to another rating class. The probabilities are obtained from a single source, a major rating agency.

For each simulation and each issuer, a rating migration is generated either to a new rating class, unchanged rating class or default. In case of a simulated default, the portfolio loss is calculated based on the recovery rate of the issuer assuming deterministic recovery rates. For a simulated unchanged rating class, the portfolio loss is zero. In case of a simulated migration to another (non-default) rating class, the portfolio loss is calculated using a grid-based revaluation method (interpolation between pre-calculated portfolio net present values, where full revaluation is used in the pre-calculations). A spread multiplier matrix is then used to translate each simulated migration to a new credit spread.

For each simulation, portfolio losses are aggregated across issuers, such that each simulation corresponds to one total portfolio loss. The IRC number is based on ES. The model uses 50,000 simulated scenarios and the average of the 100 worst simulated total portfolio losses is the output of the model, corresponding to an ES confidence

level of 99.8%. The transition matrices and spread multiplier matrices are recalibrated annually.

The IRC is calculated and monitored weekly.

Comprehensive Risk Charge (CRC)

The Comprehensive Risk Charge (CRC) model measures the correlation risk, credit spread risk, default risk, recovery rate risk and index credit default swap (CDS) basis risk in the correlation trading portfolio. The model is based on Monte Carlo simulation. The liquidity horizon is one year, over which a constant portfolio is assumed (consistent with the IRC model).

The approach for default simulation is the same as that used in the IRC model (Gaussian copula model). In case of default, the realised recovery rate is simulated to determine the loss given default. In case of non-default, a credit spread move is simulated based on another Gaussian copula model component (which shares the same driving random variables with the default model component, i.e. the random sources of the default model also drive the credit spread model). The marginal distribution for each single issuer spread move is given by a lognormal distribution and the recovery rates used in the valuation are simulated assuming a beta distribution. The index CDS basis is simulated as a lognormally distributed multiplier to the CDS index hazard rate curve that is implied by the spreads of the individual issuers. The resulting CDS index hazard rate curve, including the multiplier, is then used to derive the CDS index spread curve. Base correlations for CDO's and correlations for Nth-to-default baskets are simulated via a function of Gaussian random variables. The function is applied to keep the resulting correlations in the interval between zero and one.

For each simulation, a full revaluation method is used, and the results for each issuer are aggregated to determine the portfolio loss. The model uses 25,000 simulated scenarios and a sampling scheme that samples high loss scenarios more frequently, effectively producing the same tail scenarios as a method based on 50,000 simulated scenarios without the sampling scheme. The CRC number is calculated as the average of the 100 worst portfolio loss scenarios, corresponding to a 99.8% ES confidence level. The transition matrices and other model parameters are calibrated annually.

The CRC is calculated and monitored weekly.

Equity Event Risk (EER)

The Equity Event Risk (EER) model is part of Nordea's IMA framework. The EER model captures two different parts of specific equity risk: equity jump risk and equity related losses due to defaults.

The equity jump risk component measures the risk of losses that are specific to each single stock and beyond the VaR model's confidence level. The jump risk is calculated based on a parametric model for the single stock returns. The confidence level corresponds to the worst 10-business day return occurring at a frequency of once every 500 business days.

The equity default risk component measures equity related portfolio loss due to the default of a company. An intensity model with constant 10-business day intensity is assumed.

Back-testing

Back-testing of the VaR model is performed daily using both hypothetical profit and loss (P&L) and actual P&L. Hypothetical P&L is the P&L that would have been realised if the positions in the portfolio had been held constant during the following trading day. The actual P&L also includes intra-day trading. The P&L numbers are compared to one-day VaR numbers (98.8% ES confidence level). Overshootings are defined as the historical days where either the actual and/or the hypothetical losses are worse than the VaR number. The largest of the number of actual P&L overshootings and hypothetical P&L overshootings in the last 12 months determines the capital multiplier addend according to the red/amber/green colour zones specified in the CRR.

Non-traded market risk

Non-traded market risk principally arises from the core banking business of Nordea, related hedges and regulatory or other external requirements (e.g. liquid asset buffer).

Non-traded market risk management

TALM is responsible for the comprehensive risk management of all non-traded market risk exposures in the Group's balance sheet. For transparency and a clear division of responsibilities within TALM, the comprehensive banking book risk management is divided across several frameworks – each with a clear risk mandate and specific limits and controls.

The non-traded market risks that Nordea is exposed to are interest rate risk, credit spread risk, foreign exchange risk (both structural and non-structural) and equity risk.

Interest rate risk in the banking book (IRRBB) is the current or prospective risk to Nordea's capital and earnings arising from adverse movements in interest rates. BAs transfer their banking book exposures to TALM through a funds transfer pricing framework. The market risks are then managed centrally and include gap risk, basis risks, credit spread risk, behavioural risks and non-linear risks. These risks are also delineated by currency.

Due to the lending structure in Nordea's home markets, most of the contractual interest rate exposures are floating rate. Consequently, whole-sale funding is also swapped to floating rate. The resulting repricing gap risk is managed on an aggregated basis by currency and where applicable by legal entity (primarily the mortgage companies). The net outright interest rate risk stemming from the repricing gaps, together with the limited fixed interest rate risk, is hedged with interest rate swaps (IRS) and overnight index swaps (OIS).

Liquid assets are managed in accordance with the Liquidity Buffer and Pledge/Collateral frameworks. Most of the directional interest rate risk arising from bond holdings is hedged primarily with maturity matched IRS payer swaps and to a smaller degree with OIS payer swaps. Forward Rate Agreements and listed futures contracts are also used to hedge credit spread and interest rate fixing risks.

The tail hedging framework operates a running portfolio of tail hedges across listed equity futures and options, main credit indices and interest rate swaps and options. Due to the nature of the framework, asymmetrical hedging structures are natural building blocks of the

tail hedging portfolio. Tail hedges run across Nordea's other banking book frameworks, including the liquid asset bond and derivative portfolios, the strategic equity investments and the structural risks.

Non-traded market risk measurement

IRRBB

Economic value (EV) stress tests look at the change in economic value of banking book assets, liabilities and interest-bearing derivative exposures resulting from interest rate movements, independently of the accounting classification and ignoring margins. These are measured as the changes in the Economic Value of the Equity of the banking book under the 6 standardised scenarios defined by the Basel Committee on Banking Supervision (BCBS). The exposure limit under this metric is the greatest of these values.

Using the same 6 BCBS scenarios as for the EV stress tests, the earnings metric measures the change in Net Interest Income (NII) relative to a base scenario, creating a Structural Interest Income Risk (SIIR) value over a one-year horizon. The model uses a constant balance sheet assumption and realized forward curves with behavioural modelling for the non-maturing deposits and prepayments. The SIIR earnings metric is monitored monthly. Additionally, VaR is used daily to monitor fair value IRRBB as well as for Pillar 2 capital calculations. Fair value sensitivities in the banking book are beside this monitored against five severe but plausible market stress scenarios.

Structural foreign exchange

Nordea is exposed to structural FX risk defined as the mismatch between the currency composition of its common equity tier 1 (CET1) and risk exposure amounts. CET1 is largely denominated in euro with the only significant non-euro equity amounts stemming from mortgage subsidiaries and Nordea Bank Russia. Changes in FX rates can therefore negatively impact Nordea's CET1 ratio.

This risk is measured through a severe but plausible stress test that translates the BoD's risk appetite into a limit in CET1 ratio sensitivity which is monitored at least weekly.

Validation of risk models

Independent model validation

All models including pricing and valuation models (both vendor and proprietary), are governed by a group wide common model governance framework. This framework outlines standards for the model risk management throughout the model life cycle including the development process and the processes for independent model validation and periodic review.

As part of the model governance framework, all market risk models are subject to independent model validation. This includes models used for regulatory capital purposes for both traded and non-traded market risk. Validation activities are carried out by Model Validation, a unit within GRMC which is independent and organisationally separate from the risk-taking units and the market risk model developers.

Market risk models are validated both prior to use and on an ongoing basis to ensure that they remain sound and are used and perform in line with the design objectives. Model Validation compiles the results of validation activities in reports that are presented at the Model Risk Committee (MRC), including a summary of validation activities, a list of identified model risks and assessment of their severity as well as potential mitigations to be implemented by the model owners.

Validation elements include confirmation of the conceptual soundness, verification of the model implementation in IT systems and outcome analysis, including back-testing results. Ongoing validation furthermore involves assessment of the adequacy and effectiveness of the model control setup and model performance monitoring. The implementation of model risk mitigations, as recommended in model validation reports and agreed in the MRC, is monitored on a regular basis and progress is tracked through implementation.

The model validation is carried out both on an aggregate level, through annual reviews of the models, as well as on a more granular model component level. The scope for this includes:

- Risk factor models
- Pricing models, including both full revaluation models and approximations based on sensitivities
- Adequacy of risk measure
- Choice and adequacy of proxies
- Accuracy and stability of calibrated model parameters
- Model assumptions, including correlation modelling in IRC and CRC
- Model calibration, including assessing the choice of stressed period for Stressed VaR
- Evaluation of model performance through measures such as back-testing
- Robustness of models across scenarios
- Choice of variables and evaluation of explanatory power for behavioural modelling in non-traded market risk

Validation by the developers

Stress tests of the IRC input parameters (main scenarios involve shifts to probabilities of default and correlation parameters) are conducted annually, as part of the validation processes performed by Risk Models in the 2nd LoD (the unit responsible for the development of risk models).

