Risk and Capital
– Information according to Pillar 3
2019

Handelsbanken

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Introduction

Handelsbanken provides this information in compliance with Part Eight of Regulation (EU) No 575/2013 (CRR) and the Swedish Financial Supervisory Authority's regulations (FFFS 2014:12) regarding prudential requirements and capital buffers.

Requirements on disclosures regarding banks' risk and capital management are stipulated in the accounting and capital requirement regulations. This report together with the Bank's Annual Report, in particular note G2 and note G49 provides information about risk and capital.

The disclosures pursuant to CRR can be found in this report in the form of quantitative information to be provided as stipulated in the European Banking Authority's (EBA's) Guidelines on disclosure requirements under Part Eight of Regulation (EU) No 575/2013, (EBA/GL/2016/11), Guidelines on management of non-performing and forborne exposures (EBA/GL/2018/06) and explanatory texts to the tables.

This information has been produced in accordance with the EBA's Guidelines on materiality, proprietary and confidentiality and of disclosure frequency under Articles 432(1), 432(2) and 433 of Regulation (EU) No 575/2013 (EBA/GL/2014/14). For information items not disclosed under EBA/GL/2014/14 see page 89.

Svenska Handelsbanken AB (publ) is the parent company in the Handelsbanken Group. In the context of capital adequacy, in addition to the individual institution, capital requirement apply to the consolidated situation and not to the Group. This report therefore principally provides information about the consolidated situation. Handelsbanken is also covered by the rules applying to financial conglomerates. For Handelsbanken, the conglomerate rules mean that the capital requirements for the consolidated situation and the capital requirement for the insurance operations are combined. The conglomerate is not covered by the Pillar 3 rules.

As in the consolidated accounts, associated companies are consolidated using the equity method in the regulatory consolidated situation. Furthermore, subsidiaries are consolidated according to the acquisition method. Handelsbanken's Annual Report provides information about the subsidiaries in the Group. Companies that are part of the consolidated situation and that are thus covered by the capital adequacy requirements according to the capital adequacy regulations are listed in table 2.10. All subsidiaries which are subject to the regulations are included in the consolidated situation. Handelsbanken has no subsidiaries where the actual own funds are less than the prescribed own funds. Related party disclosures can be found in the Annual Report, note G47. Information about own funds and the capital requirement is also presented in the Annual Report, note G49.

For periodic information, for which Handelsbanken has identified a need to submit information more often than once a year, please refer to the Bank's interim reports. Information to be provided quarterly as stipulated in EBA/GL/2016/11 is published on Handelsbanken's website.

The information is presented as at 31 December 2019, and the comparative figures as at 31 December 2018 unless otherwise specified. The amounts in brackets are the figures for the preceding year.

For the subsidiaries Stadshypotek AB and Handelsbanken plc, information in compliance with articles 437, 438, 440, 442, 450, 451, and 453 of CRR is to be provided at a sub-consolidated level in compliance with article 13 of CRR.

REGULATIONS AND REGULATORY DEVELOPMENTS

Capital adequacy

According to the current capital adequacy framework, Regulation (EU) 575/2013 (CRR), the Swedish Capital Buffers Act (2014:966), and the Swedish Special Supervision of Credit Institutions and Investment Firms Act (2014:968), the Bank must have common equity tier 1 capital of at least 4.5 per cent, tier 1 capital of at least 6 per cent, and total own funds that correspond to at least 8 per cent of the total risk exposure amount for credit risks, market risks and operational risks.

In addition to maintaining capital to meet the minimum requirements, the Bank must also maintain common equity tier 1 capital to comply with the combined buffer requirement, which in Sweden comprises the sum of a capital conservation buffer of 2.5 per cent, a countercyclical buffer of up to 2.5 per cent, and a systemic risk buffer of 3 per cent.

The capital conservation buffer builds up capital during good times with the aim of preventing banks from breaching capital requirements during difficult periods.

The countercyclical buffer, which is decided by the Swedish Financial Supervisory Authority, varies over the business cycle, with the aim of counteracting excessively high credit growth. At present, a countercyclical buffer of 2.5 per cent applies in Sweden and Norway. The UK apply a buffer requirement of 1.0 per cent and the Danish authorities apply a buffer of 1.0 per cent (both will be increased to 2.0 per cent by 30 December 2020). Finally, the Hong Kong Monetary Authority have increased their buffer requirement to 2.5 per cent, France has introduced a buffer of 0.25 per cent that will be increased to 0.50 per cent on 2 April 2020 and Germany will have a buffer requirement of 0.25 per cent from 1 July 2020. No other countries where Handelsbanken has operations have decided on a countercyclical buffer requirement.

The aim of the systemic risk buffer is to create a buffer at the largest banks in Sweden to protect the banking system as a whole in times of financial instability.

The established combined buffer requirements must be satisfied, for example, to avoid restrictions on dividends.

The Swedish Financial Supervisory Authority decided (SFSA ref no 18-6251) on 22 August 2018 to impose an institution specific Pillar 1 risk weight floor of 25 per cent for exposures in Swedish mortgages covered by the IRB approach. This means that Svenska Handelsbanken AB, corporate identity no. 502007-7862 and its consolidated situation, are required to apply an average risk weight floor of 25 per cent for exposures to Swedish mortgages in Pillar 1. This also applies to Stadshypotek AB, corporate identity no. 556459-6715 and its consolidated situation. The measure entered into force on 31 December 2018 and applies for a period of two years or until the macro prudential risk ceases to exist, with the possibility of an extension of one additional year at a time according to Articles 458(4) and 458(9) of CRR.

Capital requirements within the framework of Pillar 2
In addition to the above-mentioned capital requirement, referred to as the Pillar 1 requirement, the Bank must hold capital for requirements under Pillar 2 of the regulations. These requirements are specific to each institution and are decided by the Swedish Financial Supervisory Authority. Various factors are assessed within Pillar 2, such as concentration risks, pension risk, interest rate risk in the non-trading book, and additional systemic risk needs. This capital requirement can be divided into requirements for credit risk, market risk, systemic risk, and other risks.

The Swedish Financial Supervisory Authority has introduced a risk weight floor in Pillar 2 on exposures to property companies. The floors are 35 per cent for exposures to property companies with collateral in commercial property in Sweden and 25 per cent for exposures to property companies with collateral in residential property in Sweden.

The Norwegian Ministry of Finance intends to adopt temporary floors for average risk weights for Norwegian residential and commercial real estate exposures at 20 and 35 per cent, respectively. The floors will be applicable for a period of two years from year-end 2020. The measure will be formally adopted in early 2020, following notification procedures vis-à-vis relevant EU/EEA authorities.

In Pillar 2, the Swedish Financial Supervisory Authority has also introduced a floor of 2.5 years for maturity assumptions for corporate exposures.

The capital requirement for market risk in Pillar 2 consists of a capital charge for market risk in the non-trading book; other capital charges include a charge for pension risk.

The Pillar 2 capital requirement for systemic risk includes a buffer requirement of 2 per cent.

The Swedish Financial Supervisory Authority also calculates the need to hold a capital planning buffer. The capital planning buffer does not result in any further capital requirements for the Bank as long as it is not larger than the capital conservation buffer.

In addition to the regulatory minimum capital and buffer requirements, the Bank must perform an internal capital adequacy assessment, in which all risks and capital requirements are assessed in an unbiased manner. Since the introduction of Basel II in 2007, Handelsbanken has, in its internal capital adequacy assessment process, kept considerably more capital than is formally required under Pillar 1. This is because the Bank's capital assessment is based on calculations of economic capital and conservative stress tests, which indicate that the capital supply in a normal business cycle should be sufficient to cover potential losses and capital requirement changes which may occur under stressed conditions.

All capital charges within the framework of Pillar 2 are made in the overall capital assessment, that is, the Swedish Financial Supervisory Authority's individual assessment of the Bank's capital requirements. This is in addition to the minimum requirements set out in Pillar 1, and normally the Swedish Financial Supervisory Authority does not formally decide on the Pillar 2 requirements. In the absence of a formal decision, the Swedish Financial Supervisory Authority's overall capital assessment will not affect, for example, the level at which automatic restrictions on dividends come into force.

Leverage ratio
The leverage ratio is a capital ratio defined in CRR. The ratio is defined as the tier 1 capital in relation to total assets, including certain off-balance-sheet items recalculated using the credit conversion factor defined in the standardised approach, as well as regulatory adjustments of own funds.

A binding leverage ratio requirement of 3 per cent has been introduced in CRR to complement the current system for the reporting and disclosure of the leverage ratio. The requirement will be applicable from June 2021.

Liquidity
The liquidity coverage ratio (LCR) has been a binding requirement for banks in the EU since the European Commission introduced its delegated regulation. The figure stipulates the ratio between the Bank's liquidity buffer and its net cash flows in a very stressed scenario during a 30-day period. The requirement applies at aggregate level and the ratio must be at least 100 per cent. In addition to this the Swedish Financial Supervisory Authority also exercises supervision of LCR in individual currencies within the framework of the supervisory review and evaluation process in Pillar 2 as the minimum requirements within the EU currently do not apply to individual currencies.

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.

'Risk reduction package'
In May 2019, the Council adopted a comprehensive legislative package containing amendments to the capital requirement legislation (regulation 575/2013 and directive 2013/36/EU) 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, to improve banks' lending capacity within the EU, and to make it easier for banks to contribute to deeper and more liquid capital markets within the EU.

The package includes measures such as a binding leverage ratio requirement of 3 per cent, the introduction of a binding net stable funding ratio (NSFR) and revisions to the market risk framework (Fundamental review of Trading Book, FRTB).

The proposed Swedish implementation of the measures were published on 13 December 2019 (EU:s bankpaket om riskreducerande åtgärder, SOU 2019:60) and are scheduled to enter into force by the end of 2020.

Basel IV
In December 2017, the Basel Committee published a proposal for changes to all parts of Capital Requirements Regulation; for 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. The method for credit valuation adjustment (CVA) will be developed and the option of using internal models will be revoked. 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.

In addition to the changes in individual risk measurement methods, a new overall risk weight floor of 72.5 per cent of the exposure amount is being introduced according to the standardised approach for all banks that use internal models.

The Basel Committee recommends that the new rules apply as of 1 January 2022, as will the previously proposed changes in the FRTB. However, the risk weight floor requirements will be phased in between 2022 and 2027.

The EBA will introduce guidelines and technical standards regarding the methods for calculating various components in the IRB approach. These guidelines and standards are intended to clarify specific sections of CRR. The EBA aims for these regulations to come into effect at the end of 2020.

Own funds and capital requirement

Handelsbanken aims to be well capitalised in relation to its risks at all times, and to fulfil the capital adequacy requirements established by supervisory authorities, including in situations of financial stress. This is part of the Bank's strategy to have a business model that is independent of changes in the business cycle.

Handelsbanken is obliged to meet the requirements of the capital adequacy regulations and also requirements regarding the financial conglomerate.

DESCRIPTION OF THE CONSOLIDATED SITUATION

The regulatory consolidation (consolidated situation) consists of the parent company and subsidiaries and associated companies that are included in the consolidated accounts, as shown in table 2.10. The companies that are included in the consolidated accounts but are excluded from the consolidated situation are also shown in table 2.10. Just as in the consolidated accounts, associated companies are consolidated using the equity method in the regulatory consolidated situation. Further, subsidiaries are consolidated according to the acquisition method. All subsidiaries which are subject to the regulations are included in the consolidated situation. Handelsbanken has no subsidiaries where the actual own funds are less than the prescribed own funds.

OWN FUNDS

The Bank's Annual Report provides a description of the composition of own funds for the consolidated situation, the terms applying to the different parts of own funds, and the deductions made from various items.

For the Bank's risk management, it is important that in risk terms, both the Group and the regulatory consolidation can be viewed as one unit. To enable efficient risk management in the Group, capital may need to be re-allocated among the various companies in the Group. In general, Handelsbanken is able to reallocate capital among the Group companies, to the extent that is permitted by legislation, for example, with reference to capital adequacy requirements and restrictions in corporate law. The Bank sees no other material or legal obstacles to a rapid transfer of funds from own funds, or repayment of liabilities between the parent company and its subsidiaries.

Table 2.1 Balance sheet

Balance sheet	2019		2018	
SEK m	Consolidated situation	Banking group	Consolidated situation	Banking group
ASSETS				
Cash and balances with central banks	327 958	327 958	317 217	317 217
Other loans to central banks	19 547	19 547	33 557	33 557
Interest-bearing securities available as collateral with central banks	103 387	103 387	118 929	122 260
Loans to other credit institutions	17 934	17 939	22 133	22 137
Loans to the public	2 293 735	2 292 603	2 190 223	2 189 092
Value change of interest-hedged item in portfolio hedge	25	25	33	33
Bonds and other interest-bearing securities	42 640	42 640	47 850	50 729
of which interest-bearing instruments classified as available for sale (carrying amount)	*4 953*	*4 953*	*5 373*	*5 373*
of which interest-bearing instruments classified as available for sale, accumulated value change	*-73*	*-73*	*-79*	*-79*
Shares and participating interests	14 340	21 390	13 168	13 821
of which shares classified as available for sale (carrying amount)	*2 303*	*2 303*	*1 841*	*1 841*
of which shares classified as available for sale, accumulated value change	*739*	*739*	*367*	*367*
Investments in associates	6 560	285	6 534	259
Assets where the customer bears the value change risk	6 514	174 988	5 345	136 346
Derivative instruments	41 545	41 545	58 041	58 041
of which cash flow hedges	*4 203*	*4 203*	*1 263*	*1 263*
Reinsurance assets	-	11	-	12
Intangible assets	11 051	11 185	10 322	10 455
Property and equipment	6 644	6 645	2 229	2 229
Current tax assets	50	53	615	617
Deferred tax assets	693	693	1 044	1 044
of which related to cash flow hedges	-	-	-	-
of which related to interest-bearing instruments classified as available for sale	*20*	*20*	*21*	*21*
Pension assets	700	654	-	-
Assets held for sale	1	1	19	19
Other assets	5 917	6 167	16 652	16 880
Prepaid expenses and accrued income	1 925	1 951	3 406	3 426
Total assets	**2 901 166**	**3 069 667**	**2 847 317**	**2 978 174**
LIABILITIES AND EQUITY				
Liabilities to credit institutions	147 934	147 989	194 033	194 082
Deposits and borrowing from the public	1 117 260	1 117 825	1 007 837	1 008 487
Liabilities where the customer bears the value change risk	6 514	174 988	5 345	136 346
Issued securities	1 384 961	1 384 961	1 394 647	1 394 647
Derivative instruments	20 642	20 642	17 361	17 360
of which cash flow hedges	-	-	-	-
Short positions	1 856	1 856	6 163	6 163
Insurance liabilities		578	-	542
Current tax liabilities	1 264	1 284	1 105	1 118
Deferred tax liabilities	5 594	5 634	5 746	5 786
of which related to cash flow hedges	*1 144*	*1 144*	*344*	*344*
of which related to shares classified as available for sale	*27*	*27*	*6*	*6*
Provisions	1 132	1 141	213	222
Pension obligations	0	0	3 171	3 226
Liabilities related to assets held for sale	-	-	-	-
Other liabilities	13 714	14 038	12 694	12 984
Accrued expenses and deferred income	3 271	3 353	3 784	3 865
Subordinated liabilities	35 546	35 546	51 085	51 085
of which tier 1 capital loans	*15 819*	*15 819*	*13 053*	*13 053*
of which loans with remaining time to maturity > 5 yrs	*18 639*	*18 639*	*18 325*	*18 325*
of which loans with remaining time to maturity < 5 yrs	-	-	-	-
of which other loans	*2*	*2*	*18 514*	*18 514*
Total liabilities	**2 739 688**	**2 909 835**	**2 703 184**	**2 835 913**
Minority interest	8	8	12	12
Share capital	3 069	3 069	3 013	3 013
Holdings of own shares	*0*	*0*	*0*	*0*
Share premium reserve	8 758	8 758	5 629	5 629
of which equity from combined financial instruments	*0*	*0*	*466*	*466*
Other reserves	13 130	13 141	5 105	5 098
Retained earnings	119 799	117 934	113 799	111 155
Profit for the year (belonging to shareholders of Svenska Handelsbanken AB)	16 714	16 922	16 575	17 354
Total equity	**161 478**	**159 832**	**144 133**	**142 261**
Total liabilities and equity	**2 901 166**	**3 069 667**	**2 847 317**	**2 978 174**

Table 2.2 Own funds

Presentation in accordance with the requirements of Commission Implementing Regulation (EU) No 1423/2013. Excluded rows are deemed not relevant for Handelsbanken at present.

