SBAB! 2019

CAPITAL ADEQUACY AND RISK MANAGEMENT 2019

PILLAR 3 OF THE BASEL REGULATIONS

CONTENTS

List of tables

List of tables

List of figures

Glossary

CHAPTER 4 RISK MANAGEMENT AND RISK ORGANISATION

Asset and Liability Committee (ALCO)
The committee that handles matters relating to risk and capital planning, which are then addressed by Executive Management and the Board.

Directive 2013/36/EU — CRD IV of the European Parliament and of the Council on authority to conduct operations in credit institutions and on the supervision of credit institutions and securities companies
Common European regulations on risk management and capital adequacy.

Regulation (EU) No. 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms (CRR)
Common European regulations on risk management and capital adequacy.

Minimum requirement for own funds and eligible liabilities – (MREL)
The Swedish National Debt Office (SNDO) has finalized the model for calculation of the Minimum Requirement for Own Funds and Eligible Liabilities (MREL), which determines how much own funds and eligible liabilities each bank must have, what proportion should be debt and what type of liabilities may be used to meet the requirement. Banks that are not systemically important will always meet the SNDO's minimum requirement provided that they comply with existing capital requirements. In a crisis, these banks will be declared bankrupt or placed in liquidation rather than resolution.

MREL — coefficient
Own funds and eligible liabilities as a percentage of total liabilities and own funds.

Internal capital adequacy assessment process (ICAAP)
Process according to Article 73 of CRD IV for continuously calculating and maintaining capital in an amount, type and distribution that is sufficient to cover the risks to which the bank is or will become exposed.

CHAPTER 5 CAPITAL ADEQUACY

Perpetual subordinated loans
Perpetual subordinated loans have a maturity that is essentially unlimited, but they can be repurchased with the permission of Finansinspektionen (the Swedish FSA).

Internal ratings-based approach (IRB approach)
The IRB approach is used to calculate the regulatory capital requirement for credit risk. The foundation IRB (FIRB) approach entails that the institution is only to estimate the PD parameter. In the advanced IRB (AIRB) approach, the institution is to estimate, in addition to PD, one or several of the parameters CCF, LGD and M (maturity).

Own funds
Own funds consist primarily of equity and subordinated loans and act as a buffer against unexpected losses.

Capital requirements under Pillar 1
Refers to the minimum amount of capital required in accordance with the CRR and CRD IV, the Special Supervision of Credit Institutions - and Investment Firms Act (2014:968), the Capital Buffers Act (2014:966) and the Swedish FSA's regulations regarding prudential requirements and capital buffers (FFFS 2014:12).

Risk-weight floor, Residential mortgages, Pillar 1
The addition of a risk exposure amount (REA) calculated based on Swedish residential mortgage exposures, which entail a risk weight for these exposures of at least 25%. The supplement only applies for credit institutions that apply the IRB approach. The requirement of a risk-weight floor for Swedish residential mortgages has been moved from Pillar 2 to Pillar 1 and entered into force on 31 December 2018.

Additional requirements under Article 3 of the CRR
According to Article 3 of the CRR the Board of Directors of SBAB has decided to activate a surcharge for corporate exposures to small and medium-sized enterprises. The aim is to compensate for the current pro-cyclical effect that exists in the bank's internal models for credit risk, which has resulted in PD declining in line with the favourable economic climate.

Credit valuation adjustment risk (CVA risk)
CVA risk is the risk that the counterparty in a financial transaction defaults and is unable to meet future payments under contracted OTC derivative agreements. Transactions with a central counterparty (CCP) should be excluded from the capital requirement for CVA risk.

Common Equity Tier 1 (CET1) capital
Common Equity Tier 1 capital is one of the components of onwn funds and primarily consists of equity. Deductions are made for dividends generated, intangible assets as well as the difference between expected losses and provisions made for probable loan losses.

Minimum capital requirement
The lowest amount that the company is permitted to have as own funds.

Tier 1 capital
Tier 1 capital mainly comprises equity and additional Tier 1 capital.

Additional Tier 1 capital
Additional Tier 1 capital generally comprises perpetual subordinated loans that meet the requirements in Article 52 of the CRR. According to the transitional regulations, older additional Tier 1 capital may also be included in Tier 1 capital.

Risk exposure amount (REA) under Basel 3
The Basel 3 regulations permit the use of the IRB approach, within the Pillar 1 framework, to establish REAs for balance-sheet and off-balance sheet exposures based on SBAB's own models for credit risk, market risk and operational risk. The risk weightings of other exposures are determined on a standardised basis, in appropriate cases based on the counterparty's rating.

Tier 2 instruments
Subordinated loans that meet the requirements in Article 63 of the CRR may be included in own funds. According to the transitional regulations, older Tier 2 instruments may also be included in own funds. If the remaining maturity is less than five years, a deduction will be made based on the remaining number of days.

Total capital ratio
Own funds divided by the risk exposure amount.

CHAPTER 6 INTERNALLY ASSESSED CAPITAL REQUIREMENT

Economic capital
Economic capital is based on models in which SBAB assesses quantifiable risks. This constitutes an important component in, for example, pricing, financial control and in assessment of the requisite scope of risk capital.

Exposure at default (EAD)
Exposure at the time of default. Calculating the EAD for off-balance-sheet items entails multiplying the unutilised amount by a credit conversion factor (CCF).

Capital requirements under Pillar 2
The assessment is based on economic capital which, in combination with capital based on stress tests and capital for further risk, comprises the company's own assessment of the appropriate scope of risk capital. Under Pillar 2, the capital requirement may not be less than the capital metric under Pillar 1 for each risk type.

Value at Risk (VaR)
A statistical metric of the maximum expected loss at a given level of security and over a defined time period.

CHAPTER 9 CREDIT RISK IN LENDING OPERATIONS

Expected loss (EL)
The calculated EL must be covered by earnings from operating activities, while unexpected losses must be covered by the company's equity. EL is arrived at by calculating the risk associated with each individual loan using a statistical model based on a longer time horizon. EL is measured through the formula EL = PD*LGD*EAD.

Off-balance-sheet items
A commitment, pledged collateral or similar item that is not recognised in the balance sheet because it is unlikely that it will be necessary to realise or utilise it, or because, due to its extent, it cannot be calculated with sufficient reliability. Contingent liabilities may also comprise possible commitments, meaning it is uncertain whether or not the commitment exists.

Credit conversion factor (CCF)
The percentage of an off-balance sheet item that is expected to be utilised at the time of a possible future default.

Loan-to-value (LTV)
The loan-to-value ratio expresses the extent of a loan in relation to the value of pledged collateral.

Loss given default (LGD)
Loss amount in the event of default.

Non performing loans (NPL)/Non performing exposures(NPE)
Non performing loans/exposures are defined as defaulted exposures plus forborne exposures. A default shall be considered to have occurred when the obligor is unlikely to pay its credit obligation to the institution or the obligor is past due more than 60 days on any material credit obligation.

NPL ratio
The computation of the NPL ratio is defined by the EBA and consists of gross carrying amount of non-performing loans and advances divided by the gross carrying amount of total loans and advances subject to the NPL/NPE definition.

Probability of default (PD)
Probability of default of a customer or counterparty within one year.

CHAPTER 10 FUNDING

Credit Support Annexe (CSA)
Supplement to the ISDA Master Agreement that regulates the provision of collateral in connection with a derivative transaction.

Euro Medium Term Covered Note Programme (EMTCN)
International funding programme for issuing covered bonds.

Euro Medium Term Note Programme (EMTN)
International funding programme for medium and long-term unsecured funding.

Global Master Repurchase Agreement (GMRA)
International standardised agreement for repurchases.

CHAPTER 11 CREDIT RISK IN TREASURY OPERATIONS

International Swap and Derivatives Association (ISDA) Master Agreement
Framework agreement that regulates the rights and obligations between the parties to a derivative transaction, primarily the netting of debt in the event of insolvency.

Repo transaction
A repo transaction comprises a reverse purchase agreement whereby one party undertakes to sell a security to a counterparty in exchange for cash. In parallel, a futures contract is entered into to repurchase the security at a specific price at a specified future date.

CHAPTER 13 LIQUIDITY RISK

Liquidity coverage ratio (LCR)
The LCR is a liquidity risk metric that measures the relation between liquid assets and a 30-day net cash outflow in a stressed scenario.

Net stable funding ratio (NSFR)
A liquidity risk metric of a structural nature that demonstrates the stability of the Group's funding in relation to its assets.

Survival horizon
Measurement of the number of days over which liquidity needs can be met in a stressed scenario without access to new liquidity.

1 Introduction

In this annual report, SBAB discloses information in compliance with Part Eight of Regulation(EU) No 575/2013(CRR) and the Swedish Financial Supervisory Authority's (SFSA) regulation (FFFS 2014:12) regarding prudential requirements and capital buffers. The quantitative information is provided according to the European Banking Authority's (EBA's) Guidelines on disclosure requirements (EBA/GL/2016/11 and EBA/GL/2018/10). This report refers to the consolidated situation and the conditions prevailing on 31 December 2019. For periodic information, please refer to the quarterly reports "Disclosure of capital, liquidity and leverage ratio" at www.sbab.se.

About SBAB

SBAB Bank AB (publ) is owned by the Swedish state. Its operations, which consist principally of deposit operations and residential mortgage lending to consumers, tenant-owners' associations and property companies in Sweden, are characterised by a low level of risk. SBAB is well capitalised. The CET1 capital ratio increased with the year-end result to 13.1 (12.5). Total risk exposure amount has increased with 6.2 billion, mainly driven by increased credit risk due to lending volumes and including the effect from risk-weight floor.

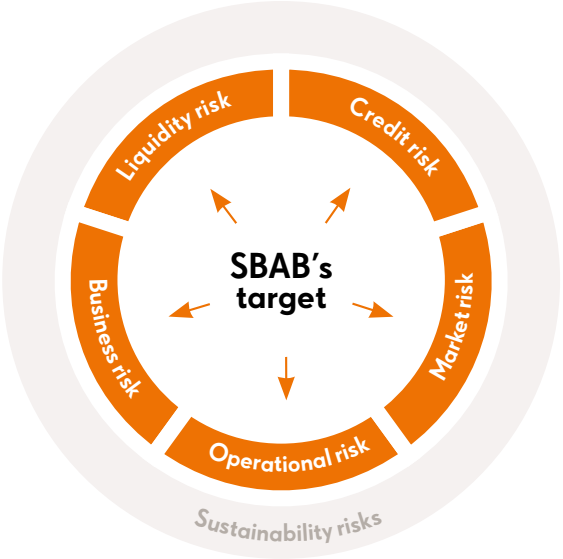
The credit loss ratio remained low. The continued strength of its capital position and good risk management means that SBAB meets the supervisory rules adopted by the EU.

Liquidity risk was relatively unchanged and remained low. Market risk declined during the second half of 2019 due to hedging of interest rate in the banking book. Accordingly, the market risk in Pillar 1 only comprises currency risk.

Regulatory framework for Pillar 3 report

SBAB's Pillar 3 report is prepared in accordance with CRR, Part Eight, the EBA's implementing technical standards (ITS) with regard to disclosure of own funds (EUR regulation No 1423/2013), EBA Guidelines on disclosure requirements under Part Eight of CRR (EBA/GL/2016/11), Guidelines on disclosure of non-performing and forborne exposures (EBA/GL/2018/10) and the SFSA regulation (FFFS 2014:12). In the aftermath of the financial crisis the European Parliament and the Council adopted in June 2019 amending Regulation (EU) No 575/2013 as regards to inter alia the leverage ratio, the net stable funding ratio, requriements for own funds and eligible liabilitites, counterparty creditrisk, market risk, reporting and disclosure requirements. In December 2018, the EBA published new guidelines pertaining to disclosure requirements for non-performing and forborne exposures that apply from December 2019. The EBA also proposed a new comprehensive ITS for Pillar 3 disclosures. This proposal aim to increase consistency and comparability of institutions' public disclosures by uniformed disclosure formats. The application of the disclosure requirements will be in June 2021. Changes in the SFSA's regulation FFFS 2014:12 as per 15th of June 2019 has been considered in this report.

This report shows the significant operational risks for SBAB broken down by risk type as per the table on the next page.



SBAB's risk appetite

Read more on page 8.

For information about sustainability risks, refer to SBAB's 2019 Annual Report.

Table 1. **Significant risks**

Risk type	Risk appetite	
	Classification	Level
Credit risk in lending operations The risk that the counterparty does not fulfil its payment obligations towards SBAB. Credit risk arises in conjunction with loans and loan commitments, as well as in connection with value changes in pledged collateral entailing that these no longer cover the Group's receivables. The credit risk also includes concentration risk, which refers to the increase in credit risk that arises in large exposures to individual counterparties, regions or industries. Read more in chapter 9	Wanted risk	Medium
Credit risk in treasury operations Defined as the total of investment risk and counterparty credit risk. Counterparty credit risk is defined as credit risk in financial derivatives that arises when the value of the instrument changes resulting from variations, for example, in interest rates or currency exchange rates, which means SBAB recognises a receivable against the counterparty. In addition, counterparty credit risk entails that SBAB's financial counterparties cannot meet their commitments under the contracted repos. Investment risk is defined as credit risk in financial investments and entails the risk that a debtor does not fulfil its payment obligations, meaning either completes payments late or not at all. Investment risk arises through investments in the liquidity portfolio and the investment of surplus liquidity. Read more in chapter 11	Necessary risk	Low
Market risk The risk of loss or reduced future income due to market fluctuations. Market risk includes interest-rate risk, currency risk, basis risk and spread risk. Currency risk refers to the risk that changes in the exchange rate for SEK against other currencies result in losses or lower future income. Interest-rate risk is defined as the risk that variations in interest rates result in losses or lower future income as assets and liabilities have different fixed-interest periods and interest terms. Spread risk refers to an exposure to changing conditions between interest costs for different issuers. Basis risk refers to the risk associated with deposits and lending that are locked to different interest bases. Read more in chapter 12	Necessary risk	Low
Operational risk The risk of losses due to inappropriate or unsuccessful processes, human error, faulty systems or external events, including legal risks. The forms of operational risk applicable to SBAB are shown in the categorisation of types of events. Examples of types of events that could be applicable are internal and external fraud, work conditions and environment, damage to tangible assets, disruptions to the business operations and systems, transaction management and process control. Legal risk includes the risk that agreements or other legal transactions cannot be completed in accordance with specific terms and conditions or that judicial proceedings are started that could have a negative impact on SBAB's operations. Operational risk includes compliance risk. Regulatory compliance is essential in maintaining confidence in SBAB's operations. Even rules that are not legally binding, but that reflect a market practice or ethical guidelines, affect SBAB's approach to employees and customers. Read more in chapter 14	Necessary risk	Low
Business risk The risk of declining earnings due to harsher competition, inappropriate strategies or erroneous decisions. SBAB differentiates its business risk between strategic risk and the risk of weaker earnings. Strategic risk is defined as the risk of a loss arising due to unfavourable business decisions, erroneous implementation of strategic decisions or a lack of sensitivity to changes in the industry, the political environment or legal circumstances. The risk of weaker earnings encompasses the risk of, for example, reduced margins, which in turn may arise due to more expensive financing or more intense competition. Read more in chapter 15	Necessary risk	Low
Liquidity risk The risk that the company will not be able to meet its payment obligations on the date of maturity or not doing so, without the related cost increasing significantly. Short-term liquidity risk measures the risk of being impacted in the short term by a lack of liquidity, while structural liquidity risk is a measure of the mismatch between assets and liabilities in terms of maturities, which risks leading to a lack of liquidity in the longer term. Read more in chapter 13	Necessary risk	Low

Risk profile	Risk management
SBAB's customer base is primarily consumers, tenant-owners' associations and landlords who finance residences secured through SBAB, the majority of which are concentrated to major metropolitan areas.	Credit risk is central to SBAB's business model and it is considered to be the dominant risk in operations. Credit granting in SBAB is characterised by responsible credit granting taking into account the customer's long-term repayment capacity and resilience as well as collateral. Credit rules and credit management is continuously analysed, processed and improved. Corporate clients are processed individually while retail customers are analysed using a structured process in conjunction with the credit approval process. Concentration risk and large exposures are carefully monitored.
SBAB's counterparty credit risks and investment risks are low and are not considered dominant risks.	Counterparty credit risk exposure is primarily covered through collateral agreements in which the counterparty provides collateral in an effort to reduce exposure. Investment risk is mitigated as SBAB only invests in interest-bearing bonds with high credit ratings.
SBAB's market risk is low and is not considered a dominant risk.	Interest-rate risk is to be mitigated through direct funding or the use of derivatives. Funding in international currencies are hedged through currency swaps or invested in matching currencies to mitigate currency risk.
Operational risk is a natural part of all business. SBAB aims to optimise the relationship between costs for operational risk and operating activities. SBAB considers operational risk to be a prerequisite for implementing the business concept efficiently and competitively, taking into account operations, strategy, risk appetite and the macro environment.	Within SBAB, risk management consists of uniform valuation and reporting of operational risk.The analysis of risk levels in all operations is conducted on a regular basis and reported to the Board, the CEO and the Executive Management. Self-evaluation of processes that are considered significant is performed at least once per year. Within the framework of changes with potential effects on the bank's risk level, risks are identified in an early stage of the change process. Prior to implementation, the change process is quality assured by representatives from the second line of defence. Unexpected events that can negatively affect the bank are to be reported as incidents and managed according to pre-determined instructions.
SBAB's business risk is low and is not considered a dominant risk.	Risks related to strategy and earnings are evaluated on an ongoing basis over the year within the first line's strategy work. Strategically important decisions are managed within the framework for managing material changes. Furthermore, the Board receives an annual evaluation of the material risks that clearly addresses strategic business risk and the bank's overall earnings. Business risk is also included in the calculation of the Pillar 2 capital requirement as part of SBAB's stress tests, and where the effects of a scenario corresponding to a normal economic downturn are evaluated.
SBAB has a low liquidity risk and a diversified funding. Securities that are part of the liquidity reserve have high credit ratings and are eligible as collateral with either the Riksbank or the European Central Bank, to guarantee liquidity.	SBAB's liquidity strategy includes proactive and continuous liquidity planning, active debt management and an adequate liquidity reserve. The funding strategy takes into consideration the expected maturity on the asset side. On this basis, SBAB limits its structural liquidity risk by maintaining diversified funding with sufficiently long maturities. SBAB has several liquidity metrics, for which limits apply, most of which are monitored and reported on a daily basis.

2 The Board's statement on risk management and a brief risk declaration

The Board of Directors of SBAB Bank AB (publ) supports the risk management described in this document and considers that it meets the requirements that may be it in relation to SBAB's risk profile and adopted short and long-term strategic, capital and financial plans.

Table 2. **Risk appetite and risk profile**

	RISK APPETITE		RISK PROFILE	
Risk type	**Classification**	**Level**	**Limit utilisation**	**Proportion of economic capital, %**
Credit risk in lending operations	Wanted risk	Medium	Medium	84
Credit risk in treasury operations	Necessary risk	Low	Low	5
Market risk	Necessary risk	Low	Low	5
Operational risk	Necessary risk	Low	Low	6
Business risk	Necessary risk	Low	Low	–
Liquidity risk	Necessary risk	Low	Low	–

SBAB classifies risks as wanted and necessary:

- Wanted risks comprise those directly related to the business concept.
- Necessary risks are those arising from activities that are regarded as a direct prerequisite for being able to implement the business concept efficiently and competitively, whereby a certain level of risk is accepted.

Credit risk is central to SBAB's business model and is considered to be the dominant risk in SBAB's operations. Credit risk directly related to SBAB's business operations qualifies as a wanted risk, while credit risk related to liquidity investments or in the form of counterparty credit risk is classified as necessary risk that is acceptable, but where the level of risk should be limited.

Market risk and its components are primarily considered a necessary risk. Market risk should be kept at a low level and not be a predominant risk.

Operational risk is defined as a necessary risk, which means that both expected and unexpected losses must be optimised based on the expected positive effects to be achieved in the form of anticipated revenues, cost savings or reductions in other risk.

Business risk is defined as a necessary risk. Changes in the form of new products or new markets may only constitute a small part of SBAB's activities and must be implemented at such a pace that SBAB does not substantially jeopardise its earnings level and with great probability avoids pressure on its own funds. The quantifiable portion of business risk is included in the evaluation of the capital situation in a normal economic downturn.

Liquidity risk is defined as a necessary risk and must be maintained at such a level that SBAB can manage a period of acute liquidity crisis without depending on the capital market. Liquidity risk is not managed by capital provisions but by maintaining a liquidity reserve.

3 The regulatory consolidated situation

The regulatory consolidated situation (consolidated situation) consists of the parent company SBAB Bank AB (publ) and the subsidiary, AB Sveriges Säkerställda Obligationer (publ) (Swedish Covered Bond Corporation – SCBC). SCBC issues covered bonds in the Swedish and international capital markets.

Table 3. **Outline of the differences in the scope of consolidation** *(EU LI3 table)*

Entities included in the consolidated situation

Name of entity	Organisation Number	Share	Method of accounting consolidation	Method of regulatory consolidation	Description
SBAB Bank AB (publ)	556253-7513	Parent Company	–	–	Institut
AB Sveriges Säkerställda Obligationer (publ)	556645-9755	100%	Full consolidation	Full consolidation	Institut

Entities not included in the consolidated situation

Name of entity	Organisation Number	Share	Method of accounting consolidation	Method of regulatory consolidation	Description
Booli Technologies AB	556733-0567	100%	Full consolidation	Not consolidated	IT company

SBAB's principal activity is to provide mortgage loans for residential properties and tenant-owners' rights located in Sweden against collateral in the form of mortgage deeds and shares in tenant-owners' associations and, to a limited extent, to finance commercial properties and provide unsecured loans. The Parent Company also offers savings accounts.

Information about the Board of Directors, the recruitment policy, the diversity policy and the risk committee are included in the Corporate Governance Report in SBAB's Annual Report. For information about related parties, please refer to Note G:2 of SBAB's Annual Report.

The Swedish Covered Bond Corporation (hereinafter referred to as SCBC) does not conduct any proprietary new lending operations. Instead, it acquires loans from the Parent Company on a regular basis. The purpose of securing credits is for them to be able to be included, in full or in part, in the cover pool that comprises collateral for holders of covered bonds issued by SCBC in Swedish and international capital markets.

SBAB's sales activities are conducted through two channels: Retail and Corporate Clients & Tenant-Owners' Associations. Retail focuses on lending to consumers and deposits from consumers and companies. Corporate Clients & Tenant-Owners' Associations is active in the property market through lending to property companies, property funds and tenant-owners' associations. SBAB's funding is managed by Treasury, within the Accounting & Treasury department.

Booli Search Technologies AB (Booli) is 100% owned by SBAB. Booli develops products and services focusing on the housing market and is not included in the consolidated situation. The consolidated situation encompasses SBAB Bank AB (publ) and its wholly owned subsidiary SCBC.

Figure 1. **Condensed balance sheet**

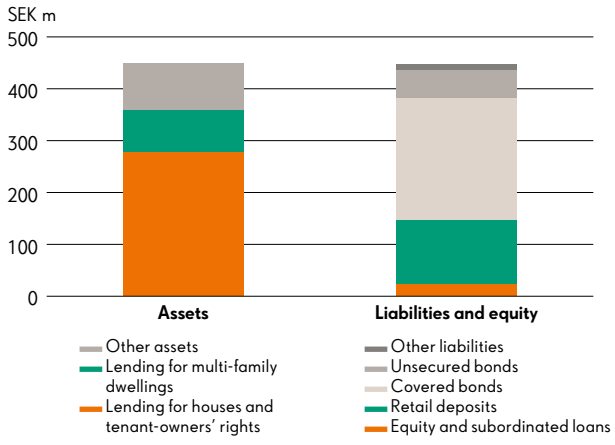
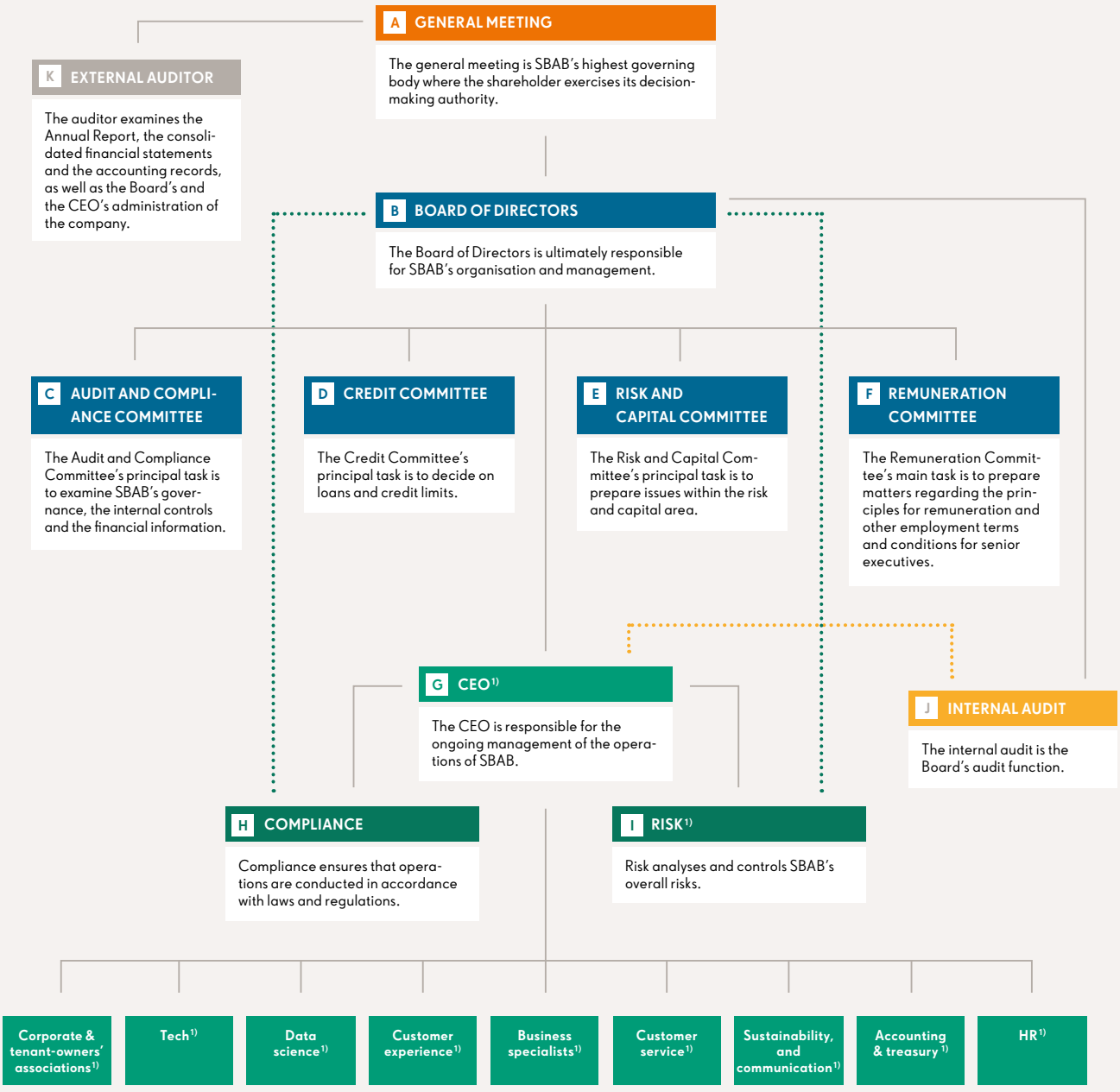


Figure 2. **Organisation**



1) Included in Executive Management.

