

# **SpareBank 1 Boligkreditt AS**

## **Pillar 3 – Risk and Capital Management**

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Report as of 30.06.2020

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# 1. The Capital Adequacy Rules

## 1.1 Introduction to the capital adequacy rules

The Norwegian capital adequacy regulation is implemented according to EU's directive CRR 575/2013.

The purpose of the rules is to strengthen financial market stability through:

- A more risk sensitive capital requirement
- Better risk- and control management
- Closer supervision
- Enhanced market information

The capital adequacy rules are based on three Pillars:

**Pillar 1:** Minimum requirement for capital

**Pillar 2:** covers the consideration of whether additional capital is required over and above the Pillar 1 risk calculations. A banks's own internal models and assessments support this process

**Pillar 3:** covers external communication of risk and capital information by banks as specified in the Basel rules to promote transparency and good risk management

## 2. Pillar I: Minimum requirement for capital

### 2.1 Calculation methods

Within Pillar 1 different methods are described which banks and credit institutions can deploy in order to calculate their required capital. These methods are listed in Figure 1 below.

**Figure 1: Alternative methods for calculating the minimum required capital**

Credit Risk	Market Risk	Operational Risk
Standardised Approach	Standardised Approach	Standardised Approach
Foundation IRB *)	Advanced IRB *)	Basic Indicator Approach
Advanced IRB *)		Advanced measurement (AMA) *)

\*) Requires approval from the Norwegian FSA (Finanstilsynet)

The minimum requirement for capital (hereafter called regulatory capital) is 8% of the risk weighted assets (the basis for calculation). In addition there are buffer requirements of 6,5% as of June 30, 2020. In principle there are two different approaches with regards to the calculation of the required capital according to the capital adequacy rules. On the one hand there is the approach based on a standard calculation and on the other there is the possibility to develop and use internal models. When deploying internal models the minimum capital requirement is based on a bank's own assessment of its risk. This makes the capital requirement more risk-sensitive, which means that the capital requirement to a higher degree is correlated to the bank's portfolio and/or activities. The use of internal models must be approved in advance by the regulatory authorities.

SpareBank 1 Boligkreditt has been allowed to use its internal assessment when quantifying credit risk (IRB). The Company is approved for the use of IRB for the mass market (advanced IRB). This means that the legally required minimum capital will be based on the Company's internal risk models.

When calculating the capital requirement according to IRB for the mass market, proprietary models are used for the assessment of the riskparameters probability of default (PD), conversion factor (CF) used to estimate the exposure at default and the loss given default (LGD).

**Table 1: SpareBank 1 Boligkreditt's methods for the calculation of minimum required capital**

Risk Type	Portfolio/Segment	Regulatory Calculation Method
Credit Risk	Sovereign	Standardised Approach
	Institutions	Standardised Approach
	Retail Mortgage	Advanced IRB
Market Risk	Equity	Standardised Approach
	Debt	Standardised Approach
	Currency	Standardised Approach
Operational Risk	SpareBank 1 Boligkreditt AS	Standardised Approach

## **2.2 Regulatory capital adequacy**

The Company has a minimum target for core equity capital (CET1) of 12.3% for 2020 included Pillar 2 and managementbuffer. Further the Company has set at target for the core capital and the total capital ratio of minimum 13.8% and 15,8%. The reason for the minimum requirements is to ensure compliance with the regulatory minimum requirements as of June 30, 2020.

The minimum requirement for capital (8%) totaled NOK 4.6 bn at the end of the second quarter 2020. As per the second quarter 2020 the Company has a core equity capital of NOK 10.7 bn, a core capital of NOK 11.9 bn and a total capital of NOK 13.3 bn. The core capital coverage is 19.2%.

The table below presents the details of the Company's regulatory capital as of June 30, 2020

**Table 2: Capital Adequacy as of June 30, 2020**

<b>Capital, NOK 1 000</b>	<b>30.06.2020</b>	<b>30.06.2019</b>	<b>2019</b>
Share capital	7 610 548	7 610 548	7 610 548
Premium share fund	3 807 922	3 807 922	3 807 922
Other equity capital	-328 033	-434 476	-317 602
Common equity	11 090 438	10 983 994	11 100 868
Intangible assets	-223	-543	-379
Declared share dividend	-	-	-90 566
100% deduction of expected losses exceeding loss provisions IRB (CRD IV)	-367 362	-371 400	-420 879
Prudent valuation adjustment (AVA)	-16 864	-20 761	-16 639
Deferred taxes	-	-	-
<b>Core equity capital</b>	<b>10 705 989</b>	<b>10 591 290</b>	<b>10 572 406</b>
Hybrid bond	1 180 000	1 180 000	1 180 000
<b>Tier 1 equity capital</b>	<b>11 885 989</b>	<b>11 771 290</b>	<b>11 752 406</b>
Supplementary capital (Tier 2)	1 425 000	1 425 000	1 425 000
<b>Total capital</b>	<b>13 310 989</b>	<b>13 196 290</b>	<b>13 177 406</b>
<b>Minimum requirements for capital, NOK 1 000</b>	<b>30.06.2020</b>	<b>30.06.2019</b>	<b>2019</b>
Credit risk	3 871 006	3 600 987	3 711 268
Market risk	-	-	-
Operational risk	59 537	58 499	59 537
Depreciation on groups of loans	-	-	-
CVA Risk	531 073	357 423	329 561
Difference in capital requirement resulting from transitional floor	-	2 317 645	-
<b>Minimum requirement for capital</b>	<b>4 561 616</b>	<b>6 334 555</b>	<b>4 100 367</b>
<b>Capital coverage</b>	<b>30.06.2020</b>	<b>30.06.2019</b>	<b>2019</b>
Risk-weighted assets incl. transitional floor*	55 770 199	79 181 933	51 254 583
Capital coverage (requirement w/all buffers, 15.4%)	23,87 %	16,67 %	25,71 %
Tier 1 capital coverage (requirement w/all buffers, 13.4%)	21,31 %	14,87 %	22,93 %
Core capital coverage (requirement w/all buffers, 11.9%)	19,20 %	13,38 %	20,63 %
Leverage ratio (requirement 3.0%)	4,62 %	4,97 %	5,05 %

\* The EU capital adequacy framework (CRR/CRDIV) was incorporated into Norwegian law with effect from 31 December 2019 and the transitional floor for risk weighted assets was accordingly removed at the same time.

## 2.3 Leverage ratio

Basel III's leverage ratio is defined as the "capital measure" (the numerator) divided by the "exposure measure" (the denominator) and is expressed as a percentage. The capital measure is currently defined as Tier 1 capital and the minimum leverage ratio is 3% for Sparebank 1 Boligkreditt.

The Company's Leverage ratio as of June 30, 2020 was 4.62%

### **3. Pillar II: SpareBank 1 Boligkredit's internal risk and capital assessment process**

Pillar 2 is based on two main principles. Banks are to develop a process which evaluates their total capital requirement in light of their risk profile, and a strategy to maintain the capital level. The regulatory authorities are to assess and evaluate the banks' internal assessments and strategies. In addition the regulatory authorities shall monitor and safeguard that the regulatory capital levels are met. The regulatory authorities must require appropriate action by the banks if they are not satisfied by the results of this process.

In SpareBank 1 Boligkredit's internal risk and capital assessment process all material components of risk are quantified through calculations of expected loss and the need for risk adjusted capital in order to absorb such losses. The expected loss describes the amount which is the statistically expected loss within a period of 12 months. Risk adjusted capital describes how much capital, in the opinion of the Company, is needed to cover the actual risk exposure.

Because it is impossible to guard against all forms of loss the Company has decided that the risk adjusted capital will cover 99.9% of all possible unexpected losses<sup>1</sup>.