Own funds		2019			2018	
SEK m		Amount at disclosure date	Amounts subject to pre-regulation (EU) No 575/2013 treatment or prescribed residual amount of regulation (EU) No 575/2013	Regulation (EU) No 575/2013 article reference	Amount at disclosure date	Amounts subject to pre-regulation (EU) No 575/2013 treatment or prescribed residual amount of regulation (EU) No 575/2013
	Common equity tier 1 capital: instruments and reserves					
1	Capital instruments and the related share premium accounts	11 827		26 (1), 27, 28, 29, EBA list 26 (3)	8 177	
	of which: share capital	11 827		EBA list 26 (3)	8 177	
	of which: convertible securities	-		EBA list 26 (3)	-	
2	Retained earnings	119 799		26 (1) (c)	113 799	
3	Accumulated other comprehensive income (and any other reserves, to include unrealised gains and losses according to the applicable accounting standards)	13 130		26 (1)	5 536	
5a	Independently reviewed interim profits net of any foreseeable charge or dividend	5 824		26 (2)	5 881	
6	**Common equity tier 1 (CET1) capital before regulatory adjustments**	**150 580**			**133 393**	
	Common equity tier 1 (CET1) capital: regulatory adjustments					
7	Additional value adjustments (negative amount)	-399		34, 105	-375	
8	Intangible assets (net of related tax liability) (negative amount)	-11 119		36 (1) (b), 37	-10 390	
11	Fair value reserves related to gains or losses on cash flow hedges	-4 203		33.1 (a)	-1 263	
12	Negative amounts resulting from the calculation of expected loss amounts	-1 581		36 (1) (d), 40, 159	-2 047	
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	-		33.1 (b)	-	
15	Defined benefit pension fund assets (negative amount)	-		36 (1) (e), 41	-	
16	Direct and indirect holdings by an institution of own CET1 instruments (negative amount)	-527		36 (1) (f), 42	-508	
19	Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-		36 (1) (i), 43, 45, 47, 48 (1) (b), 49 (1) to (3), 79	-	
20a	Exposure amount of the following items which qualify for a RW of 1250%, where the institution opts for the deduction alternative	-20		36 (1) (k)	-	
20c	*of which: securitisation positions (negative amount)*	*-20*		36 (1) (k) (ii), 243 (1) (b), 244 (1) (b), 258	-	
21	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability where the conditions in Article 38 (3) are met) (negative amount)	-		36 (1) (c), 38, 48 (1) (a)	-	
22	Amount exceeding the 15% threshold (negative amount)	-		48 (1)	-	
23	of which: direct and indirect holdings by the institution of CET1 instruments of financial sector entities where the institution has significant investments in those entities	-		36 (1) (i), 48 (1) (b)	-	
25	Of which: deferred tax assets arising from temporary differences	-		36 (1) (c), 38, 48 (1) (a)	-	
25a	Losses for the current financial year (negative amount)	-		36 (1) (a)	-	
25b	Foreseeable tax charges relating to CET1 items (negative amount)	-		36 (1) (l)	-	
27	Qualifying AT1 deductions that exceed the AT1 capital of the institution (negative amount)	-		36 (1) (j)	-	
28	**Total regulatory adjustments to common equity tier 1 (CET1) capital**	**-17 849**			**-14 583**	
29	**Common equity tier 1 (CET1) capital**	**132 731**			**118 810**	
	Additional tier 1 (AT1) capital: instruments					
30	Capital instruments and the related share premium accounts	15 819		51, 52	10 701	
32	of which: classified as liabilities under applicable accounting standards	15 819			10 701	
33	Amount of qualifying items referred to in Article 484 (4) and the related share premium accounts subject to phase-out from AT1	-		486 (3)	2 352	2 352
36	**Additional tier 1 (AT1) capital before regulatory adjustments**	**15 819**			**13 053**	
	Additional tier 1 (AT1) capital: regulatory adjustments					
37	Direct and indirect holdings by an institution of own AT1 instruments (negative amount)	-		52 (1) (b), 56 (a), 57	-400	-400
40	Direct and indirect holdings of the AT1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-		56 (d), 59, 79	-	
42	Qualifying (T2) deductions that exceed the T2 capital of the institution (negative amount)	-		56 (e)	-	
43	**Total regulatory adjustments to additional tier 1 (AT1) capital**	**0**			**-400**	
44	**Additional tier 1 (AT1) capital**	**15 819**			**12 653**	
45	**Tier 1 capital (T1 = CET1 + AT1)**	**148 550**			**131 463**	

Own funds		2019			2018	
SEK m		Amount at disclosure date	Amounts subject to pre-regulation (EU) No 575/2013 treatment or prescribed residual amount of regulation (EU) No 575/2013	Regulation (EU) No 575/2013 article reference	Amount at disclosure date	Amounts subject to pre-regulation (EU) No 575/2013 treatment or prescribed residual amount of regulation (EU) No 575/2013
	Tier 2 (T2) capital: instruments and provisions					
46	Capital instruments and the related share premium accounts	18 639		62, 63	33 704	
50	Credit risk adjustments	0		62 c and d	0	
51	**Tier 2 (T2) capital before regulatory adjustments**	**18 639**			**33 704**	
	Tier 2 (T2) capital: regulatory adjustments					
52	Direct and indirect holdings by an institution of own T2 instruments and subordinated loans (negative amount)	0		63 (b) (i), 66 (a), 67	-15 379	
55	Direct and indirect holdings of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amounts)	-1 129		66 (d), 69, 79	-1 129	
57	**Total regulatory adjustments to tier 2 (T2) capital**	**-1 129**			**-16 508**	
58	**Tier 2 (T2) capital**	**17 510**			**17 196**	
59	**Total capital (TC = T1 + T2)**	**166 060**			**148 659**	
60	**Total risk-weighted assets**	**716 462**			**707 579**	
	Capital ratios and buffers					
61	Common equity tier 1 capital (as a percentage of total risk exposure amount)	18.5		92 (2) (a)	16.8	
62	Tier 1 capital (as a percentage of total risk exposure amount)	20.7		92 (2) (b)	18.6	
63	Total capital (as a percentage of total risk exposure amount)	23.2		92 (2) (c)	21.0	
64	Institution-specific buffer requirement (CET1 requirement in accordance with Article 92 (1) (a) plus capital conservation and countercyclical buffer requirements, plus systemic risk buffer, plus the systemically important institution buffer (G-SII or O-SII buffer) expressed as a percentage of total risk exposure amount)	7.4		CRD 128, 129, 130	7.0	
65	of which: capital conservation buffer requirement	2.5			2.5	
66	of which: countercyclical buffer requirement	1.9			1.5	
67	of which: systemic risk buffer requirement	3.0			3.0	
67a	of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	0.0		CRD 131	0.0	
68	Common equity tier 1 capital available to meet buffers (as a percentage of risk exposure amount)	14.0		CRD 128	12.3	
	Capital ratios and buffers					
72	Direct and indirect holdings of the capital of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	0		36 (1) (h), 45, 46, 472 (10), 56 (c), 59, 60, 66 (c), 69, 70	0	
73	Direct and indirect holdings of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	-		36 (1) (i), 45, 48	-	
75	Deferred tax assets arising from temporary differences (amount below 10% threshold, net of related tax liability where the conditions in Article 38 (3) are met)	-2		36 (1) (c), 38, 48	-960	
	Applicable caps on the inclusion of provisions tier 2 capital					
76	Credit risk adjustments included in T2 in respect of exposures subject to standardised approach (prior to the application of the cap)	-		62	-	
77	Cap on inclusion of credit risk adjustments in T2 under standardised approach	1 084		62	1 093	
78	Credit risk adjustments included in T2 in respect of exposures subject to internal ratings-based approach (prior to the application of the cap)	-		62	-	
79	Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	3 308		62	3 247	
	Capital instruments subject to phase-out arrangements (only applicable between 1 January 2013 and 1 January 2022)					
80	Current cap on CET1 instruments subject to phase-out arrangements	-		484 (3), 486 (2) and (5)	58	
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	-		484 (3), 486 (2) and (5)	-	
82	Current cap on AT1 instruments subject to phase-out arrangements	-		484 (4), 486 (3) and (5)	2 445	
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	-		484 (4), 486 (3) and (5)	-	
84	Current cap on T2 instruments subject to phase-out arrangements	-		484 (5), 486 (4) and (5)	1 481	
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	-		484 (5), 486 (4) and (5)	-	

Table 2.3 EU INS1 – Non-deducted participations in insurance undertakings

EU INS1 – Non-deducted participations in insurance undertakings SEK m	2019	2018
Holdings of own funds instruments of a financial sector entity where the institution has a significant investment not deducted from own funds (before risk-weighting)	6 253	6 253
Total RWAs	15 633	15 633

Table 2.4 Amount of institution-specific countercyclical capital buffer

The table shows the total amount for the institution-specific countercyclical capital buffer.
The capital requirement for the countercyclical capital buffer has increased compared to the previous period.

	Amount of institution-specific countercyclical capital buffer	2019	2018
	SEK m	010	010
10	Total risk exposure amount	716 462	707 579
20	Institution specific countercyclical buffer rate	1.9%	1.5%
30	Institution specific countercyclical buffer requirement	13 639	10 764

Table 2.5 Geographical breakdown of credit exposures relevant for the calculation of the countercyclical capital buffer

The table shows the geographical breakdown of credit exposures relevant for the calculation of the countercyclical capital buffer. The capital requirement for the countercyclical capital buffer has increased compared to the previous period.

Geographical breakdown of credit exposures relevant for the calculation of the countercyclical capital buffer 2019

		General credit exposures		Trading book exposure		Securitisation exposure		Own funds requirements					
Row		Exposure value for SA	Exposure value IRB	Sum of short and long position for trading book	Value of trading book exposure for internal models	Exposure value for SA	Exposure value for IRB	Of which: General credit exposures	Of which: Trading book expo-sures	Of which: Securi-tisation exposures	Total	Own funds requirement weights, %	Counter-cyclical capital buffer rate
SEK m		010	020	030	040	050	060	070	080	090	100	110	120
10	Breakdown by country												
	Sweden	15 503	1 486 247	1 529	-	-	-	28 911	232	-	29 143	58.8	8 020
	Norway	2 980	305 616	775	-	-	-	4 575	44	-	4 619	9.3	1 268
	Other countries	152 010	482 768	65	-	-	-	15 778	26	-	15 804	31.9	4 351
20	**Total**	**170 493**	**2 274 631**	**2 369**	**-**	**-**	**-**	**49 264**	**302**	**-**	**49 566**	**100**	**13 639**

Geographical breakdown of credit exposures relevant for the calculation of the countercyclical capital buffer 2018

		General credit exposures		Trading book exposure		Securitisation exposure		Own funds requirements					
Row		Exposure value for SA	Exposure value IRB	Sum of short and long position for trading book	Value of trading book exposure for internal models	Exposure value for SA	Exposure value for IRB	Of which: General credit exposures	Of which: Trading book expo-sures	Of which: Securi-tisation exposures	Total	Own funds requirement weights, %	Counter-cyclical capital buffer rate
SEK m		010	020	030	040	050	060	070	080	090	100	110	120
10	Breakdown by country												
	Sweden	18 079	1 447 197	705	-	-	-	28 834	122	-	28 957	59.6	6 415
	Norway	2 662	284 468	30	-	-	-	4 602	6	-	4 608	9.5	1 023
	Other countries	137 409	476 061	80	-	-	22	14 982	54	4	15 040	30.9	3 326
20	**Total**	**158 150**	**2 207 726**	**815**	**-**	**-**	**22**	**48 418**	**182**	**4**	**48 605**		**10 764**

Table 2.6 Change in own funds

Presentation in accordance with the requirements of Commission Implementing Regulation (EU) No 1423/2013.

Change in own funds SEK m	2019	2018
Common equity tier 1 capital – opening amount	**118 810**	**115 753**
Profit for the period	16 581	16 575
Dividend	-10 890	-10 693
Conversions	3129	102
Minority interests	0	0
Deferred tax	138	-64
Capital contributions outside consolidated situation	0	0
Securitisation positions	-20	0
Goodwill and other intangible assets	-729	-602
Value adjustments for positions measured at fair value	-25	33
Own shares	-19	61
Negative amounts resulting from the calculation of expected loss amounts	468	310
Items affected via other comprehensive income		
AFS shares	352	-185
AFS interest	5	-10
Pensions (IAS 19)	3 341	-3 417
Exchange rate effects	2716	659
Net investment hedging	-1 186	-657
Other, incl. changes in investment portfolio	60	945
Common equity tier 1 capital – closing amount	**132 731**	**118 810**
Additional tier 1 capital – opening amount	**12 653**	**11 746**
Additional tier 1 instruments		
Issues	4 599	0
Calls	-2 350	0
Exchange rate effects	517	907
Conversions	0	0
Regulatory adjustments capital	400	0
Additional tier 1 capital – closing amount	**15 819**	**12 653**
Total tier 1 capital	**148 550**	**131 463**
Tier 2 capital – opening amount	**17 196**	**16 616**
Tier 2 capital instruments		
Issues	0	15 394
Calls	0	-15 684
Exchange rate effects	314	870
Adjustment for time to maturity	0	0
Tier 2 capital – closing amount	**17 510**	**17 196**
Total own funds	**166 060**	**148 659**

Table 2.7 EU LI1 – Differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories

The table shows which regulatory framework is used to calculate the capital requirement for each asset type in the balance sheet. Derivatives, repos and securities lending capital requirements are calculated according to both the CCR framework and the market risk framework. Because of this, the sums of rows including those exposures are larger than the total in column b. Further note that column g stems from the equity section of the balance sheet.