4 Risk management and risk organisation

SBAB's risk taking is low and is kept at a level compatible with financial targets for return, scope of own funds and target rating. The lending operations mainly generate credit risk, while the most significant risks in the funding operations consist of interest-rate risk and liquidity risk. Managing risk is a core activity in a bank and fundamental to long-term profitability.

4.1 General rules for risk management

Risk management involves ensuring that SBAB is resilient in all types of situations and that the company has capital that guarantees that even unexpected risks can be managed.

- Risk management must support operations, maintain a high level of quality to ensure control of all risks, safeguard SBAB's survival, keep in line with rating targets and limit volatility in SBAB's financial position.
- The ability to assess, manage and price risks while simultaneously maintaining sufficient liquidity and capital to meet unforeseen events is of fundamental significance for long-term profitability and stability. The aim of the strategy adopted for the operations is to consider the risks that arise in the operations and the capital needed to cover these risks. This entails that an ongoing discussion should be maintained regarding the risks that arise in the operations and the capital required to counter those risks.
- SBAB is required to have an independent risk control function to identify, measure, govern, report and maintain control of the risks that SBAB is or may become exposed to. The independent risk control function must have the requisite competence and mandate. There must be an effective risk management system and satisfactory internal control.
- SBAB is required to have knowledge and awareness of any risks to which the bank may be exposed. SBAB needs to be able to estimate the size of the risks to which the bank is and may become exposed.
- All SBAB employees are responsible for managing the company's risks as part of their regular work. SBAB is to continuously inform and train its employees on the company's risk management framework. A sound risk culture is to be realised through a value-based work approach.

4.2 Risk strategy

SBAB's operations are to be conducted such that risks are adapted to SBAB's risk-bearing capacity. Risk-bearing capacity primarily refers to the capacity to manage expected and unexpected losses by means of own funds or ongoing earnings capacity and, secondly, the capacity to minimise unwanted risks by means of appropriate functions, strategies, processes, procedures, internal rules, limits and controls. Certain risks cannot be quantified and compared with the risk-bearing capacity. In such cases, the cost of mitigating the risk should be weighed up against the desired level of risk and the change in the level of risk achieved through a particular measure.

SBAB should only deliberately expose itself to risks directly attributable or necessary to SBAB's business operations. Such risks primarily encompass credit risk, liquidity risk, market risk, business risk and operational risk.

In addition to limiting the exposure to different types of risk, the risks to SBAB from using different types of financial instruments must also be limited. In its treasury operations, SBAB should mainly use derivatives for hedging purposes. Since the risk profile of a derivative transaction may differ from that of the hedged exposure, an analysis must always be performed to ensure that the total risk is understood. This is especially important in the use of new financial instruments that must be approved in SBAB's process for new financial instruments prior to the transaction.

SBAB applies a documented process for the approval of new or significantly altered products, services, markets, processes and IT systems as well as major operational and organisational changes.

SBAB's risk strategy involves managing and evaluating risks that the operations are or may be exposed to, through:

- Clear and documented internal procedures and control systems.
- An appropriate and transparent organisational structure with clearly defined and documented powers.
- Current and documented decision-making procedures that clearly state the reporting structure.
- Risk evaluation methods and system support that are adapted to the operations' requirements, complexity and size.
- Sufficient resources and skills to achieve the desirable quality in both business and control activities.
- Regular incident reporting by the operations according to a documented process.
- Documented and communicated contingency and continuity plans.
- Clear instructions on internal capital adequacy assessments, credit risk, operational risk, liquidity risk and market risk, which are updated annually and adopted by the CEO or, if required, by the Board of Directors.
- All significant risks for SBAB are limited by the Board and are compatible with the pre-determined risk appetite.

4.3 Risk appetite

The level of risk taking within SBAB is low. This is achieved by ensuring that the total risk level is kept compatible with short and long-term strategic plans, capital plans, financial plans and recovery plans.

An important part of SBAB's business model entails risks being relatively low and predictable, making it possible to maintain a large volume of business in relation to own funds. This does not mean that each individual credit exposure has low risk, but rather that the total lending portfolio consists largely of low-risk exposures and that their internal risk effect is such that SBAB's total risk is limited. The basis for SBAB's appetite for various types of risk is that each risk should fit within a well-defined segment of SBAB's risk-bearing capacity. The total risk exposure may not exceed the total risk-bearing capacity. The scope of the risk that is accepted must be clearly linked to how important the relevant risk is to SBAB's business model and the positive effects expected to be achieved in the form of anticipated income, cost savings or reduction of other risks.

As a rule, each business decision changes SBAB's exposure to various risk types. Accordingly, SBAB's risk control models are designed to reflect the determined risk appetite and such that each business decision is based on a healthy balance between the estimated impact on earnings and changes in risk exposure.

Based on the chosen strategy, ongoing earnings and the size of own funds, the Board of the Parent Company establishes the risk that SBAB is prepared to take and makes decisions regarding risk appetite targets. These targets are based on two main categories: solvency and liquidity risk. The solvency category encompasses the risks for which SBAB must retain capital, while liquidity risk encompasses the risks impacting SBAB's prerequisites for successful financing and liquidity management. Each category is broken down into subgroups with established limits for which outcomes are followed up on and reported monthly to the CEO and Board.

SBAB's targets for the two risk appetite categories:

- In the first category, solvency, risks are monitored to ensure that SBAB maintains sufficient capital to operate its business activities in accordance with the strategy determined by the board and that credit risk, market risk and operational risk are kept within the levels approved by the board. In addition to it, minimum levels are maintained with regard to capital ratios.
- In the second category, liquidity risk is monitored to ensure that liquidity meets the determined minimum levels so that SBAB is able to cope with periods of strained market liquidity. It also includes ensuring that the SCBC's cover pool has a sufficient level of collateral to maintain a AAA rating in a stressed scenario.

SBAB is tasked with continuously, and at least annually, reassessing the balance between risks and risk-bearing capacity or the costs to minimise risk. The reassessment includes limits and calibration levels, and should be performed prior to the start of business planning, the internal capital and liquidity adequacy assessment processes (ICLAAP) and capital planning. The processes for business planning, ICLAAP and capital planning should then include a clear and documented link to risk appetite.

4.4 Limits for capital ratios and targets for capital

Each year, the Board considers capital requirements in relation to the risks to which SBAB is exposed. This is performed through a decision on limits for capital ratios. Based on the chosen business strategy, rating targets and capital planning, the Board decided to adopt the following capital targets effective from 31 December 2019:

- The CET1 capital ratio should under normal conditions be at least 0.6 percentage higher than the CET1 capital requirement communicated by the SFSA.
- The total capital ratio should under normal conditions be at least 0.6 percentage higher than the capital requirement communicated by the SFSA.
- Under normal conditions, the leverage ratio should be at least 0.2 percentage above whichever is higher between the capital requirement communicated by the SFSA, or 3%.
- The MREL coefficient must be at least 5.1% and the debt share amount at least 29.9% of REA in accordance with the decision of the Swedish National Debt Office (SNDO) for 2019. For 2020 the SNDO has deciced MREL coefficient to at least 5.35% and the debt share amount to at least 21.26% of REA.

At any given time, the capital requirement as communicated by the SFSA and which applies to CET1 capital, own funds requirements, the leverage ratio and the MREL must be met. Outcomes for the capital ratios are reported to the CEO and Board on a monthly basis. More detailed reporting of the current capital position in relation to established targets is performed quarterly. The CRO is responsible for this reporting.

Table 4. **Decided targets for returns and capital ratios**

	TARGETS		OUTCOME		DIFFERENCES	
	2019	2018	2019	2018	2019	2018
Return on equity (owner's return requirement) [1], %	10.0	10.0	11.7	12.1	1.7	2.1
CET1 capital ratio, %	10.7	10.6	13.1	12.5	2.4	1.9
Total capital ratio, %	14.9	14.7	20.1	18.1	5.2	3.4

[1] Net profit for the year divided by average equity.

4.5 Three lines of defence

To define the division of responsibilities between the business operations, risk control and compliance, as well as internal audit, SBAB applies the division of roles and responsibilities resulting from the three lines of defence principle:

- The first line of defence refers to the day-to-day management of risks performed by the business operations that incur and own the risks.
- The second line of defence refers to the risk control (comprising the units for financial risk, credit risk modelling, credit risk analysis, capital and operational risk) and compliance functions. The risk control units are to ensure that risk awareness and acceptance are sufficient to be able to manage risks on a daily basis. They also have a supportive role and work to ensure that the business operations have the procedures, systems and tools required to maintain the daily management of risks, thereby ensuring that the business operations comply with applicable laws and regulations in risk control's sphere of responsibility. Compliance is to verify that the business operations adhere to laws and regulations and support the business operations within its area of responsibility.
- The third line of defence refers to the internal audit, which reviews and regularly assesses whether the company's organisation, governance processes, IT systems, models and procedures are appropriate and effective, and whether the company's internal controls are appropriate and effective. The internal audit is also tasked with reviewing and regularly assessing the company's risk management based on its adopted risk strategy and risk appetite.

4.6 Risk organisation

SBAB's Board has the ultimate responsibility for the company's total risk exposure and determines the risk policy, capital policy and risk appetite. It is the Board's responsibility to ensure that operations can be conducted with sound internal control so that SBAB's ability to meet its obligations is not compromised. When the Board determines the business strategy, it takes into account the risks that SBAB is and may be exposed to as well as the capital required to cover SBAB's risks.

The Board or its committees are to approve all significant methods, models and processes used in risk management. (For more information regarding the Board's committees, see the Corporate Governance Report in SBAB's Annual Report.) The Board and CEO should have a sound overall comprehension of these and a detailed understanding of the content of the risk reports submitted to them. The CRO is responsible for the Board and CEO receiving ongoing training in risk-related issues and

Figure 3. **The three lines of defence**

for ensuring that new members are trained within two months of commencing their appointments.

The CEO is responsible for ongoing administration in accordance with the strategies, guidelines and governance documents adopted by the Board. The CEO is to ensure that the methods, models and processes forming part of the internal measurement and control of identified risks function as intended and are approved by the Board. In ALCO (Asset & Liability Committee), issues concerning capital management, liquidity preperedness, overall strategy regarding market risk and limit issues are discussed. Above that issues related to finance strategy, balance sheet plan and internal price are discussed in front of CEO. The CEO also ensures, on an ongoing basis, that reporting to the Board by each unit, including the Risk Control function, is conducted in accordance with the relevant instructions. The CRO is responsible for the independent Risk Control function, which comprises identification, quantification, analysis, follow-up and reporting of all risks. The CRO is directly subordinate to the CEO and reports directly to the CEO and Board of Directors of SBAB.

Among other matters, the CRO is responsible for:

- At an overall level, developing risk-taking strategies and ensuring that SBAB's risk-taking strategies are implemented in accordance with the Board's intentions, and that policies, instructions and processes facilitate relevant follow-up;
- Identifying, measuring, analysing and reporting risk exposure to the Board of Directors and CEO;
- Providing the Board of Directors and the CEO with a tangible and comprehensive overview of all risks in the institution;
- Designing proposals for the risk strategy and participating in all material risk management decisions;

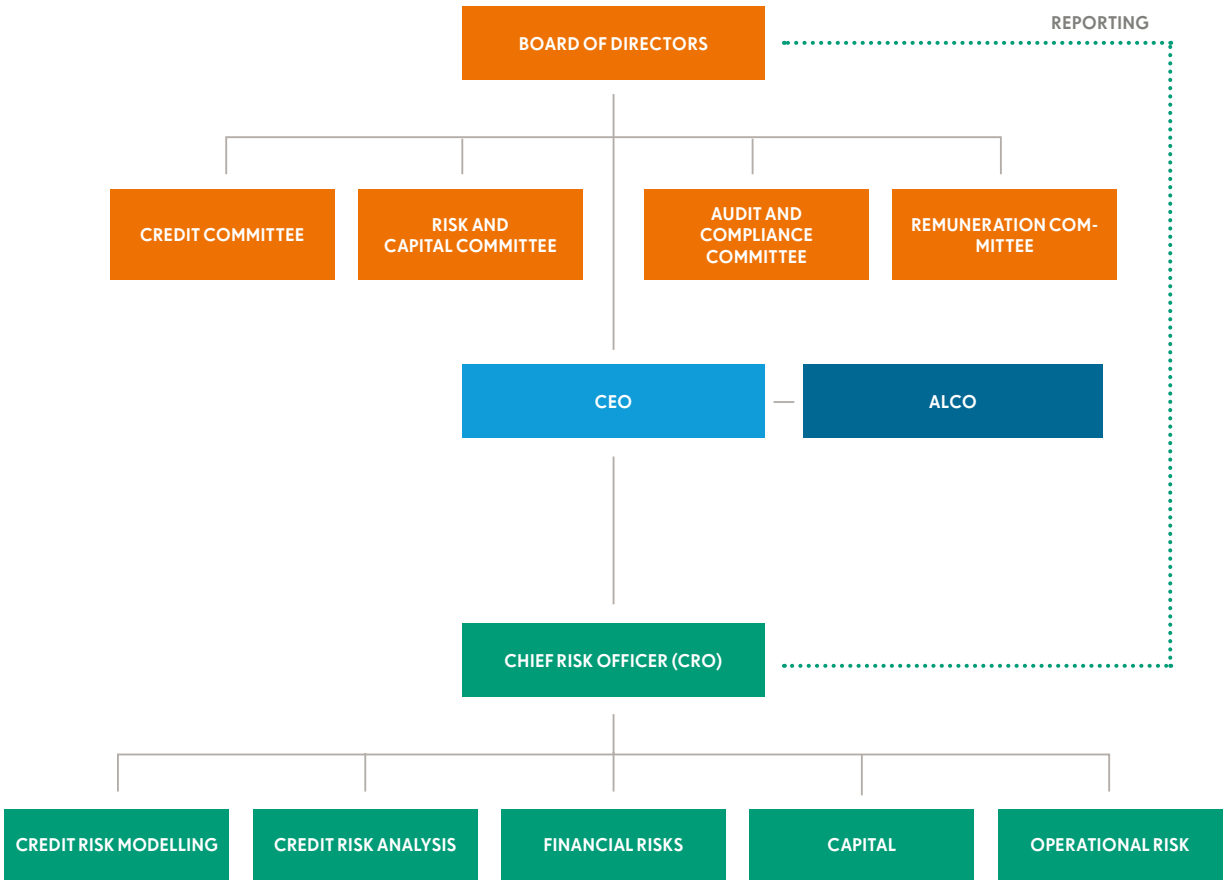
- Having sufficient authority to influence strategic risk management decisions and being able to contact the Board of Directors directly; and
- Designing, implementing, ensuring reliability and following up SBAB's risk classification system and its economic capital model.

A monthly report on the overall risk situation and capital adequacy ratios is presented by risk control to the Board, the CEO and Executive Management. The Board and the CEO are also provided with a more in-depth description of risks on a quarterly basis. In addition, a daily report on current risk levels in relation to granted limits is presented to the CEO, CFO and CRO. SBAB's Board and Executive Management are thereby provided with a relevant overview of the Group's risk exposure on a continuous basis.

Those who own the risks, i.e. the business operations, must, without delay, inform risk control of occurrences of significant events that could entail a heightened risk.

Clear ownership of risk and compliance applies in the first line of defence at SBAB. This is secured through an organisation comprised of risk and compliance coordinators in the first line of defence, who support the respective business managers with a focus on risk management, process mapping, internal controls, incident management and regulatory compliance.

Figure 4. **Risk reporting**



5 Capital adequacy

The rules for capital adequacy are stated in the CRR and CRD IV. In part, the rules serve to make institutions more resilient to new crises and, in part, to raise confidence in the institutions' ability to manage new crises. The institutions must prove to rating agencies and the investors who purchase the institutions' securities, as well as new and existing customers, that they have an adequate capital situation.

5.1 Capital requirements

The size of SBAB's capital requirement depends on laws and regulations, the company's internal assessment based on approved strategies, the assessments of investors and rating agencies, and the evaluations made by the owner, the Board and Executive Management. As a result of the Corona virus's impact on the economy and the changing capital requirements that SBAB is facing, the bank will continuously evaluate its capital targets ahead.

Capital in accordance with Pillar 1, refers to the minimum amount of capital that the company is required to have in accordance with the CRR and CRD IV, the EU's technical standards and delegated acts, the Special Supervision of Credit Institutions and Investment Firms Act (2014:968), the Capital Buffers Act (2014:966), EU Regulation (2019/2033) on the prudential requirements of investment firms and the Swedish FSA's regulations regarding prudential requirements and capital buffers (FFFS 2014:12). The total capital requirement according to SFSA including the additional amount under Pillar 2 amounted to 14.9% on 31 December 2019, and the CET1 capital requirement was 10.7%. The total capital ratio was 20.1% on 31 December 2019, and the CET1 capital ratio was 13.1%.

5.2 Capital requirements and buffers

The rules in the CRR and CRD IV entail, among other things, requirements in the Pillar 1 for a minimum level of own funds and controls on capital requirements. According to the requirements, the bank must have a CET1 capital ratio of at least 4.5%, a Tier 1 capital ratio of at least 6% and a total capital ratio at least equal to 8% of the total risk exposure amount for credit risk, market risk and operational risk.

5.2.1 Buffers

In addition to a total capital ratio of 8%, the bank must maintain CET1 capital to meet the combined buffer requirement, which in Sweden is the sum of a capital conservation buffer of 2.5% of the risk exposure amount, a countercyclical buffer of up to 2.5% and buffers for systemic risk of up to 5%.

The SFSA has decided that, in addition to a capital conservation buffer of 2.5%, a countercyclical buffer of 2.5% will also apply for Swedish exposures. The countercyclical buffer for Swedish exposures has increased from 2.0% to 2.5% effective from 19 September 2019. The SFSA has also decided to recognise countercyclical buffer values of up to 2.5% set by a competent authority in another EEA country. From 31 December 2019, the countercyclical buffer value for Norwegian exposures is raised from 2.0% to 2.5% following a decision by the Norwegian Ministry of Finance. From 30 September 2019, the countercyclical buffer for Denmark has been raised to 1.0% from 0.5%, following by a decision by the Denmark Ministry of Finance. United Kingdom exposures are subject to a countercyclical buffer of 1%. Furthermore, banks considered systemically important are subject to an additional capital requirement of 5% to be covered by CET1 capital. The banks in Sweden that are currently considered systemically important are: Handelsbanken, SEB, Swedbank and Nordea Hypotek. The buffer values are presented in Table 11, Risk exposure amounts and capital requirements.

5.2.2 Risk-weight floor for Swedish mortgages

In august 2018, the Board of Directors of the Swedish FSA decided to change the method for applying risk-weight floors for Swedish residential mortgages. The requirement that until 2018 applied in Pillar 2 has, from 31 December 2018, been replaced with a corresponding requirement in Pillar 1 through activation of Article 458 of the CRR. The change applies for a period of two years, or alternatively, until the macroprudential risk ceases to exist. Under Article 458, the measure can be extended for one year at a time. The measure applies to credit institutions with Swedish mortgage exposures and to institutions with permission to apply an IRB approach for these exposures. SBAB and SCBC are subject to this measure.

5.2.2.1 Impact on SBAB

In nominal terms, SBAB's total capital requirement was not significantly affected by the amendment. The minimum requirement increased, as did the buffer requirement. At the same time, the Pillar 2 capital requirement decreased by a corresponding amount since the existing Pillar 2 requirement for residential mortgages was removed. As a result the capital ratios and the capital requirement expressed as a percentage of the risk exposure amount decreased but there was no effect in absolute terms. SBAB's capacity to meet the total capital requirement was unaffected.

5.2.3 Regulatory changes

The rate of changes in the regulatory frameworks has remained high.

5.2.3.1 Regulatory changes in 2019

- The new lease standard (IFRS 16) was implemented on 1 January 2019 and entails the recognition of a lease as an asset (right-of-use) and a liability in the lessee's balance sheet. In 2018, SBAB completed analysis of all contracts, which resulted in rental contracts for premises becoming subject to SBAB's application of IFRS 16. These contracts were classified as operating leases under IAS 17. On transition on 1 January 2019, a tangible asset in the consolidated situation with respect to lease contracts identified pursuant to IFRS 16 of gross SEK 88 million according to the simplified approach. As of December 2019, the lease contracts amounted to gross SEK 110 million. A risk weight of 100% is applied for the tangible asset pursuant to Article 134, item 7 of the CRR. The effect on profit or loss is deemed limited and will therefore not materially affect SBAB's own funds.
- The SFSA has introduced new regulations and general guidelines for managing credit risks, which entered into force on 1 March 2019. The regulations include rules regarding how companies should identify, measure, govern, report internally and exercise control over credit risks. They also include rules for how the companies should conduct credit assessments. The aim of the regulations is to improve credit risk management at credit institutions and securities companies. The impact on SBAB's operations is assessed as manageable and, in autumn 2018, work was carried to secure compliance with the regulations.
- Changes to the CRR have been adopted on April 26, 2019 which relate to a deduction in CET1 capital for new loans that have become non-performing. The deduction should act as a backstop for non-performing loans. No identified impacts on SBAB's own funds is recognised at year end 2019.
- The EBA published new guidelines pertaining to disclosure requirements for non-performing and forborne exposures effective from 31 December 2019.

5.2.3.2 Forthcoming regulations

Identified, forthcoming regulatory changes are presented below:

- Banking package was adopted In May 2019 by the Council. This package contains a comprehensive legislative package containing amendments to the capital requirement legislation (CRR II and CRD IV) which reinforces the capital and liquidity positions of banks and strengthens the framework for the recovery and resolution of banks in difficulty (directive 2014/59/EU and regulation 806/2014). The purpose of these regulations is to increase financial stability, strengthen the resilience of the EU Banking system and improve banks' lending capacity within the EU.
  - A binding leverage ratio requirement of 3% has been introduced in CRR to complement the current system for the reporting and disclosure of the leveage ratio. The requirement will be effective from June 2021.
  - Minimum requirements for the net stable funding ratio (NSFR) – the structural liquidity measure comprising the ratio between available stable funding and the stable funding required – will be introduced in the EU in June 2021.
- A consultation paper by the EBA specifying uniform disclosure formats to increase comparability of information required by CRR Part Eight. The application of the disclosure requirements will be effective from June 2021.
- The EBA has initiated an extensive effort aimed at harmonising the banks' internal ratings-based (IRB) systems used to cover capital requirements for credit risk. Harmonisation comprises two parts. The first part is to clarify the definition of default and the thresholds for materiality pursuant to Article 178(1) of the CRR. SBAB's application for the default definition is approved by the SFSA as per January 2020 and will be implemented during the first quarter of 2020.The second part concerns the parameter estimates of PD and LGD, and their respective calibration against long-run average default rates and long-run average LGD after taking into account economic downturn periods. Work with the second part is ongoing and SBAB is expected to apply to the SFSA for new IRB models during 2020. Through clarification of the regulatory requirements in these areas, the EBA hopes to achieve a consensus among the banks, whereby the same underlying credit risks are covered to an equal extent. The new regulatory requirements will be effective from 1 January 2022 and will affect all SBAB's entire rating system.
- The SFSA has on 28 January 2020 introduced a risk-weight floor in Pillar 2 regarding exposures to property companies. The floors are 35% for exposures to property companies with collateral in commercial property in Sweden and 25% for exposures to property companies with collateral in residential property in Sweden. The additional capital requirement corresponds to the difference between a risk weight determined by SFSA and the Bank's actual average risk weight for exposures to commercial real estate sector. The additional capital requirement will be applied in 2020 during FI's assessment of the banks' capital requirements as part of FI's annual supervisory review and evaluation process (SREP). The decision will have a limited effect on SBAB risk weighted exposures.
- In December 2017, the Basel Committee finalised the Basel III framework. The final proposal complements the initial phase of Basel III reforms previously finalised by the Committee. The main changes to current approach include changes in credit risk, a revised standardised approach will be introduced with a larger component of risk sensitivity. In addition, restrictions will be introduced on how methods based on internal models may be used. For measuring operational risk banks must use a new, uniform standardised approach based on a combination of the bank's earnings and historical operational losses. An overall risk-weight floor of 72.5% of the exposure amount is being introduced according to the standardised approach for all banks that use internal models. The new rules will be applied from 2022 with a long transitional period for the output floor up until 2027.

Table 5. **Geographic distribution of exposures relevant for the calculation of the countercyclical buffer**

	GENERAL CREDIT EXPOSURES		TRADING BOOK EXPOSURES		SECURITISATION EXPOSURES		CAPITAL REQUIREMENTS					
Countercyclical buffer by country, SEK million	**Exposure value for SA**	**Exposure value for IRB**	**Sum of long and short positions of trading book exposures for SA**	**Value of trading book exposures for internal models**	**Exposure value for SA**	**Exposure value for IRB**	**Of which: General credit exposures**	**Of which: Trading book exposures**	**Of which: Securitisation exposures**	**Total**	**Own funds requirements weights**	**Countercyclical capital buffer rate**
Sweden	36,499	395,124	–	–	–	–	2,599	–	–	2,599	80.59%	2.50%
Norway	2,201		–	–	–	–	18	–	–	18	0.56%	2.50%
Other	42,118		–	–	–	–	608	–	–	608	18.85%	–
Total	**80,818**	**395,124**	**–**	**–**	**–**	**–**	**3,225**	**–**	**–**	**3,225**	**100.00%**	–

Table 6. **Amount of institution-specific countercyclical capital buffer**

SEK million	
Total risk exposure amount	120,571
Institution-specific countercyclical capital buffer rate, %	2.49
Institution-specific countercyclical buffer requirement	3,003

5.3 Own funds

SBAB's own funds consist of equity as well as additional Tier 1 capital and Tier 2 capital consisting of subordinated loans. SBAB's own funds amounted to SEK 24,282 million on 31 December 2019. Over the year, CET1 capital was affected by the fact that net profit/loss for the period was added. The surplus has been verified by the company's auditors, in accordance with Article 26, item 2, of the CRR.

According to Article 35 of the CRR, the institution shall, except in the case of the items referred to in Article 33, not make adjustments to remove from own funds unrealised gains or losses on assets or liabilities recognised at fair value. According to this Article, SEK 1,959 million have been added to CET1 capital.

According to Article 33, item 1, of the CRR, the part of the fair-value reserves related to gains or losses on cash-flow hedges of financial instruments that are not valued at fair value, including projected cash flows is not to be included in own funds. The CET1 capital has been adjusted for cash-flow hedges amounting to SEK 1,921 million.

Changes in fair value that depend on the institution's own credit standing and that are related to derivatives had a negative impact of SEK 19 million on CET1 capital, in accordance with Article 33, item 1b.

With reference to Articles 34 and 105 of the CRR, SEK 55 million has been deducted from CET1 capital due to the requirements for prudent valuation.

A deduction of SEK 188 million for intangible assets and a deduction of SEK 64 million for net provisions were made in accordance with Article 36 of the CRR. An addition for an IRB surplus, under Article 62, item d of the CRR, had an impact of SEK 5 million on own funds in December 2019.

No risk exposures have been deducted from own funds.

Disclosure of own funds

Disclosures in accordance with Article 4 of Commission Implementing Regulation (EU) No 1423/2013, Annex V.