When calculating risk adjusted capital at the end of the second quarter 2020 these areas of risk are covered

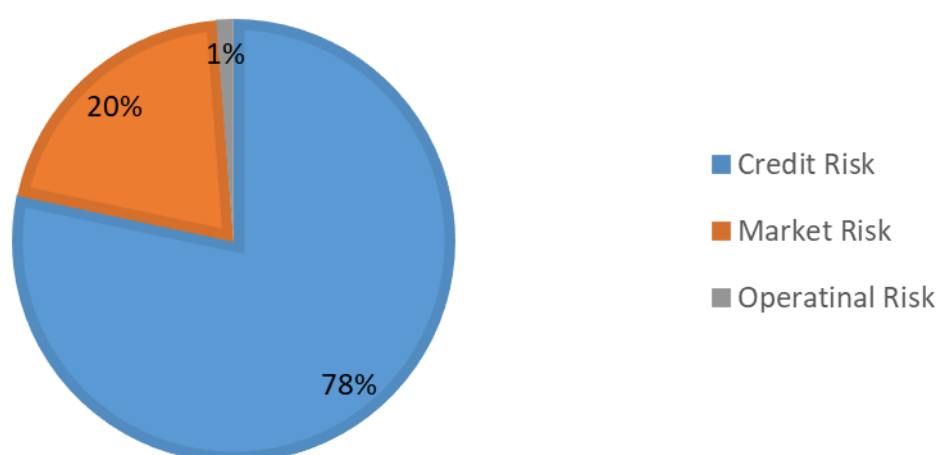
- Credit risk
- Market risk
- Operational risk

The pie chart below illustrates the distribution of risk in SpareBank 1 Boligkredit based on the need for risk adjusted capital as of 30.06.2020

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<sup>1</sup> Unexpected losses (UL) refers to a certain amount of losses for which capital should be held by the institution. SpareBank 1 Boligkredit uses a confidence level of 99.97 %; hence the UL expresses the maximum loss within a 12 months period at a confidence level of 99.97 %. Unexpected losses are calculated using the institutions own quantitative models for PD (probability of default), EAD (exposure at default), LGD (loss given default) and other parameters required for calculating potential losses.

**Figure 2: The distribution of risk adjusted capital**



The chart illustrates that the largest risk component is credit risk which represents 78% of the aggregated need for capital. The second largest category is market risk at 20%.

### **3.1 The purpose of risk and capital management**

SpareBank 1 Boligkreditt is an institution which acquires residential mortgage loans from the banks in the SpareBank 1 Alliance. This activity is financed mainly by the issuance of covered bonds. As a result, the Company is obligated to comply with the Norwegian covered bond legislation and associated regulations and the demands these places on the risk exposure of the Company. In addition the Company desires to maintain a Aaa/AAA rating from Moody's on its issued covered bonds, and this also results in a high degree of focus and attention to risk management and a low risk exposure profile.

The purpose of the risk and capital management in SpareBank 1 Boligkreditt is to ensure a satisfactory capital level and an appropriate management of assets in accordance with the Company's statutes, strategy and risk profile. This is ensured through an adequate process for risk management and planning and evaluation of the Company's funding and capital level.

The Norwegian covered bond legislation limits the cover pool assets. In addition there are regulations and self-imposed rules which exist to ensure the Company's ability to survive a stressed market situation. The EU harmonization of covered bond regulation in Europe which is due to be implemented requires at minimum that 180 days of future outgoing known cash flows are covered by liquidity in the cover pool.

In accordance with the covered bond legislation it is not the Management's opinion that it is useful to differentiate between the risk management of the cover pool and other risk aspects within the Company. The risk exposure limitations for SpareBank 1 Boligkreditt are therefore covering both aspects (cover pool and other risk elements in the Company).



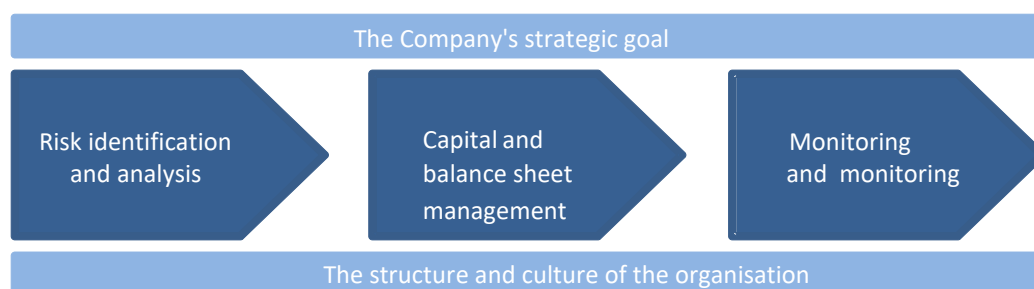
The Company's risk- and capital management are to be pursued according to best practices. This is achieved through:

- A strong risk culture which is characterised by a high consciousness regarding risk assessment and control
- A competent team which pursues risk assessment and control
- A thorough understanding of which material risks the Company is exposed to

## 3.2 The process of risk and capital management

In order to ensure an effective and appropriate process for risk and capital management a framework based on the different factors which the Management and the Board of Directors deploys to run the business has been developed. The main elements of this are illustrated in the figure below.

**Figure 3: The main elements in SpareBank 1 Boligkreditt's risk- and capital management process**



### 3.2.1 The Company's strategic goal

SpareBank 1 Boligkreditt's purpose is to contribute to the funding task of its parent banks, in particular to channel more cost effective funding to the parent banks than these would otherwise achieve by themselves. The Company seeks to achieve this goal by acquiring residential mortgage loans from its parent banks and to finance this activity through the issuance of covered bonds in the Norwegian and international debt capital markets.

### 3.2.2 Risk identification and analysis

SpareBank 1 Boligkreditt continually monitors its risk exposure within the most important categories of risk. Credit risk, interest rate risk, currency risk and liquidity risk are monitored and reviewed on a minimum monthly basis by the Company's risk manager. The internal auditor evaluates the Company's systems for management and control of the aforementioned types of risk at a minimum annual frequency.

### **3.2.3 Capital and balance sheet management**

SpareBank 1 Boligkreditt's growth of its assets is a function of the parent banks' requests to sell residential mortgage loans to the Company and Boligkreditt's ability to finance such purchases through issuance of new covered bonds. The planning and management of the Company's equity capital is an inherent part of the annual budget- and strategy process. The Company has a goal of minimum core capital coverage of minimum 12.3% (Based on Pillar I, Pillar II and a management buffer).

In connection with the Company's procurement of residential mortgage loans which adds to the overall size of Boligkreditt's balance sheet, management will ensure that the targeted capital need is met ahead of such an increase. If a need arises, Boligkreditt will call in additional capital in the form of additional common equity from the parent banks or other subordinated or hybrid capital from the market. Further growth in Boligkreditt's balance sheet (other than mortgage loan purchases) may only take place as a result of customer withdrawal of funds from committed lines of credit (flexible mortgage loans).

The Company is in a unique situation because the equity capital holders are the same institutions which sell the mortgage loans to the Company. This provides Boligkreditt with the opportunity to execute capital raisings in parallel to the acquisition of mortgage loans and without execution risk.

The Shareholders' Agreement amongst the shareholders in SpareBank 1 Boligkreditt and the Transfer and Servicing Agreement between the Company and the parent banks sets out the process for the calling in of new equity capital in detail.

In evaluating the targeted core capital for the future several factors have been considered, including the need for capital in connection with losses (none have occurred since the start-up of the Company and as of June 30, 2020), changing methods for calculating capital, trends in the capital requirements in European banks and the assessment of the credit rating agencies.

### **3.2.4 Reporting and review**

The Company's risk reporting and management is an integrated part of the Company's processes and regular reporting to its Board of Directors. Risk monitoring is formally the responsibility of the Company's Risk Manager in cooperation with the Analyst for market monitoring. The Risk Manager reports directly to both the CEO and the Board of Directors.

Internal reports are prepared weekly and in them the development in the Company's balance sheet and its risk exposure is analyzed. The Board of Directors are at each meeting presented with a report on risk and the degree of risk exposure in relation to the limits which have been approved by the Board.

SpareBank 1 Boligkreditt's risk management principles, reports and framework for risk exposure is in line and according to the credit rating agencies' and the Norwegian legislation's requirements. The Company's statutes and management guidelines are characterized by cautiousness and a high degree of diligent risk management.

Yearly the Company does an assessment regarding capital adequacy, liquidity adequacy and recovery plan (ICAAP/ ILAAP/recovery plan). The Board of Directors are responsible for this process. The Risk Manager is responsible for documenting the ICAAP – process, which includes ILAAP and recovery plan, and presenting this documentation to the Board of Directors. The Internal auditor is responsible for the independent assessment of the Company's ICAAP.

Yearly the Company also does an assessment regarding the internal control. All leaders report status on their area of responsibility. In addition, a workshop is carried out to discuss and consider risks the Company has.

### 3.2.5 Organization and organizational culture

#### 3.2.5.1 Organizational culture

SpareBank 1 Boligkreditt wants to maintain a strong organizational culture which is characterized by a high degree of risk management. The organizational culture includes management principles and the people within the organization and their individual abilities and values such as integrity and ethical values. The human capital is the foundation of the Company, and without an effective team of people SpareBank 1 Boligkreditt has not the ability to offer a marketable investment product. SpareBank 1 Boligkreditt will create value for investors and owners through the development of effective people with the right values.