Other validation processes performed by Risk Models include proxy control, market data input controls and stress testing to assess the adequacy of the VaR and Stressed VaR numbers. Stress testing covering the VaR and Stressed VaR scope is performed weekly based on the following scenarios: Market Liquidity Freeze, Nordic Financial Crisis, Abrupt Volatility Spike, Speculation on DKK Peg and Stress Testing of Proxies. Three levels of severity are used in the definition of the scenarios: moderate (a 10-business day shock occurring once every year), large (a 10-business day shock occurring once every 5th year), severe (a 10-business day shock occurring once every 10th year). The shocks are calibrated to historical data using a parametric model to ensure consistency in the size of the shocks across all risk factors.

Market risk monitoring and control

Market risk appetite

The market risk appetite for the Group is expressed through risk appetite statements issued by the BoD. The statements are defined for the trading and banking books.

The 2nd LoD ensures that the risk appetite is appropriately translated through the RC into specific risk appetite limits for the BAs and TALM.

Stress testing

As part of the overall risk appetite framework (RAF), holistic and bespoke stress tests are used to calibrate the risk appetites and set limits to monitor and control the full set of material market risk factors to which the bank is exposed. The RAF scenarios cover five severe, but plausible macroeconomic events that both trading and banking book positions are exposed to. The scenarios cover different time horizons, products, tenors and geographical regions. The five macroeconomic events relate to an interest rate hike scenario, an equity sell-off scenario, a Nordic housing crisis scenario, a European recession scenario and a global macro downturn scenario. The Nordic housing crisis is considered the most banking book focused (and currently the highest stress), whilst the other scenarios have a more distributed impact across the trading and banking books. The RAF stress tests are run and validated weekly. Furthermore, the scenarios are calibrated annually to focus on areas to which Nordea's treasury and trading activity is particularly sensitive.

Additional controls

Global Financial Reporting and Information Control (GFRIC), within the 1st LoD, is responsible for the design and performance of comprehensive controls in line with the risk framework.

GRMC monitors and controls traded market risk on a daily basis. The process includes analysis and reporting of risk sensitivities related to e.g. interest rates, credit spreads, FX and equity exposures and capital measures.

Furthermore, GRMC is responsible for monitoring market risk limit adherence and for the escalation of breaches in line with internal guidelines for limit monitoring and oversight.

Inclusion in the trading book

For regulatory purposes, all positions must be assigned to either the trading book or the banking book. This classification impacts the regulatory treatment of positions, in particular regulatory capital requirements. The criteria for the allocation of positions to either the trading book or banking book are set out in the internal trading book/banking book boundary guideline which is approved by the RC and is applicable to all entities included in Nordea's consolidated position.

The Group includes in the trading book all positions in financial instruments held either with trading intent, or to hedge positions held with trading intent.

Positions assigned to the trading book are either free of restrictions on their tradability or able to be hedged. Any position not defined as a trading book position is assigned to the banking book. The trading strategies for the trading book and the investment policy for the banking book, mandate activities and positions in the respective books that ensure compliance with the boundary guideline and regulatory requirements.

The 1st LoD performs controls to verify that activities carried out are compliant with the trading strategies and investment policy and that they receive the appropriate book classification. GRMC oversees and regularly challenges the control activities of the 1st LoD in this regard. Any position in breach of the trading strategy or the investment policy is reallocated in line with the internal reclassification guideline. The decision is taken within the senior governance body of the business areas where the 2nd LoD is represented.

Requirements for prudent valuation

Nordea's valuation framework, including standards for prudent valuation, covers all positions held at fair value across the Nordea Group including both trading and banking books.

Policies, procedures and reporting lines

Nordea's valuation framework consists of policies and procedures that outline the different valuation related processes. This includes the overall principles for calculation of fair value and valuation adjustments as well as definitions of the responsibilities, a price source hierarchy, the frequency of independent price verification and the timing of closing prices.

Operational valuation controls including independent price verification are performed by a valuation control function within the 1st LoD, which is independent from the risk-taking units in the front office.

An independent valuation control team within the 2nd LoD has the responsibility for further monitoring and analysis of the valuations and controls performed by the 1st LoD and provides independent assessment and reporting on any identified risks.

Daily revaluations

Positions in the regulatory trading book are revalued on a daily basis.

Whenever possible, Nordea marks its positions to market using observable prices. However, for many assets and liabilities, observable market transactions and market information might not be available. When a price for an identical asset or liability is not observable and hence marking to market is not possible, Nordea applies a mark to model approach.

Nordea marks to mid-market prices (average of bid and ask) but applies a portfolio adjustment, referred to as close-out-cost valuation adjustment, to adjust the net open market risk exposures from mid-market prices to ask or bid prices (depending on the net position). For different risk categories, exposures are aggregated and netted according to internal guidelines and aggregated market price information on bid-ask spreads are applied in the calculation.

Valuation model governance

All models, including pricing and valuation models (both vendor and proprietary), are governed by a group wide common model governance framework.

Proprietary models are developed in the 1st LoD. Independent model validation of all valuation models is conducted by the 2nd LoD before final approval in the bank's

MRC and Group Valuation Committee. For the intended use of a model, the independent validation includes confirmation of the appropriateness of model assumptions, the mathematics of the model and alignment with market practice, where such exist, as well as verification of the software implementation and outcome analysis to benchmark and test of the model output. The independent validation team reports on significant model risks to senior management on a quarterly basis.

All valuation models, both complex and simple models, make use of market prices and inputs. Some of these prices and inputs are observable while others are not. For each instrument the sensitivity towards unobservable inputs is measured.

Independent price verification

The independent price verification (IPV) comprises verification of the correctness of valuations by comparing the prices to independently sourced data. The result of the IPV is analysed and any findings are escalated as appropriate. The verification of the correctness of prices and inputs is at a minimum carried out on a monthly basis and for many products it is carried out daily. Third-party information, such as broker quotes and pricing services, is used as benchmark data in the verification. The quality of the benchmark data is assessed on a regular basis.

The IPV is performed by a valuation control function within the 1st LoD, which is independent from the risk-taking units in the front office.

Valuation adjustments in fair value

Fair value of financial assets and liabilities are generally calculated as the theoretical net present value of the individual instruments. This calculation is supplemented by portfolio adjustments as detailed below.

Nordea incorporates credit valuation adjustments (CVA) and debit valuation adjustments (DVA) into derivative valuations. CVA and DVA reflect the impact on fair value from the counterparty´s credit risk and Nordea's own credit quality, respectively. Calculations are based on estimates of exposure at default, probability of default and recovery rates, on a counterparty basis. Generally, exposure at default for CVA and DVA is based on expected exposure and is estimated through the simulation of underlying risk factors. Where possible, Nordea obtains credit spreads from the CDS market, and probabilities of default (PDs) are inferred from this data. For counterparties that do not have a liquid CDS market, PDs are estimated using a cross sectional regression model, which calculates an appropriate proxy CDS spread given each counterparty's rating region and industry.

The impact of funding costs and funding benefits on the valuation of uncollateralised and imperfectly collateralised derivatives is recognised as a funding fair valuation adjustment (FFVA). In addition, Nordea applies in its fair value measurement, close-out cost valuation adjustments and model risk adjustments for identified model deficiencies (including possibly incorrect parameter calibration).

Additional valuation adjustments

In addition to the valuation adjustments that are directly applied in fair value, Nordea calculates a number of additional valuation adjustments to account for valuation uncertainty. This includes additional valuation adjustments for:

- Market price uncertainty
- Close-out costs (covering uncertainty in the close-out cost valuation adjustment)
- Model risk (including adjustments due to unobservable parameters)
- Unearned credit spreads (covering uncertainty in the CVA)
- Investing and funding costs (covering uncertainty in the FFVA)
- Concentrated positions
- Future administrative costs
- Early termination cost
- Operational risks

The additional valuation adjustments are calculated and aggregated in accordance with the Commission Delegated Regulation (EU) 2016/101 and are subtracted from the CET1 capital in the calculation of Nordea's capital ratios.

Pillar 1 market risk own funds requirement

The table below summarises the scope of the IMA approval in the context of the Pillar 1 market risk own funds requirement.

Table: Pillar 1 market risk own funds

Measure	General risk	Specific risk
VaR model	Interest rate risk Equity risk ** Foreign exchange risk Inflation risk	Specific interest rate risk * Specific equity risk **
Stressed VaR model	Interest rate risk Equity risk ** Foreign exchange risk Inflation risk	Specific interest rate risk * Specific equity risk **
EER model	No general risk	Specific equity risk **
IRC model	No general risk	Specific interest rate risk *
CRC model	No general risk	Specific interest rate risk *

** IMA excludes specific risk on tier 1 and tier 2 bonds and certain other bond types, credit options and related hedges, credit/interest rate hybrids. Specific interest rate risk for these products are included under the standardised approach.*

*** IMA excludes both general and specific equity risk for structured equity risk and fund-linked derivatives. The excluded general and specific equity risk is included under the standardised approach.*

Other risks

Pension risk

Pension risk (including market and longevity risks) arises from Nordea-sponsored defined benefit pension schemes for past and current employees. The ability of the pension schemes to meet the projected pension payments is maintained through investments and ongoing scheme contributions. Pension risks can manifest through increases in the value of liabilities or through falls in the values of assets. These risks are regularly reported and monitored and include consideration of sub-components of market risk such as interest rate, inflation, credit spread, real estate and equity risk. To minimise the risks to Nordea, limits are imposed on potential losses under severe but plausible stress events and by limits on capital draw-

down. In addition, regular reviews of the schemes strategic asset allocation are undertaken to ensure the investment approach reflects Nordea's risk appetite.

On a day-to-day basis, TALM has first line responsibility for the schemes with GRMC providing second line oversight and support.