EU LI1 – Differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories 2019

			Carrying values of items				
SEK m	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Subject to the credit risk framework	Subject to the CCR framework	Subject to the securitisation framework	Subject to the market risk framework	Subject to deduction from capital
Assets							
Cash and balances with central banks	327 958	327 958	327 958				
Other loans to central banks	19 547	19 547	19 547	0			
Interest-bearing securities available as collateral with central banks	103 387	103 387	1 427	0		101 960	
Loans to other credit institutions	17 939	17 934	17 934	0			
Loans to the public	2 292 603	2 293 735	2 281 020	10 438	1 148		1 129
Value change of interest-hedged item in portfolio hedge	25	25	25				
Bonds and other interest-bearing securities	42 640	42 640	4 953			38 265	
Shares and participating interests	21 390	14 340	2 303	2 179		19 087	
Investments in associates	285	6 560	6 492				68
Assets where the customer bears the value change risk	174 988	6 514	6 514				
Derivative instruments	41 545	41 545		41 545		41 545	
Reinsurance assets	11						
Intangible assets	11 185	11 051	0				11 051
Property and equipment	6 645	6 644	6 644				
Current tax assets	53	50	50				
Deferred tax assets	693	693	0				693
Pension assets	654	700	582				118
Assets held for sale	1	1	1				
Other assets	6 167	5 917	2 865			3 052	
Prepaid expenses and accrued income	1 951	1 925	1 925				
Total assets	**3 069 667**	**2 901 166**	**2 680 240**	**54 162**	**1 148**	**203 909**	**13 059**
Liabilities							
Liabilities to credit institutions	147 989	147 934					
Deposits and borrowing from the public	1 117 825	1 117 260					
Liabilities where the customer bears the value change risk	174 988	6 514					
Issued securities	1 384 961	1 384 961				3 261	
Derivative instruments	20 642	20 642		20 642		20 645	
Short positions	1 856	1 856				1 856	
Insurance liabilities	578	0					
Current tax liabilities	1 284	1 264					
Deferred tax liabilities	5 634	5 594					
Provisions	1 141	1 132					
Pension obligations	0	0					
Liabilities related to assets held for sale	0	0					
Other liabilities	14 038	13 714					
Accrued expenses and deferred income	3 353	3 271					
Subordinated liabilities	35 546	35 546					
Total liabilities	**2 909 835**	**2 739 688**		**20 642**		**25 762**	

EU LI1 – Differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories 2018

			Carrying values of items				
SEK m	**Carrying values as reported in published financial statements**	**Carrying values under scope of regulatory consolidation**	**Subject to the credit risk framework**	**Subject to the CCR framework**	**Subject to the securitisation framework**	**Subject to the market risk framework**	**Subject to deduction from capital**
Assets							
Cash and balances with central banks	317 217	317 217	317 217				
Other loans to central banks	33 557	33 557	33 557				
Interest-bearing securities available as collateral with central banks	122 260	118 929	1 236			121 024	
Loans to other credit institutions	22 137	22 133	19 381	2 752			
Loans to the public	2 189 092	2 190 223	2 178 817	9 049	1 228		1 129
Value change of interest-hedged item in portfolio hedge	33	33	33				
Bonds and other interest-bearing securities	50 729	47 850	5 373			45 356	
Shares and participating interests	13 821	13 168	1 841	13 129		11 981	
Investments in associates	259	6 534	6 466				68
Assets where the customer bears the value change risk	136 346	5 345	5 345				
Derivative instruments	58 041	58 041		58 041		12 547	
Reinsurance assets	12						
Intangible assets	10 455	10 322	-				10 322
Property and equipment	2 229	2 229	2 229				
Current tax assets	617	615	615				
Deferred tax assets	1 044	1 044	5				1 039
Pension assets	0	0	-				-
Assets held for sale	19	19	19				
Other assets	16 880	16 652	6 153			10 499	
Prepaid expenses and accrued income	3 426	3 406	3 406				
Total assets	**2 978 174**	**2 847 317**	**2 581 693**	**82 971**	**1 228**	**201 407**	**12 558**
Liabilities							
Liabilities to credit institutions	194 082	194 033					
Deposits and borrowing from the public	1 008 487	1 007 837					
Liabilities where the customer bears the value change risk	136 346	5 345					
Issued securities	1 394 647	1 394 647				2 250	
Derivative instruments	17 360	17 361		17 361		13 160	
Short positions	6 163	6 163				6 132	
Insurance liabilities	542	0					
Current tax liabilities	1 118	1 105					
Deferred tax liabilities	5 786	5 746					
Provisions	222	213					
Pension obligations	3 226	3 171					
Liabilities related to assets held for sale	0	0					
Other liabilities	12 984	12 694					
Accrued expenses and deferred income	3 865	3 784					
Subordinated liabilities	51 085	51 085					
Total liabilities	**2 835 913**	**2 703 184**		**17 361**		**21 542**	

Table 2.8 EU LI2 – Main sources of differences between regulatory exposure amounts and carrying values in financial statements

The table shows the difference between the carrying amount under the scope of regulatory consolidation and exposures considered for regulatory purposes.

EU LI2 – Main sources of differences between regulatory exposure amounts and carrying values in financial statements 2019			Items subject to			
SEK m		Total	Credit risk framework	CCR framework	Securitisation framework	Market risk framework
1	**Assets carrying value amount under the scope of regulatory consolidation (as per template EU LI1)**	**2 939 459**	**2 680 240**	**54 162**	**1 148**	**203 909**
2	Liabilities carrying value amount under the regulatory scope of consolidation (as per template EU LI1)	46 404		20 642		25 762
3	Total net amount under the regulatory scope of consolidation	2 965 221	2 680 240	54 162	1 148	229 671
4	Off-balance-sheet amounts	522 450	522 450			
5	Differences in valuations					
6	Differences due to different netting rules, other than those already included in row 2	-187 257		-12 023		-175 234
7	Differences due to consideration of provisions	3 793	3 793	0		
8	Differences due to prudential filters					
9	Differences due to derivative exposure add-ons	27 096		27 096		
10	**Exposure amounts considered for regulatory purposes**	**3 331 303**	**3 206 483**	**69 235**	**1 148**	**54 437**

EU LI2 – Main sources of differences between regulatory exposure amounts and carrying values in financial statements 2018			Items subject to			
SEK m		Total	Credit risk framework	CCR framework	Securitisation framework	Market risk framework
1	**Assets carrying value amount under the scope of regulatory consolidation (as per template EU LI1)**	**2 867 299**	**2 581 693**	**82 971**	**1 228**	**201 407**
2	Liabilities carrying value amount under the regulatory scope of consolidation (as per template EU LI1)	38 903		17 361		21 542
3	Total net amount under the regulatory scope of consolidation	2 888 840	2 581 693	82 971	1 228	222 948
4	Off-balance-sheet amounts	535 815	535 815		-	
5	Differences in valuations					
6	Differences due to different netting rules, other than those already included in row 2	-207 218		-12 604		-194 614
7	Differences due to consideration of provisions	2 830	2 830	0	-	
8	Differences due to prudential filters					
9	Differences due to derivative exposure add-ons	31 001		31 001		
10	**Exposure amounts considered for regulatory purposes**	**3 251 268**	**3 120 338**	**101 368**	**1 228**	**28 334**

Table 2.9 EU LI3 – Outline of the differences in the scopes of consolidation (entity by entity)

The table outlines the scopes of consolidation for the companies included in the consolidated situation at year-end.

EU LI3 – Outline of the differences in the scopes of consolidation (entity by entity) 2019		Method of regulatory consolidation				
Name of the entity	Method of accounting consolidation	Full consoli-dation	Proportional consoli-dation	Neither consolidated nor deducted	Deducted	Description of the entity
Handelsbanken Finans AB	Full consolidation	X				Credit institution
Handelsbanken Finans (Shanghai) Financial Leasing Co., Ltd	Full consolidation	X				Credit institution
Stadshypotek AB	Full consolidation	X				Credit institution
Svenska Intecknings Garanti AB Sigab	Full consolidation	X				Non-financial corporation
Handelsbanken Fondbolagsförvaltning AB	Full consolidation	X				Financial corporations other than credit institutions
Handelsbanken Fonder AB	Full consolidation	X				Financial corporations other than credit institutions
Handelsinvest Investeringsforvaltning A/S	Full consolidation	X				Financial corporations other than credit institutions
Xact Kapitalförvaltning AB	Full consolidation	X				Financial corporations other than credit institutions
AB Handel och Industri	Full consolidation	X				Non-financial corporation
Ecster AB	Full consolidation	X				Credit institution
Handelsbanken plc	Full consolidation	X				Credit institution
Heartwood Wealth Management Limited	Full consolidation	X				Financial corporations other than credit institutions
Heartwood Nominees Limited	Full consolidation	X				Non-financial corporation
Heartwood Second Nominees Limited	Full consolidation	X				Non-financial corporation
Heartwood ACD Limited (inactive)	Full consolidation	X				Non-financial corporation
SIL (Nominees) Limited	Full consolidation	X				Non-financial corporation
Svenska Property Nominees Limited	Full consolidation	X				Non-financial corporation
Optimix Vermogensbeheer N.V.	Full consolidation	X				Financial corporations other than credit institutions
Add Value Fund Management B.V.	Full consolidation	X				Financial corporations other than credit institutions
Optimix Beheer en Belegging B.V.	Full consolidation	X				Non-financial corporation
Ejendomsselskabet af 1. maj 2009 A/S	Full consolidation	X				Non-financial corporation
Forva AS	Full consolidation	X				Non-financial corporation
Handelsbanken Markets Securities, Inc.	Full consolidation	X				Credit institution
Handelsbanken Rahoitus Oy	Full consolidation	X				Credit institution
Lokalbolig A/S	Full consolidation	X				Non-financial corporation
Rådstuplass 4 AS	Full consolidation	X				Non-financial corporation
Lila stugan i Stockholm AB	Full consolidation	X				Non-financial corporation
Blå stugan i Stockholm AB	Full consolidation	X				Non-financial corporation
Handelsbanken Fastigheter AB	Full consolidation	X				Non-financial corporation
Bankomat AB	Equity method		X			Non-financial corporation
BGC Holding AB	Equity method		X			Non-financial corporation
Bankgirocentralen BGC AB	Equity method		X			Non-financial corporation
Torig AB	Equity method		X			Non-financial corporation
Finansiell ID-teknik BID AB	Equity method		X			Non-financial corporation
USE Intressenter AB	Equity method		X			Non-financial corporation
Getswish AB	Equity method		X			Non-financial corporation

Table 2.10 Companies included in consolidated situation

Companies included in consolidated situation	Ownership share %	Corporate identity number	Domicile
Handelsbanken AB (publ)[1]		**502007-7862**	**Stockholm**
SUBSIDIARIES			
Handelsbanken Finans AB[1]	**100**	**556053-0841**	**Stockholm**
Handelsbanken Finans (Shanghai) Financial Leasing Co., Ltd	100	310101717882194	Shanghai
Stadshypotek AB[1]	**100**	**556459-6715**	**Stockholm**
Svenska Intecknings Garanti AB Sigab (inactive)	100	556432-7285	Stockholm
Handelsbanken Fondbolagsförvaltning AB	**100**	**556070-0683**	**Stockholm**
Handelsbanken Fonder AB	100	556418-8851	Stockholm
Handelsinvest Investeringsforvaltning A/S	100	12930879	Copenhagen
Xact Kapitalförvaltning AB	100	556997-8140	Stockholm
AB Handel och Industri	**100**	**556013-5336**	**Stockholm**
Ecster AB	**100**	**556993-2311**	**Stockholm**
Handelsbanken plc [1,3]	**100**	**11305395**	**London**
Heartwood Wealth Management Limited	100	04132340	London
Heartwood Nominees Limited (inactive)	100	2299877	London
Heartwood Second Nominees Limited (inactive)	100	3193458	London
Heartwood ACD Limited (inactive)	100	4332528	London
Svenska Property Nominees Limited (inactive)	100	2308524	London
Optimix Vermogensbeheer N.V.	**100**	**33194359**	**Amsterdam**
Add Value Fund Management B.V.	80	19196768	Amsterdam
Optimix Beheer en Belegging B.V. (inactive)	100	33186584	Amsterdam
Other			
Ejendomsselskabet af 1. maj 2009 A/S[1]	100	59173812	Hillerød
Forva AS	100	945812141	Oslo
Handelsbanken Markets Securities, Inc[1]	100	11-3257438	New York
Handelsbanken Rahoitus Oy	100	0112308-8	Helsinki
Lokalbolig A/S	71,05	78488018	Hillerød
Rådstuplass 4 AS	100	910508423	Bergen
Lila stugan i Stockholm AB (inactive)	100	556993-9084	Stockholm
Blå stugan i Stockholm (inactive)	100	556993-9357	Stockholm
Subsidiary of Handelsbanken Liv Försäkrings AB			
Handelsbanken Fastigheter AB	100	556873-0021	Stockholm
ASSOCIATES			
Bankomat AB	20	556817-9716	Stockholm
BGC Holding AB	25.38	556607-0933	Stockholm
Bankgirocentralen BGC AB[2]	100	556047-3521	Stockholm
Torig AB	100	556564-5404	Stockholm
Finansiell ID-teknik BID AB	28.3	556630-4928	Stockholm
USE Intressenter AB	24.48	559161-9464	Stockholm
Getswish AB	20	556913-7382	Stockholm

Companies not included in consolidated situation	Ownership share %	Corporate identity number	Domicile
Handelsbanken Liv Försäkring AB (group excl. Handelsbanken Fastigheter AB)	100	516401-8284	Stockholm
Svenska Re S.A.	100	RCS Lux B-32053	Luxembourg
Handelsbanken Skadeförsäkrings AB	100	516401-6767	Stockholm
Dyson Group plc	27	00163096	Sheffield
Dyson Industries Ltd	100	1187031	Sheffield
Beepart Ltd	100	177682	Sheffield
Pickford Holland & Company Ltd	100	128414	Sheffield
Millennium Materials Inc	100	-	Knoxville
Dyson US holdings Inc	100	-	Wilmington
EFN Ekonomikanalen AB	100	556930-1608	Stockholm
SHB Liv Försäkringsaktiebolag	100	2478149-7	Helsinki
Svenska RKA International Insurance Services AB (inactive)	100	556324-2964	Stockholm

[1]Credit institution.

[2]Ownership in subsidiaries and associates.

[3]As from December 1 2018 Handelsbanken's operations in UK are run as a subsidiary

CAPITAL REQUIREMENT

Credit risk

The capital requirements for credit risk are calculated by a risk-weighted exposure amount being calculated for all the exposures in the regulatory consolidation. The risk-weighted exposure amount is calculated for credit risk – partly using the IRB approach with and without own estimates of LGD and CCF, and partly using the standardised approach.

Market risk

The capital requirements for market risk are calculated for the Bank's consolidated situation. The capital requirements for interest rate risk and equity price risk are, however, only calculated for positions in the trading book. When calculating the capital requirements for market risk, the standardised approach is applied.

Operational risk

Handelsbanken uses the standardised approach to calculate the capital requirements for operational risk. According to the standardised approach, the capital requirements are calculated by multiplying a factor specified in the regulations by the average operating income during the last three years of operation. Different factors are applied in different business segments.

Table 2.11 shows the total capital requirement and its various components.

Capital requirement in Pillar 2

At the end of the fourth quarter, the Bank's assessment of the Swedish Financial Supervisory Authority's (SFSA) common equity tier 1 (CET1) capital requirement pursuant to Pillar 2 was SEK 27.9 billion, corresponding to 3.9 per cent of Pillar 1 REA. The capital requirement is derived from requirements for credit risk, market risk, systemic risk, and other risks.