#### 3.2.5.2 Organization

SpareBank 1 Boligkreditt is focused on independence in management and control and the responsibilities are divided between various parties in the organization:

**The Board of Directors** decides the main principles for the risk management and the capital adequacy, including determining limits, guidelines and targets for return on investment. The Board also has the responsibility for overseeing that the Company maintains equity capital which is in line and according to the risk profile and the regulatory demands. The Board is therefore responsible for a minimum annual evaluation of the capital assessment process (ICAAP). All models and methods which is a part of ICAAP have been approved by the Board. The Board has also approved regulatory targets for the capital requirement.

**The Chief Executive Officer** is responsible for the day-to-day management of the Company's business in line with legal requirements, statutes, powers of attorney and instructions from the Board. Matters which according to the nature of the Company's business are unusual or are of a material significance are presented to the Board of Directors. The CEO may approve such a matter if the Board delegated such approval authority. The CEO is responsible for implementing the Company's business strategy and, in coordination with the Board, to evolve such strategy. The CEO reports to the Board on all matters of the Company's business, market position and financial results development at each meeting of the Board of Directors.

**Risk Manager** reports directly to both the CEO and the Board of Directors. The Risk Manager maintains the responsibility of the development of the framework for risk management, including risk models and risk management systems. The position of Risk Manager is also responsible for the independent monitoring and analysis of the risk exposure, and that the Company operates in accordance with relevant legal and regulatory demands. The Risk Manager works closely together with SpareBank 1's centre for development of risk models, which is based within SpareBank 1 SR-Bank. The competency centre's responsibility is to develop and test credit models according to international best practices.

**Head of Legal** is responsible for compliance and reports directly to CEO. This responsibility includes establishing independent controls and supervise that the Company is compliant with laws and regulations.

**The Balance Sheet Committee** is an advisory body related to implementing operationally the framework which has been established by the Board of Directors. The committee is an important advisory body for the management of the Company's liquidity risk. The committee is lead by the CEO and consists of the Chief Financial Officers of each of the largest parent banks and one representative from the group of smaller parent banks (Samspar).

**The Investment Committee** is an advisory body which evaluates country risk, counterparty risk and the asset allocation of the liquidity portfolio. The committee is lead by the CEO and the other members are the Director for Finance and the Director for Asset-Liability Management. The CEO has been given a power of attorney from the Board which enables him or her to make decisions regarding credit risk limits for counterparties and for individual securities.

Two independent bodies exercise monitoring for compliance purposes:

**Internal Auditor** monitors that the risk management processes are fit for purpose, effective and functions as intended. The Company's internal auditor is KPMG. The Internal Auditor reports to the Board of Directors. The Internal Auditor's reports and possible recommendations regarding improvements in the Company's risk management is continuously reviewed by Boligkredit's management.

**The External Auditor's** main task is to assess whether the Company's annual accounts are presented in accordance with relevant laws and regulations. The External Auditor also assesses whether the management of the Company and its assets is adequate. The External Auditor is PWC.

## 3.3 Risk Exposure

### 3.3.1 Credit risk

Credit risk is the risk of loss which could occur as a result of that the Company's customers or counterparties do not have the ability or willingness to meet their obligations to the Company. Credit risk is managed through the Company's credit policy. The credit policy is evaluated and approved by the Board of Directors at least annually.

Credit risk is mainly inherent in the portfolio of residential mortgages which the Company has acquired from its parent banks. These are residential mortgages which have been originated in accordance with the credit approval processes common to all the SpareBank 1 Alliance banks. Strict legal criteria must be met for mortgage loans which are to form part of a cover pool securing the issuance of covered bonds. SpareBank 1 Boligkreditt in addition has its own internal rules which extends and narrows the legal demands placed on the type of mortgages loans which may be part of cover pool assets. The following list includes the key demands which the Company requires each mortgage loan to meet before being approved for purchase:

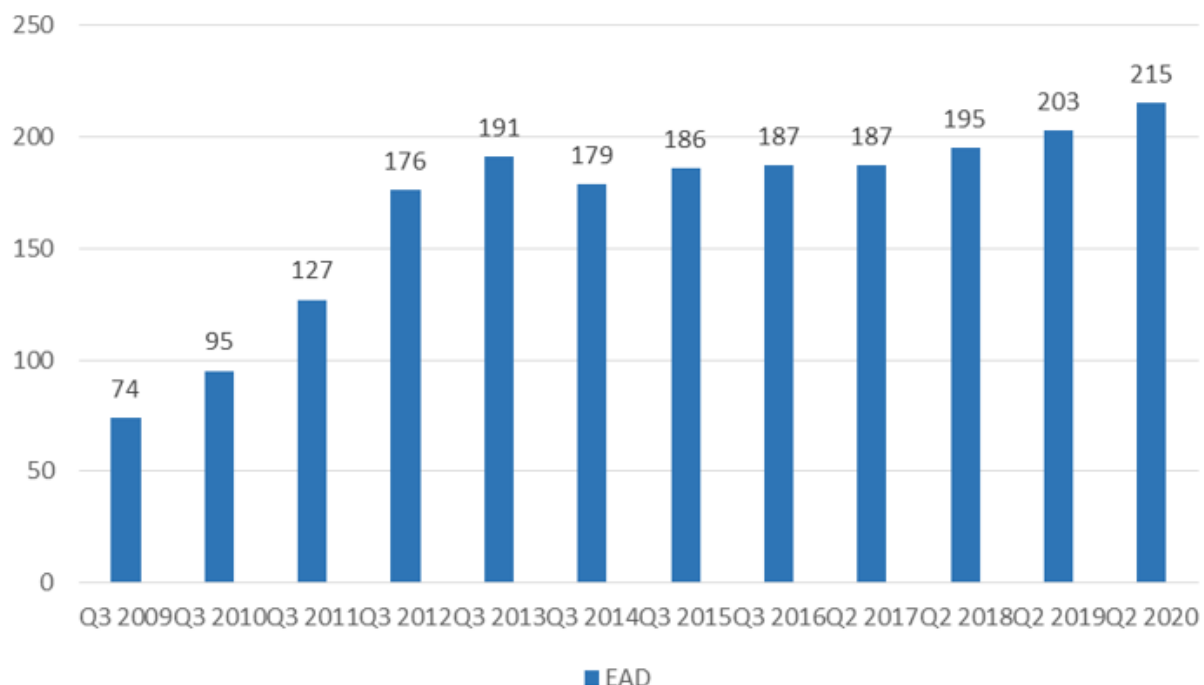
- First lien mortgage
- Maximum loan to value (LTV) of 75% for amortising mortgages
- Maximum loan to value (LTV) of 60% for revolving credits (flexible loans).
- Only owner-occupied residential housing (i.e. no housing associations mortgages, mortgages for leisure properties or buy to let mortgages)
- The assessment of property value is within the previous 24 months
- No payment remarks (past due or over the limit for overdrafts) in the last 12 months<sup>2</sup>
- Acceptance of A-F scored mortgage loans only (internal PD model )

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<sup>2</sup> No past due or over the limit overdrafts above NOK 1,000 for more than 10 days

At the end of the second quarter 2020 the overall lending to customers (retail mortgage loans) totalled NOK 202 bn. Measured as Exposure at Default the portfolio is NOK 215 bn. The chart below illustrates the development of the Company's lending volume (EAD) since March 2009.