The overall responsibility within Nordea for the management of defined benefit pension schemes lies with the Pension Scheme Coordination Group (PSCG). The PSCG includes representatives from the Chief of Staff's office, TALM, GRMC, Group People, Group Accounting, Group Corporate Law and the BAs.

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Operational risk and compliance risk

Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events, and includes legal risk. The risk of loss includes direct or indirect financial loss, which includes but is not limited to impacts from regulatory sanctions, legal exposure, reputational damage and critical business process disruption. Nordea defines compliance risk as the risk of failure to comply with statutes, laws, regulations, business principles, rules of conduct, good business practices, and related internal rules governing Nordea's activities subject to authorisation in any jurisdiction where Nordea operates.

Operational risks are inherent in all of Nordea's businesses and operations. Consequently, managers throughout Nordea are accountable for the operational risks related to their area of responsibility, and responsible for managing these risks within limits and risk appetite, in accordance with the operational risk management framework. Group Operational Risk (GOR) in GRMC constitutes the 2nd LoD for operational risk and is responsible for developing and maintaining the overall operational risk management framework as well as for monitoring and controlling the operational risk management of the 1st LoD. GOR monitors and controls that operational risks are appropriately identified, assessed and mitigated, follows-up risk exposures towards risk appetite, and assesses the adequacy and effectiveness of the operational risk management framework and framework implementation.

The focus areas of the monitoring and control work performed by GOR are decided during an annual and quarterly planning process that includes business areas, key risk areas and operational risk processes. GOR is responsible for provide reports on operational risk to the CRO who reports regularly to the CEO and BoD.

The RAF in Nordea, including risk appetite statements, is approved annually by the BoD. The risk appetite statements for operational risk are expressed in terms of:

- residual risk level and management of risks
- total loss amount of incidents and management of incidents, and
- management of Key Risk Indicators (KRIs).

The risk appetite statement for compliance risk outlines that Nordea complies with applicable laws, rules and regulations – and is supported by statements outlining the acceptable levels for residual risks and requirements for mitigating actions for risks above the acceptable levels.

Managers throughout Nordea are accountable for managing compliance risks within their areas of responsibility. GC constitutes the 2nd LoD for compliance risk and is responsible for developing and maintaining the framework for managing compliance risks, and for guiding the business in their implementation to ensure continuous adherence to the framework. Compliance activities are presented in the form of an annual compliance oversight plan to the CEO and the BoD. The plan represents a comprehensive approach to the compliance activities of the Group, combining GC's overall approach to key risk areas. The plan is supported by granular plans in each business area, legal entity and for each risk dimension.

GC is responsible for regularly, at least quarterly, reporting to the Group Board, Group CEO in GEM, branch management and relevant committees on the status and development of Nordea's compliance Risks, including information on major issues and incidents, status and key observations from monitoring activities and investigations, general updates on Financial Supervisory Authority interactions and impact and preparations on regulatory changes.

GOR is responsible for preparing and submitting regular risk reports on all material risk exposures including Risk Appetite Limit utilisation and operational risk incidents to the CRO, who thereafter reports to the Group CEO, the BoD and relevant committees.

Management of operational and compliance risk

Nordea Board's directives on risk and internal governance set the principles for the management of risks in Nordea. Based on these principles, Nordea has established supporting CEO instructions and guidelines for operational and compliance risk that form the operational and compliance risk management frameworks. Management of operational and compliance risk includes all activities aimed at identifying, assessing, mitigating, monitoring, controlling, and reporting on risks.

Risks are identified through various processes, for example through detailed in the following section and include the reporting of incidents, approval of changes, as well as risk assessment processes.

The assessment of risks is done by assigning the probability of the risks occurring and the impact in case of materialisation.

Mitigating actions are established to mitigate the risks which are considered as having a too high-risk exposure (i.e. outside the limits set within the boundaries of the risk appetite) during the assessment phase.

Monitoring and controlling is also part of risk management. It ensures for example that risks are appropriately identified and mitigated, that risk exposures are kept within limits, and that risk management procedures are efficient, and adhere to internal and external rules. A regulatory horizon scanning process secures that new and amended rules and regulations are identified. The impact of the rules and regulations is assessed, and appropriate implementation measures are taken in accordance with the framework for regulatory implementation and change risk management.

Key risk management processes

Risk and Control Self-Assessment (RCSA) and compliance independent risk assessment

The objective of the Risk and Control Self-Assessment (RCSA) is to provide a comprehensive overview of operational and compliance risks across Nordea.

For risks identified in the RCSA, the level of risk and the controls in place to mitigate the risks, are assessed. If mitigating actions are required to reduce the risk exposure, these are identified and implemented.

Based on the self-assessment, Operational Risk Officers independently monitor and challenge the identified risks and the management of these. For compliance-related risks, Compliance Officers perform their own independent risk assessment in addition to the performed self-assessment.

Scenario Analysis

The objective of the Scenario Analysis process is to identify and assess operational risks with severe financial or non-financial impacts with low probability of materialisation, so called "tail risks".

Analysing tail risks contributes to increased understanding of unusual risk events otherwise not being addressed by other operational risk assessment processes to identify and close possible control gaps in Nordea.

Change Risk Management

The objective of Change Risk Management is to ensure the identification and mitigation of non-financial risks when executing changes.

A change includes all new or changed products, services, markets, processes or IT systems, or substantial changes to the operations, the organisation or corporate structure, including exceptional transactions and decommissioning.

The process supporting this, the Change Risk Management and Approval (CRMA) process, consists of an initial materiality assessment and subsequent risk identification, assessment and risk mitigation. The CRMA process includes the involvement of relevant subject matter experts to ensure a thorough risk identification, assessment and management, before a change is executed.

Incident Management and Reporting

The objectives of Incident Management and Reporting are to ensure appropriate handling of detected incidents to minimise resulting impacts, and to prevent incidents from reoccurring through a structured and proactive documentation and mitigation process.

Upon detection of an incident, the priority is to minimize its impact. Incidents of a certain nature and impact also require timely notification to relevant supervisory authorities.

Unit managers are responsible for the proper handling, documentation and reporting of incidents. Incident reporting contributes to embedding a sound risk culture in daily operations, and to create necessary documentation for the work to prevent incidents from materialising again.

Business Continuity and Crisis Management (BC&CM)

The objective of Business Continuity and Crisis Management is to maintain appropriate levels of readiness for a wide range of operational risk events, to minimise their impact on Nordea's operations and customers.

BC&CM includes risk analysis, continuity planning and testing, to protect Nordea's customers, resources (e.g. people, premises, technology and information), supply chains, interested parties and reputation, from the impacts that a disruptive operational risk event otherwise could have caused. As most services are supported by IT applications, disaster recovery plans for technical infrastructure and IT systems are included as an essential part of this work.

Information Security

The objective of Information Security Management is to protect information with respect to confidentiality, integrity and availability.

Nordea has a documented information security framework which supports and enables the organisation to protect information against accidental or malicious disclosure, modification or destruction, and to maintain its availability.

Raise Your Concern (RYC)

The objectives of the RYC (" whistleblowing") process are to ensure that Nordea employees and customers have the right to and feel safe when speaking up if they witness or suspect misconduct or unethical behaviour.

The RYC process encompasses ways to report a suspected breach of ethical standards, or breach of internal or external rules. Concerns can be raised openly, confidentially or anonymously by individuals (whistle-blow). The RYC process also outlines rules and procedures for how RYC investigations are conducted.

Significant Operating Processes (SiOPs)

The objective of Significant Operating Processes (SiOPs) is to understand the processes dependencies and vulnerabilities, reveal control gaps, and support efficiency in managing risks and controls related to Nordea's most important processes.

The documentation of SiOPs is included in the SiOPs framework, and it offers in-depth understanding of the process flows, and how these processes provide products and services in a compliant, safe and timely way to Nordea's customers.

Third Party Risk Management (TPRM)

The objective of Third Party Risk Management is to ensure that risks and regulatory requirements related to third parties (TPs) including outsourcing, are appropriately managed both before and during the relationship.

Nordea's TPRM framework outlines the requirements for risk management, due diligence, monitoring and control of its TPs. TPRM is to be considered prior to, and during engagement with, a third party to safeguard Nordea and to understand and control the respective risks.

While Nordea may delegate day-to-day operational activities to TPs, Nordea's responsibility to maintain effective oversight and governance of the outsourced activities and TP relationships remains.

Reputational Risk

The objective of Reputational Risk Management is to protect Nordea's reputation.

In Nordea, reputational risk is defined as the risk of damage to the trust in Nordea from our customers, employees, authorities, investors, partners and the public with the potential for adverse financial impact. Reputational risk is often an impact from, or a cause of, other types of risks, e.g. credit, liquidity, market, operational, compliance and legal risks inherent in the business.

Nordea has developed a reputational risk framework with guiding principles for managing reputational risk. The framework is strongly linked with the risk management framework and related processes for identifying, assessing and mitigating risk. It includes considering stakeholders' perceptions in Nordea's decision-making processes.

Conduct Risk Management

Conduct risk in Nordea is defined as the risk of inappropriate culture and behaviour of Nordea people, or the risk that intentional or unintentional actions of Nordea across the end to end customer lifecycle lead to unfair outcomes and harm for customers or disrupt market integrity.

Nordea continues to develop its conduct risk management approaches to ensure Nordea's culture and employee behaviours are consistent with Nordea's values, and that Nordea employees deliver fair outcomes for customers across all stages of the customer lifecycle. This includes driving a strong focus on putting the customer first in Nordea's business strategy, the design and development of products, the sales, and the ongoing service provided to Nordea customers.