Table 7. **Own funds**

Consolidated situation, SEK million	31 Dec 2019	31 Dec 2018
CET1 capital instruments: Instruments and reserves		
Capital instruments and the related share premium accounts	1,958	1,958
Retained earnings	12,360	11,443
Accumulated other comprehensive income (and other reserves, to include unrealised gains and losses under the applicable accounting standards)	1,959	609
Additional Tier 1 instruments	3,500	1,500
Independently verified net profit for the year net of any foreseeable charge or dividend	1,800	1,041
CET1 capital before regulatory adjustments	**21,577**	**16,551**
CET1 capital: Regulatory adjustments		
Additional value adjustments (negative amount)	–55	–59
Intangible assets (net of related tax liability) (negative amount)	–188	–126
Fair value reserves related to gains or losses on cash-flow hedges	–1,921	–488
Negative amounts resulting from the calculation of expected loss amounts	–64	–50
Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	–19	–65
Additional Tier 1 instruments in equity	–3,500	–1,500
Total regulatory adjustments to CET1 capital	**–5,747**	**–2,288**
CET1 capital	**15,830**	**14,263**
Additional Tier 1 capital: Instruments		
Capital instruments and the related share premium accounts	5,000	3,000
of which: classified as equity under applicable accounting standards	*3,500*	*1,500*
of which, classified as liabilities under applicable accounting standards	*1,500*	*1,500*
Amount of qualifying items referred to in Article 484(4) and the related share premium accounts subject to phase out from Additional Tier 1 capital	–	–
Additional Tier 1 capital before regulatory adjustments	**5,000**	**3,000**
Additional Tier 1 capital: Regulatory adjustments		
Total regulatory adjustments to Additional Tier 1 capital	–	–
Additional Tier 1 capital	**3,000**	**3,000**
Tier 1 capital (Tier 1 capital=CET1 + Additional Tier 1 capital)	**20,830**	**17,263**
Tier 2 capital: Instruments and provisions		
Capital instruments and the related share premium accounts	3,447	3,447
Credit risk adjustments	5	3
Tier 2 capital before regulatory adjustments	**3,452**	**3,450**
Tier 2 capital: Regulatory adjustments		
Total regulatory adjustments to Tier 2 capital	–	–
Tier 2 capital	**3,452**	**3,450**
Total capital (Total capital=Tier 1 capital + Tier 2 capital)	**24,282**	**20,713**
Total risk exposure amount	**120,571**	**114,141**
Capital ratio and buffers		
CET1 capital (as a percentage of total risk-weighted exposure amount), %	13.1	12.5
Tier 1 capital (as a percentage of total risk-weighted exposure amount), %	17.3	15.1
Total capital (as a percentage of total risk-weighted exposure amount), %	20.1	18.1
Institution-specific buffer requirements (CET1 capital requirement in accordance with Article 92(1)(a) plus the capital conservation buffer and countercyclical capital buffer requirements, plus the systemic risk buffer, plus the systemically important institution buffers (G-SII buffer and O-SII buffer) expressed as a percentage of the risk-weighted exposure amount, %	9.5	9.0
of which, CET1 capital, minimum requirement, %	*4.5*	*4.5*
of which, capital conservation buffer requirement, %	*2.5*	*2.5*
of which, countercyclical buffer requirement, %	*2.5*	*2.0*
of which, systemic risk buffer requirement, %	–	–
of which, G-SII buffer and O-SII buffer, %	–	–
CET1 capital available to meet buffers (as a share of risk-weighted exposure amounts, %)	8.6	8.0
Capital instruments subject to phase-out arrangements (only applicable between 1 January 2014 and 1 January 2022)		
Current cap on AT1 instruments subject to phase-out arrangements	–	–
Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	–	–
Current cap on T2 instruments subject to phase-out arrangements	–	–

There are no ongoing or foreseen material obstacles or other legal barriers to a rapid transfer of funds from own funds other than what is stipulated in the terms and conditions governing subordinated loans (see Note L:7 in SBAB's Annual Report for 2019) or what generally applies under the Companies Act (2005:551).

The starting capital required for the Parent Company in accordance with the Act on Banking and Financing Activities (2004:297) totalled SEK 45.9 million. The corresponding capital requirement for SCBC amounted to SEK 47.0 million.

Table 8. **Capital adequacy**[1)]

	CONSOLIDATED SITUATION		PARENT COMPANY		SCBC	
SEK million	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**
CET1 capital	15,830	14,263	9,530	6,398	16,168	15,250
Tier 1 capital	20,830	17,263	14,530	9,398	16,168	15,250
Total capital	24,282	20,713	17,977	12,845	16,173	15,253
Risk exposure amount	120,571	114,141	37,573	36,404	94,966	89,188
CET1 capital ratio, %	13.1	12.5	25.4	17.6	17.0	17.1
Excess [2)] of CET1 capital	10,404	9,127	7,839	4,760	11,894	11,237
Tier 1 capital ratio, %	17.3	15.1	38.7	25.8	17.0	17.1
Excess [2)] of Tier 1 capital	13,596	10,415	12,276	7,214	10,470	9,899
Total capital ratio, %	20.1	18.1	47.8	35.3	17.0	17.1
Excess [2)] of total capital	14,636	11,582	14,971	9,933	8,575	8,118

[1)] The risk-weight floor has effected risk exposure amount, excess capital and capital ratios.
[2)] Excess capital has been calculated based on minimum requriements (without buffer requirements)

5.3.1 Subordinated loans

The subordinated loans are subordinate to the Parent Company's other liabilities, and the subordinated loans included in Tier 1 capital are subordinate to other subordinated loans. For a specification of own funds and the terms and conditions for subordinated loans in accordance with Commission Implementing Regulation (EU) No 1423/2013, please refer to the information under "Capital adequacy & risk management" at www.sbab.se. The complete terms and conditions of the subordinated loans are also specified at www.sbab.se.

Table 9. **Subordinated loans**

ISIN	Currency	Nominal amount	Nominal amount outstanding	First possible redemption date	Interest rate, %	Interest rate after first possible redemption date, %	Maturity date	Included in own funds as Additional Tier 1 capital	Included in own funds as Tier 2 capital
XS1202975386	SEK	400	400	2020-03-16	3.8245	3 m stibor+3.25	Perpetual	400	–
XS1202987985	SEK	1,100	1,100	2020-03-16	3 m stibor+3.25	3 m stibor+3.25	Perpetual	1,100	–
XS1245415812	SEK	1,000	1,000	2020-06-11	3 m stibor+1.30	3 m stibor+1.30	2025-06-11	–	1,000
XS1317715842	SEK	600	600	2020-11-10	2.25	3 m stibor+1.90	2025-11-10	–	597
XS1317716147	SEK	1,850	1,850	2020-11-10	3 m stibor+1.90	3 m stibor+1.90	2025-11-10	–	1,850
XS1412406503	SEK	775	775	2021-06-17	5.052	3 m stibor+4.75	Perpetual	775	–
XS1412408897	SEK	725	725	2021-06-17	3 m stibor+4.75	3 m stibor+4.75	Perpetual	725	–
SE0012193787	SEK	400	400	2025-03-05	3.67	3 m stibor +3.8	Perpetual	400	–
SE0012193779	SEK	1,600	1,600	2024-09-05	3 m stibor+3.65	3 m stibor+3.65	Perpetual	1,600	–
Total (SEK mn)		**8,450**	**8,450**					**5,000**	**3,447**

5.4 Regulatory capital requirements

When calculating capital requirements, each exposure is allocated to an exposure class, either using the standardised or the IRB approach. Table 11 shows the individual risk exposure amounts distributed by exposure class.

The capital requirement for credit risk IRB approach increased slightly over the year mainly due to increased volumes within corporate exposures. The capital requirement for credit risk within standardised approach increased regard to covered bonds and equity exposures respectively. The capital requirement for market risk declined during the second half of 2019 due to hedging of interest rate in the banking book. SBAB has only currency risk i Pillar 1.

Table 10. **Overview of risk exposure amount** *(EU OV1 table)*

	Risk exposure amount		Minimum capital requirement	
SEK million	**2019**	**2018**	**2019**	**2018**
Credit risk (excluding CCR)	**32,876**	**31,423**	**2,631**	**2,513**
of which the standardised approach	7,440	7,199	596	575
of which the foundation IRB (FIRB) approach	13,415	12,128	1,073	970
of which, the advanced IRB (AIRB) approach	12,021	12,096	962	968
CCR	**6,474**	**6,661**	**518**	**533**
of which Mark-to-Market Method	4,078	3,776	326	302
of which CVA	2,396	2,885	192	231
Market risk	**462**	**999**	**37**	**80**
of which the standardised approach	462	999	37	80
Operational risk	**4,854**	**4,339**	**388**	**ok**
of which the standardised approach	4,854	4,339	347	347
Addtional stricter prudential requriements based on CRR art.458	**75,113**	**70,719**	**6,009**	**5,658**
Addtional stricter prudential requriements based on CRR art.3	**792**	–	**63**	–
Total	**120,571**	**114,141**	**9,646**	**9,131**

Table 11. **Risk exposure amounts and capital requirements**

SEK million	**Risk exposure amount 31 Dec 2019**	**Capital requirement 31 Dec 2019**	**Risk exposure amount 31 Dec 2018**	**Capital requirement 31 Dec 2018**
Credit risk in accordance with IRB approach				
Exposures to corporates	13,415	1,073	12,128	970
Retail exposures	12,021	962	12,096	968
- of which, exposures to SMEs	*834*	*67*	*829*	*67*
- of which, retail exposures secured by immovable property	*11,187*	*895*	*11,267*	*901*
Total exposures recognised with the IRB approach	**25,436**	**2,035**	**24,224**	**1,938**
Credit risk recognised with the standardised approach				
Exposures to governments and central banks	0	0	0	0
Exposures to regional governments or local authorities or agencies	0	0	0	0
Exposures to multilateral development banks	0	0	0	0
Exposures to institutions[1)]	4,079	326	3,777	
- of which, derivatives according to CRR, Appendix 2	*4,057*	*324*	*3,776*	*302*
- of which, repos	21	2	*0*	*0*
- of which, other	*1*	*0*	*1*	*0*
Retail exposures	2,253	180	2,236	179
Exposures in default	7	1	10	1
Exposures in the form of covered bonds	3,674	294	3,593	287
Exposures to institutions and corporates with a short-term credit rating	21	2	16	1
Equity exposures	1,266	101	1,116	89
Other items	218	18	227	18
Total exposures recognised with standardised approach	**11,518**	**922**	**10,975**	**877**
Market risk	**462**	**37**	**999**	**80**
- of which, position risk	–	–	–	–
- of which, currency risk	*462*	*37*	*999*	*80*
Operational risk	**4,854**	**388**	**4,339**	**347**
Credit valuation adjustment risk	**2,396**	**192**	**2,885**	**231**
Additional stricter prudential requirements based on CRR art. 458	**75,113**	**6,009**	**70,719**	**5,658**
Additional stricter prudential requirements based on CRR art. 3	**792**	**63**	**–**	**–**
Total risk exposure amount and minimum capital requirements	**120,571**	**9,646**	**114,141**	**9,131**
Capital requirements for capital conservation buffer		**3,014**		**2,854**
Capital requirements for countercyclical buffer		**3,003**		**2,266**
Total capital requirements		**15,663**		**14,251**

[1)] The risk-weighted amount for counterparty credit risk according to the CRR, Article 92(3)(f), amounts to SEK 4,078 million (3,776).

Table 12. **Standardised approach** *(EU CR5 table)*

Exposure class, SEK million	0%	10%	20%	50%	75%	100%	150%	1,250%	Deducted[2)]	Total	Of which, unrated
Central governments or central banks	24,254	–	–	–	–	–	–	–	–	24,254	–
Regional governments or local authorities	15,471	–	–	–	–	–	–	–	–	15,471	–
Multilateral development banks	1,906	–	–	–	–	–	–	–	–	1,906	–
Institutions[1)]	–	–	3,322	6,829	–	–	–	–	–	10,151	–
Corporates	–	–	–	–	–	–	–	–	–	–	–
Retail	–	–	–	–	3,004	–	–	–	–	3,004	3,004
Exposures in default	–	–	–	–	–	7	–	–	–	7	7
Covered bonds	–	36,742	–	–	–	–	–	–	–	36,742	–
Institutions and corporates with a short-term credit assessment	–	–	104	–	–	–	–	–	–	104	–
Equity	–	–	–	–	–	–	–	101	–	101	–
Other items	233	–	–	–	–	217	–	–	–	450	450
Total	**41,864**	**36,742**	**3,426**	**6,829**	**3,004**	**224**	**–**	**101**	–	**92,190**	**3,461**

[1)] The calculation includes counterparty credit risk.
[2)] The exposure class, "other items" includes those items deducted from own funds. Capital adequacy for these is calculated with a risk weight of 0%.

Table 13. **Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories** *(EU TABLE LI1)* [1)]

			Carrying values			
Balance sheet, SEK million	**Carrying values as reported in published financial statements**	**Carrying values under scope of regulatory consolidation**	**Subject to the credit risk framework**	**Subject to CCR framework**	**Subject to the market risk framework[2)]**	**Not subject to capital requirements or subject to deduction from capital base[3)]**
Assets						
Cash and balances at central banks	5,750	5,750	5,750	–	–	–
Treasury bills, etc.	15,886	15,886	15,886	–	–	–
Lending to credit institutions	417	415	105	310	–	–
Lending to the public	383,807	383,807	383,807	–	–	–
Value changes of interest-rate-risk hedged items in macro hedges	–181	–181	–181	–	–	–
Bonds and other interest-bearing securities	55,730	55,730	55,730	–	–	–
Derivatives	13,087	13,087	–	13,087	–	–
Share in subsidiaries	–	101	101	–	–	–
Intangible assets	311	233	233	–	–	–
Property, plant and equipment	138	125	125	–	–	–
Other assets	57	58	58	–	–	–
Prepaid expenses and accrued income	530	528	528	–	–	–
Total assets	**475,532**	**475,539**	**462,142**	**13,397**	–	–
Liabilities						
Liabilities to credit institutions	10,528	10,528	–	10,527	–	–
Deposits from the public	130,542	130,542	–	–	–	–
Debt securities issued	303,597	303,597	–	–	–	–
Derivatives	1,388	1,388	–	1,388	–	–
Other liabilities	377	362	–	–	–	–
Accrued expenses and deferred income	1,805	1,826	–	–	–	–
Deferred tax liabilities	579	583	–	–	–	–
Provisions	187	187	–	–	–	–
Subordinated debt	4,948	4,948	–	–	–	–
Total liabilities	**453,951**	**453,961**	**–**	**11,915**	–	–

[1)] The table does not include operational risk or CVA risk.
[2)] Following the implementation of IFRS 9, SBAB no longer has any interest-rate risk and only has currency risk. The table does not specify carrying values for currency risk.
[3)] The exposure class, "other items" includes those items deducted from own funds. Capital adequacy for these is calculated with a risk weight of 0%.

Table 14. **Main sources of differences between regulatory exposure amounts and carrying values in financial statements** *(EBA table LI2)*

		Items subject to			
SEK million	**Total**	**Credit risk framework[1)]**	**CCR framework[1)]**	**Securitisation framework**	**Market risk framework[1)]**
Assets carrying value amount under the scope of regulatory consolidation	475,539	462,142	13,397	–	–
Liabilities carrying value amount under the regulatory scope of consolidation	11,915	–	11,915	–	–
Total net amount under the regulatory scope of consolidation	463,624	462,142	1,482	–	–
Off-balance-sheet amounts	48,662	48,662	–	–	–
Differences due to different netting rules, other than those already included in Liabilities carrying value amount under the regulatory scope of consolidation	8,846	182	8,664	–	–
Differences due to prudential filters	132	132	–	–	–
Differences in valuations	–	–	–	–	–
Exposure amounts considered for regulatory purposes	**521,264**	**511,118**	**10,146**	**–**	**–**

[1)] The framework for counterparty credit risk and market risk encompasses REAs from derivatives and repos under Pillar 1. Since the implementation of IFRS 9, REAs for bonds are only encompassed by the framework for credit risk under Pillar 1, due to the transfer of all of the bond holdings in the trading book to the banking book.

5.5 Credit risk mitigation techniques

Credit risk mitigation used for IRB exposures consists of government and municipal guarantees. These are recognised using the standardised approach for credit risk.

Table 15. **Standardised approach – Credit risk exposure and credit risk mitigation (CRM) effects** *(EU CR4 table)*

	Exposures before CCF and CRM		Exposures post CCF and CRM		REA	REA density
Exposure classes, SEK million	**On-balance-sheet amount**	**Off-balance sheet amount**	**On-balance-sheet amount**	**Off-balance sheet amount**	**REA**	**REA density (%)**
Central governments or central banks	24,227	–	24,254	–	–	–
Regional governments or local authorities	14,856	–	15,471	–	–	–
Multilateral development banks	1,906	–	1,906	–	–	–
Institutions[1)]	4	–	4	–	0	20
Corporates	–	–	–	–	–	–
Retail	2,794	1,053	2,794	211	2,253	75
Exposures in default	7	–	7	–	7	100
Covered bonds	36,743	–	36,742	–	3,674	10
Institutions and corporates with a short-term credit assessment	104	–	104	–	21	20
Equity	101	–	101	–	1,266	1,250
Other items	450	–	450	–	217	48
Total	**81,192**	**1,053**	**81,833**	**211**	**7,438**	**9**

[1)] Exposures to institutions excludes counterparty credit risk.

Table 16. **Exposure amounts before and after credit risk mitigation by credit quality step**

Credit quality step, SEK million	**Exposure amount before credit risk mitigation measures**	**Exposure amount after credit risk mitigation measures**
1	81,795	81,795
2	6,812	6,812
3	17	17
4	–	–
5	–	–
6	–	–
Total	**88,624**	**88,624**

Table 17. **Credit risk mitigation techniques - overview** *(EU CR3 table)*

SEK million	**Exposures unsecured – carrying amount**	**Exposures secured – carrying amount**	**Exposures secured by collateral**	**Exposures secured by financial guarantees**	**Exposures secured by credit derivatives**
Total – loans	10,153	373,786	373,190	595	–
Total – debt securities	71,961	–	–	–	–
Total exposures	**82,114**	**373,786**	**373,190**	**595**	–
Of which defaulted	8	247	247	–	–

5.6 Securitised assets

The SBAB Group has no securitised loans of its own and has not contributed to any other institution's securitisation.

SBAB has no overdue exposures in respect of securitisations and no re-securitisations, and no securitised rolling exposures.

5.7 Rating

SBAB uses ratings from all three approved rating agencies: Moody's, Standard & Poor, and Fitch.

When external ratings are used, the two lowest ratings from Moody's, Fitch or Standard & Poor's are selected in accordance with Article 138 of the CRR. External ratings are used for exposures to governments and central banks, regional governments or local authorities and agencies, multilateral development banks, institutions or corporates with a short-term credit rating, and exposures in the form of covered bonds. The association of the external rating provided by credit rating agencies with the credit quality steps prescribed in the CRR complies with the standard association published by the EBA (refer to Table 25, The mapping between internal and external rating).

6 Internally assessed capital requirement

The internal capital adequacy assessment aims to ensure that SBAB has adequate capital under normal circumstances and in the event of financial problems. The Board of Directors and Executive Management are responsible for the internal capital adequacy assessment. Within the framework of the internal capital and liquidity adequacy assessment processes (ICLAAP), SBAB applies an economic capital model for its internally assessed capital requirement. Liquidity risk does not have to any actual capital requirement. The ICLAAP is designed to ensure an equal balance between risks, capital and liquidity. Refer to Chapter 13 for more information on liquidity risk.

6.1 Internal capital adequacy assessment according to Pillar 2 of the Basel regulations

Pillar 2 of the Basel 3 regulations imposes the requirement that the banks' management and assessment of risks must be satisfactory to ensure that the banks can fulfil their obligations. To meet this requirement, the banks must have methods that enable them to continuously evaluate and maintain a capital amount. This capital amount's, type and distribution should be enough to cover the risks to which they are exposed to or could be exposed in the future. This is called the internal capital and liquidity adequacy assessment process (ICLAAP).

The operations conducted by SBAB affect the size of the risk taken by the company, which in turn impacts the size and nature of the capital required to manage unforeseen losses. The size of the capital in turn affects the price of individual transactions for customers. The better SBAB can manage and assess the risk, the more accurately the scope of the capital utilised in the individual transaction can be assessed, thereby enabling the risk-adjusted return for the transaction to be calculated.

SBAB's internally assessed capital requirement comprises of minimum capital requirement under Pillar 1, the capital requirement under Pillar 2 and buffer requirements. The Pillar 2 capital requirement assesses the additional capital required, over and above Pillar 1, for the risks where a capital requirement has been identified in Pillar 2. This assessment is based on SBAB's economic capital model. If the economic capital for each risk class exceeds the capital requirement in Pillar 1, an additional amount applies under Pillar 2. The capital requirement under Pillar 2 also assesses risk classes not covered by Pillar 1. Moreover, a number of buffer requirements also apply. In addition to the buffer requirement under Pillar 1, SBAB calculates a capital planning buffer to cover any downgrade of the capital adequacy in the event of severe but not impossible financial stress.

When determining the size of the capital requirement, assessments of investors and rating agencies regarding the company's capital requirements compared with the capital held by the company are also considered. The views of rating agencies are reflected in SBAB's rating, which directly impacts the company's funding cost.

The quality and utilisation of risk information are essential to SBAB's long-term competitiveness in the market. The purpose of the internal capital adequacy assessment process (ICAAP) is to ensure that the company identifies, measures, secures and manages the risks to which SBAB is exposed and has own funds that are compatible with the selected risk appetite. The process is revised annually to capture changes in the operating environment that continuously affect the company's performance.

6.2 Process for internal calculation of capital requirements

As part of SBAB's process for establishing internally calculated capital requirements, the risks generated in the operations are identified initially. Risk Control is responsible for the quantification of all risks. Various models are used depending on the risk to be measured. The economic capital model is used to calculate capital requirements for quantifiable risks.

SBAB uses stress tests to assess the impact on the capital requirement during a normal economic downturn and during severe, but yet probable, financial stress.

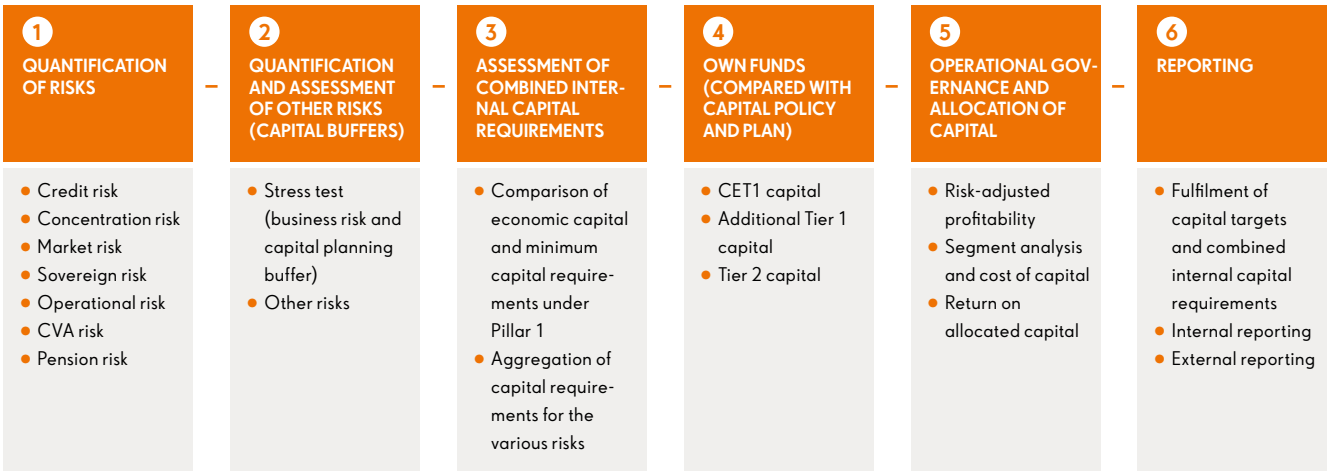
In addition to economic capital, capital buffers are reserved for capital requirements caused by stress tests and for pension risk, which are all included in the internal capital requirement. The combined results are followed up and analysed, for both short and long-term effects, in terms of capital planning and forecasts. The compiled results of the internal capital adequacy assessment are reported to the Board and CEO. Finally, the Board adopt the process and the results of the company's internal capital adequacy assessment.

6.3 Internal capital adequacy assessment components

SBAB's internal assessment of the capital requirement include the minimum requirements under Pillar 1, the Pillar 2 core requirement, the risk-weight floor for Swedish residential mortgages, buffer requirements, stress tests and the capital planning buffer. It is used to control and monitor profitability in both the company's operations and for strategic considerations.

The capital requirements for credit risk, including concentration risk and sovereign risk, market risk, operational risk and CVA risk are quantified in SBAB's economic capital model. Economic

Figure 5. **Internal capital adequacy assessment process**



capital for credit risk and market risk is defined as the amount of capital needed to ensure solvency over a one year period,given a confidence level of worst case scenario. The confidence level is chosen to reflect the company's target rating. In addition to the capital requirement that is quantified with SBAB's economic capital model, an additional capital requirement arises from the risk-weight floor for Swedish residential mortgages, pension risk, and any potential additions in the form of business risk and the capital planning buffer. Refer to Table 18 for the internally calculated capital requirements per risk type.

6.3.1 Credit risk

Credit risk in lending operations is the dominant risk in SBAB's operations. Credit risk in lending operations is defined as the risk of loss due to the customer's or the counterparty's inability to make interest and loan repayments or otherwise fulfil the loan agreement. Lending is conducted to consumers, tenant-owners' associations and companies. Aside from lending and loan commitments, credit risk also arises in treasury operations through derivative counterparties and through investment risk for investments in the liquidity portfolio.

6.3.1.1 Credit risk in lending operations

In the economic capital model, credit risk is calculated using the Basel framework's formulas for capital requirements for credit risk. However, these have been modified by adding further safety margins to the required correlation assumptions applied. Moreover, the capital requirement is calculated to a confidence level of 99.97%, rather than to 99.9% as applied in the original formula. However, in the economic capital calculation, which is the base for SBAB's risk adjusted follow-up, the prescribed LGD floors of 10% and 15%, respectively, are not applied. This is because economic capital, in contrast to the IRB approach applied in the regulatory framework, should be sensitive to the LTV ratio for all exposures.

The formula applied by the Basel framework for calculating capital requirements under Pillar 1 does not take into account any concentration effects in the loan portfolio. In this model, the capital requirement for a single exposure is independent of the loan's portfolio and is based solely on PD, LGD and EAD for the specific exposure. Therefore, an addition for concentration risk must be made to quantify SBAB's compiled credit risk, including concentration risk.

6.3.1.2 Risk-weight floor for Swedish mortgages

In August 2018, the Swedish FSA decided to apply the existing risk-weight floor of 25 percentage for mortgages applied in Pillar 2 as a requirement within the framework of Article 458 of the CRR. The amendment entered in to force from 31 December 2018 and applies for two years. This has resulted in a change,as now the capital requirement for the existing risk-weight floor for mortgages in Sweden is set as a requirement in Pillar 1 instead of Pillar 2. The credit institutions encompassed by the measure are those authorized to use the IRB approach and which have exposures to Swedish residential mortgages. The branches of foreign credit institutions in Sweden that are exposed to Swedish residential mortgages and which apply the IRB approach for these exposures, have also been affected.

6.3.1.3 Credit risk in treasury operations

Credit risk arises in treasury operations, in part, in the form of counterparty credit risks for the derivative contracts entered by SBAB to manage its financial risks and in part, in the form of investment risk as a result of investments in the liquidity portfolio and the investment of surplus liquidity. Calculation of the exposure value for counterparty credit risk is based on the mark to market approach and the majority of the exposure is covered through collateral agreements.

The assessment of credit risk in treasury operations is based on the same principles as for lending operations. The material difference to lending operations is that the PD is set based on the counterparty's external rating and the LGD is set based on the type of instrument (derivative, covered bond, etc.).

6.3.1.4 Sovereign risk
SBAB has central government exposures in its treasury operations and lending operations, which are allocated a risk weight of 0% under Pillar 1. SBAB uses sovereign risk as a risk class in its economic capital model and quantifies the internally assessed capital requirement from sovereign risk. Sovereign risk is calculated on foreign exposures with the risk-weight formula for institutions using a LGD of 45%, and where the PD is set based on the counterparty's external rating.