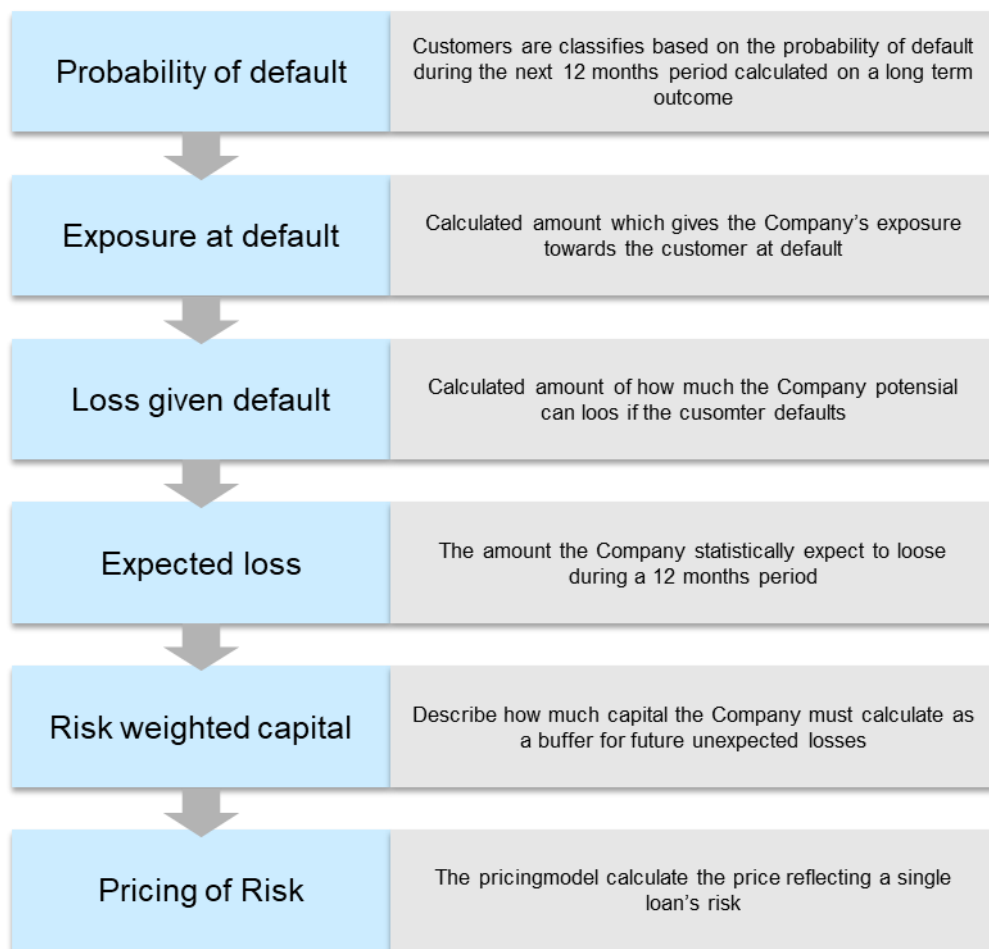
**Figure 4: Historical development in lending volume, exposure at default (EAD) in NOK bn:**



The above chart illustrates that the Company has had growth in its assets over the previous years. Expected yearly growth is 5%. So far in 2020 the growth has been more mainly due to greater uncertainty regarding the marketsituation caused by Covid-19. Expected growth in 2020 is 9%.

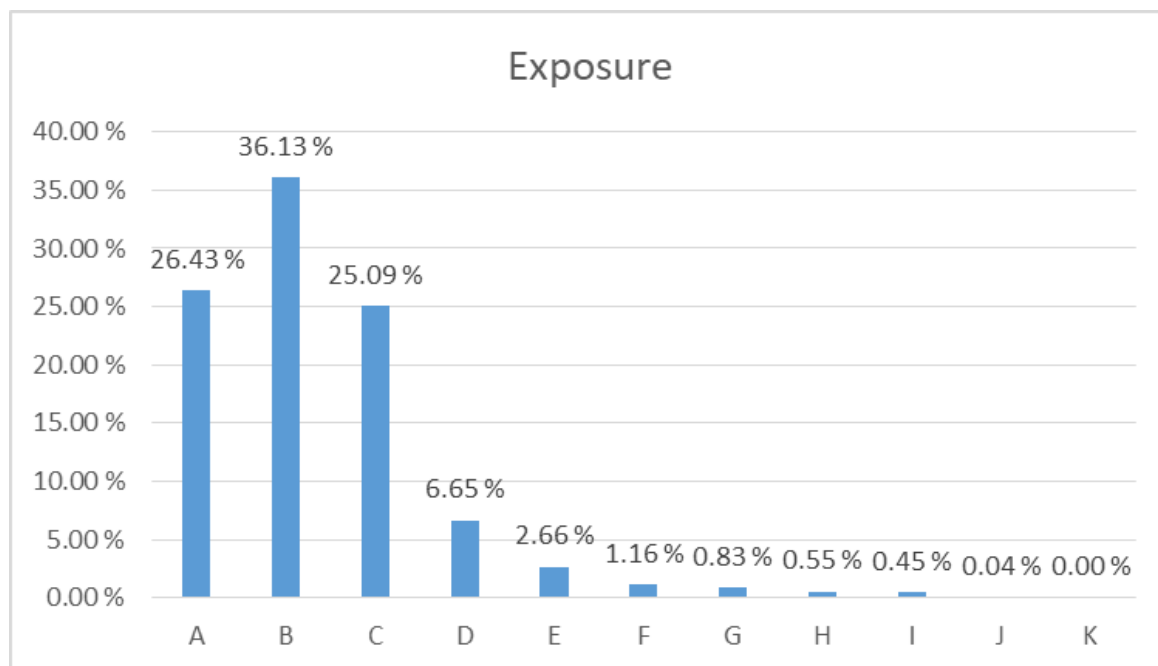
Models used by Sparebank Boligkreditt is common for the Sparebank 1-alliance and is based on the main components shown below:

**Figure 5: Riskclassification system**



Despite a marked increase in lending volume the portfolio of mortgage loans have been stable over time. The credit quality is ensured through the Company's process for qualifying mortgage loans before buying them and in the high quality of the SpareBank 1 Alliance originating and underwriting process. The risk metrics of the portfolio is updated and monitored monthly. The Figure below shows the distribution of the mortgage portfolio (EAD) over Risk Class A through I. Risk Class A represents the lowest risk. At the end of the 2<sup>nd</sup> quarter 2020 63 % of the portfolio has a PD below 0.25%. The average weighted PD in the portfolio is 0.43%

**Figure 6: Total mortgage portfolio distributed by Risk Class**



**Table 3: Risk Class definitions**

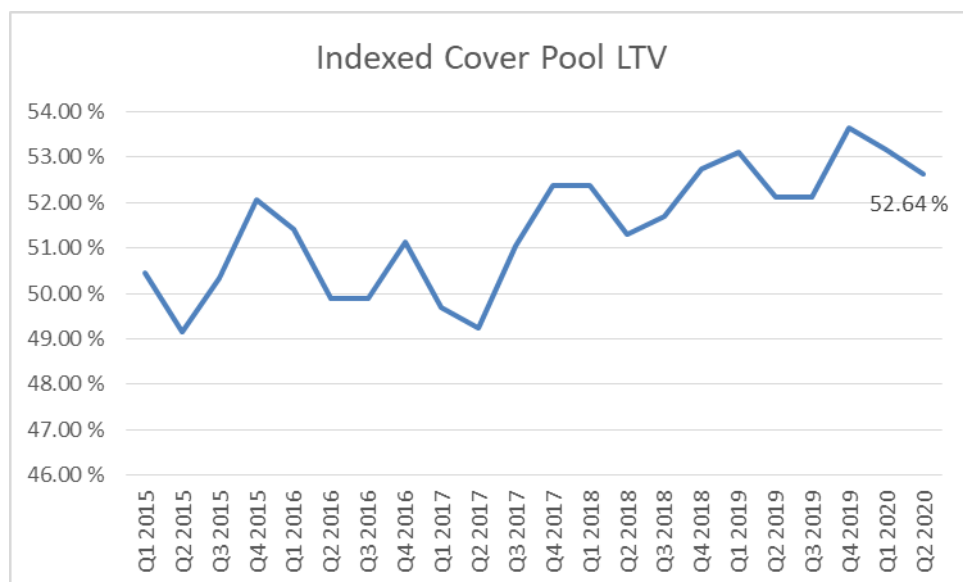
Risk Class	Lower limit Probability of Default	Upper limit Probability of Default
A	-	0,10 %
B	0,10 %	0,25 %
C	0,25 %	0,50 %
D	0,50 %	0,75 %
E	0,75 %	1,25 %
F	1,25 %	2,50 %
G	2,50 %	5,00 %
H	5,00 %	10,00 %
I	10,00 %	99,99 %

As mentioned previously the Company does not accept amortising residential mortgage loans which at the time of sale and transfer to the Company has a greater LTV than 75%. For non-amortising loans (flexible loans) the maximum LTV is set at 60%. The LTV is calculated based on the full committed line of credit (EAD). The LTV is also somewhat influenced by the amortization profile of the customers' loan contracts and the development of the market value of the properties which are the collateral for the mortgage loans. The market values for all residential housing units (the collateral) are updated quarterly based on data from Eiendomsverdi (the key provider of an automatic valuation



model in Norway used by all banks). The chart below shows the development in the mortgage portfolio LTV since 2015.

**Figure 7: Development in the weighted average LTV**



This history show that the portfolio's average weighted LTV has been relative stable over time. The average weighted (EAD) LTV is 53% as of June 30, 2020. The development in LTV is a function of the development in the real estate market and the customers' amortization of their mortgage loans.