Minimum own funds requirement for operational risk

Nordea's own funds requirements for operational risk are calculated according to the standardised approach. In this approach, the institution's activities are divided into eight standardised business lines and the gross income-based indicator for each business line is multiplied by a predefined beta coefficient. The consolidated own funds requirement for operational risk is calculated as the average of the last three years' own funds requirement.

Liquidity risk

Liquidity risk is the risk that Nordea is unable to service the cash flow obligations when they fall due or unable to meet cash flow obligations without incurring significant additional funding costs. Nordea is exposed to liquidity risk in lending, investment, funding and other activities which could result in negative cash flow mismatches and an inability to liquidate assets or obtain adequate funding.

Management, governance and measurement of liquidity risk

The objective of liquidity risk management is to ensure that Nordea can always meet cash flow obligations, including on an intraday basis and across market cycles and during periods of stress.

Liquidity risk is comprised of 1) funding liquidity risk, which results when Nordea is unable to service its cash flow obligations when they fall due, and 2) market liquidity risk, whereby Nordea cannot meet its cash-flow obligations without incurring significant additional funding costs.

Management of liquidity risk

Nordea's liquidity management and strategy is based on a group board directive on risk and group CEO instructions on liquidity risk resulting in various liquidity risk measures, limits and organisational procedures.

Nordea, including the Group and individual subsidiaries and branches, are subject to various liquidity regulations. On a consolidated level, the Group is regulated by the FSA in Finland and must comply with Finnish regulatory requirements. Significant branches in Denmark, Sweden, and Norway are subject to local oversight by the local regulators, while still being subject to FSA requirements on a consolidated basis. Other subsidiaries and branches are also subject to local jurisdictional requirements on a stand-alone basis. These regulations are intended to measure and monitor levels of liquidity risk and cover both short-term liquidity risk and long-term structural risk.

Liquidity risk management focuses on both short-term liquidity risk and long-term structural liquidity risk. To ensure funding in situations where Nordea is in urgent need of cash and normal funding sources do not suffice, Nordea holds a liquidity buffer. The buffer's size is linked to liquidity stress testing results which form the basis of the liquidity risk appetite. The liquidity buffer consists of central bank cash and central bank eligible high-grade liquid securities that can be readily sold or used as collateral in funding operations.

A key objective of the funding strategy is to secure continuous access to stable and competitive wholesale funding whilst considering external requirements (e.g. regulatory requirements including management buffers), and internal requirements, as well as secure prudent liquidity management. Moreover, the strategy considers market conditions such as market capacity and credit rating. To that end the strategy strives to preserve Nordea's strong credit rating enabling access to wholesale funding both in periods of stress and at an attractive cost.

Intra-day liquidity arises from intra-day timing mismatches of payments, where Nordea sends payments and expects to receive funds back later in the day to meet other outgoing payment obligations. Nordea mitigates the intra-day risk by effective operational management of intra-day liquidity including position monitoring, reporting and controls, forecasting of intra-day liquidity, payment and collateral management, and client and product management. In addition, intra-day liquidity risk can be mitigated by having access to surplus of intra-day liquidity, such as balances at central banks, unencumbered liquid assets that can converted to intra-day liquidity by pledging with the central banks, or balances with other banks that can be used for intra-day settlement.

A robust infrastructure of systems and controls is in place which enables the timely production of reports, as well as the appropriate levels of analysis needed to assess Nordea's liquidity position on an ongoing basis.

Liquidity stress testing

Liquidity stress testing is carried out to identify liquidity risk drivers and stress scenarios which could impair Nordea's ability to meet cash-flow obligations when they come due, either because of scarce liquidity resources or significant increased costs in funding needed to generate liquidity. Liquidity stress testing is an important tool for evaluating the impact of exceptional but plausible events on the liquidity position of the Group, as well as individual subsidiaries and branches.

At a minimum, liquidity stress testing should assess the cash-flow impact of the following specific liquidity stress scenarios over various time horizons:

1) Market-wide stress, characterised by events comparable to those experienced in 2007-09. Although Nordea and other financial institutions are affected by these events, Nordea is not subject to a unique institution-specific stress, such as a credit rating downgrade.

2) Idiosyncratic stress, characterised by an institution-specific event whereby Nordea's credit rating is downgraded. Other institutions and the markets overall are not in a stressed condition.

3) Combined stress, characterised by a Market-wide and Idiosyncratic stress occurring simultaneously.

Pricing of liquidity risk

Appropriate transfer pricing mechanisms are maintained to ensure that transactions are subject to market-based charges or benefits and incentivise behaviours that ultimately drive the Group's balance sheet and liquidity profile.

The Internal Funds Transfer Pricing framework indicates how the Group's funding costs, as well as those costs associated with maintaining liquidity buffers, are allocated to specific businesses or product areas.

Liquidity contingency planning

The Liquidity Contingency Plan addresses the strategy for managing a liquidity crisis. The objective of the plan is to mitigate the impact of a stress event by assuring continuous access to a minimum level of liquidity needed to

accommodate critical business activities. The Liquidity Contingency Plan is activated by TALM management, in consultation with the Chief Risk Officer based on an assessment of market conditions or any trends signalling a liquidity stress event for Nordea. Upon activation, TALM is responsible for notifying all relevant internal and external stakeholders, including the business areas, ALCO, GRMC, GC and Investor Relations.

Liquidity risk appetite

For liquidity risk, the risk appetite is anchored to liquidity stress testing results over specified time horizons as well as regulatory requirements and has implications for nature and scope of activities undertaken by Nordea. In addition, the liquidity risk appetite determines the size of Nordea's liquidity buffers.

Nordea Group adheres to the following risk appetite statements approved by the Board in December 2017:

- Nordea should hold a liquidity buffer to survive a minimum board-mandated period under a combined stress scenario
- Nordea should hold a liquidity buffer sufficient to ensure an Internal LCR under a combined stress scenario
- Nordea should hold a liquidity buffer sufficient to ensure compliance with the regulatory LCR

The combined stress scenario referred to in the first statement and Internal LCR referred to in the second statement both relate to the Group's internal stress testing regime.

Governance of liquidity risk

Nordea employs a three lines of defence model for the governance of liquidity risk. TALM, in its role as first LoD, is responsible for pursuing Nordea's liquidity and funding strategy in compliance with the liquidity risk appetite. TALM manages and executes liquidity risk management processes, which include issuing funding and capital, managing liquidity buffers, and defining the principles for pricing liquidity risk.

The BAs also play a key role in providing 1st LoD liquidity risk management, including identifying and assessing the liquidity risk impact of their activities, including new product initiatives, and assessing liquidity risk mitigation strategies in conjunction with TALM.

GRMC, in its role as second LoD, provides independent risk oversight of liquidity risk management at Nordea and is responsible for establishing the internal rules framework for managing liquidity risk and performing independent liquidity stress testing. This includes developing and maintaining risk management processes and reporting processes, as well as reviewing and providing input to the liquidity risk appetite framework. Further, GRMC also verifies that all material liquidity risks have been identified by the first line and regularly performs reviews to assess the effectiveness and efficiency of the liquidity risk management framework.

Measurement of liquidity risk

Key internal measures are the Internal Survival Horizon and Internal LCR, which defines the risk appetite by requiring that Nordea maintains sufficient liquidity to survive at least three months under a combined institution-specific and market-wide liquidity stress scenario with limited mitigation actions.

A key regulatory metric is the LCR, that also defines the risk appetite. LCR is a ratio measuring the amount of qualifying highly rated assets (i.e., cash with central banks, highly rated sovereigns, otherwise known as High Quality Liquid Assets or "HQLA") available to cover potential cash outflows during the first 30 days of a severe liquidity stress event, as prescribed by local regulations. The Group as well as its bank subsidiaries based in Europe must, at a minimum, comply with the LCR standards prescribed by the EU's CRR/CRD IV and further clarified though the European Commission's Delegated Acts issued in October 2014. Delegated Act have been in effect since October 2015.

A second regulatory metric, the Net Stable Funding Ratio ("NSFR"), has been established by the Basel Committee for Bank Supervision, with proposed EU requirements set out by the amended CRR. The NSFR, not yet in effect, will require that banks, including Nordea, hold sufficient levels of stable funding, given the duration and stability of their assets. The CRR NSFR proposal aligns NSFR governance, compliance and supervisory actions with the EU LCR. Banks will be required to comply with NSFR two years after the CRR enters into force.

Additional metrics are in place for monitoring the liquidity and funding profiles at a more detailed level across Nordea as well as its subsidiaries and branches.

A framework of liquidity risk limits is in place to gauge and assess whether the liquidity risk profile of the Group and its subsidiaries and branches remain within the parameters of the liquidity risk appetites. Liquidity limits are assigned an owner who is responsible for providing final approval of the limit. TALM will drive any actions needed to remediate any limit breach. The nature of the escalation and actions required in the event of a breach depend upon the limit hierarchy.

ILAAP

An Internal Liquidity Adequacy Assessment Process (ILAAP) is a continuous process for the Nordea Group as well as for some individual Nordea subsidiaries. The ILAAP provides an assessment of liquidity adequacy through a comprehensive analysis of liquidity risk management practices in the respective entities.

Securitisation and credit derivatives

In Q3 2016 Nordea entered a synthetic securitisation as originator referencing a portfolio of corporate and SME loans in Sweden and Denmark.