6.3.1.5 Credit-related concentration risk
Concentration risk arises when exposures are concentrated to certain counterparties, regions or industries. SBAB is considered to be exposed to credit risk related concentration risk in its lending and treasury operations. The entire capital requirement for concentration risk is included in the economic capital for credit risk.

SBAB calculates the concentration risk divided into single name concentration, industry concentration and sector concentration (geographic concentration). SBAB's method for single-name concentration is based on a method developed by Gordy & Lutkebohmert (2007) while industry and sector concentration is based on a method based on the Herfindahl index.

Upon calculation as per 31 December 2019, the internally calculated capital requirement for concentration risk was SEK 951 million (968), of which SEK 881 million (898) pertained to credit risk in lending operations and SEK 70 million (70) to credit risk in funding operations.

6.3.2 Credit valuation adjustment risk (CVA)
CVA is defined as the risk of a downgrade in the credit quality of SBAB's OTC derivative counterparties. Calculation of the exposure amount for counterparty credit risk is based on the mark-to-market approach. SBAB quantifies CVA each month in accordance with the standardised approach in the CRR.

SBAB does not identify any additional amount under Pillar 2 for CVA.

6.3.3 Operational risk
Operational risk means the risk of losses due to inappropriate or unsuccessful internal processes, human error, faulty systems or external events. The definition also includes legal risk.

SBAB applies the standardised approach for capital adequacy for operational risk under Pillar 1. This approach calculates the capital requirement based on 12, 15 and 18%, respectively of the business area's average operating income over the past three years.

SBAB does not identify any additional amount under Pillar 2 for operational risk.

6.3.4 Market risk
Market risk means the risk of a negative earnings impact due to market fluctuations and, in SBAB's operations, mainly comprises interest rate risk, credit spread risk, currency risk and basis risk. Market risk is quantified using SBAB's Value at Risk models (VaR) It is managed by limiting exposure within limits set by the Board and by centralising the management of these risks to the Treasury department.

6.3.4.1 Interest rate risk
Interest rate risk pertains to the risk of variations in general interest rate levels leading to a negative earnings impact due to future income and expenses having different fixed-interest periods or interest terms. The general principle governing SBAB's exposure to interest rate risk is to limit it through direct borrowing and the use of derivatives. As far as possible, fixed interest liabilities are matched with fixed interest assets, but since SBAB's residential mortgage customers generally choose floating interest (three-month fixed-interest period) while a large portion of the liability is fixed to longer maturities, a large portion of the debt must be swapped down to a three-month fixed-interest period. As a general principle, the interest-rate risk associated with mortgage lending and the liquidity portfolio, including the debt allocated to the respective portfolios, should be matched. SBAB's equity is invested using a guide value determined by SBAB's Board and therefore includes a strategic long-term interest-rate risk.

6.3.4.2 Credit spread risk
Credit spread risk is defined as the value changes in SBAB's bond holdings, since the credit rating of the issuers can change.

6.3.4.3 Currency risk
Currency risk refers to the risk that changes in the exchange rate for SEK against other currencies result in losses or negatively impact earnings. Generally, SBAB swaps its borrowing in foreign currencies into SEK or matches it against assets in the liquidity portfolio in the same currency.

6.3.4.4 Basis risk
Basis risk mainly arises when borrowing in foreign currency is swapped to SEK using mismatched maturities.

6.3.5 Pension risk
Pension risk arises from the obligation under SBAB's defined benefit pension plans to provide agreed compensation to existing and former employees of the company. Even though SBAB makes ongoing payments to secure this obligation, a risk exists in the form of a negative outcome in terms of the return on the capital provision. The present value of the pension obligation could also increase depending on actuarial assumptions in terms of mortality and as a result of a lower discount rate. From 1 February 2013, no new employees have joined the defined-benefit pension plans.

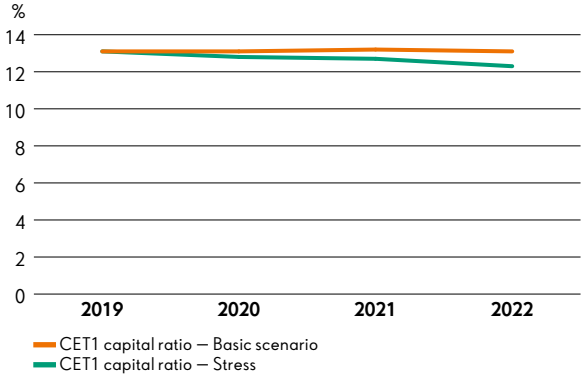
SBAB quantifies pension risks in accordance with the SFSA's methods for assessing individual types of risk within Pillar 2.

6.3.6 Capital planning buffer

6.3.6.1 Quantification and assessment of the capital planning buffer

To evaluate the effect of SBAB's stress test, a calculation is made of the change in SBAB's capital adequacy ratios resulting from increased capital requirements and reduced own funds resulting from greater loan losses. In the stress scenario characterised by a severe recession, both the capital requirement and expected losses would increase significantly, albeit from very low levels. At the same time, net interest income would deteriorate relative to the basic scenario as a result of increased funding expenses. As a result of the simulation of a difficult but not unlikely scenario, SBAB's CET1 capital ratio would weaken according to the below.

Figure 6. **CET1 capital ratio in a stressed scenario**



To counteract the weakening of SBAB's CET1 capital ratio, a provision of SEK 2,730 million would be required as a buffer without taking into account the risk-weight floor, which is the additional CET1 capital required to maintain an unchanged CET1 capital ratio relative to the basic scenario. However, most of SBAB's credit exposures are covered by the risk-weight floor for Swedish residential mortgages and, consequently, the capital requirements will not increase due to a reasonable increase in risk in the lending portfolio. Taking into account the risk-weight floor for Swedish residential mortgages and thereby excluding the increase in the capital requirements for Swedish mortgages, a provision of SEK 960 million was made as a buffer. This was then compared with the capital conservation buffer and any surplus added to the capital requirement. SBAB's stress tests are described in more detail in section 6.5.

6.3.6.2 Income volatility

Due to the structure of the accounting regulations, whereby different parts of the balance sheet are measured differently, valuation effects arise that affect operating profit and thereby own funds without constituting a real market risk.

Basis swaps not included in a hedging relation are measured at fair value while the loans to which the basis swaps are linked are not fully measured at market value in cases where a hedge accounting relationship does not exist. This means that the basis risk on basis swaps that are not subject to hedge accounting lack counter items in profit and loss.

This has the effect that operating profit, and thereby own funds, varies in a manner that does not match the actual risk to which the portfolio is exposed. To simulate how much this can conceivably affect own funds, a VaR model has been used. The model is based on a holding period of one year and a confidence level of 99.0%. A substantial gradual decrease from current levels is expected in SBAB's income volatility, when outstanding basis swaps not included in the hedge accounting approach maturity. Moreover, income volatility is limited for risk mitigation and capital adequacy provided by the capital planning buffer, which is why it is not reported separately in the internally assessed capital requirement.

6.3.6.3 Business risk

Business risk means the risk of weaker earnings due to harsher competition, inappropriate strategies or erroneous decisions. Weaker earnings arising, for example, from reduced margins as a result of increased funding costs or tougher competition, can to some extent be met by reducing SBAB's costs. However, since the cost base largely comprises fixed expenses that cannot be reduced over a one-year horizon. Hence business risk can be described as the loss arising when earnings decline to such an extent that they no longer cover the fixed expenses in a stressed economic scenario. Similar, to the definition in the Swedish FSA's consultation memorandum "Capital requirements for Swedish banks" from September 2014, SBAB defines a normal economic recession as a scenario that occurs around every seven years.The capital requirement for business risk is quantified by evaluating the effects of a stressed scenario that corresponds to a normal economic recession. SBAB's stress tests are described in more detail in section 6.5.

6.4 Compilation of internal capital adequacy assessment

According to the SFSA's supervisory practices, it is expected that SBAB will cover a certain part of its capital requirement for risks in Pillar 2 with CET1 capital. These are as a general rule to be covered according to the same capital distribution as the Pillar 1 capital requirement, including static buffer requirements (capital conservation buffer, systemic risk buffer and O-SII buffers). For SBAB, this means that 67% of the capital requirement for risks in Pillar 2 should be covered with CET1 capital.

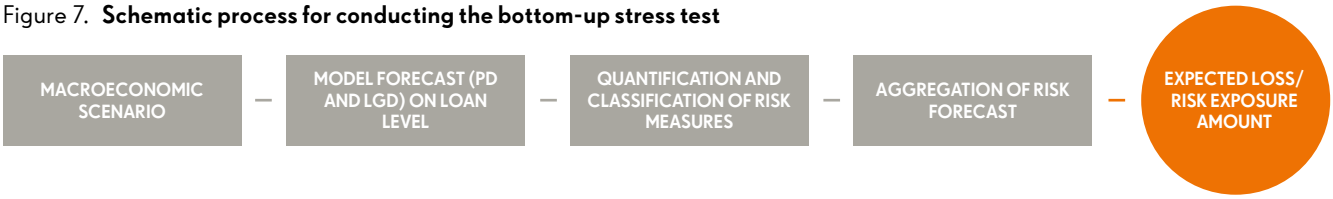
SBAB's internally calculated capital requirement with consideration for the risk-weight floor for Swedish residential mortgages is stated in Table 18. The internally assessed capital requirement corresponds to a CET1 capital ratio of 10.2% and a total capital ratio of 14.1%. According to the targets set out in SBAB's capital policy, these levels should, under normal conditions, be exceeded by at least 0.6% of the risk exposure amount. Accordingly, the CET1 capital ratio should amount to at least 10.8% and the total capital ratio to at least 14.7% as per 31 December 2019. The internal capital requirement in Table 18 is assessed with the help of SBAB's internal models for economic capital and is not fully compatible with the capital requirements published by the Swedish FSA. According to the Swedish FSA's report "Own funds requirements for Swedish banks Q4 2019", SBAB's total capital requirement amounted SEK 17,912 million.

Table 18. **Internally assessed capital requirements**

		31 Dec 2019		31 Dec 2018	
		Internally assessed capital requirement		Internally assessed capital requirement	
SEK million		Incl. risk-weight floor, SEK million	Incl. risk-weight floor, %	Incl. risk-weight floor, SEK million	Incl. risk-weight floor, %
Pillar 1	Credit risk & CVA risk	3,149	2.6	3,046	2.6
	Market risk	37	0.0	80	0.1
	Operational risk	388	0.3	347	0.3
	Risk-weight floor[1]	6,009	5.0	5,658	5.0
	Surcharge, corporate exposures [2]	63	0.1	–	–
	Total Pillar 1	**9,646**	**8.0**	**9,131**	**8.0**
Pillar 2	Credit risk	–	–	–	–
	Market risk	280	0.2	781	0.7
	Operational risk	–	–	–	–
	Concentration risk	951	0.8	968	0.8
	Sovereign risk	65	0.1	52	0.1
	Pension risk	11	0.0	–	–
	Total Pillar 2	**1,307**	**1.1**	**1,801**	**1.6**
Buffers	Capital conservation buffer	3,014	2.5	2,854	2.5
	Capital planning buffer	–	–	–	–
	Countercyclical buffer	3,003	2.5	2,266	2.0
	Total Buffers	**6,017**	**5.0**	**5,120**	**4.5**
Total		**16,970**	**14.1**	**16,052**	**14.1**
Total own funds		**24,282**	**–**	**20,713**	**–**

[1] Pillar 1 risk-weight floor under Article 458 of the CRR.
[2] Surcharge after decision by the Board pursuant to Article 3 of the CRR.

Figure 7. **Schematic process for conducting the bottom-up stress test**



6.5 Stress tests

Capital planning is founded on base scenario that reflects the most probable operational development based on internal forecasts. Complementing this, stress tests and scenario analyses are performed, whereby the development of the loan portfolio and capital requirements during severe but plausible financial stress is evaluated. When performing the tests, events and economic conditions that could give rise to an unfavourable impact on the institution's loan portfolio exposures and that are not reflected in the anticipated scenario are also taken into account.

6.5.1 Stress test methods

SBAB uses a number of statistical models to forecast credit risk. The common factor for the models is that they are built around one or more explanatory variables that are specifically adapted to the kind of exposure and risk dimension (PD or LGD) for which the model is intended to be used. A change in one or more of these explanatory variables results in a change in the forecast credit risk. This in turn affects the risk class to which an exposure is allocated. In the stress tests, this relationship is utilised by simulating changes in the underlying model variables. The starting point for this simulation is an assumed macroeconomic scenario.

In the stress test, a scenario that expresses an unfavourable economic trend will result in a migration towards inferior risk classes, which in turn entails higher economic capital, higher risk exposure amounts and larger anticipated losses. A scenario that reflects an economic recovery will consequently result in the opposite effect. A simplified illustration of the process is provided in Figure 7. The stress test is conducted for the portfolio at that particular date. This portfolio is then subjected to stress over a three year time horizon, taking the planned volume development within different portfolio segments into account. The macroeconomic scenario that forms the basis of the stress test is also assumed to have a direct effect in SBAB's risk models. This means that the model variables are expected to change without any time shift.

Table 19. **Parameters subjected to stress in the current and next three years**

Demand	Prices	Interest rates
GDP growth (real)	Consumer prices	Residential mortgages, 3 month
Disposable household income (nominal)	House prices	STIBOR, 3 month
Employment	Prices of tenant-owners' rights	Government bond rate, 10-year
Unemployment	Residential property prices	STIBOR Treasury bills
		Housing bonds – Government bonds, 5-year
		Government bonds Sweden – Germany, 10-year

The components included in SBAB's model for stress tests comprise:

- Determination of a macroeconomic scenario for the stress test
- Translation of the macroeconomic scenario to model variables
- Assumptions regarding new sales and loan redemption
- Calculation of expected losses and capital requirements
- Calculation of profit and own funds

In addition to credit losses and capital requirements related to credit risk, the stress tests also simulate the effect of a deterioration in SBAB's credit rating and the effect of a decline in property prices on SBAB's scope for funding by means of covered bonds. These are expected to lead to increased funding costs, resulting in weaker net interest income and lower earnings, and consequently also to reduced own funds. Finally, realised losses related to operational risks are also brought out by applying a fraud scenario independent of the macro scenarios, thus leading to further deterioration in earnings and decreased own funds.

6.5.2 Macroeconomic scenario

The stress tests can be used in a number of conceivable approaches and methods. In general, these involve an assumption regarding a future scenario, either hypothetical or based on a historical outcome. The stress tests presented in SBAB's current ICLAAP are based on a hypothetical scenario whereby the development of the parameters is based on a subjective interpretation of economic theory and empirical analysis. The scenario describes a sharp economic decline.

For a number of variables in the models, there is a natural connection between the value the variable is expected to take on and the development of one or more of the macroeconomic parameters. In these cases, the variable value could consequently be recalculated directly based on the change in the underlying macro parameters.

In general, all model variables are expected to be affected to some extent, except the variables that are not deemed to be correlated to economic conditions.

Since a macroeconomic scenario cannot be directly translated to the effect that it has on certain PD variables, historical correlations are used instead. Examples of such model variables are the number of reminders and claims. For these variables, the effect has instead been estimated based on the historical correlation to the residential mortgage rate.

Since SBAB's LGD models are built around the loan to value ratio, changes in the market values of properties have a direct impact on LGD.

Finally, the macro scenario is combined with a simulated deterioration in SBAB's credit rating by two rating levels.

Scenario

In this scenario, a range of external shocks, in combination with internal imbalances and political problems lead to a recession and problems in the Swedish banking system. Typically, this kind of scenario occurs approximately every 25 years.

- Major stock exchange crashes and declining growth in the USA and China, combined with an escalating trade war and political turmoil in Asia and the Middle East, lead to the prices of oil and other commodities falling sharply and towards safe assets.
- Global demand declines and Swedish households rapidly tighten their belts while foreign confidence in the central-government's financing and the banks' financial strength is eroded due to a weak government, an uncertain parliamentary situation and imbalances in the housing and residential mortgage market. The Swedish krona weakens, helping to maintain inflation to 0%.
- The GDP decline will be about the same as during the 2008 financial crisis, although the process is less volatile and more protracted. Employment and household income levels also fall. The economy does not stabilise until the end of 2022.
- The central government's finances deteriorate rapidly and the parliamentary situation contributes in eroding the credibility of economic policy, causing a sharp rise in interest rates and risk premiums. The banking system is under pressure. The Riksbank tries unsuccessfully to stimulate the economy due to risk premiums. Altogether, housing prices will fall by around 25–30% before stabilising towards the end of 2022.

7 Leverage ratio

The CRR introduced a non-risk-sensitive measure to avoid excessive indebtedness. This measure is calculated as Tier 1 capital in relation to total assets and off-balance sheet exposures restated with the application of credit conversion factors (CCF).

The leverage ratio is a measure of solvency. Compared with the capital adequacy requirement, assets are not risk weighted but rather the same amount of capital is required, regardless of what risk is associated with the assets. According to the European Commission's delegated regulation ((EU) 2015/62), the leverage ratio is calculated as Tier 1 capital divided by the total exposure amount, where off-balance sheet exposures are assigned CCFs. The leverage ratio amounted to 4.30% as per December 2019.

Description of measures taken to manage the risk of inadequate leverage ratio

The leverage ratio included in SBAB's forward looking capital planning to enable proactive management of the risk of the leverage ratio becoming too low. The target for the measure is set in SBAB's capital policy, and therefore its outcome and development is followed up and reported monthly to the CEO and Board. In a situation with excessive debt and an inadequate leverage ratio that needs to be addressed, the requisite measures can include a lower dividend, additional capital from the owner or alternatively an issue of additional Tier 1 capital. Moreover, balance sheet measures may need to be applied to reduce SBAB's exposure.

Description of factors influencing leverage ratio in the period to which the published leverage ratio pertains

The year-on-year change in the leverage ratio was due to:

- Tier 1 capital increased due to accrued earnings, which had a positive impact on the leverage ratio by 0.78%
- The effect of the exposure measure attributable to derivatives increased slightly, which had a negative impact on leverage ratio by 0.02%.
- The effect of the exposure measure attributable to SFTs increased slightly, which had a negative impact on leverage ratio by 0.01%.
- The effect of the exposure metric attributable to off-balance-sheet items increased slightly, which had a negative impact on leverage ratio by 0.02%.
- An increase mainly in mortgage exposures entailed a negative impact by 0.20%.

Table 20. **Leverage ratio**

SEK million	2019	2018
Tier 1 capital	20,830	17,263
Exposure measure	484,912	457,697
Leverage ratio, %	4.30	3.77

Table 21. **Summary reconciliation of accounting assets and leverage ratio exposures (LR SUM)**

	APPLICABLE AMOUNT
SEK million	**2019**
Total assets as per published financial statements	475,532
Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	7
Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio total exposure measure in accordance with Article 429(13) of Regulation (EU) No 575/2013)	–
Adjustments for derivative financial instruments	–3,044
Adjustment for securities financing transactions (SFTs)	1,486
Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	11,243
(Adjustment for intragroup exposures excluded from the leverage ratio total exposure measure in accordance with Article 429(7) of Regulation (EU) No 575/2013)	0
(Adjustment for exposures excluded from the leverage ratio total exposure measure in accordance with Article 429(14) of Regulation (EU) No 575/2013)	–
Other adjustments	–312
Leverage ratio total exposure measure	**484,912**

Table 22. **Split-up of on balance sheet exposures (excluding derivatives and SFTS) (LRSPL)**

	CRR LEVERAGE RATIO EXPOSURES
SEK million	**2019**
Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:	462,328
Trading book exposures	–
Banking book exposures, of which:	462,328
Covered bonds	*36,743*
Exposures treated as sovereigns	*41,630*
Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns	–
Institutions	*4*
Secured by mortgages of immovable properties	*380,247*
Retail exposures	*2,794*
Corporates	–
Exposures in default	*255*
Other exposures (e.g. equity, securitisations, and other non-credit obligation assets)	*655*

Table 23. **Leverage ratio common disclosure (LRCOM)**

SEK million	CRR LEVERAGE RATIO EXPOSURES 2019
On-balance sheet exposures (excluding derivatives and SFTs)	
On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	462,328
(Asset amounts deducted in determining Tier 1 capital)	–188
Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets)(sum of rows 1 and 2)	**462,140**
Derivative Exposures	
Replacement cost associated with all derivatives transactions (ie net of eligible cash variation margin)	11,367
Add-on amounts for PFE associated with all derivatives transactions (mark- to-market method)	7,302
Exposure determined under Original Exposure Method	–
Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	–
(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	–8,626
(Exempted CCP leg of client-cleared trade exposures)	–
Adjusted effective notional amount of written credit derivat	–
(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	–
Total derivative exposures (sum of lines 4 to 10)	**10,043**
SFT Exposures	
Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	1,486
Netted amounts of cash payables and cash receivables of gross SFT assets	–
Counterparty credit risk exposure for SFT assets	–
Derogation for SFTs: Counterparty credit risk exposure in accordance with Article 429b (4) and 222 of Regulation (EU) No 575/2013	–
Agent transaction exposures	–
(Exempted CCP leg of client-cleared SFT exposure)	–
Total securities financing transaction exposures (sum of lines 12 to 15a)	**1,486**
Other off-balance sheet exposures	
Off-balance sheet exposures at gross notional amount	48,662
(Adjustments for conversion to credit equivalent amounts)	–37,419
Other off-balance sheet exposures (sum of lines 17 to 18)	**11,243**
Exempted exposures in accordance with CRR Article 429 (7) and (14) (on and off balance sheet)	
(Exemption of intragroup exposures (solo basis) in accordance with Article 429(7) of Regulation (EU) No 575/2013 (on and off balance sheet))	0
(Exposures exempted in accordance with Article 429(14) of Regulation (EU) No 575/2013 (on and off balance sheet))	–
Capital and total exposures	
Tier 1 capital	20,830
Total leverage ratio exposures (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)	**484,912**
Leverage ratio	
Leverage ratio	4.30%
Choice on transitional arrangements and amount of derecognised fiduciary items	–
Choice on transitional arrangements for the definition of the capital measure	Fully Phased in
Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) No. 575/2013	–

8 Risk in remuneration systems

SBAB is to have a remuneration system that is both compatible with and promotes effective risk management and does not encourage undue risk-taking. Remuneration should promote SBAB's long-term interests. Further information on remuneration systems is available in Note IC:5 of SBAB's annual report and on the website www.sbab.se.

The General Meeting decides on the overall guidelines for remuneration and other employment terms for senior executives (members of SBAB's Executive Management). The Board of Directors decides on:

- Remuneration policy, risk analysis regarding remuneration systems and other policy documents for remuneration issues
- Remuneration and other employment benefits for Executive Management and the heads of the control functions (the CRO and the heads of Internal Audit and Compliance)
- Follow-up on the application of SBAB's control documents regarding remuneration issues.

The Board has appointed a Remuneration Committee. Information on the members of the Remuneration Committee and the number of meetings can be found in the Corporate Governance Report in SBAB's Annual Report at www.sbab.se.

The Remuneration Committee is tasked with preparing remuneration issues for decision by the Board and for conducting an independent assessment of policy documents pertaining to remuneration issues and remuneration systems. The Board is to ensure that the appropriate control functions participate in the independent assessments.

The Board decides the mission description for the Remuneration Committee. The meetings of the Remuneration Committee are reported back to the Board through the minutes prepared of the Remuneration Committee's meetings. The Board annually evaluates and follows up how SBAB has complied with the principles for the remuneration of senior executives that have been adopted by the Annual General Meeting and the remuneration structures and remuneration levels, including bonuses.

At present, SBAB has no variable remuneration to senior management or members of staff whose actions could have an impact on the institution's risk profile.

9 Credit risk in lending operations

SBAB conducts customer-centric credit operations based on professionalism, simplicity and quality, which creates the conditions for profitability and long-term customer relations. This means that the credit operations are denoted by high credit quality, efficient decision-making processes, and respect for and understanding of the customer's situation. This also entails straightforward conduct, language and procedures, and balanced risk taking in the portfolio.

9.1 Credit risk management

SBAB is required to have documented management of credit risk with a clear division of responsibilities. Credit risk management must support the business operations, ensure SBAB's survival and be in line with rating targets. SBAB's credit operations are char-acterised by low risk taking and business-related risks are viewed in relation to arisen earnings. Credit risk is considered in all business decisions and constitutes a component in the pricing of products and services.

SBAB's Board and Executive Management are to be actively involved in the design of the institution's risk management system and the follow-up of credit risks. The Board of Directors or its committees approve all significant methods, internal models and processes related to credit risk.

The reporting structure is designed so that the Board of the Parent Company and the Executive Management receive reports on all material risks. Procedures are in place for managing and acting, based on the information provided in the reports.

9.2 Credit risk in the lending portfolio

Credit risk is the single largest risk in SBAB and accounts for 81% of the risk exposure amount (REA) according to Pillar 1, excluding the risk-weight floor for Swedish household exposures with collateral in immovable property. Credit risk is defined as the risk of loss due to the borrower's inability to make interest and loan repayments or otherwise fulfil the loan agreement. Aside from lending and loan commitments, credit risk also arises in connection with changes in the value of pledged collateral, resulting in this no longer covering the receivables.

In the credit-granting process, the credit risk is initially managed by the business area and, in some cases, analysed by the credit department in first line defence (within the Group Specialists) prior to credit decision. Each business operation deals with the practical management of credit risk during the lifecycle of the loan whereas the Risk control unit is responsible for monitoring, controlling and measuring credit risk on a regular basis.

Credit risk in lending operations is restricted by limits determined for the customer or customer group. In the credit-granting process the credit risk is specifically assessed where the ability of potential borrowers to make their interest payments and capital repayments is analysed. For example, new retail loans are granted only to borrowers who are expected to be able to pay interest and make capital repayments when interest rates comfortably exceed the market rates prevailing today. Furthermore, internal rating models are used in the analysis of the credit risk for new and existing customers in the loan portfolios.

Large exposures, meaning those amounting to 10% or more of eligible capital, are managed based on the credit instructions and external regulations. All exposures exceeding 2% of own funds are identified and analysed for the purpose of deciding whether they fall within the framework of large exposures in relation to a group of connected clients.

The granting of a new loan requires the provision of adequate collateral, usually is provided in the form of real property or a share in a tenant-owners' association of not more than 75–85% of the market value. SBAB grants loans provided that collateral can be obtained with first lien and that the customer has an internal PD rating grade of R1–R4 for retail customers and C1–C4 for corporate customers (for the mapping between internal and external rating, refer to Table 25). SBAB also grants small unsecured loans to borrowers in the retail segment, which comprise 5% of the risk exposure amount (REA) under Pillar 1, excluding the risk-weight floor. Furthermore, SBAB applies a maximum debt ratio of 550% (gross income in relation to the loan) for new retail loans.

When lending to individuals, market values for collateral in the form of properties or rights of use are generally determined by the credit manager, based on approved calculation models. If the market value cannot be determined using approved calculation models, it is determined by the person in charge of valuations or an approved external property appraiser.

When lending to tenant-owners' associations and companies, the market values for collateral in the form of properties or rights of use are generally determined by internal property appraisers.

External valuations can form the basis of decisions upon approval by the person in charge of valuations. If an external valuation is carried out by an approved external appraiser, the valuation does not require approval by internal appraisers.

SBAB verifies the property value on a regular basis. For residential properties and tenant-owners' rights, the property value is verified at least every third year. For other properties, the value is verified at least annually. If there are major changes in economic factors that affect the Swedish property market, the value is verified more often.