A Pillar 2 risk weight floor of 22 per cent applies to Norwegian mortgage loans. The resulting CET1 requirement amounts to SEK 1.8 billion or 0.3 per cent of REA. Also within Pillar 2, the SFSA still applies a maturity floor of 2.5 years for maturity assumptions pertaining to corporate exposures and a model for credit related concentration risk. The CET1 capital charge was SEK 2.6 billion and SEK 2.8 billion respectively, corresponding to approximately 0.4 per cent of REA in each case. Altogether, the CET1 capital requirement for credit risk within Pillar 2 was SEK 7.3 billion or 1 per cent of REA.

The Bank is also subject to a CET1 capital requirement for interest rate risk in the banking book and pension risk based on the SFSA benchmark models. The CET1 requirement for interest risk in the banking book amounts to SEK 4.4 billion as of the fourth quarter while there is currently no requirement for pension risk. CET1 capital charges pertaining to other risks amounts to SEK 1.9 billion.

In conclusion, the Pillar 2 CET1 capital requirement for systemic risk, a buffer requirement of 2 per cent of Pillar 1 REA, amounts to SEK 14.3 billion.

As of the fourth quarter, the Bank's assessment of the SFSA's total requirement for common equity tier 1 capital, including Pillar 1 requirements, was SEK 113.2 billion, corresponding to a common equity tier 1 ratio of 15.8 per cent of REA.

Table 2.11 EU OV1 – Overview of RWAs

The table shows risk exposure amounts (REA) for credit, counterparty, market and operational risk at the end of the previous and current period. Credit risk is calculated by the standardised approach, the Foundation IRB approach and the Advanced IRB approach. Market risk and operational risk is calculated by the standardised approach. REA for credit risk has increased compared to the previous period. REA for counterparty risk has decreased compared to the previous period. REA for market risk has decreased compared to the previous period. REA for operational risk has increased compared to the previous period.

EU OV1 – Overview of RWAs			**RWAs**		**Minimum capital requirements**
SEK m			**2019**	**2018**	**2019**
	1	Credit risk (excluding CCR)	626 682	616 009	50 132
Article 438(c)(d)	2	Of which the standardised approach	86 573	87 147	6 926
Article 438(c)(d)	3	Of which the foundation IRB (FIRB) approach	53 846	53 978	4 305
Article 438(c)(d)	4	Of which the advanced IRB (AIRB) approach	475 964	467 474	38 077
Article 438(d) Article 107	5	Of which equity IRB under the simple risk-weighted approach or the IMA	10 299	7 410	824
Article 438(c)(d)	6	CCR	11 371	12 603	910
Article 438(c)(d)	7	Of which mark to market	11 359	12 598	909
Article 438(c)(d)	8	Of which original exposure			
	9	Of which the standardised approach			
	10	Of which internal model method (IMM)			
Article 438(c)(d)	11	Of which risk exposure amount for contributions of the default fund of a CCP	12	5	1
Article 438(c)(d)	12	CVA	4 114	5 219	329
Article 438 e	13	Settlement risk	9	0	1
Article 449(o)(i)	14	Securitisation exposures in the non-trading book (after the cap)	-	51	-
	15	Of which IRB Approach	-	51	-
	16	Of which IRB supervisory formula approach (SFA)			
	17	Of which internal assessment approach (IAA)			
	18	Of which standardised approach			
Article 438 e	19	Market risk	8 263	9 765	662
	20	Of which the standardised approach	8 263	9 765	662
	21	Of which IMA			
Article 438 e	22	Large exposures			
Article 438(f)	23	Operational risk	66 023	63 932	5 282
	24	Of which basic indicator approach			
	25	Of which standardised approach	66 023	63 932	5 282
	26	Of which advanced measurement approach			
Article 437(2), Article 48 and Article 60	27	Amounts below the thresholds for deduction (subject to 250% risk weight)			
Article 500	28	Floor adjustment			
	29	**Total**	**716 462**	**707 579**	**57 317**

CAPITAL ADEQUACY FOR THE FINANCIAL CONGLOMERATE

Institutions and insurance companies which are part of the financial conglomerate must have own funds which are adequate in relation to the capital requirements for the financial conglomerate. Own funds for the financial conglomerate have been calculated pursuant to the deduction and aggregation method (method 2, Annex I, Directive 2002/87/EC). The financial conglomerate's total own funds exceed the financial conglomerate's capital requirement.

Table 2.12 Capital adequacy financial conglomerate

The table shows the relation between capital and capital requirement for the financial conglomerate. The surplus has increased compared to the previous year.

Capital adequacy financial conglomerate		
SEK m	**2019**	**2018**
Own funds after reduction and adjustments	174 186	152 229
Capital requirement	153 484	139 687
Surplus	**20 702**	**12 542**

LEVERAGE RATIO

Handelsbanken's leverage ratio for 2019 was 4.85 per cent (4.37). The leverage ratio has increased compared to the previous period. The increase was attributable to an increase in the Bank's tier 1 capital.

Table 2.13 LRCom: Leverage ratio common disclosure

The table shows the leverage ratio for the current and previous period. The exposures are specified for the categories on-balance, derivatives, securities finance and off-balance. The leverage ratio is calculated as tier 1 capital divided by the total exposures. The leverage ratio has increased compared to the previous period.

LRCom: Leverage ratio common disclosure			
SEK m		**2019**	**2018**
	On-balance-sheet exposures (excluding derivatives and SFTs)		
1	On-balance-sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	2 843 612	2 777 127
2	(Asset amounts deducted in determining Tier 1 capital)	-17 849	-14 583
3	**Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets) (sum of lines 1 and 2)**	**2 825 763**	**2 762 544**
	Derivative exposures		
4	Replacement cost associated with all derivatives transactions (ie net of eligible cash variation margin)	6 667	8 183
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	27 096	31 001
EU-5a	Exposure determined under Original Exposure Method	-	-
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	-	-
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-8 466	-5 418
8	(Exempted CCP leg of client-cleared trade exposures)		
9	Adjusted effective notional amount of written credit derivatives	5 621	5 774
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-116	-
11	**Total derivatives exposures (sum of lines 4 to 10)**	**30 802**	**39 540**
	SFT exposures		
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	16 010	12 149
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	-	-
14	Counterparty credit risk exposure for SFT assets	3 342	3 850
EU-14a	Derogation for SFTs: Counterparty credit risk exposure in accordance with Article 429b(4) and 222 of Regulation (EU) No 575/2013	-	-
15	Agent transaction exposures	-	-
EU-15a	(Exempted CCP leg of client-cleared SFT exposure)	-	-
16	**Total securities financing transaction exposures (sum of lines 12 to 15a)**	**19 352**	**15 999**
	Other off-balance-sheet exposures		
17	Off-balance-sheet exposures at gross notional amount	522 450	535 815
18	(Adjustments for conversion to credit equivalent amounts)	-338 171	-343 827
19	**Other off-balance-sheet exposures (sum of lines 17 and 18)**	**184 279**	**191 988**
	Exempted exposures in accordance with Article 429(7) and (14) of Regulation (EU) No 575/2013 (on and off balance sheet)		
EU-19a	(Intragroup exposures (solo basis) exempted in accordance with Article 429 (7) of Regulation (EU) No 575/2013 (on and off balance sheet))	-	-
EU-19b	(Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off balance sheet))	-	-
	Capital and total exposure measure		
20	Tier 1 capital	148 550	131 463
21	Leverage ratio total exposure measure (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)	3 060 195	3 010 071
	Leverage ratio		
22	Leverage ratio	4.85%	4.37%
	Choice on transitional arrangements and amount of derecognised fiduciary items		
EU-23	Choice on transitional arrangements for the definition of the capital measure	Transitional	Transitional
EU-24	Amount of derecognised fiduciary items in accordance with Article 429 (13) of Regulation (EU) No 575/2013	0	0

Table 2.14 LRSum: Summary reconciliation of accounting assets and leverage ratio exposures

The table shows the summary reconciliation of accounting assets and leverage ratio exposures. The leverage ratio total exposure measure has increased compared to the previous period.

LRSum: Summary reconciliation of accounting assets and leverage ratio exposures			
SEK m		**2019**	**2018**
1	Total assets as per published financial statements	3 069 667	2 978 174
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	-168 500	-130 857
3	(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure in accordance with Article 429(13) of Regulation (EU) No 575/2013)	0	0
4	Adjustments for derivative financial instruments	-10 743	-18 501
5	Adjustments for securities financing transactions (SFTs)	3 342	3 850
6	Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	184 279	191 988
EU-6a	(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	0
EU-6b	(Adjustment for exposures excluded from the leverage ratio total exposure measure in accordance with Article 429(14) of Regulation (EU) No 575/2013)	-	-
7	Other adjustments	-17 850	-14 583
8	**Leverage ratio total exposure measure**	**3 060 195**	**3 010 071**

Table 2.15 LRSpl: Split-up of on balance sheet exposures (excluding derivatives, SFTs and exempted exposures)

The table specifies on-balance-sheet exposures excluding derivatives, SFTs, and exposures exempt from the leverage ratio calculation. The total exposure has increased compared to the previous period.

LRSpl: Split-up of on balance sheet exposures (excluding derivatives, SFTs and exempted exposures)			
SEK m		**2019**	**2018**
EU-1	Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:	2 833 306	2 757 336
EU-2	Trading book exposures	160 009	180 589
EU-3	Non-trading book exposures, of which:	2 673 297	2 576 747
EU-4	Covered bonds	4 952	5 372
EU-5	Exposures treated as sovereigns	411 782	419 788
EU-6	Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns	0	25
EU-7	Institutions	7 346	8 476
EU-8	Secured by mortgages of immovable properties	1 984 322	1 843 389
EU-9	Retail exposures	52 512	64 218
EU-10	Corporate	186 732	211 962
EU-11	Exposures in default	4 703	4 797
EU-12	Other exposures (e.g. equity, securitisations, and other non-credit obligation assets)	20 948	18 720

Credit risk

Handelsbanken's low risk tolerance is maintained by means of a strong credit policy and credit culture that cover the whole Group and are sustainable over time. The Bank's decentralised organisation with a local presence provides high quality in credit decisions and ensures that credit risk is managed close to the customer

Credit risk is defined as the risk of the Bank facing economic loss because the Bank's counterparties cannot fulfil their contractual obligations.

Introduction
In 2018 the European Banking Authority (EBA) published its final Guidelines on disclosure of non-performing and forborne exposures. The Guidelines aim to enhance credit institutions' disclosures on the credit quality of assets by defining the common content and uniform disclosure formats for disclosures of NPEs, forborne exposures and foreclosed assets. The Guidelines include a set of common templates applicable to all banks and additional templates applicable only to significant credit institutions with a gross NPL ratio of 5 per cent or above. Handelsbanken's disclosures in accordance with the EBA guidelines are made using the common templates since Handelsbanken has a gross NPL ratio well below 5 per cent. Tables T3, T4, T8 and T9 show the credit quality of performing and non-performing exposures by past due days, performing and non-performing exposures and related provisions, credit quality of forborne exposures and collateral obtained by taking possession and execution processes.

Expected credit losses
The impairment rules presented in IFRS 9 apply to financial assets at amortised cost, financial assets at fair value through other comprehensive income, as well as financial guarantees and other irrevocable commitments, and are based on a model for the recognition of expected credit losses (ECL). The assets to be tested for impairment are divided into the following three stages, depending on the degree of credit impairment.

Stage 1 comprises financial assets with no significant increase in credit risk since initial recognition.

Stage 2 comprises financial assets with a significant increase in credit risk since initial recognition, but for which there is no objective evidence that the claim is credit-impaired at the time of reporting.

Stage 3 comprises financial assets for which objective circumstances have been identified indicating that the claim is credit-impaired. For a definition of credit-impaired assets, see the section titled Default/Credit-impaired asset in note G1 of the Annual Report.

For further information of expected credit losses please see note G2 of the Annual report, Calculation of expected credit losses.

Capital Requirements Regulation
In the Capital Requirements Regulation (CRR), credit risk adjustments are loss provisions that are divided into two categories: specific and general. The term 'Credit risk adjustments' in CRR corresponds to 'provisions' in accounting rules. Expected credit losses (ECL) determined in accordance with IFRS 9 correspond to Specific Credit Risk Adjustments in CRR. This is in accordance with the European Banking Authority's Opinion on transitional arrangements and credit risk adjustments due to the introduction of IFRS 9 (EBA/OP/2017/02).

Table 3.1 EU CR1-A – Credit quality of exposures by exposure class and instrument

The following table specifies gross exposures by exposure class and by instrument. It further specifies credit risk adjustments, write-offs and net values. It comprises figures obtained using both the standardised and the IRB Approach. Total net values have increased compared to the previous period. (For on-balance-sheet items, the net value is the gross carrying value of exposure less allowances/impairments. For off-balance-sheet items, the net value is the gross carrying value of exposure less provisions.)

	EU CR1-A – Credit quality of exposures by exposure class and instrument 2019	**Gross carrying values of**						
	SEK m	**Defaulted exposures**	**Non-defaulted exposures**	**Specific credit risk adjustment**	**General credit risk adjustment**	**Accumulated write-offs**	**Credit risk adjustment charges of the period**	**Net values**
1	Central governments or central banks	-	382 485	1		-	-	382 484
2	Institutions	-	23 792	5		-	-	23 787
3	Corporates	6 339	1 449 969	3 384		50	1 092	1 452 924
4	*Of which: Specialised lending*							
5	*Of which: SMEs*	*2 590*	*770 541*	*1 330*		*45*	*337*	*771 801*
6	Retail	2 503	1 122 658	1 307		29	384	1 123 854
7	*Secured by real estate property*	*1 449*	*1 057 029*	*444*		*8*	*127*	*1 058 034*
8	*SMEs*	*182*	*11 911*	*93*		*1*	*30*	*12 000*
9	*Non-SMEs*	*1 267*	*1 045 118*	*351*		*7*	*96*	*1 046 034*
10	*Qualifying revolving*							
11	*Other retail*	*1 054*	*65 630*	*863*		*21*	*257*	*65 821*
12	*SMEs*	*297*	*13 289*	*239*		*19*	*83*	*13 347*
13	*Non-SMEs*	*757*	*52 342*	*624*		*2*	*174*	*52 475*
14	Equity	-	3 028	-		-	-	3 028
15	***Total IRB Approach***	***8 842***	***2 981 932***	***4 697***		***79***	***1 476***	***2 986 077***
16	Central governments or central banks	-	36	-		-	-	36
17	Regional governments or local authorities	-	-	-		-	-	-
18	Public sector entities							
19	Multilateral development banks	-	-	-		-	-	-
20	International organisations							
21	Institutions	-	4 290	10		-	-	4 280
22	Corporates	51	14 359	18		-	6	14 392
23	*Of which: SMEs*	*20*	*3 121*	*5*		-	*1*	*3 136*
24	Retail	551	24 828	58		1	19	25 321
25	*Of which: SMEs*	*22*	*2 443*	*10*		-	*3*	*2 455*
26	Secured by mortgages on immovable property	100	147 356	31		-	6	147 425
27	*Of which: SMEs*	*8*	*29 421*	*11*		-	*1*	*29 418*
28	Exposures in default[1]	701	0	117		1	31	584
29	Items associated with particularly high risk	-	26	-		-	-	26
30	Covered bonds							
31	Claims on institutions and corporates with a short-term credit assessment							
32	Collective investments undertakings	-	151	-		-	-	151
33	Equity exposures	-	6 254	-		-	-	6 254
34	Other exposures	-	4 958	1		-	-	4 957
35	***Total standardised approach***	***702***	***202 258***	***118***		***1***	***31***	***202 842***
36	***Total***	***9 544***	***3 184 190***	***4 815***		***80***	***1 507***	***3 188 919***
37	Of which: Loans	8 831	2 656 085	4 813		80	1 507	2 660 103
38	Of which: Debt securities	-	6 368	2		-	-	6 366
39	Of which: Off-balance-sheet exposures	713	521 737	-		-	-	522 450

[1] In compliance with EBA Q&A 2017:3481, row 28 shows the gross carrying value for the exposure class Exposures in default under CRR 112 j. This row is not included in the total (row 35). The defaulted exposures are recognised in their original exposure class, that is, the exposure class before default, on rows 22–27.