Expected losses in the portfolio have been very low. At the end of the second quarter 2020 the expected loss in the mortgage portfolio is 0.19% of the exposue (EAD). The chart below illustrates the development of expected loss.

There has not been any losses since commencement of operations in 2005.

Figure 8: Expected loss (EL) in per cent of EAD

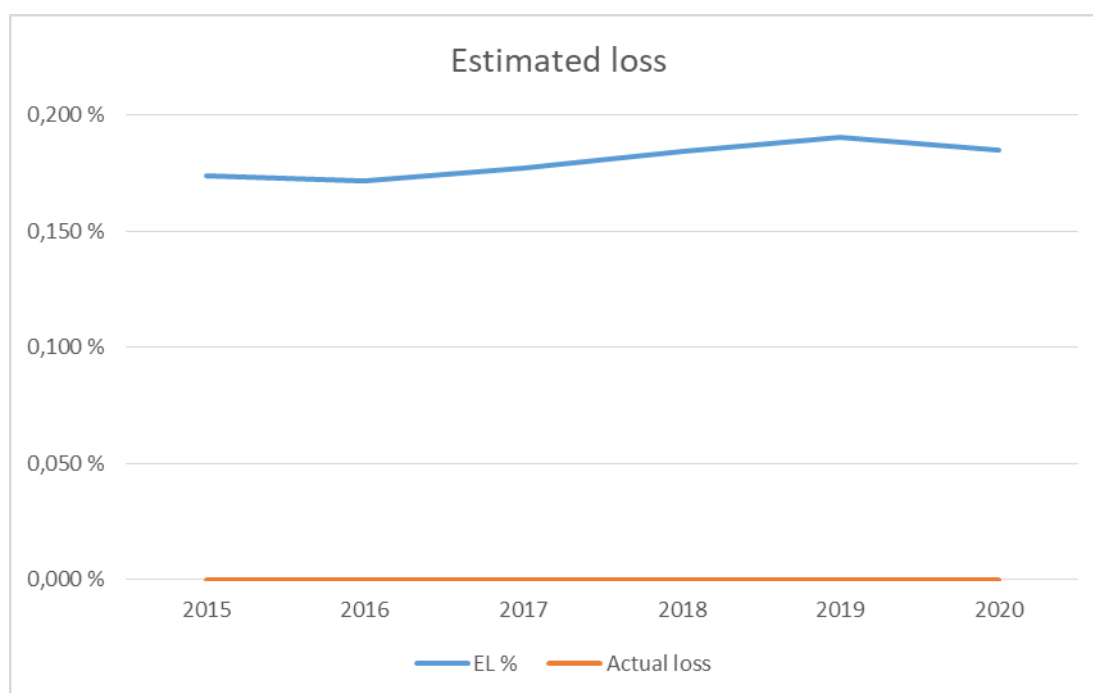


Figure 9: Geographic distribution

Regional Distribution	Number	% of Total Number	Amount	% of Total Amount
AGDER	583	0,42 %	NOK 879.811.763	0,44 %
INNLANDET	18.838	13,71 %	NOK 20.100.610.352	9,94 %
MØRE OG ROMSDAL	8.535	6,21 %	NOK 11.687.279.853	5,78 %
NORDLAND	11.539	8,40 %	NOK 14.569.078.000	7,21 %
OSLO	12.968	9,44 %	NOK 26.336.687.630	13,03 %
ROGALAND	2.308	1,68 %	NOK 4.326.318.864	2,14 %
SPITSBERGEN	40	0,03 %	NOK 56.820.436	0,03 %
TROMS OG FINNMARK	15.106	10,99 %	NOK 19.969.361.891	9,88 %
TRØNDELAG	23.551	17,14 %	NOK 34.415.655.743	17,03 %
VESTFOLD OG TELEMARK	13.473	9,80 %	NOK 16.947.771.101	8,38 %
VESTLAND	1.327	0,97 %	NOK 2.245.949.977	1,11 %
VIKEN	29.159	21,22 %	NOK 50.608.861.248	25,04 %
<b>Total</b>	<b>137.427</b>	<b>100 %</b>	<b>NOK 202.144.206.857</b>	<b>100 %</b>

Loans to customers is spread out all over Norway and is therefore geographically diversified.

## IFRS 9

The Company does not have any loans in default as of 30.06.2020 nor any realized credit losses since commencement of operations in 2005 as mentioned earlier, but there is a requirement according to IFRS 9 to calculate expected credit loss.

IFRS 9 was implemented effective January 1, 2018. For loans for which there has not been a significant increase in credit risk since initial recognition (loans in stage 1) ECL is measures as 12-month expected credit losses. For loans for which there has been a significant increase in credit risk since initial recognition (loans in stage 2 or 3) ECL is measured at lifetime expected credit losses. Loans in stage 3 are loans that are credit-impaired.

The limits which determine when a mortgage loan is moved from Stage 1 to Stage 2 are:

- Payment delayed by 30 days or more

- Probability of default has increased by 150% (or two classes in the internal model estimating PD)
- A minimum PD of above 0.6%

The Company has no mortgage loans in Stage 3, which contains loans in default (90 days or more of missed payments).

To consider the uncertainty of the future the model applied in estimating ECL three scenarios are developed. A base scenario, an upside scenario and a downside scenario and these are intended to reflect three different states the economic cycle can take. The scenarios are weighted, with the most weight assigned to the base scenario. The base scenario input variables are mostly derived from forecasts from Statistics Norway, while the downside scenario input variables are sourced from, but may not exactly replicate, the Financial Services Authority of Norway's stress case scenario included in its annual risk outlook reports.

The model estimates the default rate (PD) and the loss given based on two macro variables; the unemployment rate and the level of NIBOR. The LGD is derived from calculations based on the degree of collateral coverage of the loans, i.e. the loan-to-value, also taking in a broader dataset to build the link between price developments and estimated losses.

Historically there has not been any mortgages in payment default in the Company's portfolio. LGDs are set to reflect the fact that for a cover bond issuer the law stipulates a maximum loan to value criteria of 75 per cent. The low loan to value ratio results in low expected loan losses if loans were to default. ECLs are updated quarterly based on a rescoring of the entire mortgage portfolio. Changes in the ECL is a charge or an income in the income statement for that period and is reflected on the balance sheet against the portfolio of mortgage loans.

According to the Transfer and Servicing Agreement which the SpareBank 1 banks each have entered into with the Company, SpareBank 1 Boligkreditt has the right to off-set any losses incurred on individual mortgage loans against the commissions due to all banks for the remainder of the calendar year. The Company has not since the commencement of its operations had any instances of off-sets against the commissions due to its owner banks. Mortgage loans which are renegotiated, where the terms are materially changed, are always removed from the Company's cover pool and transferred back to the originating lender. All renegotiation of loans is outsourced to the banks from which the loans have been purchased.

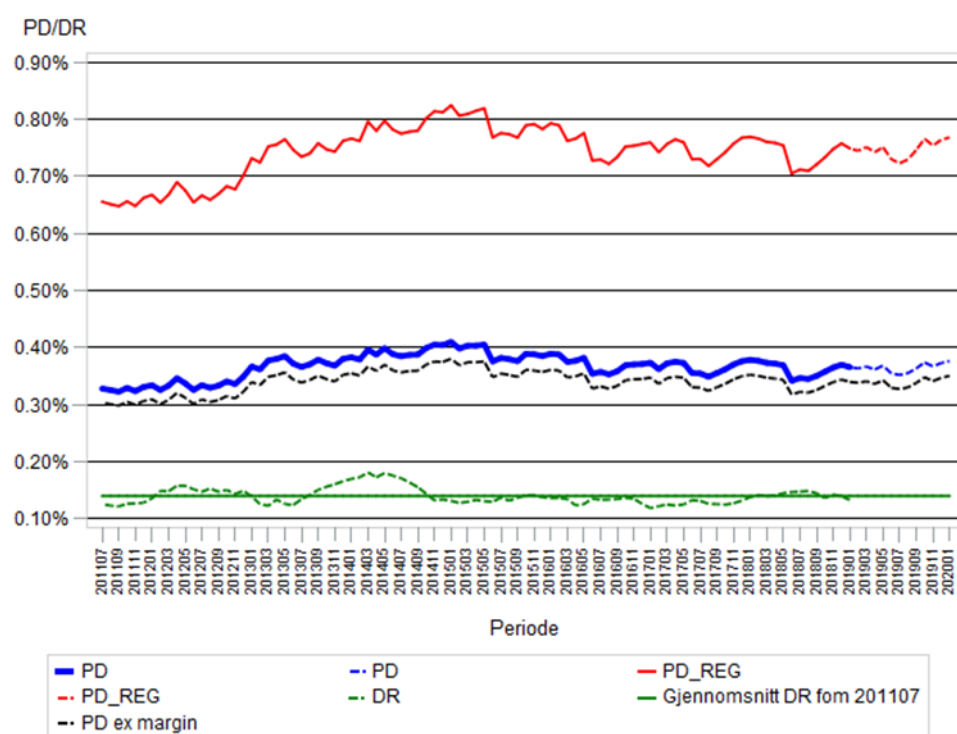
### Validation

The Company has established a process where the credit models are validated to measure if they are adjusted to the portfolio where they are used. There is also a legal requirement regarding validation when the Company is using IRB to calculate the capital need.