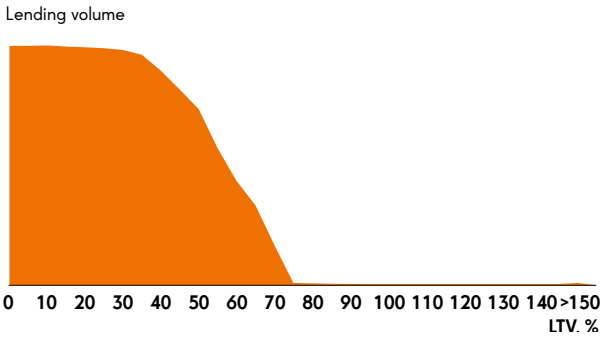
In addition to collateral in real property or tenant-owners' rights, it is possible to grant loans against, inter alia, collateral in the form of a government guarantee, municipal guarantee, securities, bank guarantees and deposits in a Swedish bank.

To a limited extent, equities corresponding to up to 85% of the market value of the underlying properties can be approved as collateral in conjunction with a property purchase through a company transaction. SBAB does not hold any collateral that has been repossessed.

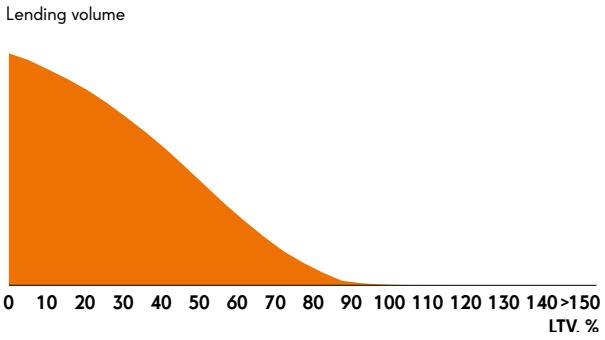
Lending to the public accounts for 81% of SBAB's total assets. Figures 8 and 9 describe LTV for loans for which collateral consists of real property or tenant-owners' rights. The figures are based on a split for the secured part of the loan into LTV-buckets of 1%. For instance, a loan with an amount of SEK 1.7 million and LTV of 85% would be split into 85 pieces a' SEK 20 thousand. The secured amount below a LTV of 75% would in that case be 87%. Figure 8 shows corporate exposures and Figure 9 shows retail exposures. The areas in the figures correspond to the lending volume and cover 97% of total lending to the public. Since 83% of lending is secured with collateral in real property or tenant-owners' rights to within 50% LTV and 98% within 75% LTV, the credit quality is assessed to be very high (see the table under figures 8 and 9).

Figures 8 and 9. **"Loan To Value" (LTV) for corporate and retail exposures**

CORPORATE EXPOSURES



RETAIL EXPOSURES



Segment, %	Below 50%	Below 75%	Below 85%	Below 100%	Exposure-weighted average LTV
Corporate exposures	80.5	99.2	99.4	99.5	63.0
Retail exposures	83.0	98.0	99.6	100.0	58.0
Total	**82.8**	**98.1**	**99.6**	**99.9**	**58.1**

9.3 Internal rating-based approach (IRB)

In order to calculate own funds requirements SBAB applies an advanced internal rating based (A-IRB) approach for retail exposures and a foundation IRB approach (F-IRB) for corporate exposures. These commitments comprise 99% of total lending to the public. For other types of exposures, including unsecured loans, the standardised approach is used for own funds requirements.

The A-IRB approach has been used since 2007 for quantifying credit risk where a mortgage deed for real property or a tenant-owners' right is used as collateral. In 2013, permission was received to include tenant-owners' associations with a turnover of less than EUR 50 million in the retail exposure class. In 2015, SBAB also received permission to use the IRB approach for excess exposures that are not fully covered by mortgage deeds, property financing using collateral other than directly pledged mortgage deeds and building credits. Previously, the standardised approach was used for these exposures.

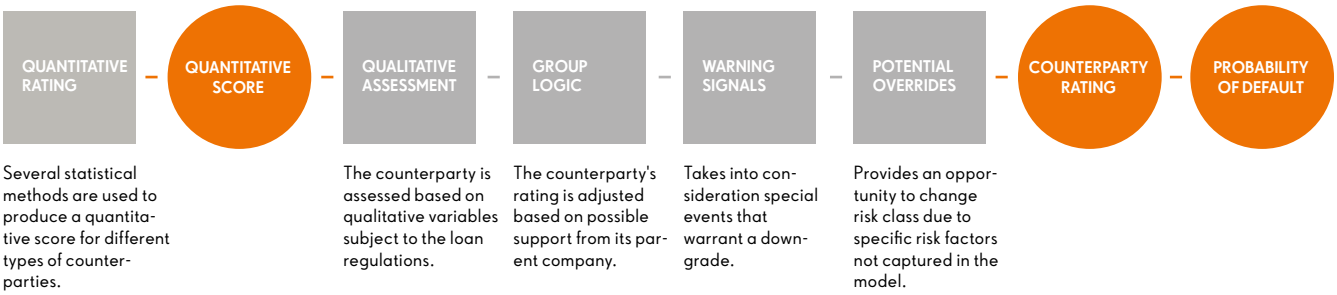
In the credit risk models under IRB, an assessment is made of the probability of default[1)] (PD), the loss given default (LGD) and the proportion of off-balance to be converted to the balance sheet, i.e the credit conversion factor (CCF). On the basis of these parameters and the size of the exposure, expected and unexpected loss can be estimated. The exposure is ranked by PD to one of eight rating grades for corporate and retail exposures respectively, of which the eighth grade comprices customers in default. Trends for customers in higher rating grades are monitored diligently and, when necessary, exposure is managed actively by credit managers as part of the insolvency process.

The IRB models are used in SBAB's lending operations for tasks such as credit granting, pricing, portfolio analysis and performance monitoring per business area. The models produced are validated annually and, whenever required, they are recalibrated. The validations carried out for 2019 did not result in any changes to models in the IRB framework. A major challenge in the model validation lately has been the very low number of defaults and the extremely low levels of credit losses.

For those customer segments within corporate exposures where a F-IRB approach is applied the quantitative assessment provided by the scoring model is supplemented with a systematic qualitative assessment based on a number of predefined questions. Additionally credit analysts could add their assessment of rating grade, so called overrides, in cases where the credit risk is not fully captured by the credit risk model. In Figure 10 the internal rating process for corporates is illustrated. For customers within retail exposures the IRB model only contains the quantitative assessment.

[1)] An exposure is regarded as in default if the receivable is more than 60 days past due (for receivables exceeding SEK 1,000) or if an assessment has been made that the customer will probably not be able to pay agreed interest amounts or cover repayments of the principal.

Figure 10. **Internal rating process for corporates**



9.4 Internal rating

In conjunction with own funds requirements and internal rating, exposures are categorised into exposure classes. Retail loans and loans to tenant-owners' associations with a turnover of less than EUR 50 million and collateral in residential property are assigned to the retail exposure class. The A-IRB approach is applied for collateralised retail exposures. Other exposures secured by collateral are reported under corporate exposures where the F-IRB approach is used. Table 24 shows the distinction between retail exposures, corporate exposures and their respective IRB approach. The standardised approach is applied for unsecured retail exposures and guarantees issued by central government or municipalities.

For internal rating according to the IRB framework SBAB uses statistical scoring models for each of the risk dimensions; PD, LGD and CCF.

For PD there are several scoring models depending on the type of counterparty. The models are based on logistic regression with a target to predict the probability of default over a time horizon of one year. Both internal and external data sources are used to identify appropriate risk factors for the models. Internal data consists of customer information, loan information, default outcomes and internal payment behaviour. Data obtained externally includes income data, financial statements, external payment behaviour, property value data and macroeconomic factors. The PD models are based on empirical data from the end of the 1990s and to the present day. In order to calibrate PD towards long-term conservative estimates external data from the housing crisis on the Swedish mortgage market during the middle of 1990s is also used.

The scoring models for LGD which are applied to retail exposures comprising both retail loans and loans to tenant-owners' associations are largely based on the LTV ratio of the exposure. A rise in the LTV entails an increase in the probability of a write off and thus the level of credit losses. The LGD models are primarily based on internal data consisting of default outcomes, credit losses in terms of write offs and succeeding recoveries, and LTV ratios of the loans. As for PD, external loss data from the 1990s housing crisis on the Swedish mortgage market is also used to calibrate the LGD towards downturn periods with the aim of ensuring sufficiently conservative estimates.

The scoring model for CCF is applied to loan commitments in the retail exposure class. The CCF measures the probability of the loan commitment resulting in a conversion to an actual loan and hence an on-balance exposure. The model is mainly based on the loan commitment's progress in the credit granting process and the time elapsed since application. The CCF model is solely based on internal data consisting of application information and disbursement rates.

Table 24. **Loan portfolios and exposure classes for which the IRB approach is applied**

Portfolio	Property	Exposure class	Method	PD model
Corporates	Private properties	Corporate exposures	Foundation IRB approach	"Corporate"
	Tenant-owner associations (turnover greater than or equal to EUR 50 million)			
	Commercial properties			
Retail	Houses and holiday homes	Retail exposures	Advanced IRB approach	"Retail"
	Tenant-owners' rights			
	Tenant-owner associations (turnover less than EUR 50 million)			

9.5 The mapping between external and internal ratings

SBAB's rating grades for PD are not straight comparable to the ratings used by external credit rating agencies.

The credit rating agencies' ratings do not correspond to a direct classification of the counterparties' probability of default in the same way that the bank's internal rating does. The credit rating agencies also consider, to a varying degree, the severity of the losses that may be caused by default, while SBAB captures this in the LGD dimension. The time horizon on which the credit rating is based is not always the same for credit rating agencies as for SBAB. Accordingly, it is difficult to translate internal rating grades for PD to external ratings explicitly and consistently. However, by analysing the historic proportion of default outcomes in SBAB's PD rating compared with the proportion of default outcomes in Standard & Poor's rating grades, it is possible to obtain a reasonable comparison. Table 25 presents the external rating grades that best correspond to SBAB's risk grades for PD.

Table 25. **The mapping between internal and external rating**

Rating grade	Standard & Poor's rating	Rating grade	Standard & Poor's rating
C1	AAA–A	R1	AAA–AA
C2	A	R2	AA–A
C3	A–BBB	R3	A
C4	BBB–BB	R4	A–BBB
C5	BB	R5	BBB–BB
C6	BB–B	R6	BB
C7	B–C	R7	BB–C

9.6 Exposure amounts and own funds requirements

Table 26 shows all credit risk exposures, including both on- and off-balance exposures. The total amount for all credit risk exposures was SEK 521 billion.

Credit risk protection used for IRB exposures consists of government and municipal guarantees. Credit risk protection is only used to a very limited extent and their exposures are reported in accordance with the standardised approach.

SBAB has also obtained guarantees of SEK 49 million from business partners which serve as loan intermediaries to cover any possible credit losses of their provided loans. The collaberation with ICA Bank has ended. In addition, the Parent Company SBAB and SCBC have jointly taken up credit insurance with Genworth Financial Mortgage Insurance Limited (Genworth). The credit insurance covers the part of the exposure that exceeds 85% of the value of collateral pledged, but less than or equal to 95%. The insured amount totalled SEK 34 million on 31 December 2019. The insurance policy was cancelled effective 1 January 2009 and cannot be utilised for new loans arising after that date. Neither the guarantees from business partners nor the credit insurance from Genworth are taken into account when calculating own funds requirements.

Corporate exposures comprises only 11% of total exposures in the lending portfolio for which the IRB approach is used, but due to the F-IRB approach without own estimates of LGD, the exposures account for 53% of the total capital requirement according to Pillar 1.

The average REA for exposures recognised in accordance with the IRB approach was 6.4% (risk-weight floor excluded), while the average REA for exposures recognised with the stan-

Table 26. **Exposure amounts by exposure class for credit risk exposures**

SEK million	Original exposure before credit risk protection	Value adjustments	Net exposure after value adjustments and reserves	Collateral that reduces capital requirements in the form of guarantees and financial securities	Inflows	Off-balance-sheet exposures before CCF	Exposure after CCF[1)]	Off-balance-sheet exposures after CCF
Credit risk in lending portfolio recognised under the IRB approach								
Corporate exposures	48,520	–	48,520	–79	–	5,775	46,589	3,924
Retail exposures	380,344	–	380,344	–564	–	41,834	348,534	10,588
of which, houses and holiday homes	*162,168*	–	162,168	–	–	*16,028*	*149,992*	*3,878*
of which, tenant-owners' rights	*170,564*	–	170,564	–	–	*25,485*	*151,511*	*6,431*
of which, tenant-owners' associations	*47,611*	–	47,611	–	–	*320*	*47,031*	*279*
Total credit risk under the IRB approach	**428,864**	**–**	**428,864**	**–643**	–	**47,609**	**395,123**	**14,512**
Credit risk in the lending portfolio recognised under the standardised approach								
Exposures to governments and central banks	24,227	0	24,227	–	27	–	24,254	–
Exposures to regional governments or local authorities or agencies	14,856	0	14,856	–	616	–	15,471	–
Exposures to multilateral development banks	1,906	0	1,906	–	–	–	1,906	–
Exposures to institutions	10,151	0	10,151	–	–	–	10,151	–
Exposures to corporates	–	–	–	–	–	–	–	–
Retail exposures	3,851	5	3,846	–	–	1,053	3,004	211
Exposures in default	11	4	7	–	–	–	7	–
Exposures in the form of covered bonds	36,743	1	36,742	–	–	–	36,742	–
Exposures to institutions and corporates with a short-term credit rating	104	–	104	–	–	–	104	–
Equity exposures	101	–	101	–	–	–	101	–
Other items	450	–	450	–	–	–	450	–
Total credit risk under the standardised approach	**92,400**	**10**	**92,390**	**–**	**643**	**1,053**	**92,190**	**211**
Total	**521,264**	**10**	**521,254**	**–643**	**643**	**48,662**	**487,313**	**14,723**

[1)] In exposures after inflows and outflows, adjustments have been made of amounts to be recognised and covered by capital in an exposure class other than the original one.
[2)] Off-balance sheet exposures have been excluded.

dardised approach was 12.5%. Exposure-weighted average PD estimates per counterparty for IRB exposures amounted to 0.41% (0.17% as per December 2018) for corporate exposures. The change is explained by an increase of exposures assigned to rating grade C7. For retail exposures the exposure-weighted average PD estimates amounted to 0.34% (0.37% as per December 2018). Exposure-weighted average LGD estimates for corporate exposures was 37.0% (0.38% as per December 2018) and exposure-weighted LGD for retail exposures was 10.0% (10.0% as per December 2018). For clarification, the exposure-weighted amount for LGD is restricted by the limitation rule, which requires a lowest average LGD of 10% for retail exposures covered by collateral in residential properties in accordance with Article 164 item 4 of the CRR.

The following tables in this section correspond with COREP reporting with regard to exposure amounts and REA.

The tables illustrating lending operations differ from the information presented in SBAB's 2019 Annual Report since total exposure amounts include accrued interest. Furthermore, transaction costs relating to commissions to business partners are excluded. Moreover, Booli Search Technologies AB is excluded since this company is not included in the regulatory consolidated situation.

Exposure amounts covered by credit risk protection in the form of properties	Average exposure amounts for lending portfolio exposures [2)]	Risk exposure amounts before SME discount	Risk exposure amounts after SME discount	Capital requirement	Average risk weight, %	Specific credit risk adjustment	Expected loss	Exposure-weighted average PD, %	Exposure-weighted average LGD, %
46,413	40,645	14,284	13,415	1,073	28.8	19	70	0.41	37.45
348,395	329,283	12,277	12,021	962	3.4	112	119	0.34	10.00
149,899	*142,565*	*4,858*	*4,858*	*389*	*3.2*	*39*	*51*	*0.34*	*9.9*
151,465	*140,595*	*6,328*	*6,328*	*506*	*4.2*	*64*	*61*	*0.39*	*11.0*
47,031	*46,129*	*1,090*	*834*	*67*	*1.8*	*9*	*8*	*0.18*	*7.1*
394,808	**369,928**	**26,561**	**25,436**	**2,035**	**6.4**	**131**	**190**		
–	–	–	–	–	0.0	0	–	–	–
–	–	–	–	–	0.0	0	–	–	–
–	–	–	–	–	0.0	0	–	–	–
–	–	4,079	4,079	326	40.2	–	–	–	–
–	–	–	–	–	–	–	–	–	–
–	–	2,253	2,253	180	75.0	5	–	–	–
–	–	7	7	1	117.1	4	–	–	–
–	–	3,674	3,674	294	10.0	1	–	–	–
–	–	21	21	2	20.0	–	–	–	–
–	–	1,266	1,266	101	1250.0	–	–	–	–
–	–	218	218	17	76.9	–	–	–	–
–	–	**11,518**	**11,518**	**921**	**12.5**	**10**	**–**	–	–
394,808	**369,928**	**38,079**	**36,954**	**2,956**	**7.6**	**141**	**–**	–	–

Table 27. **Credit risk exposures by exposure class and PD range**
(EU CR6 table)

SEK million		PD scale	Original on-balance-sheet gross exposures	Off-balance-sheet exposures pre-CCF	Average CCF, %	EAD post CRM and post CCF	Average PD, %	Number of obligors	Average LGD, %	Average maturity	REAs	REA density, %	Expected loss	Value adjustments and provisions
Exposure class														
Corporates (foundation approach)	Of which, Corporate SME	0.00 to <0.15	10,670	434	20.0	10,745	0.09	107	35.5	2.5	1,622	15	3	–
		0.15 to <0.25	4,989	–	–	4,989	0.21	78	35.3	2.5	1,204	24	4	–
		0.25 to <0.50	1,761	157	20.0	1,792	0.45	50	35.1	2.5	669	37	3	–
		0.50 to <0.75	–	–	–	–	–	–	–	–	–	–	–	–
		0.75 to <2.50	181	–	–	181	1.16	13	36.3	2.5	105	58	1	–
		2.50 to <10.00	52	–	–	48	3.05	13	35.5	2.5	30	62	–	–
		10.00 to <100.00	205	–	–	205	27.04	3	35.5	2.5	319	156	20	–
		100.00 (Default)	–	–	–	–	–	–	–	–	–	–	–	–
		Portfolio subtotal	**17,858**	**591**	**20.0**	**17,960**	**0.49**	**264**	**35.4**	**2.5**	**3,949**	**22**	**31**	**4**
	Of which, Corporate Other	0.00 to <0.15	19,888	2,388	72.0	21,568	0.09	129	37.4	2.5	5,345	25	7	–
		0.15 to <0.25	3,055	2,007	75.0	4,525	0.21	29	43.3	2.5	2,080	46	4	–
		0.25 to <0.50	1,748	737	75.0	2,301	0.45	23	42.9	2.5	1,537	67	4	–
		0.50 to <0.75	–	–	0.0	–	–	–	–	–	–	–	–	–
		0.75 to <2.50	–	–	0.0	–	–	–	–	–	–	–	–	–
		2.50 to <10.00	–	–	0.0	–	–	–	–	–	–	–	–	–
		10.00 to <100.00	196	52	75.0	235	27.04	1	36.7	2.5	504	214	24	–
		100.00 (Default)	–	–	0.0	–	–	–	–	–	–			–
		Portfolio subtotal	**24,887**	**5,184**	**73.0**	**28,629**	**0.36**	**182**	**38.7**	**2.5**	**9,466**	**33**	**39**	**15**
Retail (advanced approach)	Of which, Retail SME	0.00 to <0.15	33,140	124	84.0	32,944	0.09	1,101	6.9	–	407	1	2	–
		0.15 to <0.25	12,229	145	87.0	12,166	0.21	507	7.6	–	311	3	2	–
		0.25 to <0.50	1,698	52	94.0	1,718	0.45	106	7.4	–	74	4	1	–
		0.50 till <0.75	–	–	–	–	–	–	–	–	–	–	–	–
		0.75 to <2.50	70	–	0.0	70	1.16	7	7.9	–	6	9	–	–
		2.50 to <10.00	135	–	0.0	115	3.05	9	9.9	–	23	20	–	–
		10.00 to <100.00	–	–	0.0	–	–	–	–	–	–	–	–	–
		100.00 (Default)	18	–	0.0	18	100.00	3	16.2	–	13	72	3	–
		Portfolio subtotal	**47,290**	**321**	**87.0**	**47,031**	**0.18**	**1,733**	**7.1**	**–**	**834**	**2**	**8**	**9**
	Of which, Retail Other	0.00 to <0.15	204,452	20,446	23.0	209,223	0.04	131,988	10.1	–	2,646	1	9	–
		0.15 to <0.25	43,408	14,386	27.0	47,320	0.16	32,611	11.0	–	1,890	4	8	–
		0.25 to <0.50	28,024	6,348	21.0	29,385	0.42	18,809	11.1	–	2,399	8	14	–
		0.50 till <0.75	–	–	–	–	–	–	–	–	–	–	–	–
		0.75 to <2.50	11,822	283	75.0	12,030	1.55	7,130	11.6	–	2,459	20	22	–
		2.50 to <10.00	2,092	36	77.0	2,119	4.17	1,298	11.5	–	769	36	10	–
		10.00 to <100.00	1,167	14	39.0	1,172	24.67	805	11.1	–	798	68	32	–
		100.00 (Default)	255	–		255	100.00	191	11.7	–	226	89	17	–
		Portfolio subtotal	**291,220**	**41,513**	**25.0**	**301,504**	**0.37**	**192,832**	**10.5**	**–**	**11,187**	**4**	**112**	**103**
Total (all portfolios)			**381,255**	**47,609**	**30.0**	**395,124**	**0.35**	**195,011**	**13.3**	**–**	**25,436**	**6**	**190**	**131**

Table 28. **REA flow statements of credit risk exposures under IRB** *(EU CR8 table)*

SEK million	REA amounts	Capital requirements
REA at the end of the previous reporting period	**25,003**	**2,000**
Asset size	768	62
Asset quality	–335	–27
Model updates	–	–
Methodology and policy	–	–
Acquisitions and disposals	–	–
Foreign exchange movements	–	–
Other	–	–
REA at the end of the reporting period	**25,436**	**2,035**

9.7 Exposure amounts by geographical region

SBAB's credit exposure is concentrated in Sweden. There is some exposure to other countries in Western Europe, Canada and the US due to the funding of the Swedish lending operations.

SBAB's lending portfolio is mainly secured by properties for housing in the Stockholm area (55%), Only 1% of the underlying collateral derives from economically weak regions in Sweden. Details disclosed in table 31. The exposure distribution in Sweden is divided as follows:

- Greater Stockholm: Stockholm's labour market region according to Statistics Sweden (SCB) (2004);
- Greater Gothenburg: Gothenburg's labour market region according to SCB (2004);
- The Öresund region: Labour market regions in Malmö and Helsingborg according to SCB (2004);
- University and growth regions: Municipalities with universities and municipalities with especially buoyant growth according to analyses by SBAB;
- Weak regions[1]: Municipalities with very weak or negative growth according to analyses by SBAB; and
- Other regions[1]: Municipalities that are not allocated to any other category.

[1] The analysis is based in part on statistics from SCB, such as short and long-term population growth, the proportion of the population older than 64 years, average income and the vacancy rate in public utility housing, and in part on the local knowledge of SBAB's analysts.

Table 29. **Total and average net amount of exposures** *(EU CRB-B table)*

SEK million	Net value of exposures at the end of the period[2]	Average net exposures over the period[3]
Exposures to corporates	48,502	46,690
of which, Specialised lending	–	–
of which, SMEs	18,446	20,634
Retail exposures	380,231	379,108
Exposures to households secured against immovable property	380,231	379,108
of which, SMEs	47,602	46,997
of which, non SMEs	332,630	332,111
Total exposure with IRB approach	**428,733**	**425,798**
Exposures to governments and central banks	24,227	32,601
Exposures to regional governments or local authorities or agencies	14,856	13,426
Exposures to public sector entities	–	2,124
Exposures to multilateral development banks	1,906	–
Exposures to international organisations	–	–
Exposures to institutions[1]	10,151	10,46
Exposures to corporates	–	–
of which, SMEs	–	–
Retail exposures	3,846	3,900
of which, SMEs	–	–
Exposures to households secured against immovable property	–	–
of which, SMEs	–	–
Exposures in default	7	8
Exposures associated with particularly high risk	–	–
Exposures in the form of covered bonds	36,742	37,272
Exposures to institutions and corporates with a short-term credit rating	104	165
Exposures in the form of collective investment undertakings	–	–
Equity exposures	101	99
Other items	450	600
Total exposure with standardised approach	**92,390**	**100,663**
Total	**521,123**	**526,461**

[1] The institution exposure class includes counterparty risk.
[2] Average net exposures after provisions pertain to both the IRB and the standardised approach.
[3] Average net exposures over the period are based on observed amounts over four quarters.

Table 30. **Geographical breakdown of exposures**[1] *(EU CRB-C table)*

SEK million	Sweden	Denmark	Finland	Norway	Canada	USA	France	Germany	United Kingdom	Other countries	Total
Exposures to corporates	48,502	–	–	–	–	–	–	–	–	–	48,502
Retail exposures	380,231	–	–	–	–	–	–	–	–	–	380,231
Total exposure with IRB approach	**428,733**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**428,733**
Exposures to governments and central banks	20,424	–	732	–	108	–	–	2,745	–	–	24,227
Exposures to regional governments or local authorities or agencies	11,728	1,776	1,352	–	–	–	–	–	–	–	14,856
Exposures to mulitlateral development banks	–	–	–	–	–	–	–	–	–	1,906	1,906
Exposures to institutions	3,763	2,098	1,803	6	2	154	2	6	2,317	–	12,057
Exposures to corporates	–	–	–	–	–	–	–	–	–	–	–
Retail exposures	3,846	–	–	–	–	–	–	–	–	–	3,846
Exposures in default	7	–	–	–	–	–	–	–	–	–	7
Exposures in the form of covered bonds	32,833	1,102	108	2,201	498	–	–	–	–	–	36,742
Exposures to instutions and corporates with a short term credit rating	104	–	–	–	–	–	–	–	–	–	104
Equity shares	101	–	–	–	–	–	–	–	–	–	101
Other items	450	–	–	–	–	–	–	–	–	–	450
Total exposure with standardised approach	**73,256**	**4,976**	**3,996**	**2,207**	**608**	**154**	**2**	**2,751**	**2,317**	**1,906**	**92,390**
Total	**501,989**	**4,976**	**3,996**	**2,207**	**608**	**154**	**2**	**2,751**	**2,317**	**1,906**	**521,123**

[1] Net exposures after provisions pertain to both IRB and the standardised approach. Off-balance sheet exposures have been excluded.

Table 31. **Net exposure amount by geographical area for credit risk exposures in lending operations**[1]

SEK million	Greater Stockholm	Greater Gothenburg	Öresund region	University and growth regions	Other regions	Weak regions	Total
Exposures to corporates	19,523	6,032	9,434	8,764	4,088	662	48,502
Retail exposures	217,024	34,038	39,036	34,510	52,574	3,048	380,231
Total exposures with IRB approach	**236,547**	**40,070**	**48,470**	**43,274**	**56,662**	**3,710**	**428,733**
Exposures to governments and central banks	–	–	–	–	–	–	–
Exposures to regional governments or local authorities or agencies	–	–	–	–	1	–	1
Exposures to multilateral development banks	–	–	–	–	–	–	–
Exponeringar mot internationella organisationer	–	–	–	–	–	–	–
Exposures to institutions	–	–	–	–	–	–	–
Exposures to corporates	705	85	75	55	2,925	1	3,846
Retail exposures	–	–	–	–	–	–	–
Exposures to households secured agains immovable property	–	–	–	–	7	–	7
Exposures in default	–	–	–	–	–	–	–
Exposures in the form of covered bonds	–	–	–	–	–	–	–
Exposures to instiutions and corporates with a short term credit rating	–	–	–	–	–	–	–
Equity exposures	–	–	–	–	–	–	–
Other items	–	–	–	–	–	–	–
Tota expsoures with the standardised approach	**705**	**85**	**75**	**55**	**2,933**	**1**	**3,854**
Total	**237,252**	**40,155**	**48,545**	**43,329**	**59,594**	**3,711**	**432,587**

[1] Net exposures after provisions pertain to both IRB and the standardised approach. Off-balance sheet exposures have been excluded.