Introduction to securitisation and credit derivatives trading

The CRR defines securitisation as a transaction or scheme, whereby the credit risk associated with an exposure or pool of exposures is tranched, payments in the transaction or scheme are dependent upon the performance of the exposure or pool of exposures and the subordination of tranches determines the distribution of losses during the ongoing life of the transaction or scheme. In a traditional securitisation, the ownership of the assets is transferred to a Special Purpose Entity (SPE), which in turn issues securities backed by these assets. In a synthetic securitisation, ownership of these assets does not change, however the credit risk is transferred to the investor using credit derivatives or financial guarantees.

Banks can play several roles in securitisation. First, banks can act as originators by having assets they themselves originated as underlying exposures. Second, banks can act as sponsors in which role they establish and manage securitisations of assets from third party entities. Third, through their credit trading activity, banks can themselves invest in these securities or create these exposures in credit derivatives markets.

Nordea is also acting as an intermediary in the credit derivatives market, especially Nordic names. In addition to becoming exposed to the credit risk of a single entity, credit derivative trading often involves buying and selling protection for collateralised debt obligation (CDO) tranches. These can be characterised as credit risk related financial products, the risk of which depends on the risk of a portfolio of single entities (a reference portfolio) as well as the subordination. Subordination defines the level of defaults in the reference portfolio after which further defaults will create a credit loss for the investor. Because hedging always involves a view on how the correlation between the credit risk of single names evolves, it has been customary to talk about correlation trading in this context.

Risk transfer transaction

In Q3 2016, Nordea entered a synthetic risk transfer trade referencing EUR 8.4bn of Nordea's loan portfolio. Under the transaction, investors agreed to invest in credit linked notes (CLN), linked to the junior credit risk of the portfolio.

The risk transfer was performed through a collateralised financial guarantee structure, and no assets were derecognised from Nordea's balance sheet. Under the agreement, the buyers of the notes are responsible for a pre-agreed amount of incurred credit losses of the reference portfolio. The size of this credit loss protection is sufficient to cover the expected life-time losses with a substantial margin, relieving Nordea from the associated risks and thus qualifying as achieving Significant Risk Transfer (SRT).

The selected reference portfolio consists of approximately EUR 8.4bn in corporate and SME loans from over For loans not derecognised, provisions are recognised for the expected losses on the loans without considering the 3,000 borrowers across Sweden and Denmark, covering a wide range of industries and asset classes.

Relevant policies, regulations and assorted risks

This section describes the risks associated with these types of transactions and the management of said risks. More broadly, Nordea's SRT policy outlines the principles for the effective and robust assessment, monitoring and management of such transactions in Nordea under relevant regulations. Furthermore, a risk mandate is articulated outlining Nordea's appetite in terms of associated REA in relation to Nordea's credit risk REA and to flow-back risks arising when the credit risk flows back to the bank and consequently become subject to a higher capital need.

As defined in the CRR, the term securitisation refers to a transaction or scheme, whereby the credit risk associated with an exposure or pool of exposures is tranched, having the following characteristics:

- the transaction achieves SRT, in case of origination;
- payments in the transaction or scheme are contingent on the performance of the exposure or pool of exposures; and
- the subordination of tranches determines the distribution of losses during the ongoing life of the transaction or risk transfer scheme.

Securitisation positions are subject to the regulatory accounting treatment defined in the CRR. Such positions held in the regulatory banking book or trading book are currently given weightings ranging from 7% to 1,250% depending on their credit quality and subordination rank. In the role as originator, Nordea applies the Supervisory Formula Method when calculating the capital requirements for securitisation positions.

Nordea follows the development of the securitisation regulation framework continuously to ensure strict adherence to regulation and, as appropriate, guidance.

Accounting policies related to securitisation transactions

Financial assets are derecognised from the balance sheet when the contractual rights to the cash flows from the financial asset expire or are transferred to another party. The rights to the cash flows normally expire or are transferred when the counterparty has performed (e.g. repaying a loan to Nordea). Gains and losses are recognised when the assets are derecognised by comparing the carrying amount to the proceeds received.

Synthetic securitisations are generally defined as transactions where an institution buys protection using financial guarantees or credit derivatives where the exposures are not derecognised from the balance sheet. In the case of Nordea's Q3 2016 transaction, it follows accounting recognition rules specific to guarantees.

protection bought. The protection is recognised separately, either as a derivative or as a reimbursement right for guarantees.

Monitoring of securitisation risks

Securitisation risks are monitored according to the internal rules established in Nordea, as per assets are recorded in the regulatory banking book (via credit risk and counterparty risk), and to specific governance processes for securitisations.

Structural risks and foreign exchange risk associated with securitisation activities are monitored in the same way as for other Nordea assets.

The associated liquidity risk linked to securitisation activities is reflected centrally through the measure of the impact of these activities on the Nordea's liquidity ratios, stress tests and liquidity gaps. Securitisation operational risks follow-ups are considered in Nordea's operational risks framework.

Traditional securitisations where Nordea acts as sponsor

Nordea sponsors a limited number of SPEs. These SPEs have been established to facilitate or secure customer transactions, either to enable investments in structured credit products or with the purpose of supporting trade receivable or account payable securitisation for Nordea corporate customers.

Credit derivative trading

Nordea acts as an intermediary in the credit derivatives market, mainly in Nordic names. Nordea also uses credit derivatives to hedge positions in corporate bonds and synthetic CDOs.

When Nordea sells protection in a CDO transaction, it carries the risk of losses in the reference portfolio if a credit event occurs. When Nordea buys protection in a CDO transaction, any losses in the reference portfolio triggered by a credit event are carried by the seller of protection.

It is Nordea's policy that CDO positions are held in the trading book and booked at fair value in accordance with IFRS 13, meaning that they are either mark-to-market or mark-to-model depending on the availability of external prices. Model prices are derived based on standard industry methods. Inputs are available market prices and assumptions primarily relate to correlation.

Credit derivative transactions create counterparty credit risk in a similar manner to other derivative transactions.

Counterparties in these transactions are typically subject to a financial collateral agreement, where the exposure is covered daily by collateral placements.

ICAAP, stress testing and capital allocation

The internal capital adequacy assessment process (ICAAP) aims to ensure that Nordea keeps sufficient available capital to cover all risks taken over a foreseeable future, including during periods of stress. The level of capital needs to be adequate from an internal and regulatory perspective, as well as from a market participant perspective.

ICAAP

The purpose of the ICAAP is to review the management, mitigation and measurement of material risks within the business environment to assess the adequacy of capitalisation and to determine an internal capital requirement reflecting the risks of the institution.

The ICAAP is a continuous process which increases awareness of capital requirements and exposure to material risks throughout the organisation, both in the business area and legal entity dimensions. Stress tests are important drivers of risk awareness, looking at capital and risk from a firm-wide perspective on a regular basis and on an ad hoc basis for specific areas or segments. The process includes a regular dialogue with supervisory authorities, rating agencies and other external stakeholders with respect to capital management, measurement and mitigation techniques used.

The capital ratios, capital forecasts and capital requirement for Nordea and legal entities are regularly monitored by TALM. The current capital position and forecasts are reported to ALCO, Risk Committee, GEM and BoD. Capital requirements and capital adequacy are thoroughly reviewed and documented annually in Nordea's ICAAP submission and Capital Adequacy Statement, which is ultimately decided on and signed by BoD.

Capital planning and capital policy

The capital planning process is intended to ensure that Nordea and Nordea's legal entities have sufficient capital to meet regulatory requirements, support the credit rating, growth and strategic options. The process includes forecasts of capital requirements, available capital as well as the impact of new regulations. Capital planning is based on key components of the Nordea Financial Planning Framework, which includes lending volume growth by customer segment and country as well as forecasts of net profit, including assumptions of future loan losses. The capital planning process also considers forecasts of the state of the economy to reflect the future impact of credit risk migration on the capital situation of Nordea. An active capital planning process ensures that Nordea can make necessary capital arrangements to accommodate strategic and business objectives, regardless of the state of the economy or the introduction of new capital adequacy regulations.

Nordea's capital policy determines target capitalisation levels in Nordea.

The capital policy states that Nordea, under normal business conditions, should have capital ratios for CET1, Tier 1 and total capital that exceed the capital requirement as communicated by the competent authority. The policy states that Nordea will maintain a management buffer of 40–120 bps above the CET1 requirement.

Capital transferability and restrictions

Nordea may transfer capital within its legal entities without material restrictions, subject to the general conditions for entities considered solvent with sufficient liquidity under local law and satisfying minimum capital adequacy requirements. International transfers of capital between legal entities are normally possible after approval by the local regulator and are of importance in governing the capital position of Nordea's entities.

Internal capital requirement (ICR) methodology

As part of ICAAP, Nordea defines the ICR as the internal capital requirement for all material risks from an internal economic perspective, taking into account the regulatory, normative through-the-cycle perspective, adequate to withstand periods of stress. This ensures that Nordea's ICR is aligned to, but not restricted by, the normative perspective and it also ensures that the data and process are validated and governed in an appropriate way.

Based on the normative Pillar I risks as regulatory prescribed, Nordea calculates an internal Pillar I equivalent.

For all other risks identified as material and that are determined to be covered by capital, internally assessed and approved add-ons are then quantified to arrive at a total capital requirement for ICR purposes.

In addition to calculating risk capital for its various risk types, Nordea conducts a comprehensive capital adequacy stress test to analyse the effects of a series of both global and local shock scenarios. The results of the stress tests are considered in Nordea's internal capital requirement as buffers for economic stress. By considering the stress test results in the assessment of internal capital requirements, the procyclical effects inherent in the risk-adjusted capital calculations of the EC and IRB approaches are addressed.