EU CR1-A – Credit quality of exposures by exposure class and instrument 2018		Gross carrying values of						
SEK m		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	Net values
1	Central governments or central banks	-	387 797	1		-	-	387 796
2	Institutions	-	22 111	3		-	-	22 108
3	Corporates	5 016	1 423 945	2 530		258	649	1 426 431
4	*Of which: Specialised lending*							
5	*Of which: SMEs*	*2 420*	*741 786*	*1 582*		*205*	*374*	*742 624*
6	Retail	2 365	1 082 448	1 284		91	335	1 083 529
7	*Secured by real estate property*	*1 057*	*996 711*	*257*		*29*	*53*	*997 511*
8	*SMEs*	*32*	*7 261*	*16*		*0*	*3*	*7 277*
9	*Non-SMEs*	*1 025*	*989 450*	*241*		*29*	*50*	*990 234*
10	*Qualifying revolving*							
11	*Other retail*	*1 308*	*85 737*	*1 027*		*62*	*282*	*86 018*
12	*SMEs*	*411*	*18 853*	*308*		*51*	*96*	*18 956*
13	*Non-SMEs*	*897*	*66 884*	*719*		*11*	*186*	*67 062*
14	Equity	-	2 121	-		-	-	2 121
15	***Total IRB Approach***	***7 381***	***2 918 422***	***3 818***		***349***	***984***	***2 921 985***
16	Central governments or central banks	-	51	-		-	-	51
17	Regional governments or local authorities	-	25	-		-	-	25
18	Public sector entities	-	-	-		-	-	-
19	Multilateral development banks	-	-	-		-	-	-
20	International organisations	-	-	-		-	-	-
21	Institutions	-	4 396	10		-	-	4 386
22	Corporates	170	19 932	42		-	14	20 060
23	*Of which: SMEs*	*33*	*2 508*	*16*		-	*5*	*2 525*
24	Retail	572	21 401	59		-	17	21 914
25	*Of which: SMEs*	*23*	*2 541*	*14*		-	*5*	*2 550*
26	Secured by mortgages on immovable property	84	127 137	26		-	6	127 195
27	*Of which: SMEs*	*9*	*23 907*	*11*		-	*2*	*23 905*
28	Exposures in default[1]	826	-	137		-	37	689
29	Items associated with particularly high risk							
30	Covered bonds							
31	Claims on institutions and corporates with a short-term credit assessment							
32	Collective investments undertakings							
33	Equity exposures	-	6 254	-		-	-	6 254
34	Other exposures	-	8 376	-		-	-	8 376
35	***Total standardised approach***	***826***	***187 572***	***137***		***0***	***37***	***188 261***
36	***Total***	***8 207***	***3 105 994***	***3 955***		***349***	***1 021***	***3 110 246***
37	Of which: Loans	7 793	2 563 995	3 954		349	1 021	2 567 834
38	Of which: Debt securities	-	6 598	1		-	-	6 597
39	Of which: Off-balance-sheet exposures	414	535 401	-		-	-	535 815

[1] In compliance with EBA Q&A 2017:3481, row 28 shows the gross carrying value for the exposure class Exposures in default under CRR 112 j. This row is not included in the total (row 35). The defaulted exposures are recognised in their original exposure class, that is, the exposure class before default, on rows 22–27.

Table 3.2 EU CR2-A – Changes in the stock of general and specific credit risk adjustments

The following table shows the changes for the amount of general and specific credit risk adjustments. The closing balance has increased compared to the previous period. The main driver is transfers between credit risk adjustments.

EU CR2-A – Changes in the stock of general and specific credit risk adjustments 2019

SEK m		Accumulated specific credit risk adjustment	Accumulated general credit risk adjustment
1	**Opening balance**	**-3 955**	
2	Increases due to amounts set aside for estimated loan losses during the period	-101	
3	Decreases due to amounts reversed for estimated loan losses during the period	255	
4	Decreases due to amounts taken against accumulated credit risk adjustments	421	
5	Transfers between credit risk adjustments	-978	
6	Impact of exchange rate differences	-69	
7	Business combinations, including acquisitions and disposals of subsidiaries		
8	Other adjustments	-388	
9	**Closing balance**	**-4 815**	
10	Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	252	
11	Specific credit risk adjustments directly recorded to the statement of profit or loss	-80	

EU CR2-A – Changes in the stock of general and specific credit risk adjustments 2018

SEK m		Accumulated specific credit risk adjustment	Accumulated general credit risk adjustment
1	**Opening balance**	**-5 159**	
2	Increases due to amounts set aside for estimated loan losses during the period	-189	
3	Decreases due to amounts reversed for estimated loan losses during the period	334	
4	Decreases due to amounts taken against accumulated credit risk adjustments	2 737	
5	Transfers between credit risk adjustments	-167	
6	Impact of exchange rate differences	-73	
7	Business combinations, including acquisitions and disposals of subsidiaries	0	
8	Other adjustments	-1 438	
9	**Closing balance**	**-3 955**	
10	Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	176	
11	Specific credit risk adjustments directly recorded to the statement of profit or loss	-350	

CALCULATION OF CAPITAL REQUIREMENTS FOR CREDIT RISK

Since 2007, the Bank has had permission from the Swedish Financial Supervisory Authority to calculate the capital requirement for credit risk using the IRB approach. The permission applies to the consolidated situation, which the parent company Svenska Handelsbanken AB (publ) leads, and the companies Svenska Handelsbanken AB (publ), Stadshypotek AB (publ), Handelsbanken Finans AB and Handelsbanken Rahoitus Oy. In 2017, volumes chiefly related to households and companies were transferred from Handelsbanken Finans AB to Ecster AB. The consolidated situation includes Ecster AB, whose exposures are reported using the IRB approach. The volumes were transferred because the retail financial operations in Handelsbanken Finans AB were moved to Ecster AB.

Handelsbanken plc use the standardised approach in order to calculate capital requirement for credit risk on a subsidiary level. Whereas the IRB approach is used on the consolidated level.

The Swedish Financial Supervisory Authority has also granted exceptions for Handelsbanken to apply the standardised approach instead of the IRB approach for certain exposures. These exceptions cover ‘insignificant size’ portfolios as well as the equity exposures that the Bank held at year-end 2007/2008. Exposures to central governments, central banks, regional governments and local authorities have since 2017 been subject to the IRB method.

In 2019, reporting according to the IRB approach comprised the portfolios in Handelsbanken Sweden, Handelsbanken plc, Handelsbanken Norway, Handelsbanken Denmark, Handelsbanken Finland, Handelsbanken Finans in Sweden and Finland, Ecster AB, parts of the regional bank in the Netherlands, the Bank’s exposures to other banks (exposures to institutions), and large parts of the Handelsbanken Capital Markets business area.

Handelsbanken has the permission of the Swedish Financial Supervisory Authority to report portfolios according to the IRB approach with own estimates of LGD and CCF. The permit refers to counterparties which are categorised as medium-sized companies, property companies, and housing co-operative associations as well as exposures to large corporates in its home markets (excluding the Netherlands). The exposures approved for reporting according to the IRB approach, but not yet with own estimates of LGD and CCF, will for the time being be reported according to the IRB approach without own estimates of LGD and CCF.

At the end of 2019, the Bank calculated the capital requirement using the IRB approach for about 86 per cent (86) of the total risk exposure amount. Of corporate exposures reported using the IRB approach, 87 per cent (85) were reported using the IRB approach with own estimates of LGD and CCF.

Risk rating system

Handelsbanken's risk rating system comprises a number of different systems, methods, processes and procedures to support the Bank's classification and quantification of credit risk.

Handelsbanken's internal rating system is used to measure the credit risk in all operations reliably and consistently. The risk rating builds on the Bank's internal rating, which is based on an assessment of each counterparty's repayment capacity. The rating is determined by the risk of financial strain and by the assessed resistance to this strain. The method and classification are based on the rating model that the Bank has applied for several decades.

The internal rating is the most important component when it comes to risk ranking of customers and it provides the basis for analysing credit risk and regulatory IRB compliance. The rating is dynamic; it is reassessed if there are signs that the counterparty's repayment capacity has changed. The rating is also reviewed periodically as stipulated in the regulations. The rating is made by the person responsible for granting the credit and is subsequently checked by independent bodies.

Exposure classes

One of the basic premises of the capital adequacy regulations is that the institution's exposures are overall categorised into the exposure classes stipulated by the regulations. The number of exposure classes depends on the method used to calculate the credit risk. Exposures to be calculated according to the standardised approach can be allocated to 17 different exposure classes, while there are seven exposure classes in the IRB approach.

The Bank uses different models for calculating credit risk, depending on the type of exposure. The overall division into exposure classes in the IRB approach comprises sovereign, institutional, corporate, retail and equity exposures, as well as securitised exposures. In addition there are also non-credit-obligation assets, assets which do not require any performance by the counterparty, such as property and equipment.

Some exposure classes contain sub-groups where special models are applied. In practical terms, the division into exposure classes and sub-groups is made when the officer at a branch or unit responsible for the customer decides, in accordance with internal instructions, which business evaluation template is to be used when assigning the counterparty a rating.

Exposures to central governments, central banks, regional governments and local authorities are classed as sovereign exposures. Exposures to institutions refers to exposures to counterparties defined as banks and other credit institutions and certain investment firms.

Retail exposures include both exposures to private individuals and to small and medium-sized enterprises (SMEs), where the total exposure within the Group does not exceed SEK 5 million. Also included are legal entities where the total exposure within the Group does not exceed SEK 5 million (excluding mortgage loans). Retail exposures are divided into two sub-groups: mortgage loans and other retail exposures.

Corporate exposures refer to exposures to non-financial companies, consisting of legal entities with a total exposure within the Group in excess of SEK 5 million or where the company's turnover is more than SEK 50 million, and SMEs with a total exposure within the Group in excess of SEK 5 million. Apart from ordinary non-financial companies, this exposure class includes insurance companies, housing co-operative associations and exposure in the form of 'specialised lending'.

Equity exposures refer to the Bank's holdings of shares that are not in the trading book. Equity exposures are calculated using the standardised and the IRB approach.

For division into exposure classes according to the standardised approach, the Bank's volumes refer to one of the following exposure classes: multilateral development banks, international organisations, institutions, corporates, retail, exposures with collateral in property, exposures in default/non-performing items, other items and shares. Non-performing items in the standardised approach are exposures where overdue interest or principal amounts have remained unpaid for more than 90 days, calculated from the original contracted payment date. The exposure class called Other items includes prepaid expenses, cash in hand and unminted gold. Previously, exposures to central governments, central banks, regional governments and local authorities were subject to the standardised approach but as of May 2017 have been subject to the IRB approach.

Risk classification methods

To quantify its credit risks, the Bank calculates the probability of default, PD, the exposure the Bank is expected to have if a default occurs, EAD, and the proportion of the loan that the Bank would be expected to lose in the case of default, LGD. A default shall be considered to have occurred when the obligor it's unlikely to pay its credit obligation to the institution or the obligor is past due more than 90 days on any material credit obligation.

The PD value is expressed as a percentage where, for example, a PD value of 0.5 per cent means that one borrower of 200 with the same PD value is expected to default within one year. A credit in default does not necessarily mean that the Bank will incur a loss, since in most cases there is collateral for the exposure. Nor does a default mean that it is out of the question that the counterparty will pay at some time in the future, since the payment problems may be temporary.

For corporate and exposures to institutions as well as for exposures to central governments, central banks, regional governments and local authorities (sovereign exposures), the internal rating set for each counterparty is directly converted into a risk class on a scale from 1 to 10 (where risk class 10 refers to defaulted counterparties). Corporate exposures are divided into four counterparty types and sovereign exposures into two counterparty types, based on the business evaluation template used for the counterparty. PD is calculated individually for each risk class and counterparty type. For exposures that are subject to a capital requirement according to the IRB approach without own estimates of LGD and CCF, prescribed values are applied for LGD. The prescribed value that may be used is determined by the collateral provided for each exposure.

For retail exposures, the risk class is also based on the internal rating assigned to all credit customers. The rating is not translated directly into a risk class as for corporate exposures; instead, the different exposures are sorted into a number of smaller groups on the basis of certain factors. Such factors include the type of credit, the counterparty's debt-servicing record and whether there are one or more borrowers. An average default rate is calculated for each of the smaller groups, and on the basis of this, the groups are sorted into one of the 10 risk classes. Different models are used for exposures to private individuals and to small companies (that are also classified as retail exposures), but the principle is the same.

For retail exposures and exposures to medium-sized companies, property companies and housing co-operative associations, the LGD is determined using the Bank's own loss history. For exposures to large corporates that are subject to a capital requirement using the IRB approach with own estimates of LGD and CCF, the LGD is determined on the basis of internal losses and external observations. For retail exposures secured by property in Sweden and for property exposures to medium-sized companies, property companies and housing co-operative associations, different LGD values are applied depending on the loan-to-value ratio of the collateral. For other exposures, the LGD value is determined by factors that may depend on the existence and valuation of collateral, the type of product and similar factors.

For each exposure class, the PD is calculated for each of the risk classes that refer to non-defaulted counterparties or agreements. The PD is based on calculations of the historical percentage of defaults for different types of exposures. The average default rate is then adjusted using different margins, such as margins of conservatism.

In 2017, Handelsbanken was approved to use new PD models for corporates. These are based on the historical default frequency, by risk class and by portfolio. The estimates for each portfolio are based partly on the Bank's internal data and partly on data from other sources, such as external credit rating agencies, and are based on the duration of a hypothetical business cycle in which one of five years is a downturn year and the Swedish banking crisis in the 1990s is taken into account, as required by the Swedish Financial Supervisory Authority. To these estimates are added significant margins of conservatism, and the PD for these portfolios is normally not expected to vary year on year. The estimates by risk class are based on the Bank's internal default data and a model that determines the relationship of PD between different risk classes. The margins are then added so that each portfolio's aggregate PD coincides with the estimate of portfolio PD. This means that the PD for each risk class may vary over time although the portfolio PD does not, as the distribution of counterparties among the risk classes varies over time.

When establishing LGD, the risk measure shall reflect the loss rates in economically unfavourable circumstances, known as 'downturn LGD'. For collateral in property, the downturn LGD is based on observed loss rates from the property crisis in the early 1990s. For other collateral relating to retail exposures, observed LGD is adjusted for downturns by a factor which depends on the PD and type of product. For corporate exposures in the IRB approach with own estimates of LGD and CCF, the LGD is adjusted for downturns so that the Bank's observed losses in the crisis years of 1991–1996 can be explained by the risk measures with a good margin. For exposures with property collateral, in many cases LGD is estimated on the basis of the property's loan-to-value-ratio (LTV). Since the value of the property, and consequently also the LTV, usually varies with the business cycle, this means that the capital requirement will also to some extent have a cyclical dependency.