A validation report is produced on a yearly basis and processed by the Board of Directors.

The chart below shows PD versus default rate. The Company does not have any defaults – to find the default rate loans are followed if transferred back to the bank.

Figure 10: PD versus DR



The Company does not have any losses therefore LGD is based on the data from the owner banks. The validation on the alliance data shows that the estimated LGD is 16% and the realized LGD is 8%. The Norwegian FSA has also implemented a floor of 20% LGD and their own reference model. For Sparebank 1 Boligkreditt this means that LGD in regulatory calculations equals to 20%.

The validation shows that the Company has solid margins according to the requirements.

#### Capital requirements for credit risk

The Company's risk weighted exposure were as of June 30, 2020 NOK 40.9 bn and a capital requirement (8%) of NOK 3.3 bn.

(Mill)	Original exposure	Riskweighted exposure	Risk weight
<b>Credit risks: IRB Approach Retail - Secured by immovable property non-SME - with own estimates of LGD or conversion factors</b>	209.810	39.676	18,91%
<b>Credit risk IRB other</b>	5.237	1.264	24,14%
<b>Total</b>	215.047	40.940	19,03%

#### Counterpartyrisk

Counterpartyrisk is defined as the risk that the counterparties are not able to meet their obligations within the timelimit of the contract. Counterpartyrisk is included in the Policy of balance sheet management.

Counterparty risk is monitored and controlled by checking the exposure towards the different counterparties. The limits and collateral received are followed up daily by the ALM department and controlled on a weekly basis by Risk Manager. To measure the derivative exposure Market to market-method is used, for CVA the standard approach is used.

	Original exposure	Exposure value after collateral	Riskweighted amount	Capital required
<b>Credit risk of which from counterparty</b>	35.637.183.104	11.489.843.881	3.316.496.118	265.319.689

Further information is included under section 3.3.2 Market risk and Credit risk in the liquidity portfolio.

### 3.3.2 Market risk

Market risk is a common characterization for losses which arise as a consequence of the changing market rates or prices of financial instruments, especially share prices, bond prices, interest rates and currency exchange rates.

#### *Interest rate risk*

Interest rate risk is the risk for losses due to changing market interest rates. Interest rate risk could arise in connection with SpareBank 1 Boligkreditt's mortgage portfolio, the investment or liquidity portfolio and the changes in issued debt which takes place in order to finance these changes on the asset side of the balance sheet.

SpareBank 1 Boligkreditt has as the policy limitation of its interest rate risk the following statements:

*Sparebank 1 Boligkreditt is not to carry more interest rate risk than what is prudent at any one time.  
Sparebank 1 Boligkreditt is not to be exposed to any material interest rate risk beyond three months.*

Based on the policy the following limitations have been adopted:

<b>Tenor</b>	<b>Risk limitation for the effect on the balance sheet of an interest rate change of 1 perc cent (Dollar duration)</b>
0 – 3 months	1 % of total capital
3 – 6 months	1 % of total capital
6 – 9 months	1 % of total capital
9 – 12 months	1 % of total capital
1 – 3 year	1 % of total capital
3 – 5 year	1 % of total capital

5 – 7 year	1 % of total capital
7 – 10 year	1 % of total capital
Over 10 year	1 % of total capital
<b>Total</b>	<b>1 % of total capital</b>

The Norwegian covered bond legislation mandates limitations of an issuer's interest rate risk in relation to its capital.

The table below illustrates the Company's interest rate risk at the end of the 2nd quarter 2020 measured on an interest rate change of 1 per cent.

**Table 4: Interest rate risk (NOK mill)**

	0-3m	3-6m	6-9m	9-12m	1-3år	3-5år	5-7år	7-10år	>10år	Totalt
Risk	48	1	-3	-2	6	0	-2	-1	-	48
Limit	131	131	131	131	131	131	131	131	131	131
Utilisation	37%	1%	-2%	-2%	5%	0%	-2%	0%	0%	10 %

The main rule for Boligkreditt is that the interest rates on all assets and liabilities are swapped if necessary so that all interest rates are reset every three months. The Company consequently does not carry material interest rate risk beyond zero to three months time band.

For SpareBank 1 Boligkreditt's purposes a period of 90 days are used as the fixed period for interest rate risk. This is because the interest rate risk including derivatives (swaps) has been reduced to the three months Norwegian kroner interest rate (NIBOR 3m). Risk adjusted capital is calculated based on fully utilized risk limits within three months, a dollar duration of 282 million, and including volatility as observed in NIBOR 3m. The choice for the volatility figure has been made because in the short term the short maturity interest rates are more volatile than the longer rates, and because the process is thereby simplified and the probability of operational errors is reduced. The interest rate risk for the residential mortgage loan portfolio has been fixed at six weeks, according to the required waiting period which a bank must observe before implementing upward changes in its customer interest rates pertaining to residential mortgage loans, according to the Norwegian law for financial transactions (Finansavtaleloven). As for the time being, SpareBank 1 Boligkreditt only has such variable rate mortgages in its portfolio which enables the Company to change the customer rates after a six weeks period.

Risk adjusted capital for interest rate risk is calculated to be NOK 266 million. If the actual exposure as of June 30, 2020 had been used the corresponding figure would have been approximately NOK 48 bn.

### *Currency risk*

Currency risk is the risk of loss as a result of changes in currency exchange rates. Currency risk arises in SpareBank 1 Boligkreditt mainly as a result of borrowing and investments in foreign currency.

SpareBank 1 Boligkreditt has based on the covered bond legislation adopted the following policy with regards to currency risk:

*"The Credit Institution will not carry more currency risk than what is prudent at any one time"*

Based on this the following limitations for currency risk in SpareBank 1 Boligkreditt has been determined:

- The maximum aggregated currency risk position is not to exceed two per cent of equity capital

Currency risk at SpareBank 1 Boligkreditt is measured by adding up all exposure elements per currency on the Company's balance sheet, including any derivatives. The sum total of positive (long) exposure in one currency is compared to the sum total of negative (short) exposure in the same currency. The largest absolute number is the aggregated currency risk position. The process of measuring this currency risk takes place weekly if no extraordinary activities have occurred which could add to the exposure. In the latter case the measurement is undertaken immediately following the activity. The responsibility for measuring and reporting is with the Risk Manager.

As of June 30, 2020 currency risk including derivatives totaled NOK 174 mill.

Based on the low risk exposure SpareBank 1 Boligkreditt will, to the extent necessary, calculate risk adjusted capital for currency risk according to the standard method in the Basel II framework.

### ***Credit risk in the liquidity portfolio***

Credit risk is the risk of loss as a result of that the counterparties do not have the ability or the willingness to meet their obligations to the Company. Boligkreditt is mainly exposed to credit risk due to its portfolio of mortgage loans. As a mitigant against liquidity risks the Board of Directors has determined that the Company is to maintain a portfolio consisting of covered bonds and Norwegian Government bills which at a minimum is sufficient to cover 6 months of upcoming maturities on the liability side of the balance sheet. This liquidity portfolio also results in credit risk exposure for the Company.

The Board of Directors is responsible for that at any time a written policy exists describing how the Company's liquidity portfolio is prudently managed. The policy is updated at least annually and considers risk level, risk distribution and return.

The portfolio is managed in such a way that the portfolio's duration corresponds as much as possible with the duration of the issued debt.

Limitations for counterparty risk are regulated by the Company's Investment Committee. For each counterparty the Director of Asset-Liability must seek approval from the CEO regarding risk limitation. For approved counterparties the Board has approved a set of limitations regarding largest possible exposures in individual issuances and a minimum size for each issuance. The table below summarizes the limitations.