9.8 On-balance exposures and remaining maturity of the credit terms

Table 32 presents on-balance sheet exposures (net after provisions) grouped into time buckets depending on the remaining maturity of the loans' credit terms. A large proportion (63%) of the exposures have less than one year remaining until maturity[1)].

The proportion of loans with a remaining credit term of up to five years accounts for 99% of the outstanding exposures. Exposures under other items where the duration cannot be calculated have been placed in the "no stated maturity" column to provide a better overview.

Table 32. **Maturity of exposures** *(EU CRB-E table)*

SEK million	On demand	<=1 year	>1 year <=5 years	> 5 years	No stated maturity	Total
Exposures to corporates	–	10,171	27,452	5,116	–	42,739
Retail exposures	–	260,644	74,686	3,027	42	338,399
Total exposure with IRB approach	–	**270,815**	**102,138**	**8,143**	**42**	**381,138**
Exposures to governments and central banks	5,750	10,620	7,857	–	–	24,227
Exposures to regional governments or local authorities or agencies	–	885	13,337	634	–	14,856
Exposures to public sector entities	–	–	–	–	–	–
Exposures to multilateral development banks	–	675	1,124	107	–	1,906
Exposures to international organisations	–	–	–	–	–	–
Exposures to institutions	–	120	7,837	2,194	–	10,151
Exposures to corporates	–	–	–	–	–	–
Retail exposures	–	513	–	–	2,281	2,794
Exposures to households secured against immovable property	–	–	–	–	–	–
Exposures in default	–	–	–	–	7	7
Exposures associated with particularly high risk	–	–	–	–	–	–
Exposures in the form of covered bonds	–	8,414	27,459	869	–	36,742
Exposures to institutions and corpoartes with a short-term credit rating	–	–	–	–	104	104
Exposures in the form of collective investment undertakings	–	–	–	–	–	–
Equity exposures	–	–	–	–	101	101
Other items	–	–	–	–	450	450
Total exposrues	**5,750**	**21,227**	**57,614**	**3,804**	**2,942**	**91,338**
Totalt	**5,750**	**292,042**	**159,752**	**11,947**	**2,985**	**472,476**

[1)] For credit risk exposures in the lending portfolio, the next stipulated date of expiry has been used. The stipulated date of expiry is defined as the day for establishing the conditions that are to apply for loans during the forthcoming contractual period. The terms must be supported by the stipulations of the original loan agreement.

9.9 Exposure amounts by sector and type of property

Tables 33 and 34 contain on- and off-balance- sheet credit exposures (net after provisions) by exposure classes and counterparty type. Table 33 provides information about the SBAB's total credit risk exposure unlike Table 34 which shows credit risk exposures only in lending operations and type of property.

In the distribution of the lending portfolio by type of property, lending for houses, holiday homes, tenant-owners' rights and tenant-owners' associations accounts for 82% of the total lending portfolio.

Table 33. **Concentration of exposures by industry or counterparty types** *(EU CRB-D table)*

SEK million	Construction	Real estate activities	Other services	Financial services*	Total
Exposures to corporates	11,642	36,860	–	–	48,502
of which, Specialised lending	–	–	–	–	–
of which, SMEs	–	18,446	–	–	18,446
Retail exposures	–	380,231	–	–	380,231
Exposures to households secured against immovable property	–	380,231	–	–	380,231
of which, SMEs	–	47,602	–	–	47,602
of which, non-SMEs	–	332,630	–	–	332,630
Total exposure with IRB approach	**11,642**	**417,091**	**–**	**–**	**428,733**
Exposures to governments and central banks	–	–	24,227	–	24,227
Exposures to regional governments or local authorities or agencies	–	–	14,856	–	14,856
Exposures to public sector entities	–	–	–	–	–
Exposures to multilateral development banks	–	–	–	1,906	1,906
Exposures to international organisations	–	–	–	–	–
Exposures to institutions	–	–	–	10,151	10,151
Exposures to corporates	–	–	–	–	–
of which, SMEs	–	–	–	–	–
Retail exposures	–	–	3,846	–	3,846
of which, SMEs	–	–	–	–	–
Exposures to households secured against immovable property	–	–	–	–	–
of which, SMEs	–	–	–	–	–
Exposures in default	–	–	7	–	7
Exposures associated with particularly high risk	–	–	–	–	–
Exposures in the form of covered bonds	–	–	–	36,742	36,742
Exposures to institutions and corporates with a short-term credit rating	–	–	–	104	104
Exposures in the form of collective investment undertakings	–	–	–	–	–
Equity exposures	–	–	101	–	101
Other items	–	–	450	–	450
Total exposure with standardised approach	–	–	**43,487**	**48,903**	**92,390**
Total	**11,642**	**417,091**	**43,487**	**48,903**	**521,123**

Table 34. **Net exposure amounts by type of property for credit risk exposures in lending operations**

SEK million	Houses and holiday homes	Tenant-owners' rights	Tenant-owners' associations	Private multi-family dwellings	Municipal multi-family dwellings	Commercial properties	Unsecured	Off-balance-sheet items	Total
Exposures to corporates	16	–	4,611	35,407	111	2,594	–	5,763	48,502
Retail exposures	146,101	145,016	47,281	–	–	–	–	41,833	380,231
Total exposure with IRB approach	**146,117**	**145,016**	**51,893**	**35,407**	**111**	**2,594**	**–**	**47,596**	**428,733**
Exposures to governments and central banks	–	–	–	–	–	–	–	–	–
Exposures to regional governments or local authorities or agencies	–	–	–	–	1	–	–	–	1
Exposures to public sector entities	–	–	–	–	–	–	–	–	–
Exposures to multilateral development banks	–	–	–	–	–	–	–	–	–
Exposures to international organisations	–	–	–	–	–	–	–	–	–
Exposures to institutions	–	–	–	–	–	–	–	–	–
Exposures to corporates	–	–	–	–	–	–	–	–	–
Retail exposures	225	288	–	–	–	–	2,281	1,053	3,846
Exposures to households secured against immovable property	–	–	–	–	–	–	–	–	–
Exposures in default	–	–	–	–	–	–	7	–	7
Exposures associated with particularly high risk	–	–	–	–	–	–	–	–	–
Exposures in the form of covered bonds	–	–	–	–	–	–	–	–	–
Exposures to institutions and corporates with a short-term credit rating	–	–	–	–	–	–	–	–	–
Exposures in the form of collective investment undertakings	–	–	–	–	–	–	–	–	–
Equity exposures	–	–	–	–	–	–	–	–	–
Other exposures	–	–	–	–	–	–	–	–	–
Total exposure with standardised approach	**225**	**288**	**–**	**–**	**1**	**–**	**2,288**	**1,053**	**3,854**
Total	**146,342**	**145,304**	**51,893**	**35,407**	**111**	**2,594**	**2,288**	**48,648**	**432,587**

9.10 Past due exposures and exposures subject to impairment requirements

An exposure is regarded as in default if the loan is more than 60 days past due (for receivables exceeding SEK 1,000) or if an assessment has been made that the customer will probably not be able to pay agreed interest amounts or cover capital repayments. Exposures subject to impairment requirements refer to exposures whereby individual provisions have been posted, meaning that in SBAB's assessment, future payments are subject to increased credit risk and the collateral does not cover the amount of the claim. The size of the individual provisions is assessed by comparing the cash flow according to the credit terms and conditions with the expected future payment capacity in combination with a valuation of the underlying collateral.

For all other exposures a collective provision is made based on the model for Expected Credit Loss (ECL) and is therefore intended to cover future credit losses for events that have occurred but that have not yet had effect on individual levels. The ECL model rank the loans and divide them according to their relative credit risk following initial recognition into three stages: Credit impaired loan receivables are allocated to stage 3. SBAB applies the internal default definition to determine whether a loan has suffered credit deterioration. Loans with a significant increase in credit risk but which have yet to be credit impaired are allocated to stage 2. Other loan receivables are allocated to stage 1.

Individual and collective provisions are carried out pursuant to the current accounting standard IFRS 9. On 31 December 2019, the total provisions, with deductions for guarantees, amounted to 50% of the total exposure for defaulted loans. All provisions have been assessed to constitute specific credit risk adjustments based on Article 1, item 5, of the EBA's regulatory technical standards on specific and general risk regarding Article 110, item 4 of the CRR. New EBA Guidelines on disclosures of non-performing exposures are effective from 31th of December 2019. These disclosures are presented in table 38 (NPL 1), table 39 (NPL 3) and table 40 (NPL 4). The Guidelines includes a set of common templates applicable to all banks and additional templates applicable only to significant credit institutions with gross NPL ratio of 5% or above. SBAB has a gross NPL ratio below 5% and therefore is only applicable to disclose NPL 1, NPL3 and NPL4 respectively.

Table 35. **Credit quality of exposures by exposure class and instruments** *(EU CR1-A table)*

	Gross carrying amount of						
SEK million	**Exposures in default**	**Non-defaulted exposures**	**Specific credit risk adjustment**	**General credit risk adjustment**	**Accumulated write-offs**	**Credit risk adjustment charges for the period**	**Net values (or net exposures)**
Exposures to corporates	–	48,521	19	–	–	11	48,502
– of which, Specialised lending	–	–	–	–	–	–	–
of which, SMEs	–	18,450	4	–	–	3	18,446
Retail exposures	272	380,071	112	–	26	8	380,231
Exposures to households secured against immovable property	272	380,071	112	–	26	8	380,231
of which, SMEs	17	47,593	9	–	23	–1	47,601
of which, non-SMEs	255	332,478	103	–	3	9	332,630
Total exposure with IRB approach	**272**	**428,592**	**131**	–	**26**	**19**	**428,733**
Exposures to governments and central banks	–	24,227	0	–	–	1	24,227
Exposures to regional governments or local authorities or agencies	–	14,856	0	–	–	0	14,856
Exposures to public sector entities	–	–	–	–	–		–
Exposures to multilateral development banks	–	1,906	0	–	–	0	1,906
Exposures to international organisations	–	–	–	–	–	–	–
Exposures to institutions	0	10,151	0	–	0	0	10,151
Exposures to corporates	–	–	–	–	–	–	–
of which, SMEs	–	–	–	–	–	–	–
Retail exposures	11	3,851	5	–	–	–3	3,857
of which, SMEs	–	–		–	–		–
Exposures in default	11	–	4	–	–	–1	7
Exposures in the form of covered bonds	–	36,743	1	–	–	0	36,742
Exposures to institutions and corporates with a short-term credit rating	–	104	–	–	–	–	104
Equity exposures	–	101	–	–	–	–	101
Other items	–	450	–	–	–	–	450
Deduction for retail exposures in default, recognised on rows 24 and 28*	–11	–	–	–	–	–	–11
Total exposure with standardised approach	**11**	**92,389**	**10**	–	–	**–3**	**92,390**
Total	**283**	**520,981**	**141**	–	**26**	**16**	**521,123**
– Of which, loans	283	383,781	–	–	–	–	384,064
– Of which, debt securities	–	71,961	–	–	–	–	71,961
– Of which, off-balance-sheet exposures	–	48,662	13	–	–	7	48,649

Table 36. **Credit quality of exposures by industry or counterparty types** *(EU CR1-B table)*

	Gross carrying values of						
SEK million	**Defaulted exposures**	**Non-defaulted exposures**	**Specific credit risk adjustment**	**General credit risk adjustment**	**Accumulated write-offs**	**Credit risk adjustment charges**	**Net values**
Construction	0	11,657	14	–	–	–	11,643
Real estate activities	272	416,935	117	–	26	14	417,090
Other services	11	19,258	9	–	–	2	19,260
Financial services*	0	73,131	1	–	–	0	73,130
Total	**283**	**520,981**	**141**	**–**	**26**	**16**	**521,123**

*Credit institutions

Table 37. **Credit quality of exposures by geography** *(EU CR1-C table)*

	Gross carrying values of						
SEK million	**Defaulted exposures**	**Non-defaulted exposures**	**Specific credit risk adjustment**	**General credit risk adjustment**	**Accumulated write-offs**	**Credit risk adjustment charges**	**Net values**
Sweden	283	501,846	141	–	26	16	501,988
Denmark	–	4,977	0	–	–	–	4,977
Finland	–	3,996	0	–	–	–	3,996
Norway	–	2,207	0	–	–	–	2,207
Canada	–	608	0	–	–	–	608
USA	–	154	–	–	–	–	154
France	–	2	–	–	–	–	2
Germany	–	2,750	0	–	–	–	2,750
UK	–	2,317	–	–	–	–	2,317
Switzerland	–	0	–	–	–	–	0
Austria	–	218	–	–	–	–	218
Netherlands	–	–	–	–	–	–	0
Spain	–	–	–	–	–	–	0
Other countries*	–	1,906	0	–	–	–	1,906
Total	**283**	**520,981**	**141**	–	**26**	**16**	**521,123**

* Pertains to investments in securities issued by the European Investment Bank (EIB) and the Nordic Investment Bank (NIB)

Table 38. **Credit quality of forborne exposures** *(EU NPL1 table)*[1]

	Gross carrying amount/nominal amount of exposures with forbearance measures				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		Collateral received and financial guarantees received on forborne exposures	
		Non-performing forborne						
SEK million	**Performing forborne**		**Of which defaulted**	**Of which impaired**	**On performing forborne exposures**	**On non performing forborne exposures**		**Of which collateral and financial guarantees received on non-performing exposures with forberance measures**
Loans and advances	18	14	14	14	0	–1	31	–
Central banks	–	–	–	–	–	–	–	–
General governments	–	–	–	–	–	–	–	–
Credit institutions	–	–	–	–	–	–	–	–
Other financial corporations	–	–	–	–	–	–	–	–
Non-financial corporations	*13*	–	–	–	*0*	–	*13*	–
Household	*5*	*14*	*14*	*14*	*0*	*–1*	*18*	–
Debt securities	–	–	–	–	–	–	–	–
Loan commitments given	–	–	–	–	–	–	–	–
Total	**18**	**14**	**14**	**14**	**0**	**–1**	**31**	–

1) Template 3 in Final report on Guidelines on disclosure of non-performing and forborne exposures EBA/GL/2018/10.

Table 39. **Credit quality of performing and non-performing exposures by past due days** *(EU NPL 3 table)*[1]

	Gross carrying amount/nominal amount											
	Performing exposures			Non- performing exposures								
SEK million		Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days		Unlikely to pay that are not past ude or are past due ≤ 90 days	Past due > 90 days ≤ 180 days	Past due > 180 days ≤ 1 year	Past due > 1 years ≤ 2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	Of which defaulted
Loans and advances	389,822	389,794	28	281	194	24	35	24	4	–	–	281
Central banks	*5,750*	*5,750*	–	–	–	–	–	–	–	–	–	–
General governments	–	–	–	–	–	–	–	–	–	–	–	–
Credit institutions	*415*	*415*	–	–	–	–	–	–	–	–	–	–
Other financial corporations	–	–	–	–	–	–	–	–	–	–	–	–
Non-financial corporations	*89,897*	*89,897*	*0*	*18*	*18*	–	–	–	–	–	–	*18*
Of which SMEs	*64,215*	*64,215*	*0*	*18*	*18*	–	–	–	–	–	–	*18*
Household	*293,761*	*293,733*	*28*	*263*	*176*	*24*	*35*	*24*	*4*	–	–	*263*
Debt securities	31,780	31,780										
Central banks	*7,566*	*7, 566*	–	–	–	–	–	–	–	–	–	–
General governments	*14,696*	*14,696*	–	–	–	–	–	–	–	–	–	–
Credit institutions	*9,518*	*9,518*	–	–	–	–	–	–	–	–	–	–
Other financial corporations	–	–	–	–	–	–	–	–	–	–	–	–
Non-financial corporations	–	–	–	–	–	–	–	–	–	–	–	–
Off balance sheet exposures	48,662			–								–
Central banks	–			–								–
General governments	–			–								–
Credit institutions	–			–								–
Other financial corporations	–			–								–
Non-financial corporations	*6,096*			–								–
Household	*42,566*			–								–
Total	**470,264**	**421,574**	**28**	**281**	**194**	**24**	**35**	**24**	**4**	**–**	**–**	**281**

1) Template 3 in Final report on Guidelines on disclosure of non-performing and forborne exposures EBA/GL/2018/10.

Table 40. **Performing and non performing exposures and related provisions** *(EU NPL 4 table)*[1]

	Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions							Collateral received and financial guarantees received	
	Performing exposures			Non-performing exposures			Performing exposures - accumulated impairment and provision			Non-performing exposures accumulated impairment, accumulated negative changes in fair value due ot credit risk and provisions			Accumulated partial write-off	On performing exposures	On non-performing exposures
SEK million		**Of which stage 1**	**of which stage 2**		**Of which stage 2**	**of which stage 3**		**Of which stage 1**	**of which stage 2**		**Of which stage 2**	**of which stage 3**			
Loans and advances	389,822	368,482	21,341	281	–	281	–103	–29	–74	–29	–	–29	–	–	246
Central banks	*5,750*	*5,750*	–	–	–	–	–	–	–	–	–	–	–	–	–
General governments	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Credit institutions	*415*	*415*	–	–	–	–	–	–	–	–	–	–	–	–	–
Other financial corporations	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Non-financial corporations	*89,897*	*87,860*	*2,037*	*18*	–	*18*	*–8*	*–3*	*–5*	*–9*	–	*–9*	–	–	*10*
Of which SMEs	*64,215*	*63,281*	*934*	*18*	–	*18*	*–6*	*–3*	*–3*	*–9*	–	*–9*	–	–	*10*
Household	*293,761*	*274,457*	*19,304*	*263*	–	*263*	*–95*	*–26*	*–69*	*–20*	–	*–20*	–	–	*237*
Debt securities	31,780	31,780	–	–	–	–	–1	–1	–	–	–	–	–	–	–
Central banks	*7,566*	*7,566*	–	–	–	–	–	–	–	–	–	–	–	–	–
General governments	*14,696*	*14,696*	–	–	–	–	*–1*	*–1*	–	–	–	–	–	–	–
Credit institutions	*9,518*	*9,518*	–	–	–	–	*0*	*0*	–	–	–	–	–	–	–
Other financial corporations	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Non-financial corporations	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Off balance sheet exposures	48,662	48,272	389	–	–	–	13	–4	–9	–	–	–		–	–
Central banks	–	–	–	–	–	–	*12*	*–3*	*–9*	–	–	–		–	–
General governments	–	–	–	–	–	–	–	–	–	–	–	–		–	–
Credit institutions	–	–	–	–	–	–	–	–	–	–	–	–		–	–
Other financial corporations	–	–	–	–	–	–	–	–	–	–	–	–		–	–
Non-financial corporations	*6,096*	*5,762*	*333*	–	–	–	–	–	–	–	–	–		–	–
Household	*42,566*	*42,510*	*56*	–	–	–	*1*	*–1*	*0*	–	–	–		–	–
Total	**470,264**	**448,534**	**21,730**	**281**	–	**281**	**–91**	**–34**	**–83**	**–29**	–	**–29**	–	–	**246**

1) Template 3 in Final report on Guidelines on disclosure of non-performing and forborne exposures EBA/GL/2018/10.

Table 41. **Net exposure amounts for defaulted and non-defaulted exposures by property type**

SEK million	Total exposure amount in the lending portfolio	Of which, exposures in default	Of which non-defaulted exposures	Specific credit risk adjustment[1)]	Total exposure amount in the lending portfolio after deduction for provisions
Houses and holiday homes	146,382	120	146,262	39	146,343
Tenant-owners´rights	145,367	134	145,233	63	145,304
Tenant owners´associations	51,902	18	51,884	9	51,893
Private multi-family dwellings	35,411	–	35,411	4	35,407
Municipal multi-family dwellings	111	–	111	0	111
Commercial properties	2,596	–	2,596	2	2,594
Unsecured	2,296	11	2,285	9	2,287
Other	48,662	–	48,662	14	48,648
Total	**432,727**	**283**	**432,444**	**140**	**432,587**

Table 42. **Net exposure amounts for defaulted and non-defaulted exposures by region**

SEK million	Total exposure amount in the lending portfolio	Of which, exposures in default	Of which non-defaulted exposures	Specific credit risk adjustment[1)]	Total exposure amount in the lending portfolio after deduction for provisions
Greater Stockholm	237,336	157	237,179	83	237,253
Greater Gothenburg	40,164	13	40,151	9	40,155
Öresund region	48,560	31	48,529	16	48,544
University and growth regions	43,337	21	43,316	8	43,329
Weak regions	3,721	23	3,699	10	3,711
Other regions	59,609	38	59,570	14	59,595
Total	**432,727**	**283**	**432,444**	**140**	**432,587**

[1] Received guarantees are included.

9.11 Reconciliation of change in specific credit risk adjustments for loans with provisions

SBAB only has specific credit risk adjustments and no general credit risk adjustments.

Table 43. **Changes in the stock of general and specific credit risk adjustments** *(EU CR2-A table)*

SEK million	Accumulated specific credit risk adjustment	Accumulated general credit risk adjustment
Opening balance (Closing 31 Dec 2018)	**124**	**–**
Increases due to amounts set aside for estimated loan losses during the period	89	–
Decreases due to amounts reversed for estimated loan losses during the period	–58	–
Decreases due to amounts taken against accumulated credit risk adjustments	–14	–
Transfers between credit risk adjustments	–	–
Impact of exchange rate differences	–	–
Business combinations, including acquisitions and disposals of subsidiaries	–	–
Other adjustments	0	–
Closing balance	**141**	**–**
Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	3	–
Specific credit risk adjustments directly recorded to the statement of profit or loss	–14	–

Table 44. **Changes in stock of defaulted and impaired loans and debt securities** *(EU CR2-B TABLE)*

SEK million	Gross carrying value for defaulted exposures
Opening balance (closing 31 dec 2018)	**270**
Loans and debt securities that have defaulted or impaired since the last reporting period	148
Returned to non-defaulted status	–49
Amounts written off	–12
Other changes	–74
Closing balance	**283**

9.12 Exposures per rating grade for PD

The credit quality of the lending portfolio is deemed to be favorable. A total of 99,0 % of corporate exposures and 95,3% of retail exposures in the balance sheet derive from the best rating grades: up to C4 (corporate exposures) and up to R4 (retail exposures).

Figure 11. **IRB Corporates — Exposure by risk class**

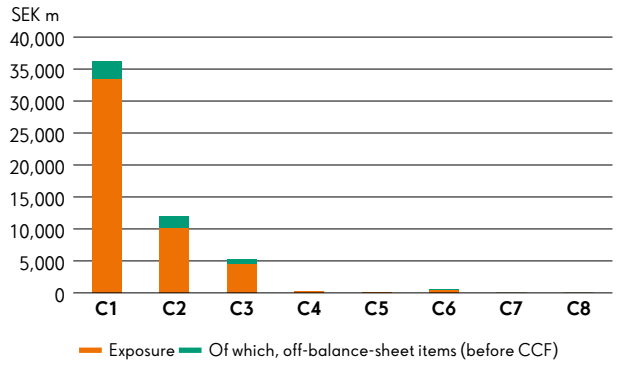


Figure 12. **IRB Retail — Exposure by risk class**

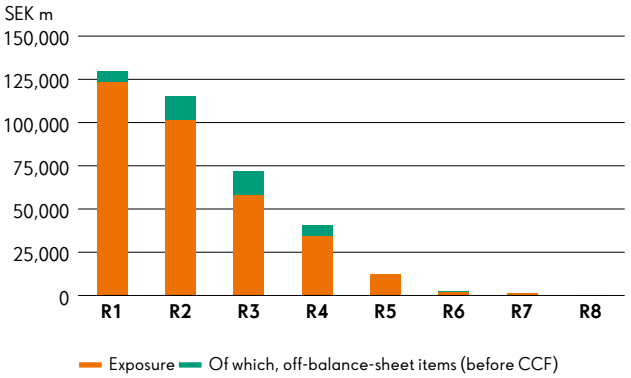


Figure 13. **IRB Retail — Tenant-owners' rights — Exposure by risk class**

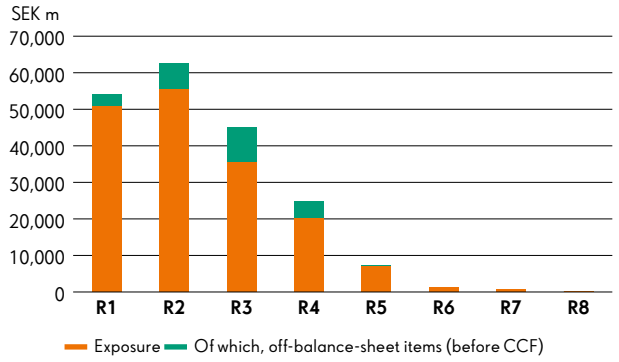


Figure 14. **IRB Retail — House/holiday home — Exposure by risk class**

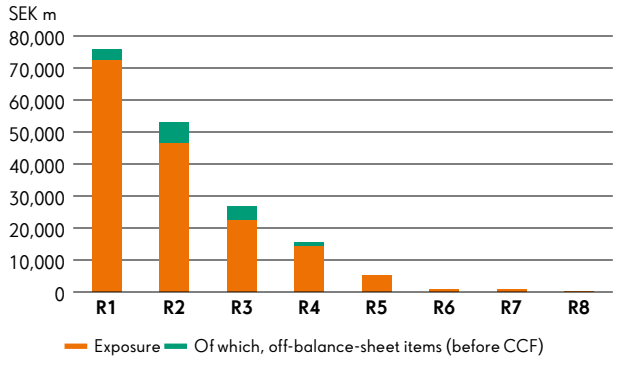
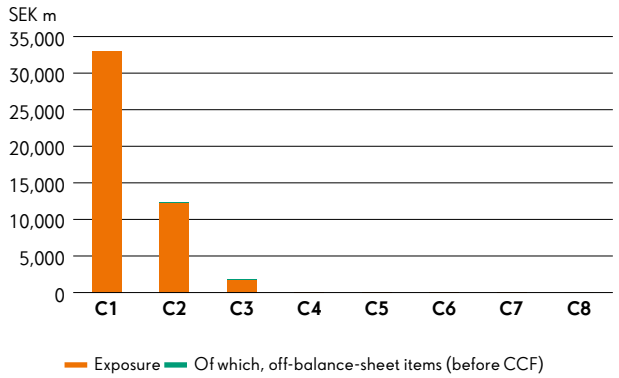


Figure 15. **IRB Retail — Tenant-owners' association — Exposure by risk class**



9.13 Realised outcome in the PD and LGD dimensions

Table 45 shows the exposure-weighted PD and LGD estimates as per 31 December 2018 and the realised outcomes for 2019. Default rates for 2019 are historically low and the PD estimates exceed realised outcomes for both retail and corporate exposures. Credit losses during 2019 was very low with LGD estimates clearly exceeding realised outcomes. The LGD estimates for retail exposures are limited by the LGD-floor for mortgages, which entails a minimum average exposure-weighted LGD of 10%. Table 46 shows more details about average PD estimates and observered default rates.

Table 45. **Realised outcome in the PD and LGD dimensions**

Exposure class	PD estimates, %	Realised outcome[1), %]	LGD estimate, %	Realised outcome[2), %]
Corporate exposures	0.2	0.0	38.0	0.0
Retail exposures	0.4	0.1	10,0[3)]	0.8[3)]

[1)] An exposure is regarded as in default if the receivable is more than 60 days past due or if an assessment has been made that the customer will probably not be able to pay agreed interest amounts or cover repayments of the principal.

[2)] Realised outcome has been calculated on loans in default where the default was concluded during the year.

[3)] The results are exposure-weighted.