Examples of other risk types included in the internal assessment

Interest rate risk in the banking book

This risk consists of exposures deriving from the balance sheet (mainly lending to public and deposits from public) and from TALM's investment and liquidity portfolios. Interest rate risk is measured and monitored daily and in accordance with the competent authority requirements. Monitoring is performed by controlling interest rate sensitivities either to earnings or fair value for assets, liabilities and off-balance sheet items. The internal capital charge for interest rate risk in the banking book is calculated based an internal model combining earnings and fair value risk.

Pension risk

It is the risk that Nordea-sponsored defined benefit pension plans become underfunded. The risk is captured via a stress testing model and is reported separately within the internal assessment of market risk

Concentration risk

It is the risk of losses arising due to concentrations in the exposures of the credit portfolio, e.g. when the portfolio is largely exposed to a few individual borrowers i.e. Single Name Concentration risk or when the portfolio is not diversified across industries or regions i.e. Sectoral Concentration risk. Since the Pillar I credit risk calculations are based on a framework that does not account explicitly for concentration risk, regulators instead ask banks to set aside capital buffers for this risk in the internal perspective. The purpose of the concentration risk capital requirement add-on is to capture the capital Nordea should hold to protect itself against concentration risk.

Stress testing

Stress testing is important due to the vital role that capital plays for Nordea's profitability and resilience to stress. Thus, an appropriate governance structure is required for the stress testing process. Key responsibilities include GEM, BRIC and the legal entity BoDs engagement in the ICAAP stress testing. In addition, ALCO and the Risk Committee review in detail the stress test performed and potential implications for future capital. Detailed reviews and discussions on methodologies, scenarios and results take place in the Stress Test Oversight Committee, a sub-committee of the Risk Committee.

Capital adequacy stress testing is carried out at least annually during the first quarter, using end-of-year data. Ad hoc stress testing can be carried out throughout the year when necessary. To determine the adequacy of capital for Nordea throughout the scenarios, key financial targets, which are stated in Nordea's capital policy, are also considered.

The key metric for determining the stress test impact is the CET1 ratio and how it develops during the scenarios. The stress test capital impact is defined as the percentage drop in the CET1 ratio in the most stressed year. In addition, the stress test capital add-on, defined as the CET1 capital needed to compensate for the increase in REA and for the reduction in capital due to negative net profit in the stress scenarios, is included as a capital buffer in the bank's internal capital requirement. The impact is then analysed in relation to capital policy, regulatory buffers and internal capital requirements.

Stress tests performed

During 2018, Nordea performed internal stress tests to evaluate the general impact of an economic downturn scenario as well as specific impact for different segments and high-risk areas. Nordea has also been subject to stress tests and capital review exercises performed by financial supervisors and central banks, including the 2018 EBA Stress Test. The results of these stress tests did not change the assessment of Nordea's strong position and capacity to withstand financial stress.

As part of the ICAAP and the capital planning process, firm-wide stress tests are used as an important risk management tool to determine how severe unexpected changes in the business and macro environment will affect Nordea's need for capital. The stress tests reveal how the capital need varies during a stress scenario, where the income statements, balance sheet, regulatory capital requirements and capital ratios are impacted.

Nordea carries out reverse stress tests of various recovery environments in relation to the development of the recovery and resolution plan. Several stand-alone stress tests for each risk type such as market risk and liquidity risk are also carried out.

Nordea continuously refines its stress testing methodologies and practices to ensure a forward-looking element.

The general stress test process can be divided into the following three steps:

- Scenario development and translation,
- calculation, and
- analysis and reporting.

The capital adequacy stress test covers all credit exposures to corporates, retail, institutions and sovereigns. Credit exposures data is sourced on transaction level from the same database as used for the regular reporting of REA and capital adequacy. The calculation of stressed loan losses and stressed REA is carried out bottom-up based on granular portfolio data from this data source.

Stress test scenarios development

The annual ICAAP stress test is based on three-year global macroeconomic scenarios. The scenarios are designed to replicate shocks that are particularly relevant in the current macroeconomic environment and for stressing the main risks in Nordea.

While the annual stress test is based on comprehensive macroeconomic scenarios that involve estimates of several macroeconomic factors, the ad hoc stress tests are based on direct estimates of risk parameter changes or on changes of a few selected macroeconomic variables. This enables senior management to define scenarios and evaluate their impact in support for capital planning.

After a scenario is developed and quantified, impacts are translated to relevant parameters and and simulated. Advanced models in combination with expert judgment from Business Areas are used to determine the effect of the scenario.

Stress test calculation

The stressed figures and parameters from the scenario are used to calculate the effects on the regulatory capital requirements and the financial statements. Regulatory capital requirement is calculated based on the credit risk, market risk and operational risk. The calculations for each risk type are aggregated into total capital requirement figures.

Stressed figures for loan losses are calculated bottom-up, based on stressed rating migrations and collateral values. Stressed point-in-time PDs that are functions of the downturn scenarios, are used in the calculation of loan losses. The loan loss calculation also covers idiosyncratic losses related to the exposure to single customers and industries. The loan loss model covers both specific and collective provisions. The stressed impact on other main items on the income statement, like net interest income and net fee and commission income, are also calculated. The resulting impact on net profit after dividend is used to calculate the impact on the own funds components. Own funds are set in relation to the stressed REA to calculate the impact on capital ratios during a stress scenario. The figure shows the calculation process used in the stress test framework.

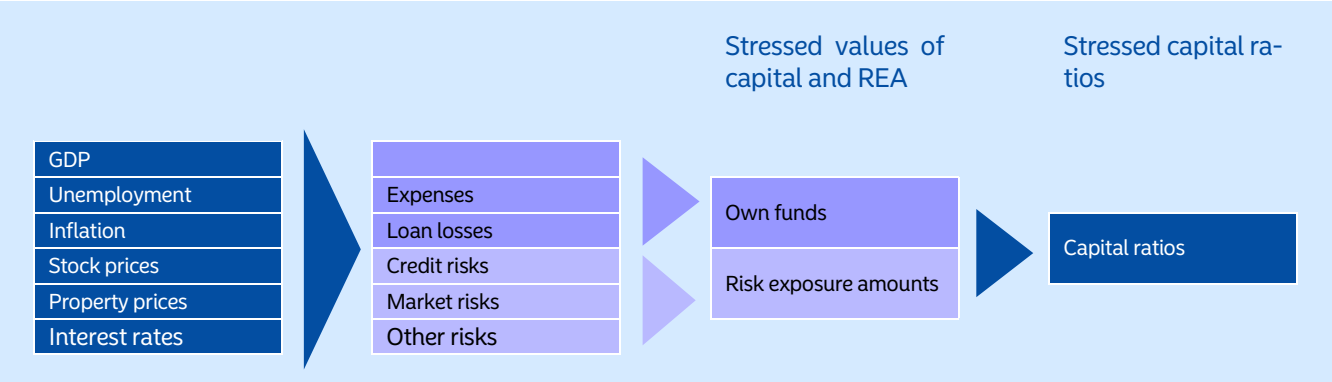
Capital allocation

EC is a method for allocating the cost of holding capital as a result of risk taking and is a central component in the Value Creation Framework (VCF). The VCF supports the operational decision-making process in Nordea to enhance performance management and ensure shareholder value creation.

Nordea's EC model is based on the capital requirement as assessed and published by the financial authority. In addition, the EC framework also include the following items:

- Legal equity contribution of the insurance business (EC is thus calculated for the legal group whereas the regulatory minimum capital requirement covers only Nordea Bank Abp based on its consolidated situation)
- Certain capital deductions where allocation keys have been agreed upon

Figure: Calculation process



Nordea Life and Pensions (NLP)

The nature of life insurance leads NLP to take risks that are quite different to those faced in the banking operation. The main risks are market risks and life & health insurance risks.

Governance

The Board of Directors of Nordea Life Holdings AB (NLH) and its subsidiaries, together with Nordea Life and Pensions (NLP), are responsible for the management of the NLH group functions and local entities. The Board ensures NLP's organisational structure is appropriate and transparent with a clear division of duties and areas of responsibility ensuring in turn an effective and sound governance.

NLP is governed by the Nordea Group Directives, NLP Group Instructions i.e. charters, policies and instructions, the NLP Risk Appetite Framework, guidelines as well as routines and standard operating procedures. The local entities have additional policies, guidelines, processes and procedures in place as needed to comply with local legislation and local business requirements.

Within this governance structure, the risk management framework is embedded in the NLP Risk Management Strategy, NLP Risk Management Policy and the NLP Risk Appetite Framework

The NLP Group CRO is responsible for the risk management at NLP Group level. Local CROs are responsible for risk management, and related monitoring and reporting at local entity level.

NLP Group performs a detailed annual Own Risk and Solvency Assessment (ORSA) at group level. Corresponding local ORSA processes are performed for local entities.

The key principles underlying the NLP Risk Management Strategy are:

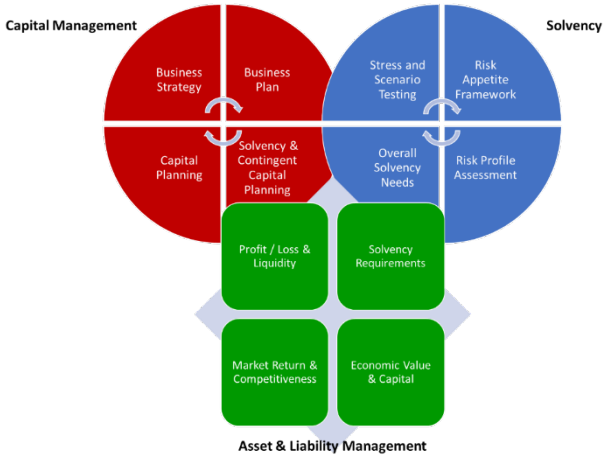
- Risks to be taken on must be within the Risk Appetite Framework and its expression as limits, thresholds and targets. The risks must comply with NLP's return considerations and business strategy.
- Risks should only be taken if they are understood and can be managed, monitored and reported. Other risks must be avoided.
- The risk strategy, risk appetite, risk management and the control framework must be coherent and consistent at both global and local level.
- The risk management function acts as a risk partner for the business.
- The risk management strategy must meet present regulatory requirements. It must also acknowledge expected future regulatory requirements and pursue a swift course of alignment.