**Table 5: Largest approved exposures and minimum bond issue size**

	Maximum approved participation in issuance	Minimum size of bond issuance
Norwegian Government Bills	100%	0
Zero percent risk weight bonds (Aaa/AAA) issued by or guaranteed by sovereigns or central banks	25%	500 mill NOK 500 mill SEK 100 mill EUR
Covered bonds	25%	2000 mill NOK

The liquidity portfolio is allocated according to two levels:

- Level 1 (Liquid assets of a high quality)
- Level 2 (source of stable accessible funding)

Level 1 consists of zero weighters, i.e. government bills and bonds and bonds guaranteed by a government or the public sector with a zero per cent risk weight. Norwegian Government Bills, SSA and Covered Bonds are all rated triple A by one or all three major rating agencies. In case of a split rating the lower rating is used. All bonds are quoted on an exchange.

Level 2 consists of covered bonds issued by banks or credit institutions from a country which is a member of the OECD. The large majority of these bonds must be rated triple-A, but there is the possibility of investing a maximum of 30% of the Level 2 assets in bonds with a credit rating down to the double-A negative level. Covered Bonds are issued by a bank in the Nordic region as are all investments in senior unsecured bonds.

At the end of the second quarter 2020 the size of the Company's liquidity portfolio is NOK 18.0 bn. Level 1 assets are NOK 2.4 bn and consists of deposits, Norwegian Government bills and other sovereign guaranteed securities. The Level 2 assets total NOK 15.6 bn and consists of 100% Nordic covered bonds.

The portfolio is managed to best possible match maturities on issued debt.

### ***Spread Risk in the liquidity portfolio***

Spread risk is the risk of changes in marked-to-market evaluations of bonds and other liquid assets due to general fluctuations in credit spreads (risk premiums).

Risk adjusted capital for spread risk is calculated using a model provided by the Financial Supervisory Authority of Norway (Finanstilsynet). The methodology is based upon the Solvency II framework (QIS5-specifications), calculation the total Unexpected Loss as a function of asset class, rating and duration.



SpareBank 1 Boligkreditt has calculated the need for capital for spread risk in the liquidity portfolio to be NOK 214 mill.

### 3.3.3 Liquidity risk

Liquidity risk is the risk that an institution is not able to meet its obligations when due and/or finance an increase in its assets.

Liquidity risk arises primarily as a consequence of that the Company has different maturities for its assets and liabilities. The assets have generally longer maturities than the debt used to finance them, given that the assets are mostly long term residential mortgages. This results in that the Company is exposed to liquidity risk.

The differentiation of funding divided by sources and maturities, as well as continued access to the debt capital markets, is important for the Company's ability to maintain its refinance risk. How well known the Company is in the capital markets, its external ratings, investor depth and distribution, previous transactions and the situation from time to time in the various geographic debt capital markets are factors which will impact the access to external funding.

SpareBank 1 Boligkreditt is in a unique situation compared with regular banks. The Company determines the growth in its asset base through acquiring mortgage loans from its parent banks. The purchasing decision will only be made if the Company finds it is in a position to fund itself with covered bonds, and if needed, with unsecured debt to finance the overcollateralization in the cover pool. Unexpected needs for liquidity only arise if mortgage customers with flexible loans increase the utilization of their committed lines of credit. For this purpose the Company maintains a dedicated liquidity pool reserve equating to five per cent of the unused committed credit lines (in line with LCR). In addition the degree of utilisation of the flexible loans is monitored on a weekly basis. The degree of utilization in the aggregate has remained stable since the commencement of the Company's operations and is around 75%. The liquidity reserve will be adjusted if the degree of utilization should become more volatile. Any increased in the utilization of committed credit lines is included in cover pool assets and are therefore possible to finance by issuing covered bonds. This has a mitigating effect on the liquidity risk that such unutilized committed credit lines represent.

Even if the attention to liquidity risk in a credit institution which issues covered bonds is high, the management of this risk is materially simpler in Boligkreditt compared to in its parent banks. In particular two elements are responsible for this:

- 1) SpareBank 1 Boligkreditt takes no deposits from customers by law, and this prevents unforeseen funds flow on the liability side of the balance sheet
- 2) SpareBank 1 Boligkreditt maintains full control over the timing and volume of the purchasing of mortgage loans from its parent banks and may therefore not be exposed to funds flows as a result of unexpected changes on the asset side of the balance sheet. The exception is the unutilized amounts under committed credit lines as mentioned above.

The main risk regarding liquidity is thus the difference between the residential mortgage loans with legally long running maturities and the shorter duration of funding.

In order to address this issue and comply with the covered bond legislation and the recommendations of the credit rating agencies which rate the Boligkreditt's covered bonds triple-A, the Company has adopted the following policy for its liquidity management:

*"SpareBank 1 Boligkreditt AS shall even in a stressed situation in the market survive in minimum 6 months without any access to external funds."*

This policy aims to result in that the Company effectively seeks to refinance its debt 6 months early by building up liquid assets to match all liabilities coming due over the next 6 months at any point in time. The policy provides SpareBank 1 Boligkreditt with the opportunity to await calm in financial markets when needed before accessing funding. In extreme situations it may also provide time to sell off mortgage loans in order to repay liabilities when due.

Based on the policy for liquidity management the limitations for refinancing risk which has been approved by the Board are as follows:

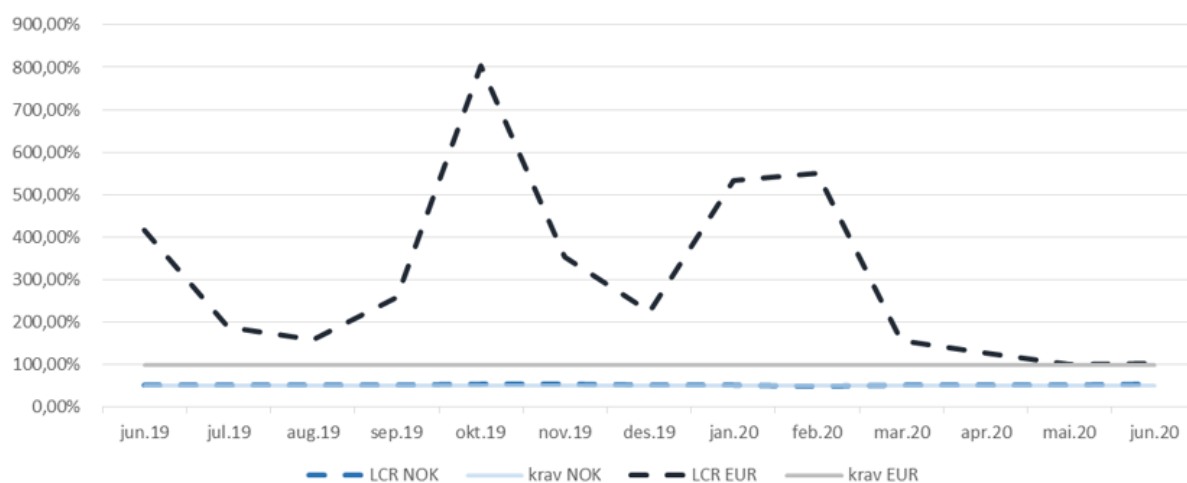
<b>Maturity</b>	<b>Limit</b>
Within 30 days	Liquidity Coverage Ratio $\geq$ 100%, including mortgages from owner banks the next 30 days
Within 6 months	Liquid assets to cover maturity the next 6 months, defined in harmonized regulation for Covered bonds, including mortgages from owner banks the next 30 days.
Share of Covered bonds due the next 12 months	30%

In order to arrive at the net refinancing need the refinancing amount is adjusted for

- Effects from derivative contracts
- Utilized amounts under committed credit facilities
- Maturities on investments or deposits due to Boligkreditt
- Binding agreements to provide finance
- Known and documented cash flows from the portfolio of mortgage loans, including cash flows under swap arrangements