Table 46. **IRB approach – backtesting of PD per exposure class** *(EU CR9 table)*

Exposure class		PD range	External rating equivalent	Weighted average PD	Arithmetic average PD by obligors	No. of obligors end of previous year	No. of obligors end of this year	Defaulted obligors in the year	Of which new obligors	Average historical annual default rate
Corporates	Corporates – Other	0–100%	–	0.43%	0.42%	159	179	–	–	0.00%
	Corporates – SMEs	0–100%	–	0.41%	0.62%	275	259	–	–	0.18%
Retail	Retail – SMEs	0–100%	–	0.17%	0.27%	1,768	1,706	–	–	0.03%
	Retail – Other	0–100%	–	0.35%	0.38%	179,781	188,904	335	–	0.22%

9.14 Comparison of expected loss and outcome

During the comparison period expected loss (EL) decreased for both corporate and retail exposures. In both cases, the decrease was attributable to improved credit quality in the portfolio in terms of PD.

The good credit quality is also visible in the small amount of credit losses that arose during the year. In 2019, total credit losses for exposures recognised under IRB amounted to SEK 5 million. Table 47 excludes off balance items.

Table 47. **Comparison of expected loss between outcome and model, and provision for loans reported according to IRB approach** [1)]

Exposure class, SEK million	EL, IRB/F-IRB 31 Dec 2018	EL, IRB/F-IRB 31 Dec 2017	EL, IRB/A-IRB 31 Dec 2018	EL, IRB/A-IRB 31 Dec 2017	Realised outcome 2019	Realised outcome 2018	Total provisions, including guarantees 31 Dec 2019	Total provisions, including guarantees 31 Dec 2018
Exposures to corporates	24	42	–	–	–	–	6	2
Retail exposures	–	–	128	156	5	3	111	103
of which, houses and holiday homes	–	–	*55*	*60*	*2*	*2*	*39*	*42*
of which, tenant-owners' rights	–	–	*64*	*72*	*3*	*1*	*63*	*51*
of which, tenant-owners' associations	–	–	*9*	*24*	–	*0*	*9*	*10*
Total	**24**	**42**	**128**	**156**	**5**	**3**	**117**	**105**

[1)] Expected loss (EL) has been calculated for the loan receivables that existed at the end of 2017 and 2018, respectively. The expected loss is compared with the actual outcome for confirmed loan losses during the outcome years of 2018 and 2019, respectively.

10 Funding

SBAB's operations are primarily funded through the capital and money markets. Since 2007, funding is also increasingly raised through retail deposits. Funding is conducted, in part, through the Parent Company SBAB Bank AB (publ) and, in part, through SCBC where funding is carried out through the issuing of covered bonds. Swedish and international programmes are utilised for funding and are predominantly conducted through public issues which are complemented by private placements. Funding is mainly targeted at major institutional investors. International funding is primarily aimed at European investors, but SBAB also attracts investors in the US, Japan and other parts of Asia.

10.1 Medium and long-term funding

10.1.1 Senior unsecured funding

SBAB has a programme for medium and long-term funding, the Euro Medium Term Note Programme (EMTN programme), which is used both for Swedish and international funding. The EMTN programme has a limit of EUR 13 billion. The terms of the EMTN programme follow market practice for similar programmes and entitle investors to early redemption of the bonds if, for example, SBAB fails to pay the interest or capital on time, breaks other terms of the programme (with consideration given to certain healing periods) or if SBAB is placed into receivership or liquidation. Under the EMTN programme, SBAB can choose between various types of interest-rate structures, including floating and fixed rates, and issue bonds in several currencies and denominations. Moreover, the EMTN programme allows SBAB to issue both unsubordinated debt (senior preferred and senior non preferred) as well as dated subordinated notes, which may qualify as Tier 2 capital on approval by the SFSA.

Based on the EMTN programme, SBAB has also established standalone prospectus under which perpetual subordinated debt intended to qualify as Additional Tier 1 capital has been issued.

10.1.2 Secured funding

The subsidiary SCBC has three funding programmes for issuing covered bonds: a Swedish covered bond programme with no fixed limit, an international Euro Medium Term Covered Note Programme (EMTCN programme) with a limit of EUR 16 billion and a dormant Australian Covered Bond Issuance Programme with a limit of AUD 4 billion. The terms of these programmes for issuing covered bonds follow market practice for similar programmes and entail, for example, that investors have limited right to early redemption of the bonds. The terms also stipulate that SCBC can choose between various types of interest-rate structures, including floating and fixed rates, and issue bonds through these three programmes in several currencies and denominations.

The EMTCN programme also allows SCBC to issue bonds with a soft-bullet structure, which entitles the issuer, in certain cases, to extend the maturity of the bond according to the issuer's terms.

10.2 Short-term funding

SBAB manages its short-term funding primarily through two commercial paper programmes:

- A Swedish commercial paper programme with a limit of SEK 25 billion; and
- A European commercial paper programme with a limit of EUR 3 billion.

The terms of these programmes follow market practice for similar programmes and include limited opportunities for an investor to demand early redemption.

SBAB can issue commercial paper in the international market in a variety of currencies through the European programmes, while the Swedish programme is mainly used for SEK. Commercial papers are mainly "discount paper," meaning that it does not have floating or fixed coupon rates, but is issued in an amount that is more/less than the nominal amount that will be repaid when it falls due.

10.3 Encumbered and unencumbered assets

As a part of SBAB's operations, residential mortgages are transferred to the subsidiary SCBC. These residential mortgages can include credits pledged against mortgages in real estate intended for residential purposes, against tenant-owners' rights or credits that otherwise qualify for inclusion in the cover pool for covered bonds. SBAB's receivables relating to the residential mortgages transferred to SCBC are repaid (wholly or in part) to SBAB at the same time as covered bonds are issued by SCBC. SBAB's receivables relating to these transfers and other receivables (unless they have arisen as a result of a derivative contract connected to the cover pool) are subordinated receivables without priority, in the event SCBC were to enter receivership or be liquidated.

Derivative contracts may be used to ensure a good balance regarding currencies, interest rates and fixed-interest periods in the cover pool. By entering into interest-rate swap contracts with SBAB or external counterparties regarding the assets registered in the cover pool, SCBC is able to convert interest payments received by SCBC in SEK for certain assets that are registered in the cover pool into variable payments linked to 3-month STIBOR.

In the same manner, SCBC may enter into currency swaps to hedge currency risks arising from funding in foreign currencies or potential assets in foreign currencies that are registered in the cover pool.

The companies in the SBAB Group are also able to enter into derivative transactions that do not need to be recorded in the cover pool. Derivative contracts may be entered into between the companies in the SBAB Group or with external counterparties.

For all counterparties documentation exists in the form of ISDA Master Agreements. In most cases, an agreement is supplemented by a credit support annex (CSA). The Parent Company and SCBC may also enter into repo transactions with certain counterparties. These transactions are governed through Global Master Repurchase Agreements (GMRA). In all instances, the collateral transferred between counterparties under CSAs and GMRAs is in the form of cash.

The cover pool assets consist mainly of loans to the public in the form of loans against mortgages of immovable property intended for residential use or against pledged tenant-owners' rights. The cover pool may also include substitute collateral, and it is consequently possible to include derivatives or securities in the cover pool. The volume pertaining to encumbered assets in the last five-year period is described in Figure 17, Encumbered assets.

According to the Covered Bonds (Issuance) Act (2003:1223), the value of the assets in the cover pool must always exceed the value of the bonds issued with the encumbered assets as collateral (referred to as overcollateralisation, "OC"). The unutilised scope in the last four-year period is described in Figure 18, Unutilised scope. On 31 December 2019, SCBC had set 2.0% as a minimum requirement for the OC level, which is the level required by the matching rules set out in Chapter 3, sections 8 and 9 of the Covered Bonds (Issuance) Act (2003:1223). On 31 December 2019, this level was equal to a volume of SEK 4.9 billion.

On 31 December 2019, SCBC had assets (reserves) corresponding to SEK 30.5 billion that can constitute covered assets.

Figure 16. **Assets encumbered**

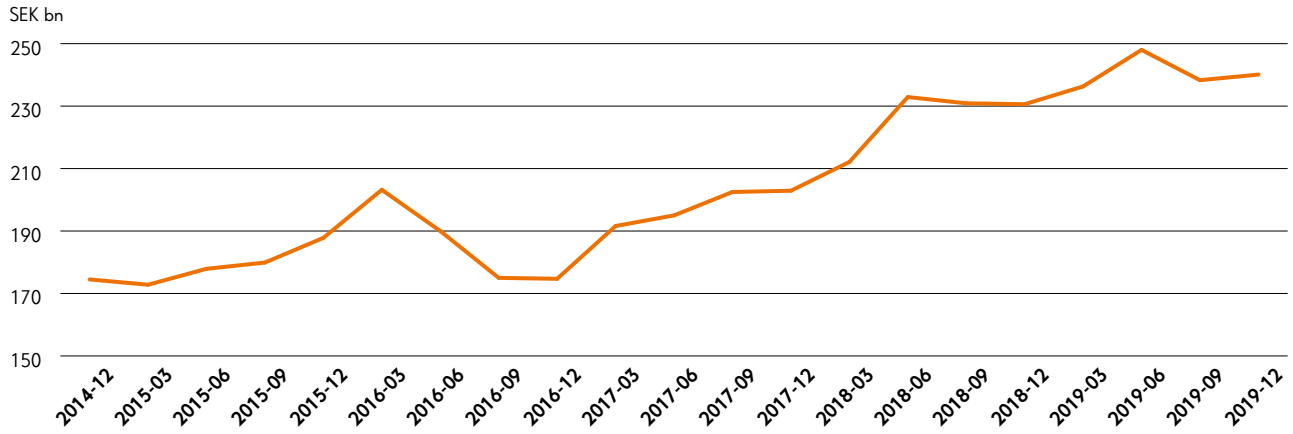
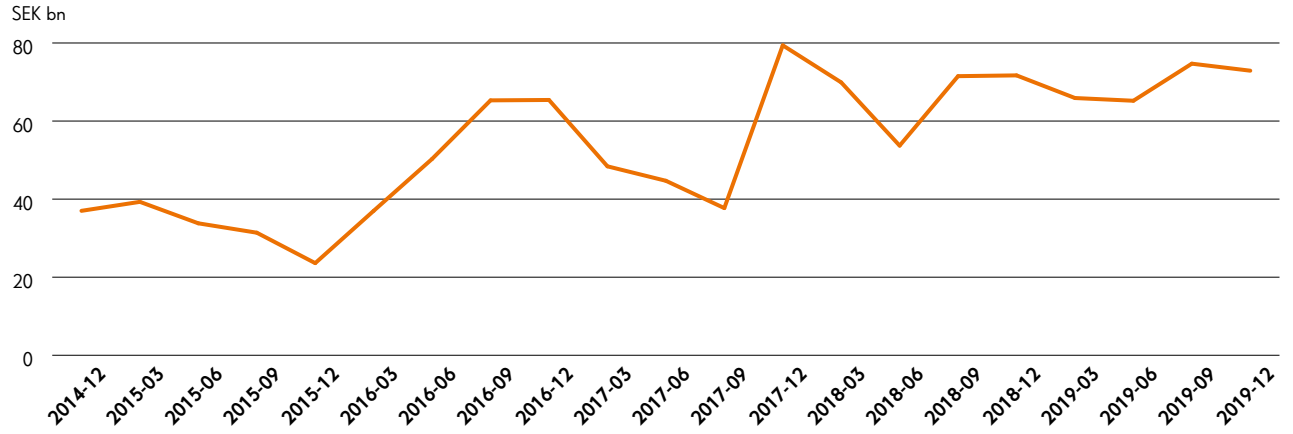


Figure 17. **Unutilised scope**



Of the assets included in Table 48, Assets encumbered disclosures below, under the heading Unencumbered assets, carrying amount with the amount recognised in the item Other assets, SBAB has reported any items that are not available for mortgaging or other collateral arrangements in the regular operations. Such assets include deferred tax assets, property, plant and equipment, intangible assets and certain other assets that are not mortgaged, pledged as collateral or used as security in the regular operations.

Table 48. **Assets encumbered disclosures**

Assets, SEK million	Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
		of which notionally eligible EHQLA and HQLA		*of which notionally eligible EHQLA and HQLA*		*of which EHQLA and HQLA*		*of which EHQLA and HQLA*
Assets of the reporting institution	245,265	–			230,274	71,493		
Equity instruments	–	–			–	–		
Debt securities	–	–	–	–	71,614	71,493		
of which: covered bonds	–	–	–	–	36,515	36,395	36,772	36,651
of which: asset-backed securities	–	–	–	–	–	–	–	–
of which: issued by general governments	–	–	–	–	18,393	18,393	18,444	18,444
of which: issued by financial corporations	–	–	–	–	16,706	16,706	16,770	16,770
of which: issued by non-financial corporations	–	–	–	–	–	–		
Other assets	245,265	–			158,660	–		

Table 49. **Collateral received**

SEK million	Fair value of encumbered collateral received or own debt securities issued		Unencumbered: Fair value of collateral received or own debt securities issued available for encumbrance	
		of which notionally eligible EHQLA and HQLA		*of which notionally eligible EHQLA and HQLA*
Collateral received by the reporting institution	1,671	–	–	–
Equity instruments	–	–	–	–
Debt securities	0	–	–	–
Other collateral received	1,671	–	–	–

Table 50. **Encumbered assets/collateral received and resulting liabilities**

SEK million	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
Carrying amount of selected financial liabilities	245,265	245,265

10.4 Funding strategy

The size of the funding portfolio is a function of the volume of the loans outstanding, and on the composition of the assets after taking into consideration such factors as liquidity risk and the company's risk appetite. Funding is also continuously adjusted to meet new liquidity rules and the requirements imposed by rating agencies and investors. The funding should be diversified.

The portfolio must have an effective distribution between secured and unsecured funding and strive for an even distribution of debt maturity dates, i.e. avoiding periods with large concentrations of maturities. The funding portfolio should also include funding in several currencies with a balanced and diversified investor base. As a consequence of the company's lending being conducted exclusively in SEK, the majority of the funding is allocated to SEK. The second largest currency for funding is EUR and the Group has been a regular issuer in the EUR market for many years. Funding should be conducted using several lead banks and through public offers and private placements. Interest-rate risk and currency risk associated with funding are managed using derivatives, primarily interest-rate and currency swaps.

SBAB's lending is funded mainly by retail deposits and through the financial capital markets in the form of commercial paper and bonds. Long-term funding is mainly conducted via covered bonds.

Short-term funding under SBAB's commercial paper programme must be adjusted to market conditions and needs, but always constitute a limited share of the total funding portfolio. SBAB's loan assets should be used effectively by acting as collateral for secured funding. The funding mix between SCBC and the Parent Company must be well balanced, taking into account the companies' risk appetite, rating and total long-term funding cost.

SBAB and SCBC must maintain an active market presence, with favourable and frequent relations with investors in each investor segment.

10.5 Deposit strategy

SBAB has an expressed ambition of gradually increasing the amount of deposits and their share of balance sheet liabilities. Retail deposits are to amount to a significant proportion of total liabilities. To ensure that funding is diversified and to limit dependence on capital markets, deposits are to constitute at least 28% of lending (deposit-to-loan ratio). On 31 December 2018, this ratio was 34%. SBAB aims to raise the deposit-to-loan ratio (DTLR) further moving forward. Figure 20 illustrates the trends for deposits, lending and the deposit-to-loan ratio since 2008.

Figure 18. **Funding sources and distribution by currency for deposits and funding**

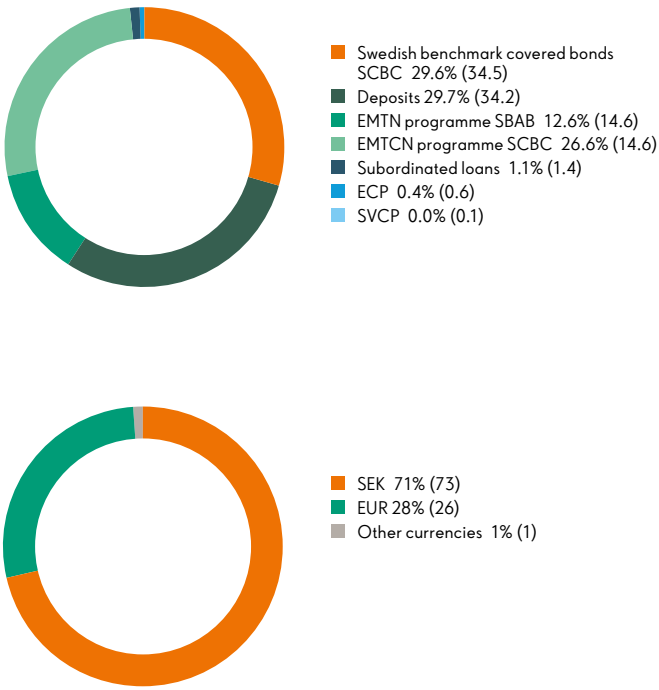
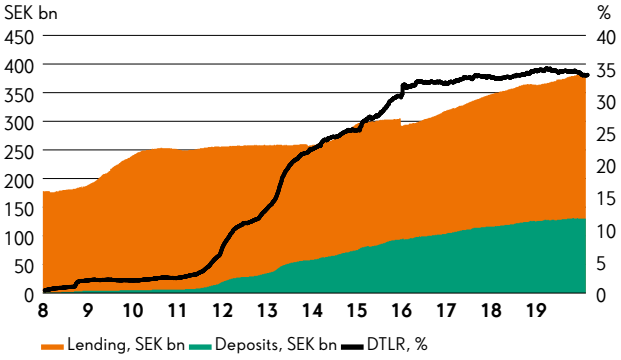


Figure 19. **Deposits and lending trends**



11 Credit risk in treasury operations

Credit risk arises in treasury operations, in part, in the form of counterparty credit risks for the derivative and repo transactions entered into by SBAB to manage its financial risks and, in part, in the form of investment risk as a result of investments in the liquidity portfolio and the investment of surplus liquidity.

In accordance with the credit instruction adopted by the Board, credit risk limits are established by SBAB's Credit Committee for all counterparties in the treasury operations. The utilised limit is calculated as the market value of financial derivatives, repos and investments. For derivative and repo contracts, the effect of collateral pledged or received under CSAs and GMRAs is included in the total net exposure. Moreover, for derivatives, an add-on amount is also calculated for future risk-related changes. The credit risk limit may be established for a period of no longer than one year, following which a new assessment must be conducted. The decisions of the Credit Committee are reported to the Board at the following Board meeting.

11.1 Counterparty credit risk

Counterparty risk is the risk that SBAB's financial counterparties cannot meet their commitments pursuant to the completed derivatives and repo contracts, and such risk consists primarily of exposures to well-reputed and established banks. Table 51 provides a breakdown of CCR exposures by risk weight on 31 December 2019. This exposure is predominantly covered by collateral agreements, where the counterparty posts collateral to reduce net exposure.

Table 51. **Standardised approach – CCR exposures by regulatory portfolio and risk** *(EU CCR3 table)*

SEK million Exposure class	0%	10%	20%	50%	Total
Institutions	–	–	3,318	6,829	10,147
Total	**–**	**–**	**3,318**	**6,829**	**10,147**

To limit the potential counterparty credit risk associated with derivative transactions involving non-standardised derivatives that are not cleared through a central clearing counterparty (CCP) approved by the competent authority (in accordance with Regulation (EU) No 648/2012), a framework agreement must have been concluded with the counterparty. In most cases, the framework agreement, an ISDA Master Agreement or similar agreements with terms for final settlement, have been supplemented with a credit support annex (CSA).

The ISDA Master Agreement entails, inter alia, that netting is regulated in the event of bankruptcy. A CSA means that the parties have agreed in advance to transfer collateral if the exposure exceeds a specified threshold amount. The threshold amount and the minimum amount to be transferred to or from the counterparty can vary depending on the parties' ratings.

Tables 57 and 58 provide an overview of the distribution of the market value of individual derivative transactions by rating and maturity.

GMRAs are used to limit the counterparty risk associated with repo transactions. These agreements control aspects such as the transfer of collateral to or from the counterparty.

When entered into, CSAs are reconciled on a daily basis or on a weekly basis. When CSAs are in place, collateral is pledged to reduce net exposures. Wherever applicable, the posted and received collateral takes the form of cash with a transfer of title, which entitles the party that receives the collateral to use the collateral in its operations. In certain cases, under the agreements concluded by the Parent Company and SCBC, threshold and minimum transfer amounts are regulated by the parties' rating, the poorer the party's rating, the lower these amounts are. On 31 December 2019, a decline in SBAB's rating would not result in the need for SBAB to provide extra collateral to any external counterparty.

Table 52. **Analysis of the counterparty credit risk (CCR) exposure by approach** *(EU CCR1 table)*

SEK million Exposure class	Replacement cost/current market value	Potential future credit exposure	EAD post CRM	REA
Mark to market	11,987	7,301	10,043	4,057
Financial collateral comprehensive method (for SFTs)	–	–	104	21
Total	**11,987**	**7,301**	**10,147**	**4,078**

Table 53. **Impact of netting and collateral held on exposure values** *(EU CCR5-A table)*

SEK million	Gross positive fair value or net carrying	Netting benefits	Netted current credit	Collateral held	Net credit exposure
Derivatives	13,087	1,100	11,987	9,269	2,718
SFTs	1,486	0	1,486	1,441	45
Total	**14,573**	**1,100**	**13,473**	**10,710**	**2,763**

Table 54. **Composition of collateral for exposures to counterparty credit risk** *(EU CCR5-B table)*

	Collateral used in derivative transaction					
	Fair value of collateral received		Fair value of posted collateral		Collateral used in SFTs	
SEK million	Segregated	Unsegregated	Segregated	Unsegregated	Fair value of collateral received	Fair value of posted collateral
Total	**0**	**–10,527**	**1,237**	**310**	**1,441**	**1,419**

11.2 Credit quality in the liquidity portfolio

The primary purpose of SBAB's liquidity portfolio is to act as a provision for situations when the ability to obtain liquidity from other sources is limited or rendered materially more difficult. The portfolio comprises liquid, interest-bearing securities with high ratings. Moreover, securities holdings constitute an integrated part of the total credit risk utilisation for each issuer.

Securities holdings in the liquidity portfolio are limited by asset class and by country, and new investments must have a rating of at least Aa from Moody's, AA from Standard & Poor's or AA from Fitch upon acquisition.

The exemption to the above is for covered bonds, where a rating of Aaa from Moody's, AAA from Standard & Poor's or AAA from Fitch is required to permit acquisition, refer to Table 55.

Table 55. **Approved rating per asset class**

Asset class	Moody's / Standard & Poor's / Fitch	Maximal remaining time to maturity	Share of liquidity portfolio
Securities issued or guaranteed by central governments, sovereigns, supranationals and agencies and non-governmental public sector entities	AAA	10 years	44%
	AA	6 years	5%
Covered bonds	AAA	10 years	50%
	AA		1%

Holdings of covered bonds are risk weighted in relation to their credit quality step in the CRR. On 31 December 2019, all of SBAB's holdings of covered bonds were assigned credit quality step one, which means a risk weight of 10%. The holdings in the portfolio are long-term and on 31 December 2019, the market value was SEK 72.0 billion. On the same date, 94% of the portfolio's value had a rating of Aaa from Moody's, AAA from Standard & Poor's or AAA from Fitch. The various asset classes in the portfolio are securities issued by or guaranteed by central governments, securities issued by sovereigns, supranationals and agencies, securities issued by non-governmental public sector entities and European covered bonds. The holdings in the liquidity portfolio are classified as "Hold to Collect Fair Value Option (HTC FVO)", "Hold to Collect and Sell (HTC and Sell)", or "Hold to Collect (HTC)".

Table 56. **Holdings in liquidity portfolio**

SEK million	HTC FVO	HTC and Sell	HTC	Total
Securities issued by central governments	1,126	2,576	12,227	15,929
Securities guaranteed by central governments	568	101	1,846	2,515
Securities issued by sovereigns, supranationals and agencies	337	1,323	246	1,906
Securities issued by non-governmental public sector entities	0	6,880	7,984	14,864
European covered bonds	911	26,282	9,578	36,771
Total	**2,942**	**37,162**	**31,881**	**71,985**

All securities are recognised above at their market value, regardless of how they have been classified in the accounts. Credit risk assessment is conducted on the basis of assessed future cash flows and the market value of the collateral.

Table 57. **Derivatives specified by rating**

SEK million	Net market value	Positive market values	Negative market values
AA	–32	9	–41
AA–	2,670	2,956	–286
A+	4,400	5,188	–788
A	4,649	4,859	–210
BBB+	45	72	–27
BBB	–8	1	–9
BBB–	–25	2	–27
Total	**11,699**	**13,087**	**–1,388**
Collateral			8,980

Table 58. **Derivatives**

SEK million	Total nominal values	Positive market values	Negative market values
<1 year, Interest-rate-related	74,321	291	–67
>1 year, Interest-rate-related	339,485	5,499	–1,088
<1 year, Currency-related	14,363	820	–6
>1 year, Currency-related	95,741	6,477	–227
Total	**523,912**	**13,087**	**–1,388**

Table 59. **Net credit exposure for derivatives**

SEK million	
Gross positive fair value of contracts	13,087
– Netting benefits	–1,100
= netted current credit exposure	11,987
– Collateral held	–9,269
= net credit exposure for derivatives	**2,718**

12 Market risk

Market risk is the risk of loss or reduced future income due to market fluctuations.

SBAB is characterised by low risk taking, with the Board determining the overall risk appetite and setting the limits for the risk metric Value at Risk (VaR). In addition to VaR, a number of supplementary risk-based metrics set by the CEO of SBAB are also subject to limitation. Risk Control checks compliance with current risk levels and limits on a daily basis. Market risk is followed up at Group level as well as individual levels.

The general principle governing SBAB's exposure to market risk is that the level of risk taking should be low. As a general principle, interest-rate risk is to be mitigated through direct funding or the use of derivatives. Funding in international currencies are hedged through currency swaps or invested in matching currencies to mitigate currency risk.

12.1 Value at Risk

VaR is a comprehensive portfolio metric expressing the potential loss that could occur given a certain level of probability and holding period. SBAB's model is a historical model and applies percentiles in historical market data from the past two years.

Limits for the day-to-day follow up of VaR are set at two levels: SBAB's total market risk, and all market risks that Treasury is responsible for managing. The limit for SBAB's total market risk is based on the VaR metric included in the model for economic capital and applies a probability level of 99% and a holding period of one year, while the other metric applies a probability level of 99% and a holding period of one day.

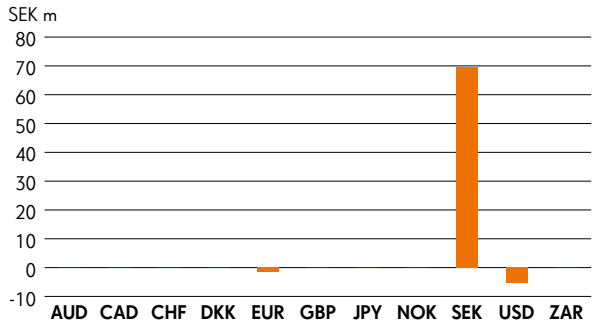
As per 31 December 2019, SBAB's total market risk exposure was SEK 255 million, compared with the limit of SEK 1,450 million. Exposure to market risks managed by Treasury was SEK 16 million and the limit was SEK 70 million.

12.2 Supplementary risk metrics

In addition to the overall VaR limits determined by the Board, the CEO has set a number of supplementary risk metrics for different kinds of market risks to which SBAB is exposed. For interest-rate risk, limits exist for parallel shifts, curve risk and the duration of own funds. For parallel risk, the effect on the present value of a one percentage-point shift in the yield curve is measured. Curve risk is measured as the effect on the present value in different scenarios, where the short end of the yield curve is adjusted down (up) and the long end is adjusted up (down). To limit the interest risk in the banking book the target for duration of own funds is limited to 0-6 months. Currency risk is controlled by measuring the effect on present value when currency exchange rates change and in the liquidity portfolio by controlling the matching of the principal in each currency. Limits are also in place for income volatility from basis spreads.