The risk management framework is implemented using the well-known cycle of risk identification, risk measurement, risk monitoring, risk and capital management and risk reporting.

NLP follows a capital management process which covers all risks taken over the business planning period and assesses them under normal circumstances and stress scenarios covering macroeconomic risk, business risk and emerging risk developments.

NLP's key principle is that the level of capital must be adequate from an internal and regulatory perspective under all considered scenarios. This principle is the essence of the connection between risk management, capital management and asset & liability management.

Figure: Relating the capital management process to ORSA and Asset and Liability Management



The capital management process is based on key components of NLP's business plan and financial forecast. It ensures that NLP is prepared to make the necessary capital arrangements depending on the state of the economy, developments regarding capital adequacy regulation and changing strategic and business objectives.

Capital management is governed by the NLP Capital Policy which specifies the internal solvency ratio limit for NLP. The policy also specifies valid measures to restore the solvency position to acceptable levels in case of any breaches of the internal or regulatory limits.

Business profile

The life and pensions business of NLP consists of a range of different life and health products, from endowments with duration of a few years, to very long-term pension savings contracts, with durations exceeding 40 years. The products are categorised into different lines of business in accordance with the terminology applied in the Quantitative Reporting Templates. The following lines of business exist within NLP:

- Participating savings products
- Unit-linked products
- Other life insurance
- Health insurance

Market return products (unit-linked products) are clearly dominating NLP's business, followed by traditional products (participating savings and life insurance products). Health insurance takes a minor role in NLP's business profile.

Risk profile

The main risks that NLP is exposed to are market risks and life & health insurance risks. The risks are measured continuously by solvency capital requirements, exposure measurement on investment assets, VaR analysis, stress and sensitivity analysis. The risks are monitored against the risk appetite and existing limits.

Market risk

Market risks at NLP arise from the sensitivity of the values of assets and liabilities to changes in the level or volatility of market prices or interest rates. Main exposures to market risks originate from participating savings products and unit-linked savings products. Of these two product types, participating savings products are the main source of market risk. Sufficient buffers exist for this product which stabilises the Solvency II position and ensures stable returns to policy holders. Within market risk, the interest rate risk, equity risk, credit spread risk and property risk are the most relevant risks.

Life & health insurance risk

Life & health insurance risk is the risk of unexpected losses due to changes in the level, trend or volatility of mortality, longevity, disability and surrender/ lapse rates. The largest life insurance risks for NLP group are lapse risk and longevity risk. Lapse risk is the most significant life insurance risk for all NLP entities.

Lapse risk is primarily caused by unit-linked savings products and risk products, where the present value of future profits contributes positively to own funds under Solvency II.

Longevity risk is the second most important insurance risk and relates to the risk of stronger longevity improvement than anticipated in technical provisions. Main exposures to longevity risks originate from participating savings products, while there is no material longevity risk attached to unit-linked savings products.

Risk and capital management

Capital management

Managing the solvency position

NLP is regulated under Solvency II. The solvency position is calculated according to the Solvency II standard formula. The calculation of the solvency position makes use of permanent adjustments and transitional measures. Their impacts are calculated, monitored and reported on an ongoing basis to ensure full transparency of the reliefs they provide and to consider their effect in management decisions.

NLP's Risk Appetite Framework and capital policy set a solvency ratio limit above which NLP aims to operate. The solvency ratio limit is set well above the regulatory limit of 100%. This reflects NLP's decision to manage the business by defining a required buffer on top of the 100% regulatory solvency ratio as protection against volatility in the Solvency II balance sheet. This ensures that capital management can be performed in a planned and structured way rather than by inefficient ad-hoc measures.

Economic capital(EC)

NLP is included in the Nordea EC framework.

Financial buffers

For participating savings products, the financial buffers express the ability of NLP to generate stable returns for policyholders. NLP maintains sufficient financial buffers and effectively secure stable returns. For NLP's shareholder, Nordea, this represents P&L protection against insufficient returns on their investment.

Continuous monitoring and risk mitigation

Market risk

Market risk and its risk sub-types are measured and monitored through calculations of the Solvency II capital requirements and investment limits for risky exposures. In addition, NLP regularly performs stress tests with standalone equity and interest rate shocks and a combined shock. NLP also performs more specific macroeconomic scenarios to assess the need for future capitalisation.

The results of stress tests and scenario analyses are monitored against limits and targets prescribed by the NLP Capital Policy.

Market risk is mitigated by applying hedging and asset allocation strategies.

Life & health insurance risk

Lapse and longevity risks are measured and monitored through calculations of the Solvency II capital requirements.

To assess the resilience of the business to sudden changes in the lapse rate, a regular sensitivity test is performed at NLP group and local entity level. As lapse risk is linked to the behaviour of policy holders, it is mitigated through ensuring that NLP offers products which are attractive, competitive and meet customer needs.

Longevity risk is primarily controlled through adequate product pricing and adjusting life parameters for trends and life expectancy. The vast majority of longevity risk is attached to products no longer in sale. Mortality rates and life expectancies are updated and benchmarked annually

Risk terminology and measures

Advanced IRB (AIRB) approach
Nordea uses the AIRB approach to estimate and validate Probability of Default (PD), Loss Given Default (LGD) and Credit Conversion Factor (CCF) parameters for exposures to corporate customers in the Nordic countries and in the International units. This includes exposures towards rated SMEs and specialised lending.

Compliance risk
The risk of failure to comply with statutes, laws, regulations, business principles, rules of conduct, good business practices, and related internal rules governing Nordea's activities subject to authorisation in any jurisdiction where Nordea operates.

Comprehensive Risk Charge (CRC)
CRC captures risks related to positions in credit correlation products, covering structured credit trading operations. This includes the risk of losses due to credit migration or default of issuers of tradable debt and other risk factors specifically relevant for correlation products.

Concentration risk
The risk of losses arising due to concentrations in the exposures of the credit portfolio, e.g. when the portfolio is largely exposed to a few individual borrowers.

Correlation risk
The risk arising from a disparity between the estimated and actual correlation between two assets, currencies, derivatives, instruments or markets.

Counterparty credit risk
Counterparty credit risk is the risk that Nordea's counterpart in an FX, interest, equity, credit or commodity derivative contract defaults prior to maturity of the contract and that Nordea at that time has a claim on the counterpart. In addition, counterparty credit risk also appears in repurchasing agreements and other securities financing contracts.

Credit risk
The risk for potential loss due to failure of a borrower to meet their obligations to clear a debt in accordance with agreed terms and conditions. Credit risk also includes counterparty credit risk, transfer risk and settlement risk.

Default risk
The risk that a counterparty is unable to make the required payments on their debt obligations.

Expected exposure
The Expected Exposure is the expected average exposure on a future target date conditional on positive market values. Expected exposure is calculated for Internal Model Method (IMM) approved contracts by simulating a large set of future scenarios for the underlying price factors and then revaluating the contracts in each scenario at different time horizons. In these calculations, netting is done of the exposure on contracts within the same legally enforceable netting agreement

Foreign exchange (FX) risk
FX risk concerns the market risk due to changes in foreign exchange rates.

General Wrong Way Risk (GWWR)
GWWR occurs when the trade position is affected by factors like interest rates, inflation, or political tension in a particular region and most often appears on portfolio level.

Incremental Risk Charge (IRC)
IRC measures the risk of losses due to credit migration or defaults of issuers of tradable debt in bond and credit derivative positions held in the trading book

Life & health insurance risk
Life & health insurance risk is the risk of unexpected losses due to changes in the level, trend or volatility of mortality, longevity, disability and surrender/ lapse rates.

Interest rate risk
The risk that the value of a position will change due to a change in the absolute level of interest rates, in the spread between two rates, in the shape of the yield curve, or in any other interest rate relationship.

Internal Model Method (IMM)
IMM exposure is calculated by simulating a large set of future scenarios for underlying price factors and then revaluing the contracts in each scenario at different time horizons. In these calculations, netting is done of the exposure on contracts within the same legally enforceable netting agreement. Nordea uses a stressed calibration of the IMM for calculation of the counterparty credit risk exposures. Under the IMM approach, simulated exposure is subject to a regulatory multiplier of 1.4 to reflect the potential for correlation in risk across the portfolio. Nordea has approval to use the Internal Model Method (IMM) to calculate the regulatory counterparty credit risk exposures in accordance with the credit risk framework in the Capital Requirements Regulation (CRR). The method is used for standard FX and interest rate products which constitute the predominant share of the exposure.

Internal Ratings Based approach (IRB)
A set of credit risk measurement techniques used to calculate required regulatory capital.

Key Risk Indicators
A set of indicators capturing main risks in Nordea.

Legal risk
The risk arising from the uncertainty of legal proceedings, such as bankruptcy, and potential legal proceedings.

Liquidity risk
Liquidity risk is the risk that Nordea is unable to service its cash flow obligations when they fall due; or unable to meet its cash flow obligations without incurring significant additional funding costs.

Market risk
Market risk is defined as the risk of loss in the Group's holdings and transactions as a result of changes in risk factors that affect the market value of these positions, for example changes in interest rates, credit spreads, FX rates or share prices.