When the exposure amount is to be calculated, certain adjustments are made to the carried exposure. Examples of this are committed loan offers or revolving credits, where the Bank agrees with the customer that the customer may borrow up to a certain amount in the future. This type of commitment constitutes a credit risk that must also be covered by adequate capital. Normally this means that the credit granted is adjusted using a certain CCF for the part of the credit that is unutilised at the time of reporting. For certain product categories for corporate exposures and exposures to institutions, the credit conversion factors are determined by the regulatory code, while for retail exposures and certain product categories for large corporates, medium-sized companies, property companies and housing co-operative associations, the Bank uses its own calculated conversion factors. Here, it is the product referred to that mainly governs the CCF, but the utilisation level may also be relevant.

In addition to the Capital Adequacy Calculation, measures of risk (PD, EAD, LGD) are used to calculate the cost of capital in each individual transaction and to calculate economic capital (EC). This means that conservatism adjustments in the risk measurements are also included in the cost of capital in individual transactions and in calculations of EC, which means that the loss levels that the risk measurements imply are conservative. The method used means that the Bank's historical losses have a direct impact on risk calculations and capital requirements.

Table 3.3 Calculation of credit risks broken down by method and business area, 2019

Approach	Handelsbanken in the Nordic countries[1]	Handelsbanken in the UK[1]	Handelsbanken in the Netherlands[1]	Outside Handelsbanken's home markets[1]
Standardised approach	'Insignificant size portfolio' according to FI approval Exposure to international organisations, public sector entities and multilateral development banks	'Insignificant size portfolio' according to FI approval Exposure to international organisations, public sector entities and multilateral development banks Retail exposures	'Insignificant size portfolio' according to FI approval Exposure to international organisations, public sector entities and multilateral development banks Retail exposures Corporate exposures (except Large corporates)	'Insignificant size portfolio' according to FI approval Exposure to international organisations, public sector entities and multilateral development banks Retail exposures Corporate exposures (except Large corporates)
IRB approach without own estimates of LGD and CCF	Corporate exposures Exposures to institutions Non credit-obligation assets Equity exposures Sovereign exposures (central governments, central banks, regional governments and local authorities)	Corporate exposures Exposures to institutions Non credit-obligation assets Equity exposures Sovereign exposures (central governments, central banks, regional governments and local authorities)	Corporate exposures (Large corporates) Exposures to institutions Non credit-obligation assets Equity exposures Sovereign exposures (central governments, central banks, regional governments and local authorities)	Corporate exposures (Large corporates) Exposures to institutions Non credit-obligation assets Equity exposures Sovereign exposures (central governments, central banks, regional governments and local authorities) Securitisation positions
IRB approach with own estimates of LGD and CCF	Corporate exposures (Medium-sized companies, Property companies, Housing co-operative associations) Corporate exposures (Large corporates) Retail exposures	Corporate exposures (Medium-sized companies, Property companies, Housing co-operative associations) Corporate exposures (Large corporates)		

[1] May include legal entities in addition to the parent company (Stadshypotek, Handelsbanken Finans and others).

Comparisons with external ratings
The Bank's risk classes are not directly comparable with the ratings applied by external credit rating agencies. The agencies' ratings do not correspond to a direct classification of the probability of the counterparty defaulting, as the Bank's rating model does. In addition, the rating agencies vary in the extent to which they factor in the seriousness of the losses that default can lead to. The time horizon for which creditworthiness is assessed is not always the same for the Bank as it is for the credit rating agencies. The Bank's risk classes do not state a uniform scale, whereby a certain risk class always corresponds to a certain probability of default. Furthermore, different PD scales are applied to different parts of the credit portfolio and the PD value changes over time.

Generally, it is not possible to unambiguously and consistently translate the internal risk classes into an external rating. However, by analysing the historical default rate in Handelsbanken's risk classes in relation to the default rate in the external rating classes according to Moody's rating agency, a fair table of comparison can be obtained. Table 3.4 shows the external rating classes that best correspond to the historical default rate in each of Handelsbanken's risk classes. However, it should be noted that the Bank performs its own credit assessment and that the comparison here is a model which only applies at portfolio level. Individual companies that also have a rating from Moody's may have been given a risk class that deviates from the comparison table. For exposures to institutions, there are insufficient internal defaults, and the rating comparison is instead based on customers with an external credit assessment. Since the comparison is model-based, it should also be noted that changes in the table may depend on changes at Handelsbanken and on changes at Moody's, or a combination of the two. This year the mappings of risk class 6 for Medium-sized companies, risk class 5 for Property companies, and risk classes 3 and 8 for Institutions have been changed slightly as compared to the previous year.

Quality assurance of the rating system
The Bank performs a detailed annual review of its internal rating processes. The review checks that the assignment of internal ratings of corporate customers is done in a consistent, correct and fit-for-purpose manner (evaluation). The Bank also reviews that automatic rating models for retail customers and other IRB models measure risk in a satisfactory manner (validation).

The purpose of evaluating internal ratings is to ensure that they function well as the central factor in the risk differentiation of the Bank's counterparties. For example, the analysis includes evaluating whether customers are assessed equally regardless of where in the Bank the rating takes place, the use of overrides and that ratings are reviewed regularly. The evaluation aims to identify areas needing improvement, suggests risk mitigating actions and reports the status on measures to improve previously identified deficiencies. Such measures may include more frequent, specifically targeted follow-up action, changes to rating instructions or adaptations to models.

The models as well as the risk measurements they produce are validated at least annually. The validation aims to ensure that the rating systems satisfactorily measures the risk in the different risk dimensions: PD, EAD, and LGD. They are primarily assessed to ascertain whether the outcomes observed confirm that the models applied by the Bank function as intended and does not underestimate the capital requirement. To achieve this, a number of statistical tests are used with pre-defined threshold values for identifying deficiencies in the models. The validation also covers comparative tests of a more qualitative nature. The validation may result in changes to the risk estimates or models.

The principles for evaluation and validation of the credit risk rating system are set by Group Risk Control and communicated to the Swedish Financial Supervisory Authority within the framework of the permission to use the IRB approach. Group Risk Control is responsible for the execution and reports the results of the evaluation and validation to the Bank's CEO, CFO, Board and risk committee.

Reports and execution are examined by Group Audit as part of the audit of the Bank's IRB approach to ensure compliance with the established principles and regulatory requirements.

Forecasts and outcomes in IRB approach

In the IRB approach, the Bank's risks are calculated on the basis of internal experience and observations. The regulations define what the risk measures must reflect and how these are to be quantified. The internal models' forecasts and the actual outcomes are aggregated in table 3.7 and in the figures on the following pages at exposure class level to provide an overview of the models' function over a longer time period. The table and figures present forecasts and outcomes for PD, LGD, and CCF, and the loss rates for each exposure class; here, 'forecast' refers to expected loss (EL).

Table 3.7 presents the average value of PD, exposure-weighted and case-weighted, the number of counterparties at the beginning and end of the year, defaults and the average annual default frequency. The table also shows the number of defaults that have occurred among new counterparties to the Bank during the past year and, for institutions, the external rating that a specific PD interval corresponds to. This indicates how ratings from Moody's would be mapped according to table 3.4. In a few cases the method to assign counterparties or agreements to categories has changed and some agreements have been added to the table, which means that some values regarding 2018 have been changed this year.

The performing population in table 3.7 is defined as non-defaulted counterparties as at 31 December 2018 with outcomes measured during 2019. Because the models for households are created at the agreement level, for these the mean and number of agreements, not counterparties, are specified. If there is a guarantee, the risk can be transferred from the counterparty to the guarantor, which has been taken into account here and in the figures for EL, PD, LGD, and CCF. This means that for such exposures the PD value usually decreases, which is often also the case for LGD and thus also for EL.

The number of counterparties in an interval at the start of the year consists of those whose PD values were within that PD interval at year-end. Similarly, the number at the end of the year consists of those who were within that particular interval at that time. PD values can change during the year, so a specific counterparty can move to another interval. For example, at the start of 2019 there were 17 counterparties in interval 3 for institutions in the Foundation IRB (FIRB) but none at the end of 2019, chiefly because their PD values had changed during the year.

The arithmetic mean for PD per counterparty can be compared primarily with the historical mean, but this comparison is not without problems. The main reason is that the distribution of counterparties can change year on year, such that an interval consists primarily of counterparties towards the upper end of the interval during one year but counterparties towards the lower end during another year. Thus, the expected values will also vary year on year. Some of the intervals also contain few counterparties, so the outcomes for those intervals can vary widely. Further, it is worth noting that many corporate counterparties have exposures subject to capital requirement calculations both according to the Foundation IRB approach and the Advanced IRB approach. This means that they are reported in two places in the table, under AIRB and FIRB, which also occurs when there are defaults. Thus, the totals for both counterparties and defaults are less than the sums of the numbers from the different parts of the table.

The forecasts and outcomes in the figures refer to non-defaulted exposures as at 31 December and defaults during the following year. This amounts to a change of method as compared to the previous Risk and Capital report where 30 June was used as measurement date. Hence, historical values for all tables have been updated to account for the change. Note that the years on the horizontal axes in the figures refer to the year of the outcome. Regarding the calculation of LGD outcomes, the measure accounts for increases in exposures after default by adding the increase also to the exposure at default. This prevents the values from becoming artificially high.

Regarding losses, it is not unusual for the level to be adjusted over time – as recoveries are realised, for example. This means that historical outcomes for LGD and EL may also be adjusted from year to year, but normally only the preceding year's figure is affected. If adjustments have been made, the comparison figures in the text below are also updated.

Forecasts and outcomes are at agreement level for retail exposures and at counterparty level for PD and LGD for corporate and exposures to institutions. Regarding CCF for corporate exposures, forecasts and outcomes are at agreement level. The last reference date stated in the figures is 2020, which means that the outcome is still not complete and is therefore not reported for this date.

To forecast how large the exposure amount will be at default, off-balance-sheet commitments must be managed. For corporate exposures, this is done by multiplying the off-balance-sheet part by the CCF and adding this to the exposure on the balance sheet. For retail exposures, it is done by multiplying the total credit limit by the CCF. For certain risk classes in the internal models with own estimates of CCF, there is a very small number of internal defaults. The figures show the forecasts and outcomes only for the risk classes where a sufficient number of defaults has been observed. Nevertheless, the outcomes for corporate exposures are based on a relatively small number of observations and to highlight this, the number of observations per year is also indicated in the figure.

The forecasts show that the internal models generally work well for predicting the Bank's losses with a margin of conservatism. The trends that can be discerned for the actual outcomes correspond broadly to similar trends in the forecasts. For property exposures in the retail exposure class, EL outcomes are on average 73 per cent (72) lower than forecast. For other retail exposures, the outcomes are on average 41 per cent (39) lower than the forecast, and for corporate exposures 48 per cent (50) lower. During the most recent periods, outcomes have indicated a stable or declining loss rate for both types of retail exposures.

According to the regulations, PD must reflect a long-term average risk of default and is thus not a forecast for an individual year. Consequently, the probability that the outcome in a certain year is higher than the forecast is much higher for PD than for the other risk parameters. However, this risk has decreased with the introduction of new PD models for corporate exposures.

The figure shows that outcomes are in line with forecasts, with a slight variation over time. The outcomes are 5 per cent (1) lower than the forecasts for property exposures and 12 per cent (9) lower for other exposures in the retail exposure class during the period observed. In table 3.7, relatively high numbers of defaults can be noted for retail other in interval 2 (619 defaults) and in interval 4 (1076 defaults). The defaults relate to credit cards that are offered to customers in connection with purchases of consumer products. Often the cards are never used after the initial purchase and they are cancelled by the Bank at regular intervals. The cancelling changes the composition of the portfolio, typically increasing the default risk since the remaining cards are the ones that are more likely to be used. For a category of Finnish cards, a yearly fee has also been added, also increasing the likelihood of default. The PD for these was adjusted during 2019, which explains the sharp reduction in observations in interval 4 during the year, as well as the correspondingly sharp increase in interval 5.

In 2016, the PD-models were altered by down-weighting historical data, thus reducing its influence. This had the effect of generally increasing the PD values. It is also worth noting that the capital requirement for mortgage loans is based on the Swedish Financial Supervisory Authority's risk weight floor for Swedish mortgage loans.

For corporate exposures, the average outcome is 33 per cent (28) lower than the forecast during the period observed. A sharp increase can be seen in institutional PD in 2014, despite the almost total absence of defaults in that exposure class. This is because it is very difficult to estimate the PD for institutions with high credit risk, because such institutions usually do not have an external rating from Moody's. As a result, the margin of conservatism is extremely high for such institutions, to which the Bank usually has exposures only of short maturity in connection with international trade finance.

As regards LGD, the forecast according to the regulations reflects the expected loss given default in unfavourable economic conditions. Here it may be noted that there are considerable margins of conservatism in relation to the loss levels observed since 2008. Average outcomes are 77 per cent (77) lower than the forecasts for property exposures, and 38 per cent (37) lower for other retail exposures. For corporate exposures, the outcomes are 37 per cent (46) lower than the forecasts. The outcome regarding LGD for corporates in 2019 was substantially higher than the forecast. Since the outcomes are exposure-weighted, one default with a very large exposure dominates this outcome. The outcomes in 2017 and 2018 are similarly dominated by one or two large defaults. Excluding these defaults, the outcomes for these years are in line with the previous ones.

For retail exposures, the CCF outcomes are 18 per cent (18) lower than the forecasts, and for corporate exposures the outcomes are 71 per cent (73) lower.

Since 2017, the Bank also has approval to use a PD-model for exposures to governments and central banks. The forecasts of this model are very close to zero, which is consequently also the case for EL, and there are no defaults. These values are not presented in the graphs.

The expected loss rate according to the IRB approach presented here does not represent, despite its name, the most likely loss level for the Bank. One reason for this is that the PD values used according to the regulations are intended to correspond to a long-term average. Another reason is that a number of conservative prudential adjustments are made in the value calculated using the Bank's IRB approach. The main aim of these adjustments is to ensure that the Bank's internal models do not underestimate the actual risk.

Figure 3.5 illustrates how these adjustments affect the calculated value of expected losses. The first column shows the expected value for EL, this being EL based on the historical average default rates and loss rates given default per risk class, which is approximately 0.04 per cent (0.04). The other columns show how EL is affected by the introduction of margins and regulatory floors for applied PD levels.

The margins of conservatism are intended to ensure that the value applied does not underestimate the true risk as a result of various underlying factors, such as the statistical data on which the models are based not being sufficiently comprehensive, adjustments needing to be made for the business cycle or model risk, or the data being uncertain for other reasons. The downturn adjustment corrects measured values so that they are adequate for a period of economic downturn. The total contribution from the PD safety margins is greater than EL based on historical data.