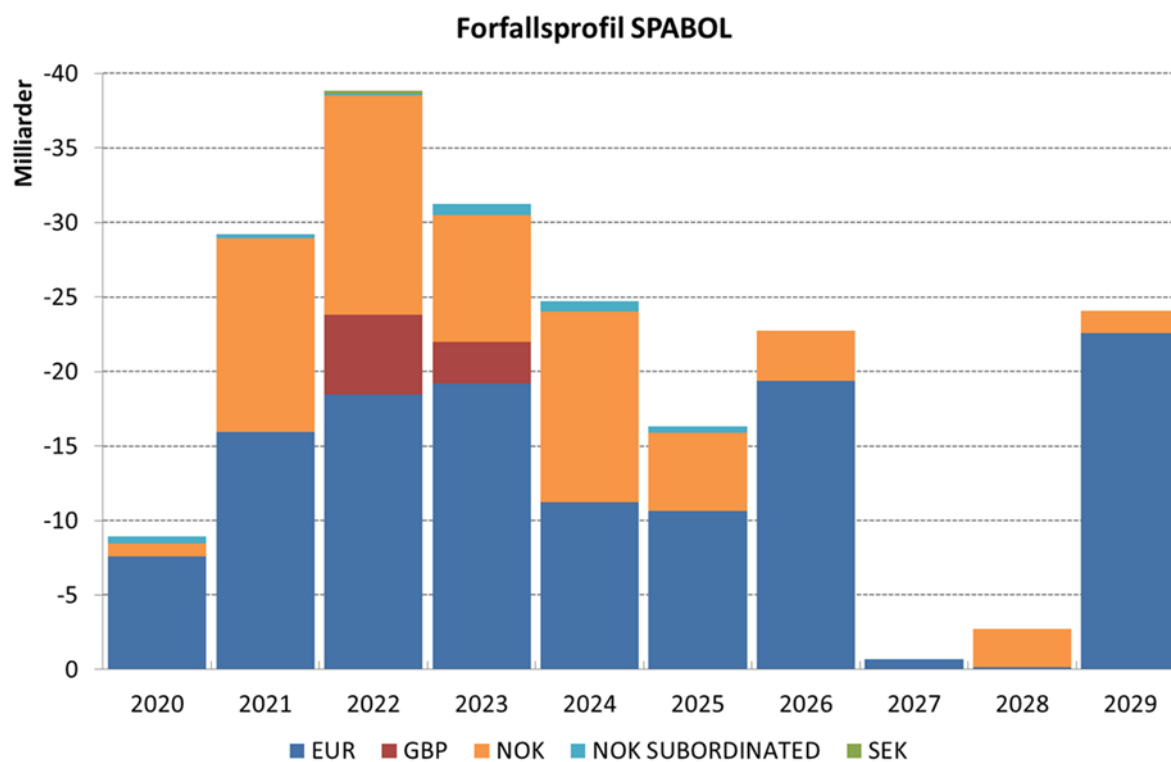
The chart below shows that the Company has met the legal requirements.

Figure 11 LCR the last 12 months



Issued volume in 2020 is NOK 19.5 bn. The chart below sets out the annual details regarding the Company's funding maturities as of June 30, 2020:

Figure 12 Covered bond maturities in SpareBank 1 Boligkreditt



The Company has a target of having a weighted average duration of the covered bonds outstanding of four years.

At the end of the second quarter 2020 the Company has a stock of liquid assets of NOK 18.0 bn equivalents consisting of NOK 1.2 bn cash deposits, NOK 1.1 bn of Norwegian Government bills and NOK 15.6 bn in bonds. With a refinancing need over the next six months of approximately NOK 1.8 bn the liquid assets ensures a net refinancing need of zero. SpareBank 1 Boligkreditt thus is in compliance with the stated policy target regarding the ability to survive for at least 6 months without the need to access external funding. In addition to the liquid assets the Company also has access to a liquidity facility from its parent banks. The parent banks have committed themselves to purchasing covered bonds from SpareBank 1 Boligkreditt in an amount equal to the upcoming maturities of outstanding covered bonds over the next 12 months. The parent banks may deposit covered bonds as collateral with the Norwegian central bank for funding or use them in other types of liquidity arrangements which may be offered or made available by the Norwegian Government in a stressed market environment.

The portfolio of liquid assets is also part of cover pool assets. Boligkreditt also has an obligation to ensure that the requirement in the covered bond legislation regarding asset-liability matching in the cover pool is met. This means that the legislation requires that the value of the cover pool assets must be larger than the value of the issued cover bonds, including associated derivatives, at all times. As of June 30, 2020 the requirement for overcollateralization from Moody's is 2.5%.

The table below details the overcollateralization at the end of the second quarter 2020

**Table 6: Asset-Liability test (NOK bn)**

Cover Pool assets	Value issued covered bonds	Overcollateralization
245	228.6	7.2 %

The covered bond legislation also requires that covered bond issuers maintain a positive cash flow, meaning that the incoming cash flow at all times must exceed the outflow on the issued covered bonds. The table below details the Company's six monthly interest liquidity at the end of the second quarter 2020.

**Table 7: Interest rate cash flow, six months retrospective (NOK bn)**

Interest income from cover pool assets	Interest paid on covered bonds	Interest rate liquidity
2.2	0.9	236%

Because SpareBank 1 Boligkreditt mitigates its liquidity risk as described above no risk adjusted capital is held to cover liquidity risk. Management and the Board view the liquidity reserves and parent banks support as a more effective form of risk reduction. The Company's liquidity management is in accordance with Basel III guidelines (LCR and NSFR) and is viewed by Management and the Board as cautious and appropriate.

### 3.3.4 Operational risk

The operational risk in SpareBank 1 Boligkreditt is limited due to a low degree of complexity. The Company has a singular purpose in the funding of the parent banks by issuing covered bonds. The majority of the operational risk is associated with the handling of mortgage assets in the parent banks. This aspect is addressed in the sale and transfer agreement which the Company maintains with each parent bank.

SpareBank 1 Boligkreditt recognizes that the Basic Indicator Approach in the capital adequacy regulations, which it employs for calculating capital requirements for operational risk, is of a general nature. The Norwegian Financial Services Authority lists in its regulations sources of operational risk which should be considered. These sources are employee turn over, employee absence, reorganizations, expansions, conversion of IT systems and the introduction of new products.

In the Company's opinion these matters can be divided into two categories; personell related and operationally related (changing operational complexities)

Boligkreditt has a continuous focus on the development of organization, systems and processes. The Company's nine employees maintain extensive protocols for routine tasks and at least two people are familiar with all tasks of such a nature within the organization.

Many back-office, mid-office and service tasks have been outsourced to the largest parent bank, SpareBank 1 SMN. The bank is a significantly larger organization compared to the Company and there is a certain degree of overlapping activities with those of the Company. Boligkreditt also maintains a close working relationship with the other parent banks through a joint working group on finance and funding.

Boligkreditt annually conducts a workshop with all employees where the risks in all areas of the business are evaluated and ranked in terms of importance and severity.

### 3.3.5 Rating risk

Rating risk is the risk that the Company's Issuer rating or that of its bonds are downgraded with one notch.

SpareBank 1 Boligkreditt is subject to two rating processes, one for the Company's Issuer or baseline rating and another process for the rating of the issued covered bonds. The Issuer rating forms the starting point for the covered bond rating and it is therefore important with a focus on both processes.

The Company's unsecured rating is subject to an annual review process with Moody's at least annually. The agency's method for the Company's unsecured rating is tied closely to the senior unsecured ratings of the parent banks and also their ability and willingness to provide support to Boligkreditt in a stressed situation. The rating also depends on the effectiveness of the Company's management and control functions with regards to credit, market and liquidity risks.

Moody's rates the Company CR assessment to A2. With a TPI of high this means a TPI Leeway of 3. Boligkreditt is in a regular dialogue with the rating agencies and is of the opinion that the ratings are all stable and there is no expectation of any rating changes as of June 30, 2020.

The process of rating the Company's issued covered bonds is more extensive and demands more continuous focus from Management. Statistical reports and details on the mortgages are produced and delivered to the credit rating agencies quarterly. These reports provide a detailed view of Boligkreditt's credit and market risks. All mortgages on the Company's balance sheet as well as all assets in the liquidity reserve and all issued bonds and related swap agreements are detailed in these reports.

The credit rating agencies methods for rating covered bonds cover several risk areas. The agencies evaluate:

- The Issuer's unsecured rating, including the ratings of the parent banks
- Country specific risk factors, including an assessment of the national covered bond legislation
- Capital and ownership
- Cover pool tests for overcollateralization
- Exposure to market and liquidity risks
- An assessment of the swap agreements which are used for hedging purposes
- The credit quality in the cover pool
- Concentration risk

The agencies also conduct stress tests by calculating the expected loss in the cover pool at the point of a hypothetical bankruptcy of the Company. The cover pool is, as of June 30, 2020, considered by Moody's to have cover pool losses of 8.8% in a bankruptcy scenario, of which 3.4% is related to the credit quality in the mortgage portfolio and 5.5% is related to market risks (such as higher interest rates in order to refinance cover bonds post Issuer bankruptcy). The cover pool is considered to be one of the pools of highest quality world-wide.