Income volatility from basis spreads arises because the derivatives used to hedge funding are recognised at fair value while the underlying funding is recognised at book value, in accordance with the accounting standards applied by SBAB. This causes effects to arise in operating profit that do not correspond to the actual risk which SBAB's portfolio is exposed to. The income volatility from basis spreads is expected to decrease in the future, as SBAB has applied hedge accounting through cash-flow hedges since 2014, which means that income volatility will only be calculated for existing swap contracts that are not subject to cash flow hedges.

Figure 20. **Interest-rate risk broken down by currency in the event of a parallel shift in the yield curve of +1 percentage point**



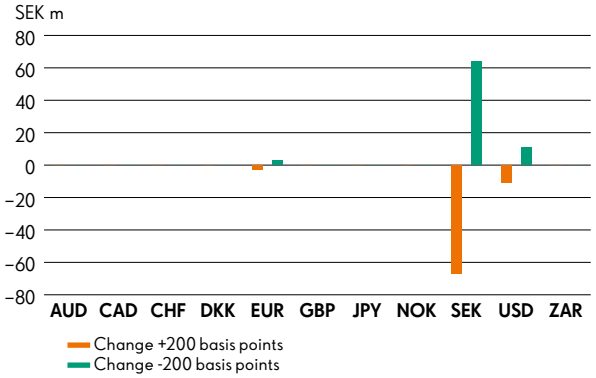
The interest-rate risk totalled negative SEK 62.6 million at 31 December 2019

12.3 Interest-rate risk in other operations

Interest-rate risk in other operations is measured and reported quarterly to the Swedish FSA in accordance with FFFS 2007:4. For the calculation of interest-rate risk in other operations, a maturity of one day is assumed for deposits that are not time-limited. As per 31 December 2019, the effect on the present value was negative SEK 80.1 million (negative: 992.6) for a 2 percentage-point parallel upward shift and a positive SEK 77.4 million (1,017.6) for a 2 percentage-point parallel downward shift. The exposure distributed by currency is presented in Figure 21.

The net interest income effect is measured to capture the impact of changes in interest rates on profit or loss. The metric reflects the differences in volume and fixed-interest periods between assets, liabilities and derivatives in other operations. The net interest income effect is based on an instantaneous parallel shift of one percentage point up and down over a 12-month time horizon. At the end of the year, the net interest income effect was positive SEK 187 million (negative: 67).

Figure 21. **Interest-rate risk in other operations in the event of a parallel shift in the yield curve of +/- 2 percentage points**



12.4 Interest-rate risk in the banking book (IRRBB)

IRRBB measures the risk that arises as a result of mismatches between interest rate periods, interest terms and currencies on the balance sheet. Changes in interest rates affect the present value of SBAB's assets and liabilities hence their economic values.

SBAB measures the IRRBB using the 6 standardized scenarios calculated with the advanced method defined by the Swedish FSA to quantify the capital requirement for interest rate risk in Pillar 2. In parallel SBAB also measure the change in economic value in the banking book using the 6 standardized scenarios defined by the Basel Committee on Banking Supervision (BCBS).

12.5. Regulatory capital requirement for market risk

SBAB uses the standardised approach to quantify capital requirements for market risk in Pillar 1. The regulatory capital requirement for market risk is shown in Table 60.

Table 60. **Market risk under standardised approach** *(EU MR1 table)*

Outright products	REAs	Capital requirements
Interest-rate risk (general and specific)	–	–
Foreign exchange risk	462	37
Total	**462**	**37**

13 Liquidity risk

Liquidity risk is defined as the risk that SBAB will not be able to meet its payment obligations without the related cost of obtaining funds increasing significantly.

13.1 Liquidity strategy and liquidity risk management

Liquidity risk is defined by SBAB as a necessary risk and shall be maintained at such a level that SBAB can manage a period of acute liquidity crisis without dependency on the capital market. SBAB and SCBC are managed collectively as one consolidated liquidity group with regard to liquidity management and control in accordance with Regulation (EU) No. 575/2013 of the European Parliament and of the Council, which allows free disposition of liquid funds in the liquidity group. The Group has a central liquidity management function through which all of the Group's liquidity in all currencies is forecast and managed in a shared Group account structure. The overall aim of SBAB's liquidity strategy is to ensure SBAB's survival in terms of liquidity and that the company can effectively meet its payment obligations.

Key features of the strategy are proactive and continuous liquidity planning, active debt management and the scope, content and management of SBAB's liquidity reserve.

Derivative transactions are used to manage financial risks that arise in conjunction with borrowing and lending. The majority of SBAB's interest rate related derivative transactions with external financial counterparties are cleared through clearing houses.

SBAB is the primary swap counterparty for derivative transactions that SCBC needs to enter to hedge risks related to borrowing and lending.

13.1.1 Broad and diversified funding

SBAB has maintained an active international capital market presence since 1989. Short-term, mid-term and long-term funding takes place on a global basis. Moreover, the SBAB Group has access to the covered bond market, both in Sweden and internationally, through SCBC. In addition to issuing bonds, SBAB is funded by retail deposits. In the last few years, this source of funding has come to comprise an increasingly large share of liabilities, which has made the SBAB Group less dependent on unsecured funding. This trend is deemed to reduce the Group's refinancing risk since the market for unsecured funding is significantly more volatile than the markets for secured funding and deposits from the public.

Another key element of the SBAB Group's financing strategy is to achieve an even maturity profile over time. This is achieved by actively choosing maturities during the issue process to avoid excessive concentrations of future maturities and by continuously repurchasing and exchanging debt outstanding (active debt management). Compared with the European covered bonds market, the Swedish market has relatively large volumes outstanding of individual loans, but concentration, liquidity and refinancing risks are mitigated by historically good possibilities for repurchasing and extension prior to loans maturing.

13.1.2 Liquidity reserve

SBAB has a liquidity portfolio in place to ensure liquidity in times when normal market funding does not function adequately or in the case of outflows of deposits. The portfolio acts as a buffer, as the securities in the portfolio can be used to generate liquidity, either through repos or through the sales of parts of the portfolio. The liquidity portfolio also comprises a business advantage in normal market conditions in the form of bridge financing for maturing debt and with ensuring intraday liquidity.

The portfolio holdings are long-term and mainly comprise liquid, interest-bearing securities with high ratings, where 100% of the portfolio's holdings should be possible to use collateral for repos with the Riksbank or the European Central Bank (ECB). The size of SBAB's holdings of individual securities as a percentage of the total volume outstanding is also limited with the aim of reducing concentration risk.

The liquidity reserve is defined as the value of the securities in the liquidity portfolio and other liquid short-term investments. When calculating the reserve value of the securities included in the liquidity reserve, the SBAB Group applies the haircuts issued in accordance with the Riksbank's Guidelines for Collateral Management in the regulatory framework for RIX and monetary policy instruments.

Excluding pledged collateral, SBAB's liquidity reserve amounted to SEK 74.5 billion on 31 December 2019 (the reserve value at the Riksbank or the ECB). The market value amounted to SEK 77.6 billion (see Table 61) with an average maturity of 2.07 years. Moreover, unutilised issuance capacity for covered bonds comprises an additional reserve that is not included in the calculation of the above liquidity metrics.

13.1.3 Continuous monitoring of liquidity risk

Proactive and continuous liquidity planning in the relevant currencies, active debt management and the scope, content and management of the liquidity reserve are key factors in SBAB's liquidity risk management. By viewing funding activities as a natural part of both operational work and the strategic planning of liquidity risk, concentrations of excessively large funding maturities are avoided. Another important part of the ongoing liquidity risk management is the continuous monitoring and testing of the practical liquidity value of the liquidity reserve in the secondary market.

13.1.4 Contingency plan

SBAB has a contingency plan for the management of liquidity crises. The contingency plan contains a clear delegation of responsibility for the personnel concerned, as well as instructions on how the company can rectify potential liquidity deficits. The plan stipulates suitable actions to handle the implications of various types of crisis scenarios and contains definitions of events that cause and escalate the contingency plan. The contingency plan is regularly tested and updated based on, for example, the results of stress tests.

Table 61. **Liquidity reserve**

		DISTRIBUTION BY CURRENCY			
Liquidity reserve, SEK billion	**Dec 2019**	**SEK**	**EUR**	**USD**	**Other**
Level 1 assets	**73.8**	**56.6**	**11.4**	**5.8**	**–**
Cash and balances with central banks*	7.0	7.0	–	–	–
Securities issued or guaranteed by sovereigns, central banks, MDBs and international organisations	19.6	13.0	4.1	2.5	–
Securities issued by municipalites and PSEs	15.0	7.6	4.2	3.2	–
Extremely high quality covered bonds	32.2	29.0	3.1	0.1	–
Other assets	–	–	–	–	–
Level 2 assets	**3.8**	**3.3**	**0.5**	**–**	**–**
Level 2A assets	*3.8*	*3.3*	*0.5*	–	–
Securities issued or guaranteed by sovereigns, central banks, municipalities and PSEs	–	–	–	–	–
High quality covered bonds	3.8	3.3	0.5	–	–
Corporate debt securities (lowest rating AA–)	–	–	–	–	–
Other assets	–	–	–	–	–
Level 2B assets	–	–	–	–	–
Asset-backed securities	–	–	–	–	–
High quality covered bonds	–	–	–	–	–
Corporate debt securities (rated A+ to BBB–)	–	–	–	–	–
Shares (major stock index)	–	–	–	–	–
Other assets*	–	–	–	–	–
LIQUIDITY RESERVE	**77.6**	**59.9**	**11.9**	**5.8**	**–**

* Includes central bank facilities.

Table 62. **Liquidity coverage ratio under the CRR** *(EU LIQ1 table)*

		TOTAL UNWEIGHTED VALUE (AVERAGE)				TOTAL WEIGHTED VALUE (AVERAGE)			
		31 Dec 2019	30 Sep 2019	30 Jun 2019	31 Mar 2019	31 Dec 2019	30 Sep 2019	30 Jun 2019	31 Mar 2019
Number of data points used in the calculation of averages		12	12	12	12	12	12	12	12
High-quality liquid assets (HQLA)									
1	Total HQLA	–	–	–	–	84,527	85,418	83,694	82,221
Cash outflows									
2	Retail deposits and deposits from small business customers, of which:	104,896	103,565	101,693	99,514	8,653	8,561	8,399	8,205
3	Stable deposits	68,991	67,839	66,479	64,968	3,450	3,392	3,324	3,248
4	Less stable deposits	35,905	35,726	35,214	34,546	5,204	5,169	5,076	4,956
5	Unsecured wholesale funding	24,930	24,914	24,523	25,517	11,277	11,511	11,460	12,745
6	Operational deposits (all counterparties) and deposits in networks of cooperative banks	–	–	–	–	–	–	–	–
7	Non-operational deposits (all counterparties)	23,250	23,018	22,486	21,965	9,597	9,615	9,423	9,193
8	Unsecured debt	1,680	1,896	2,037	3,552	1,680	1,896	2,037	3,552
9	Secured wholesale funding					50	38	43	71
10	Additional requirements	54,766	54,447	52,808	52,612	18,450	19,265	18,239	18,979
11	Outflows related to derivative exposures and other collateral requirements	11,913	11,781	10,664	11,799	11,913	11,781	10,664	11,799
12	Outflows related to loss of funding on debt products	4,626	5,632	5,756	5,410	4,626	5,632	5,756	5,410
13	Credit and liquidity facilities	38,227	37,033	36,388	35,403	1,911	1,852	1,819	1,770
14	Other contractual funding obligations	199	190	197	152	44	44	53	9
15	Other contingent funding obligations	12,150	11,644	11,030	10,775	4,430	4,254	3,956	3,700
16	**TOTAL CASH OUTFLOWS**					**38,419**	**39,361**	**38,131**	**39,992**
Cash inflows									
17	Secured lending (e.g. reverse repos)	5,541	4,266	3,548	3,643	349	272	244	251
18	Inflows from fully performing exposures	1,767	1,755	1,747	1,769	1,133	1,123	1,111	1,118
19	Other cash inflows	12,252	12,622	12,007	13,241	12,252	12,622	12,007	13,241
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)	–	–	–	–	–	–	–	–
EU-19b	(Excess inflows from a related specialised credit institution)	–	–	–	–	–	–	–	–
20	**Total cash inflows**	**39,120**	**37,288**	**34,604**	**37,306**	**27,470**	**28,032**	**26,725**	**29,219**
EU-20a	Fully exempt inflows	–	–	–	–	–	–	–	–
EU-20b	Inflows subject to 90% cap	–	–	–	–	–	–	–	–
EU-20c	Inflows subject to 75% cap	19,560	18,644	17,302	18,653	13,735	14,016	13,362	14,609
						TOTAL ADJUSTED VALUE			
21	Liquidity buffer					84,527	85,418	83,694	82,221
22	Total net cash outflows					29,159	29,643	28,776	29,092
23	Liquidity coverage ratio (%)					290	288	291	283

13.2 Liquidity risk — Short-term liquidity risk

At SBAB, the risk of being exposed to insufficient liquidity in the short term is known as short-term liquidity risk. SBAB regularly monitors a number of metrics for short-term liquidity risk. A few of which are described below.

13.2.1 Liquidity coverage ratio

The liquidity coverage ratio is defined by SBAB in accordance with the European Commission delegated regulation (EU) 2015/61.

This is a metric of the degree to which the liquidity reserve covers a 30-day net cash outflow in a stressed scenario. Under the regulation, the metric must amount to not less than 100% for all currencies on a consolidated basis. On 31 December 2019, the

metric was 271% at the consolidated level, 199% for SEK and 9 463% and 151%, respectively, in EUR and USD. In 2019, the LCR consolidated for all currencies never fell below 242%.

In accordance with the EBA's guidelines (EBA/GL/2017/01), detailed information is reported about the liquidity coverage ratio in Table 62 above. The values presented are simple average values for observations at the end of the month over the 12-month period preceding the end of each quarter.

In 2019, the item "Outflows related to derivative exposures and other collateral requirements" averaged SEK 11,913 billion in accordance with Table 62. The majority of the amount pertains to derivative liabilities for which SBAB has posted collateral. Slightly more than SEK 1 billion corresponds to a simulated outflow as a result of additional collateral being required in extremely stressed market scenarios pursuant to Article 30 (3) of the European Commission delegated regulation (EU) 2015/61. The amount also includes excess collateral posted by counterparties and contracted collateral that has yet to be posted by the bank.

13.2.2 Survival horizon

In addition to regulatory liquidity risk metrics, SBAB has a number of internal metrics. These include the measurement and stress testing of the liquidity risk by totalling the maximum conceivable need for liquidity for each coming day. This liquidity risk metric is referred to as the survival horizon. The calculations are based on a crisis scenario in which all lending are assumed to be extended on maturity, meaning that no liquidity is added through loan redemption, and where no funding is available. Retail deposits are treated with a conservative assumption, whereby withdrawals from the portfolio are distributed over time on the basis of historical changes. Accordingly, the maximum need for liquidity can be identified for every given future period, and the necessary liquidity reserve can be established. The survival horizon corresponds to the number of days for which all outflows can be covered by the liquidity reserve without the need for additional funding and it has been limited to a minimum of 180 days at the consolidated currency level at any given time.

On 31 December 2019, the survival horizon was 290 days at the consolidated level, and 315 days for SEK, 248 days for EUR and 766 days for USD respectively. In 2019, the survival horizon was never less than 263 days at the consolidated level.

In addition to the above metrics, the short-term liquidity risk is also mitigated through other internal metrics, for which limits apply.

13.3 Liquidity risk – Structural liquidity risk

Structural liquidity risk is a measure of the differences in maturity structures between assets and liabilities, which risks leading to a lack of liquidity in the longer term. SBAB aims to have a diversified funding. The SBAB Group has adopted a conservative approach to the management of funding. A larger share of future maturities is being pre-financed and the share of total funding attributable to short-term funding is being maintained at a low level. SBAB works actively to ensure an even distribution of maturities, while at the same time extending the maturity of the liabilities. Monitoring of upcoming maturities, repurchases, replacements and pre-financing constitute key elements of the practical management aimed at reducing the risk.

SBAB limits its dependence on market funding by applying a limit on the ratio between deposits and lending to the public. On 31 December 2019, the ratio was 34% compared with a limit of 28%.

Moreover, access to funding from covered bonds is secured by monitoring that the over collateralisation (OC) in the cover pool at each point in time, including in stressed circumstances, exceeds Moody's requirements for Aaa ratings. Table 64 shows the level of OC including Moody's requirement as per 31 December 2019.

Table 63. **Over Collateralisation (OC)**

	31 Dec 2019	Limit
OC	28.7%	1.5%
OC after 20% drop in house prices (excl qualified reserves)	20.5%	1.5%
OC after 20% drop in house prices (incl qualified reserves)	33.0%	1.5%

The net stable funding ratio (NSFR) according to SBAB's interpretation of the coming requirement detailed in CRR II was 134% (138%).

SBAB also measures its structural liquidity risk through a metric for maturity matching that measures the relationship between the maturities of assets and liabilities from a liquidity perspective at various points in the future. This can be viewed as SBAB's internal version of the NSFR, in which the maturity, in terms of liquidity, on deposits and lending is estimated by means of SBAB's own statistical models, which are based on historical data of the behaviour of SBAB's customers. The metric is subject to a one-year floor limit of not less than 90% at a consolidated level, 60% for currencies for which the liability exceeds 5% of total liabilities. USD is subject to 60% limit whether it exceeds 5% of total liabilities or not. On 31 December 2019, maturity matching was 138% at the consolidated level, 144% in SEK, 97% in EUR and 109% in USD.

In addition to the above metrics, SBAB limits it's structural liquidity risk through further internal risk metrics.

13.4 Stress tests for liquidity risk

SBAB performs regular stress tests of liquidity risk aimed at internal requirements for analytical and contingency management of liquidity risk. The stress tests have been designed in line with the Swedish FSA's regulations on liquidity management, which impose general requirements on stress tests (FFFS 2010:7). The models analyse SBAB's capacity to meet the need for cash and cash equivalents in various market scenarios and to assess the effect of protracted stress on SBAB's ability to finance its opera-

tions. The scenarios are designed on the basis of SBAB's specific risk profile and cover both company-specific and market-related scenarios that may render the financing of the operations difficult. The scenarios are divided into different stages that illustrate increasing levels of stress intensity to reflect how a crisis can continuously deteriorate.

The scenarios simulated by the stress tests include:
- The 2008/2009 financial crisis — stress in the funding operations, with funding programmes closing at various stages
- Rating-related stress, with gradually lower ratings for SBAB and SCBC
- Falling property market prices — various levels of falling prices, which increase LTV ratios, thus lowering the share of funding that can be conducted via covered bonds
- Stress of liquidity in the liquidity reserve
- Sizeable fluctuations in interest and currency exchange rates, leading to larger amounts having to be secured through CSAs, which could thus impair liquidity.

The stress tests are under continuous development and the assumptions on which the various scenarios are based are assessed regularly. The stress tests are conducted and reported quarterly, with results assessed against SBAB's established risk appetite and used to adapt strategies and guidelines.

13.5 Developments in liquidity risk regulation

The area of liquidity risk is subject to constant regulatory development. The following regulatory changes are on the agenda for the immediate future:

13.5.1 Amended Regulation on Prudential Requirements for Credit Institutions and Investment Firms (CRR)

One of the most substantial regulatory changes within liquidity risk in the near future is a requirement of 100% net stable funding ratio (NSFR), which is a part of the CRR II and enters into force in 2021. Since 2014, SBAB has regularly calculated NSFR based on the Basel Committee's standard, despite the lack of any statutory quantitative requirement. This standard differs at some points compared to the amended EU regulation.

One major difference is that required stable funding factor (RSF) for lending encumbered in covered bonds with a residual maturity of at least 12 months, is 85% according to CRR II compared to 100% according to the Basel standard.

As of 30 September 2019 SBAB calculates NSFR according to the CRR II Instead of the Basel standard. This change led to 10% increase in NSFR.

13.5.2 Other regulatory changes

Pillar 2 liquidity risk requirements

In July 2019 the Swedish FSA decided to impose further liquidity requirements within the Pillar 2 framework, for supervision category 1 and 2 banks (which includes SBAB). One of the two new requirements stipulates that the bank must maintain a liquidity coverage ratio of at least 75% in SEK and other currencies, assuming that liabilities in these currencies correspond to at least 5% of total liabilities ("significant currencies"). This requirement is in addition to the existing requirement of 100% in EUR and USD. The reason for these national requirements is that the EU regulation sets minimum LCR requirements at consolidated currency level rather than for individual significant currencies. However, the Swedish FSA is of the opinion that the assessments on which the previous national LCR requirements for EUR and USD were based remain valid, which it deems motivates the new national requirements.

Harmonised rules for covered bonds

In November 2019, Directive (EU) 2019/2162 of the European Parliament and of the Council on the issue of covered bonds was published. The Directive introduces harmonised rules for covered bonds within the EU. One of the most tangible changes introduced by the rules being the requirement for issuers to hold sufficient highly liquid assets in the cover pool to cover net liquidity outflows from covered bonds for a period of 180 days. This requirement entails an overlapping of the existing liquidity reserve requirement in the LCR regulations.

Efforts are ongoing at EU level to change the LCR regulation to avoid institutions having to hold double liquidity reserves. Different proposals have been discussed at the Swedish Bankers' Association, where SBAB is represented. To date, no official regulatory proposal has been put forward, so discussions are at a very early stage. In other words, there is still uncertainty regarding what changes will be implemented. The new covered bonds directive must be transposed into Swedish law no later than 8 July 2021 and enter force not more than one year later. SBAB continues to monitor developments in the area.

Changed LCR regulatory framework

In October 2018, Commission Delegated Regulation (EU) 2018/1620 was published, amending Delegated Regulation (EU) 2015/61 with regard to the liquidity coverage requirement. The changes will be applied from 30 April 2020 and will impact the calculation of inflows and outflows linked to repos and collateral swaps. In addition, deposits reporting will become more granular, while other reporting items will disappear and some other clarifications will be introduced. These changes have limited impact on SBAB's LCR but will entail some development and work with adjusting models and reporting routines.

14 Operational risk

Operational risk is defined as the risk of losses stemming from inadequate or failed internal processes, people and systems or from external events. Operational risk includes legal risks but excludes reputational risk and is embedded in all banking products and activities.

14.1 Risk management

The process for managing operational risks is based on a continuous identification, analysis and assessment, management and monitoring of risks. An analysis of the overall risk level is regularly reported to the Board of Directors, the CEO and the management body. The second line of defense (Risk) has an overall responsibility for the methods and procedures used to manage operational risks. The management of operational risks is conducted based on SBAB's risk appetite and the business essential processes. This involves continuous work on developing employees' risk awareness and the bank's risk culture, improving processes and routines and providing tools for efficient and proactive management in daily work. As part of strengthening SBAB's risk culture Risk and Regulatory Coordinators (RRS) was established in the first line of defense in 2016. The role of the RRS is to act as support to the business managers, focusing on risk management, process mapping, internal controls, incident management and compliance

14.1.1 Risk Self Assessment (RSA)

The RSA-process includes the identification and evaluation of operational risks in all essential processes. The self assessment is carried out using a common method and is documented in the joint GRC-system. The results of the RSA are reported annually to the Board, the CEO and the management body.

14.1.2 Incident management

SBAB has routines for reporting and following up incidents. The Risk department supports the business with analysis of reported incidents to ensure that root causes are identified and that appropriate measures are taken. Incidents that have not caused any direct damage or financial loss are also reported to promote proactive risk management.

14.1.3 Management of new products and significant changes

SBAB's process for managing new products and significant changes addresses the development of new products, markets and services, and significant changes to existing ones. The process also encompass material changes to processes, systems and organization. The purpose of the process is to ensure that changes are consistent with the risk strategy and risk appetite.

14.1.4 Business continuity management

SBAB works to prevent incidents that may affect the company's ability to conduct operations. A crisis organization responsible for crisis and disaster management as well as communication is established and tested regularly in collaboration with external crisis management experts.

14.2 Significant operational risks

SBAB has identified a set of risks that, if they occur, could have a greater impact on SBAB's operations than other risks. The development of these risks is monitored on an ongoing basis by the management body and the board and is considered in the framework of SBAB's business planning. The significant operational risks are described below.

14.2.1 Cyber risk

The cyber threat to the Swedish financial sector is extensive and persistent. SBAB has a dedicated security team with specialists who aims to develop and maintain a high cyber security level for the bank. This is achieved through proactive work for a strong digital security perimeter and a high level of security within this perimeter. The team also works proactively to increase risk and safety awareness throughout SBAB.

14.2.2 Technical liability

The technological development in the market has been rapid in recent years, rendering that some of SBAB's infrastructure is about to become outdated. An extensive project to replace the system platform was initiated in 2017 and has been ongoing with full intensity and high priority since then. The project is planned to continue throughout the year of 2020 until the first quarter of 2021. Despite the high priority of the project SBAB has identified risks connected to that the change is not going fast enough, that too many daily interruptions are related to the development, and that the life cycle management for other system is lagging. SBAB's IT strategy has clearly defined goals and priorities to ensure that the identified risks are managed appropriately. The development and outcome related to the projects duration and cost are closely monitored by the management body and the board. The agile approach with shorter lead times as well as closer intervals between deployment to production increases flexibility and enables efficiency.

14.2.3 Competence

SBAB's ambition is to be an attractive workplace with committed and motivated employees. Like many other companies, SBAB faces the risk of not being able to attract and retain appropriate expertises. Through a clearly defined and transparent HR strategy and ambitious goals in the area, SBAB works actively to develop the value-driven approach and ensure inclusive leadership that can generate self-driven employees.

14.2.4 Regulatory risk

In 2019 focus has been on implementing routines linked to GDPR. The Privacy department manages and coordinates activities related to the management of personal data as well as various educational efforts in different parts of SBAB. The business also continues to have a high focus on compliance to counter money laundering and terrorist financing. SBAB has an Anti-Financial Crime unit that, among other things, monitors regulatory development in the area and supports operations. Capital requirements for operational risks SBAB uses the standardised approach to calculate capital requirements for operational risk within Pillar 1. The capital requirement for operational risk is shown in Table 11, Risk exposure amounts and capital requirements.

15 Business risk

By business risk, SBAB means the risk of declining earnings due to harsher competition, inappropriate strategies or erroneous decisions.

Business risk also includes strategic risk, reputational risk and margin risk, which arise when the interest margins on lending and borrowing have different maturities. SBAB defines business risk as a necessary risk. New business is usually relatively similar to the business SBAB already has. Changes in the form of new products or new markets may only constitute a small part of SBAB's activities and must be implemented at such a pace that SBAB does not substantially jeopardise its earnings level and with great probability avoids pressure on its own funds.

As the accounting standards used by SBAB require that certain components of the portfolio are measured at market value while other components are recognised at their carrying amount, this has effects on the operating profit, and consequently also on own funds, that do not correspond to the actual risk to which the portfolio is exposed. To limit such effects, income volatility must be measured and limited. Business risk is included in the calculation of the Pillar 2 capital requirement as part of SBAB's stress tests. See also the section 6.3.6.3 Business risk.

Production: SBAB in collaboration with Sjö&Berg.

SBAB!

SBAB BANK AB (PUBL)

Corp. Reg. No. 556253-7513
Visiting address: Svetsarvägen 24
Address: Box 4209, SE-171 04 Solna, Sweden
Tel: 0771-45 30 00
Fax: 08-611 46 00
www.sbab.se