Table 3.4 A comparison of external and internal ratings

A comparison of external and internal ratings	Corporate exposures				Exposures to institutions
Risk class	Large corporates	Medium-sized companies	Property companies	Housing co-operative associations	
1	Aaa,Aa	Aaa,Aa	Aaa,Aa	Aaa,Aa	Aaa,Aa
2	Aaa,Aa	A	A	Aa,A	Aa,A
3	A,Baa	Baa	A,Baa	A,Baa	A,Baa
4	A,Baa	Baa,Ba	Baa	A,Baa	Baa
5	Ba	Ba	Ba	Baa,Ba	Baa,Ba
6	Ba	B	Ba,B	Baa,Ba	Ba
7	B	B,Caa	B,Caa	Ba,B	B
8	Caa	Caa	B,Caa	B	B,Caa
9	Caa,C	Caa,C	Caa,C	Caa,C	Caa,C

Figure 3.5 Breakdown of EL for IRB-approved exposures excluding defaulted counterparties

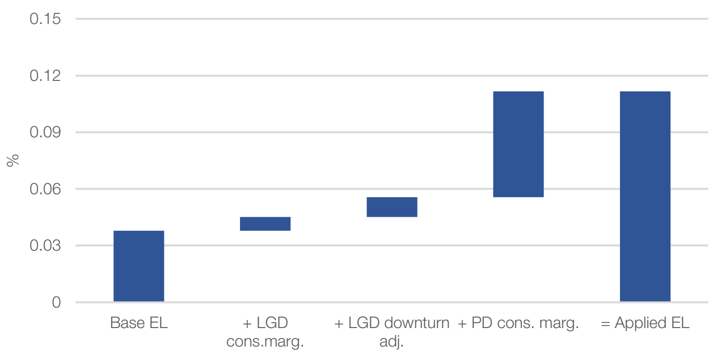
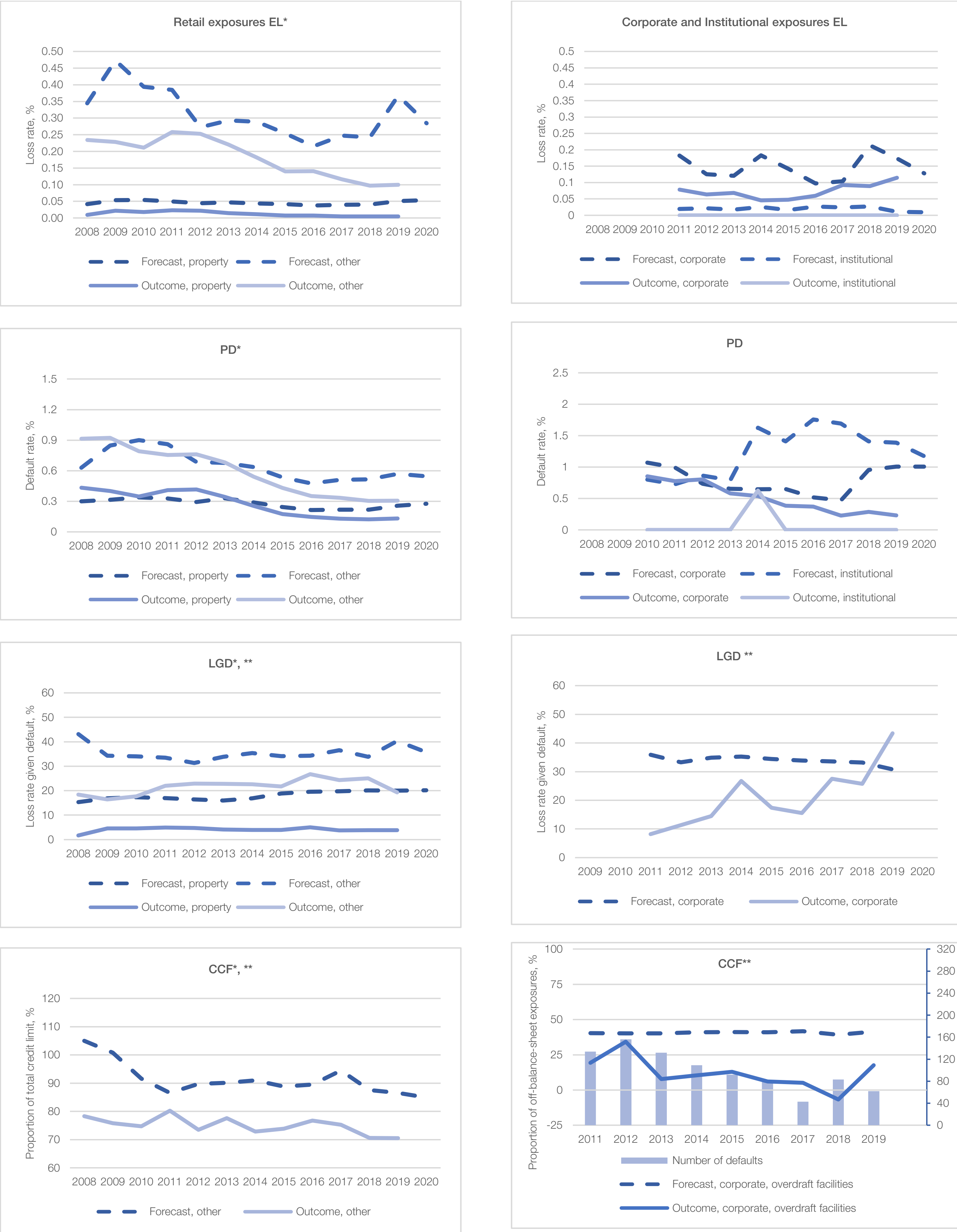


Figure 3.6 Forecast and outcome, IRB approach



* Excluding Handelsbanken Finans and Ecster.
** The forecasts are calculated as PD and exposure-weighted average values. The outcomes are calculated as exposure-weighted average values.

Table 3.7 EU CR9 – IRB approach – Backtesting of PD by exposure class

The table shows predictions and results of PD values for both the advanced and the Foundation IRB approach.

EU CR9 – IRB Approach – Backtesting of PD by exposure class 2019

						Number of obligors				
Exposure class[1]	IRB Approach[2]	PD range	External rating equivalent[3]	Weighted average PD	Arithmetic average PD by obligors	End of previous year	End of the year	Defaulted obligors in the year	Of which new obligors[4]	Average historical annual default rate
Corporate exposures	IRB-A	0.00 to <0.15		0.09%	0.09%	2 208	2 112	0	0	0.00%
Corporate exposures	IRB-A	0.15 to <0.25		0.00%	0.00%	0	0	0	0	0.03%
Corporate exposures	IRB-A	0.25 to <0.50		0.37%	0.35%	683	718	0	0	0.00%
Corporate exposures	IRB-A	0.50 to <0.75								
Corporate exposures	IRB-A	0.75 to <2.50		1.11%	1.11%	446	438	0	0	0.73%
Corporate exposures	IRB-A	2.50 to <10.00		6.25%	6.25%	5	48	0	0	1.00%
Corporate exposures	IRB-A	10.00 to <100.00		23.04%	24.67%	72	32	4	2	7.84%
Corporate exposures: SMEs	IRB-A	0.00 to <0.15		0.09%	0.08%	28 492	28 037	2	0	0.01%
Corporate exposures: SMEs	IRB-A	0.15 to <0.25		0.17%	0.17%	3 890	3 366	2	0	0.06%
Corporate exposures: SMEs	IRB-A	0.25 to <0.50		0.47%	0.46%	6 411	7 452	3	0	0.11%
Corporate exposures: SMEs	IRB-A	0.50 to <0.75		0.64%	0.64%	3 263	3 374	4	0	0.23%
Corporate exposures: SMEs	IRB-A	0.75 to <2.50		1.80%	1.93%	5 505	6 155	28	0	0.61%
Corporate exposures: SMEs	IRB-A	2.50 to <10.00		7.33%	7.85%	828	781	19	0	2.99%
Corporate exposures: SMEs	IRB-A	10.00 to <100.00		30.68%	30.51%	800	806	57	0	12.57%
Institution exposures	IRB-A	0.00 to <0.15								
Institution exposures	IRB-A	0.15 to <0.25								
Institution exposures	IRB-A	0.25 to <0.50								
Institution exposures	IRB-A	0.50 to <0.75								
Institution exposures	IRB-A	0.75 to <2.50								
Institution exposures	IRB-A	2.50 to <10.00								
Institution exposures	IRB-A	10.00 to <100.00								
Central governments or central banks	IRB-F	0.00 to <0.15		0.00%	0.01%	497	496	0	0	0.00%
Central governments or central banks	IRB-F	0.15 to <0.25		0.20%	0.20%	13	16	0	0	0.00%
Central governments or central banks	IRB-F	0.25 to <0.50								
Central governments or central banks	IRB-F	0.50 to <0.75								
Central governments or central banks	IRB-F	0.75 to <2.50		1.00%	1.00%	3	3	0	0	0.00%
Central governments or central banks	IRB-F	2.50 to <10.00		5.00%	5.00%	2	0	0	0	0.00%
Central governments or central banks	IRB-F	10.00 to <100.00		0.00%	0.00%	0	1	0	0	0.00%
Corporate exposures	IRB-F	0.00 to <0.15		0.07%	0.07%	1 249	1 101	0	0	0.03%
Corporate exposures	IRB-F	0.15 to <0.25								
Corporate exposures	IRB-F	0.25 to <0.50		0.31%	0.31%	336	305	1	0	0.07%
Corporate exposures	IRB-F	0.50 to <0.75								
Corporate exposures	IRB-F	0.75 to <2.50		0.92%	1.07%	252	245	0	0	0.41%
Corporate exposures	IRB-F	2.50 to <10.00		0.00%	0.00%	0	35	0	0	0.41%
Corporate exposures	IRB-F	10.00 to <100.00		23.52%	23.51%	39	11	2	0	12.34%
Corporate exposures: SMEs	IRB-F	0.00 to <0.15		0.08%	0.08%	2 219	1 994	0	0	0.00%
Corporate exposures: SMEs	IRB-F	0.15 to <0.25		0.17%	0.17%	1 673	1 336	0	0	0.01%
Corporate exposures: SMEs	IRB-F	0.25 to <0.50		0.46%	0.48%	590	707	1	1	0.13%
Corporate exposures: SMEs	IRB-F	0.50 to <0.75		0.64%	0.64%	1 454	1 690	3	0	0.20%
Corporate exposures: SMEs	IRB-F	0.75 to <2.50		1.88%	2.22%	947	1 227	9	0	0.88%
Corporate exposures: SMEs	IRB-F	2.50 to <10.00		8.45%	8.50%	159	194	5	0	3.45%
Corporate exposures: SMEs	IRB-F	10.00 to <100.00		30.42%	28.95%	145	128	14	2	16.34%
Institution exposures	IRB-F	0.00 to <0.15	Aaa, Aa, A	0.07%	0.08%	118	121	0	0	0.00%
Institution exposures	IRB-F	0.15 to <0.25	A, Baa	0.19%	0.19%	33	45	0	0	0.00%
Institution exposures	IRB-F	0.25 to <0.50	A, Baa	0.49%	0.49%	17	0	0	0	0.00%
Institution exposures	IRB-F	0.50 to <0.75		0.00%	0.00%	0	16	0	0	0.00%
Institution exposures	IRB-F	0.75 to <2.50	Ba	1.13%	1.29%	30	29	0	0	0.00%
Institution exposures	IRB-F	2.50 to <10.00								
Institution exposures	IRB-F	10.00 to <100.00	B, Caa, C	17.10%	20.00%	11	9	0	0	0.00%
Retail exposures: Other	IRB-A	0.00 to <0.15		0.08%	0.07%	347 548	325 542	110	10	0.06%
Retail exposures: Other	IRB-A	0.15 to <0.25		0.18%	0.17%	265 214	223 252	619	124	0.09%
Retail exposures: Other	IRB-A	0.25 to <0.50		0.36%	0.36%	198 259	189 900	887	317	0.30%
Retail exposures: Other	IRB-A	0.50 to <0.75		0.57%	0.53%	151 518	36 753	1 076	20	0.66%
Retail exposures: Other	IRB-A	0.75 to <2.50		1.47%	1.48%	256 148	349 337	4 222	821	1.13%
Retail exposures: Other	IRB-A	2.50 to <10.00		6.24%	5.96%	105 659	96 946	5 376	696	3.85%
Retail exposures: Other	IRB-A	10.00 to <100.00		20.66%	24.43%	46 471	43 742	9 142	142	19.99%

EU CR9 – IRB Approach – Backtesting of PD by exposure class 2019

Exposure class[1]	IRB Approach[2]	PD range	External rating equivalent[3]	Weighted average PD	Arithmetic average PD by obligors	Number of obligors: End of previous year	Number of obligors: End of the year	Defaulted obligors in the year	Of which new obligors[4]	Average historical annual default rate
Retail exposures: Secured by real estate property	IRB-A	0.00 to <0.15		0.07%	0.07%	998 117	1 001 532	237	6	0.03%
Retail exposures: Secured by real estate property	IRB-A	0.15 to <0.25		0.17%	0.17%	42 895	59 756	9	1	0.01%
Retail exposures: Secured by real estate property	IRB-A	0.25 to <0.50		0.31%	0.30%	124 252	123 339	174	5	0.16%
Retail exposures: Secured by real estate property	IRB-A	0.50 to <0.75		0.62%	0.62%	15 561	19 258	44	2	0.23%
Retail exposures: Secured by real estate property	IRB-A	0.75 to <2.50		1.83%	1.81%	31 504	40 791	263	1	0.72%
Retail exposures: Secured by real estate property	IRB-A	2.50 to <10.00		4.88%	6.07%	828	2 929	15	2	3.47%
Retail exposures: Secured by real estate property	IRB-A	10.00 to <100.00		12.26%	11.71%	10 919	11 184	890	15	12.04%

[1] The change is due to the Swedish Financial Supervisory Authority's approval of the Bank's application to apply the IRB approach. These are exempt since data was not available for the period.
[2] There are two versions of the IRB approach: the simplified version, the IRB approach without own estimates of LGD and CCF (here FIRB, in previous regulations called the foundation approach), and the more advanced method, the IRB approach with own estimates of LGD and CCF (here AIRB, in previous regulations called the advanced approach). Only distributions where Handelsbanken has exposures are shown.
[3] External rating is only shown where it is relevant for the IRB model.
[4] Defaults during the year include agreements that become performing after a short time and on which the Bank does not make any losses. This particularly applies to defaults for new customers in the category "Retail exposures: Other", which mainly contains retail financial sales at Ecster, where new customers are sometimes late in making their first payment.