Mark to Market Method
For the part of the portfolio not covered by IMM, Nordea uses the Mark to Market method for calculating the regulatory exposure, which is essentially the sum of current net exposure and potential future exposure. The potential future exposure is an estimate reflecting possible changes in the future market value of the individual contract during the remaining life of the contract and is measured as the notional principal amount multiplied by an add-on factor. The size of the CRR add-on factor, depends on the contracts' underlying asset and time to maturity

Model risk
Risk related to the underestimation of own funds requirements by regulatory approved models as well as direct or indirect losses relating to the formulation, implementation or application of models used for decision-making.

Operational risk
Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events, and includes legal risk.

Pension risk
The risk that Nordea-sponsored defined benefit pension plans become underfunded.

Point-in-Time (PIT) methodology
Used for model calibration. A PIT rating system uses all currently available obligor-specific and aggregate information to assign obligors to risk grades. In a PIT rating system, an obligor's rating is expected to change as its economic prospects change.

Probability of Default (PD)
The likelihood that a loan will not be repaid and will fall into default.

Rating model
A rating model employs a set of specified and distinct rating criteria to produce a rating. These are called input factors and are, together with the criteria for assigning a customer to a specific rating model, the fundamental building blocks of a rating model. Typical input factors are financial factors, customer factors and qualitative factors.

Recovery rate risk
The risk that following a default, contracts of the defaulting entity cannot be honoured in full, thereby leading to financial loss to Nordea.

Reputational risk
The risk of damage to trust in Nordea from our customers, employees, authorities, investors, partners and general public with the potential for adverse economic impact.

Retail IRB (RIRB) approach
A set of credit risk measurement techniques used to calculate required regulatory capital. Nordea uses the Retail IRB (RIRB) approach to estimate and validate PD, LGD and CCF parameters for exposures to retail customers for Nordea's Nordic customers and in Nordea's mortgage companies, as well as in Nordea Finance Finland

Risk appetite
The risk appetite within Nordea is defined as the aggregate level and types of risk Nordea is willing to assume within its risk capacity, and in line with its business model, to achieve its strategic objectives.

Risk capacity
Nordea's risk capacity is defined as the maximum lev
el of risk Nordea is deemed able to assume given its capital, its risk management and control capabilities, and its regulatory constraints. Risk capacity is set in line with Nordea's capital position, including an appropriate shock absorbing capacity.

Risk Exposure Amount (REA)
Nordea's assets or off-balance sheet exposures, weighted according to risk. REA is used to determine the minimum amount of required requlatory capital.

Risk grade
Risk grade is calculated based on the customer's behaviour on all accounts/products including potential joint commitments. The corresponding Risk Grade is assigned across all of the customer's facilities in Nordea.

Settlement risk
Settlement risk is a type of risk arising during the process of settling a contract or executing a payment. The risk amount is the principal of the transaction, and a loss could occur if a counterpart was to default after Nordea has given irrevocable instructions for a transfer of a principal amount or security, but before receipt of the corresponding payment or security.

Specific Wrong Way Risk (SWWR)
The risk arising due to the future exposure to a specific counterparty being positively correlated with the counterparty's PD due to the nature of the contracts with the counterparty.

Stressed Value at Risk (Stressed VaR)
Whereas the VaR is based on data from the last 500 days, stressed VaR is based on a specific 250-day period with considerable stress in financial markets.

Structural Foreign Exchange (FX) risk
Structural FX risk arises from the mismatch in currency composition between assets and capital. The mismatch creates volatility in capital ratios from the revaluation of foreign currency assets and capital to EUR.

Structural Interest Income Risk (SIIR)
SIIR is the amount by which Nordea's accumulated net interest income would change during the next 12 months if all interest rates were to change by 50 basis points. SIIR reflects mismatches in balance sheet and off-balance sheet items due to differences in the interest rate repricing periods, volumes or reference rates of assets, liabilities and derivatives.

Survival horizon
The Survival Horizon is a short-term measure describing the excess of liquid assets compared to net funding requirement on a 30-day horizon.

Tail risk
Risks with low probability that have the potential to result in severe impact.

Third Party Risk
The risk of adverse impact from a dependent resource to a primary supplier or service provider.

Through-The-Cycle (TTC)
For a TTC rating system, the distribution of ratings across obligors will not change significantly over the business cycle, and an obligor's rating is expected to change only when its own dynamic characteristics change.

Transfer risk
The risk that a local currency cannot be converted into the currency that a debt is denominated in.

Value at Risk (VaR)
VaR measures the expected maximum loss on a portfolio over a given time horizon with a given confidence interval under normal market conditions.

Abbreviations

ABCP	Asset-Backed Commercial Paper
ADF	Actual Default Frequency
AIRB	Advanced Internal Ratings Based approach
ALCO	Asset and Liability Committee
ALM	Asset and Liability Management
AR	Annual Report
ASF	Available Stable Funding
AT1	Additional Tier 1
AUM	Assets under management
AVA	Additional valuation adjustment
BA	Business Areas
BAC	Board Audit Committee
BCBS	Basel Committee on Banking Supervision
BI	Business Indicator
BOCC	Board Operations and Compliance Committee
BoD	Board of Directors
BRC	Board Remuneration Committee
BRIC	Board Risk Committee
BRRD	Bank Recovery and Resolution Directive
CCF	Credit Conversion Factor
CCO	Chief Credit Officer
CCoB	Capital Conservation Buffer
CCP	Central Counterparties
CCR	Counterparty Credit Risk
CCY	Currency
CCyB	Countercyclical Capital Buffer
CDO	Collateralised debt obligation
CEM	Current Exposure Method
CEO	Chief Executive Officer
CET1	Common Equity Tier 1
CIRA	Compliance Independent Risk Assessment
CIU	Collective Investment Undertakings
CLN	Credit-Linked Notes
CLS	Continuous Linked Settlement
CO	Compliance Officer
COO	Chief Operating Officer
COO	Chief Operating Officer
CRD	Capital Requirements Directive
CRM	Comprehensive Risk Measure
CRMA	Change Risk Management and Approval Process
CRO	Chief Risk Officer
CRR	Capital Requirements Regulation
CRU	Customer Responsible Unit
CVA	Credit Value Adjustment
EAD	Exposure At Default
EBA	European Banking Authority
EC	Economic Capital
ECAI	External Credit Assessment Institutions
EL	Expected loss
EP	Economic Profit
ESA	European Financial Supervisory Authority
ESG	Environment Social Governance
EU	European Union
EV	Economic Value
FICC	Fixed Income, Currencies and Commodities
FIRB	Foundation Internal Ratings Based approach
FRTB	Fundamental Review of the Trading Book
FSA	Financial Supervisory Authority
FSB	Financial Stability Board
FX	Foreign exchange
GCO	Group Compliance Officer
GCRC	Group Credit Risk and Control
GCRM	Group Credit Risk Management
GC	Group Compliance
GDP	Gross Domestic Product
GEM	Group Executive Management
GF	Group Functions
GFF	Group Financial Forecast
GIA	Group Internal Audit
GICS	Global Industries Classification Standard
GMCCR	Group Market and Counterparty Credit Risk
GOR	Group Operational Risk
GRMC	Group Risk Management & Control
G-SIB	Global Systemically Important Bank
G-SII	Global Systemically Important Institution
GWWR	General Wrong-Way Risk
ICAAP	Internal Capital Adequacy Assessment Process
ICR	Internal capital requirement
IFRS	International Financial Reporting Standard
ILAAP	Internal Liquidity Adequacy Assessment Process
ILAAP	Internal Liquidity Adequacy Assessment
IMM	Internal Model Method
IRB	Internal Ratings Based approach
IRM	Incremental Risk Measur
KRI	Key Risk Indicator
LCR	Liquidity Coverage Ratio
LGD	Loss given default
LoD	Line of Defense
LTC	Loan-to-collateral
LTV	Loan-to-value
MDA	Minimum Distributable Amount
NBSF	Net balance of stable funding
NII	Net Interest Income
NLP	Nordea Life & Pensions
NSFR	Net Stable Funding Ratio
ORX	Operational Riskdata eXchange Association
O-SII	Other systemically important institutions
OTC	Over-the-counter
P/L	Profit and loss
P2G	Pillar 2 Guidance
P2R	Pillar 2 Requirement
PD	Probability of default
PIT	Point-in-time
QCCP	Qualitied Central Counterparty
QRA	Quality and Risk Analysis
RAF	Risk Appetite Framework
RAS	Risk Appetite Framework
RCSA	Risk and Control Self-Assessment
REA	Risk Exposure Amount
RiMO	Risk Models
RIRB	Retail Internal Ratings Based approach
ROCAR	Risk on Capital at Risk
RSF	Required Stable Funding
S&P	Standard & Poor's
SA	Standardised approach
SCRA	Specific Credit Risk Adjustment
SFSA	Swedish FSA
SFT	Securities Financing Transactions
SII	Systemically Important Institutions

SIIR	Structural Interest Income Risk
SMA	Standardised Measurement approach
SME	Small and Medium-sized Enterprises
SNDO	Swedish National Debt Office
SPE	Special Purpose Entity
SRB	Systemic Risk Buffer
SREP	Supervisory Review and Evaluation Process
sVaR	Stressed Value-at-Risk
SWWR	Specific Wrong-Way risk
T2	Tier 2
TALM	Group Treasury & ALM
TLAC	Total Loss Absorbing Capacity
TMTP	Transitional Method for Technical Provisions
TPRM	Third Party Risk Management
TTC	Through-the-cycle
VA	Volatility Adjustment
VaR	Value-at-Risk
VCF	Value Creation Framework