EU CR9 – IRB Approach – Backtesting of PD by exposure class 2018

Exposure class[1]	IRB Approach[2]	PD range	External rating equivalent[3]	Weighted average PD	Arithmetic average PD by obligors	Number of obligors: End of previous year	Number of obligors: End of the year	Defaulted obligors in the year	Of which new obligors[4]	Average historical annual default rate
Corporate exposures	IRB-A	0.00 to <0.15		0.08%	0.08%	2 157	2 205	0	0	0.00%
Corporate exposures	IRB-A	0.15 to <0.25								0.02%
Corporate exposures	IRB-A	0.25 to <0.50		0.32%	0.32%	509	682	0	0	0.00%
Corporate exposures	IRB-A	0.50 to <0.75		0.50%	0.50%	199	0	0	0	0.04%
Corporate exposures	IRB-A	0.75 to <2.50		1.23%	1.14%	351	446	10	0	0.82%
Corporate exposures	IRB-A	2.50 to <10.00		4.48%	3.39%	82	5	0	0	1.27%
Corporate exposures	IRB-A	10.00 to <100.00		31.72%	23.73%	60	72	6	1	11.45%
Corporate exposures: SMEs	IRB-A	0.00 to <0.15		0.08%	0.08%	27 310	28 062	3	0	0.01%
Corporate exposures: SMEs	IRB-A	0.15 to <0.25		0.18%	0.18%	3 921	3 890	4	1	0.07%
Corporate exposures: SMEs	IRB-A	0.25 to <0.50		0.30%	0.30%	933	6 265	0	0	0.16%
Corporate exposures: SMEs	IRB-A	0.50 to <0.75		0.52%	0.54%	8 230	3 263	12	0	0.32%
Corporate exposures: SMEs	IRB-A	0.75 to <2.50		1.76%	1.82%	5 524	5 487	25	2	0.69%
Corporate exposures: SMEs	IRB-A	2.50 to <10.00		6.57%	6.78%	836	823	15	0	3.45%
Corporate exposures: SMEs	IRB-A	10.00 to <100.00		28.68%	27.97%	790	799	77	0	14.26%
Institution exposures	IRB-A	0.00 to <0.15								
Institution exposures	IRB-A	0.15 to <0.25								
Institution exposures	IRB-A	0.25 to <0.50								
Institution exposures	IRB-A	0.50 to <0.75								
Institution exposures	IRB-A	0.75 to <2.50								
Institution exposures	IRB-A	2.50 to <10.00								
Institution exposures	IRB-A	10.00 to <100.00								
Central governments or central banks	IRB-F	0.00 to <0.15		0.00%	0.01%	502	497	0	0	0.00%
Central governments or central banks	IRB-F	0.15 to <0.25		0.20%	0.20%	23	13	0	0	0.00%
Central governments or central banks	IRB-F	0.25 to <0.50								
Central governments or central banks	IRB-F	0.50 to <0.75								
Central governments or central banks	IRB-F	0.75 to <2.50		1.00%	1.00%	6	3	0	0	0.00%
Central governments or central banks	IRB-F	2.50 to <10.00		5.00%	5.00%	2	2	0	0	0.00%
Central governments or central banks	IRB-F	10.00 to <100.00								
Corporate exposures	IRB-F	0.00 to <0.15		0.06%	0.07%	1 236	1 248	0	0	0.03%
Corporate exposures	IRB-F	0.15 to <0.25								
Corporate exposures	IRB-F	0.25 to <0.50		0.32%	0.32%	283	336	0	0	0.00%
Corporate exposures	IRB-F	0.50 to <0.75		0.50%	0.50%	21	0	0	0	0.14%
Corporate exposures	IRB-F	0.75 to <2.50		1.01%	1.02%	173	252	2	0	0.51%
Corporate exposures	IRB-F	2.50 to <10.00		3.19%	3.30%	50	0	0	0	0.33%
Corporate exposures	IRB-F	10.00 to <100.00		22.41%	22.90%	31	39	1	0	15.06%
Corporate exposures: SMEs	IRB-F	0.00 to <0.15		0.08%	0.08%	2 052	2 139	0	0	0.00%
Corporate exposures: SMEs	IRB-F	0.15 to <0.25		0.18%	0.18%	1 592	1 673	1	0	0.03%
Corporate exposures: SMEs	IRB-F	0.25 to <0.50		0.30%	0.30%	40	558	0	0	0.16%
Corporate exposures: SMEs	IRB-F	0.50 to <0.75		0.55%	0.58%	1 835	1 454	2	0	0.15%
Corporate exposures: SMEs	IRB-F	0.75 to <2.50		1.52%	2.02%	883	941	7	0	0.92%
Corporate exposures: SMEs	IRB-F	2.50 to <10.00		6.68%	6.99%	138	157	2	0	3.91%
Corporate exposures: SMEs	IRB-F	10.00 to <100.00		27.02%	28.29%	129	145	14	0	19.30%
Institution exposures	IRB-F	0.00 to <0.15	Aaa, Aa, A	0.09%	0.10%	126	118	0	0	0.00%
Institution exposures	IRB-F	0.15 to <0.25	A	0.21%	0.21%	34	33	0	0	0.00%
Institution exposures	IRB-F	0.25 to <0.50								
Institution exposures	IRB-F	0.50 to <0.75	Baa	0.51%	0.51%	19	0	0	0	0.00%
Institution exposures	IRB-F	0.75 to <2.50	Baa, Ba	1.24%	1.24%	25	30	0	0	0.00%
Institution exposures	IRB-F	2.50 to <10.00	Ba	2.55%	2.55%	16	0	0	0	0.00%
Institution exposures	IRB-F	10.00 to <100.00	B, Caa, C	27.12%	22.92%	9	11	0	0	0.00%
Retail exposures: Other	IRB-A	0.00 to <0.15		0.08%	0.07%	736 073	347 550	647	92	0.07%
Retail exposures: Other	IRB-A	0.15 to <0.25		0.00%	0.00%	0	265 214	2	2	0.00%
Retail exposures: Other	IRB-A	0.25 to <0.50		0.39%	0.40%	339 033	198 261	1 534	344	0.29%
Retail exposures: Other	IRB-A	0.50 to <0.75		0.57%	0.57%	1 548	151 518	4	2	0.64%
Retail exposures: Other	IRB-A	0.75 to <2.50		1.39%	1.41%	268 078	256 150	4 152	889	1.04%
Retail exposures: Other	IRB-A	2.50 to <10.00		5.79%	5.79%	116 156	105 661	5 504	734	3.64%
Retail exposures: Other	IRB-A	10.00 to <100.00		24.34%	26.79%	36 413	46 471	7 630	95	19.82%

EU CR9 – IRB Approach – Backtesting of PD by exposure class 2018

						Number of obligors				
Exposure class[1]	IRB Approach[2]	PD range	External rating equivalent[3]	Weighted average PD	Arithmetic average PD by obligors	End of previous year	End of the year	Defaulted obligors in the year	Of which new obligors[4]	Average historical annual default rate
Retail exposures: Secured by real estate property	IRB-A	0.00 to <0.15		0.07%	0.07%	1 038 111	998 117	226	7	0.03%
Retail exposures: Secured by real estate property	IRB-A	0.15 to <0.25		0.16%	0.16%	1 344	42 895	0	0	0.01%
Retail exposures: Secured by real estate property	IRB-A	0.25 to <0.50		0.36%	0.35%	156 931	124 252	267	6	0.17%
Retail exposures: Secured by real estate property	IRB-A	0.50 to <0.75		0.57%	0.57%	1 653	15 561	4	0	0.28%
Retail exposures: Secured by real estate property	IRB-A	0.75 to <2.50		1.05%	1.04%	21 818	31 504	163	1	0.81%
Retail exposures: Secured by real estate property	IRB-A	2.50 to <10.00		6.16%	5.66%	8 250	828	355	7	4.10%
Retail exposures: Secured by real estate property	IRB-A	10.00 to <100.00		17.80%	17.40%	4 046	10 923	501	2	13.21%

[1] The change is due to the Swedish Financial Supervisory Authority's approval of the Bank's application to apply the IRB approach. These are exempt since data was not available for the period.

[2] There are two versions of the IRB approach: the simplified version, the IRB approach without own estimates of LGD and CCF (here IFIRB, in previous regulations called the foundation approach), and the more advanced method, the IRB approach with own estimates of LGD and CCF (here IAIRB, in previous regulations called the advanced approach). Only distributions where Handelsbanken has exposures are shown.

[3] External rating is only shown where it is relevant for the IRB model.

[4] Defaults during the year include agreements that become performing after a short time and on which the Bank does not make any losses. This particularly applies to defaults for new customers in the category "Retail exposures: Other", which mainly contains retail financial sales at Ecster, where new customers are sometimes late in making their first payment.

COLLATERAL AND ACTIONS THAT REDUCE THE CAPITAL REQUIREMENT

Collateral for the exposures approved for the IRB approach is managed according to two different calculation methods: the IRB approach without own estimates of LGD and CCF or the IRB approach with own estimates of LGD and CCF. Collateral affects the capital requirement in different ways in these two approaches. In the IRB approach without own estimates of LGD and CCF, only certain types of collateral are eligible and the estimates for LGD are applied as prescribed in the regulations. The Bank does, however, accept other types of collateral than those considered to be eligible.

When reporting exposures that are approved for the IRB approach with own estimates of LGD and CCF, the Bank applies LGD estimates which it has calculated itself. For these exposures, most collateral types affect the risk-weighted exposure amount and the capital requirement.

The Bank follows up and regularly updates the market value of the collateral used for corporate exposures. A control procedure is established whereby the market value is checked at least every third year for residential properties, and at least annually for other types of property. The value is checked more frequently when there are material changes in factors affecting the property market. For properties with an exposure exceeding EUR 3 million, a new valuation by an independent assessor is made at least every third year.

With the permission of the Swedish Financial Supervisory Authority, the Bank uses volatility adjustments (known as 'haircuts') when calculating capital requirements according to the IRB approach without own estimates of LGD and CCF for exposures that are secured by financial collateral. This means that in its capital requirement calculations, the Bank adjusts the value of financial collateral based on the historical volatility of the financial collateral instead of using the standardised volatility adjustments otherwise prescribed by the regulations. This method allows for better risk measurement when using financial collateral. Handelsbanken regularly monitors the concentration risk in individual securities. During the year, the additional concentration risk, measured as further indirect exposure according to the regulations for large exposures which has arisen by using financial collateral in the capital adequacy calculation, has on no occasion exceeded 0.9 per cent (2.0) of own funds.

The IRB approach with own estimates of LGD and CCF is used for retail exposures, where the exposures are categorised into various groups, partly based on the existence of collateral. Also, for most of the property collateral, a segmentation is made based on the loan-to-value of the collateral. The LGD of the exposure is established on the basis of these groups.

For corporate exposures and exposures to institutions for which collateral exists, the capital requirement is reduced, through an adjustment of either PD or LGD. The PD is adjusted in cases where there are approved protection providers, for example, an issuer of a guarantee or surety, with a lower PD value than the borrower. For other types of collateral, the LGD is adjusted.

Handelsbanken has also entered into a large number of netting agreements with, for example, institutional counterparties, thus reducing the exposure. Information concerning the netting effect is presented in the section on Counterparty credit risks.

Credit risk concentrations

Handelsbanken's branches focus strongly on establishing long-term relationships with customers of sound creditworthiness. If a branch identifies a good customer, it should be able to do business with this customer, whether or not the Bank as a whole has major exposure to the business sector that the customer represents. In granting credit, the Bank thus has no built-in restrictions to having relatively extensive exposures in individual sectors. However, the Bank monitors portfolio development and quality and calculates concentrations for various business sectors and geographic areas. The Bank also measures and monitors exposures to major individual counterparties. Special limits are applied to restrict the maximum credit exposure to individual counterparties, to augment the credit risk assessment. If the credit portfolio has a concentration in a particular sector or counterparty that can be assumed to increase risk, this concentration is monitored. Concentration risks are identified in the Bank's calculation of economic capital for credit risks and in the stress tests conducted in the internal capital adequacy assessment. The Swedish Financial Supervisory Authority also calculates a special capital charge under Pillar 2 for concentration risks in the credit portfolio. This ensures that Handelsbanken has sufficient capital, also taking into account concentration risks. If the concentration risks are judged to be excessive, the Bank has the opportunity and capacity to reduce them using various risk-mitigation measures.

In addition to mortgage loans and lending to housing co-operative associations, Handelsbanken has significant lending to property management of SEK 647 billion (598). Here, 'property management' refers to all companies classified as 'property companies' for risk-assessment purposes. It is common for groups of companies operating in other industries to have subsidiaries managing the properties in which the group conducts business, and such property companies are also considered to belong to property management here. However, the underlying credit risk in such cases is not solely property-related, because the counterparty's repayment capacity is determined by business operations other than property management. Also, private individuals with larger property holdings are classified as property companies for risk-assessment purposes.

A very large part of property lending consists of property mortgages with low loan-to-value ratios, which reduces the Bank's loan-loss risk. In addition, a large proportion of property lending is to government-owned property companies, municipal housing companies and other housing-related operations where the borrowers consistently have strong, stable cash flows and thus very high creditworthiness. Thus, a large part of lending to the property sector is to companies with a very low probability of encountering financial difficulty. The Bank's exposure to the property sector is specified in the tables below.

The proportion of exposures to property counterparties with a poorer rating than the Bank's risk class 5 (normal risk) is very low. 99 per cent (99) of total property lending in Sweden is in risk class 5 or better. The corresponding figures for property lending in the UK are 98 per cent (98), Denmark 97 per cent (97), Finland 97 per cent (98), Norway 98 per cent (97). Netherland's capital requirement is calculated by the standardised approach, which applies regulatory risk weights. Risk classes are therefore not applicable. However, from a credit quality perspective, exposures residing in risk classes five or better are 99 per cent. For counterparties in poorer risk classes than normal, the majority are in risk classes 6–7, with only small volumes in the higher risk classes 8–9. For information about Handelsbanken's risk ratings, see the section titled Calculation of capital requirements for credit risk.

In the past few years, Handelsbanken's lending to property companies has grown partly because of the substantial credit growth in the UK following the expansion of the UK branch network. A large part of this growth has been in property-related credits. In the UK, Handelsbanken has the same strict requirements on repayment capacity, LTVs and collateral quality as in its other home markets.

See Handelsbanken's Annual Report, note G2 for tables specifying figures for property management.

Loan-to-value ratio for property lending

For property financing, like all granting of credit, Handelsbanken's credit assessment is always based on the borrower's repayment capacity. For mortgage loans to private individuals, Handelsbanken applies recommendations regarding debt ratio. In Sweden, for example, this is four and a half times gross income. Deviations from this are possible, but in such cases there must be a special justification. When assessing repayment capacity for mortgage loans, a calculation interest rate is also used, 7.5 per cent in Sweden, for example. As regards loan-to-value ratios (LTV) for mortgage loans, the Bank follows the supervisory authority's regulations such as the mortgage cap and amortisation requirements

For property loans to companies, there are internal recommendations for the maximum loan-to-value ratios that should be approved. The following recommendations concerning maximum LTVs for property loans to companies apply to the whole Handelsbanken Group. The LTV is based on the market value.

- Multi-family dwellings, including housing co-operative associations, 75 per cent.
- Commercial and office property, 60 per cent.
- Family farms, forest and agricultural properties, 75 per cent.

The recommended LTVs correspond to what is applied at Stadshypotek. At the time of granting the credit, LTVs which exceed the recommendations are never permitted at Stadshypotek. For loans in the Bank, LTVs which exceed the recommendations may occur, but must be specially justified. The value of industrial and warehouse properties and undeveloped land may often be much more volatile than for other property, partly due to factors such as location or alternative use. The LTV should therefore be well below 60 per cent. Financing of industrial and warehouse properties and undeveloped land is only permitted in the Bank.

Figure 3.8 Cumulative breakdown of property lending by LTV, Handelsbanken's home markets, 2019

The tables and figure here provide a breakdown of loan volumes based on the loan-to-value ratios for all property lending in Handelsbanken's home markets. An accumulated breakdown of the LTVs at 31 December 2019 is also presented. It should be noted that here and in the following sections, the residential property category relates to all lending for which the collateral is a property for residential purposes, such as second homes, housing co-operative apartments, and rental properties. The figure shows that a very heavy fall in property prices would be required for large parts of the lending volume to exceed a 100 per cent LTV. The LTVs for property lending in the UK are at a level similar to those in Handelsbanken's other home markets.

The LTV shows all lending secured by collateral in relation to its market value. The calculation takes account of any pledging with other credit institutions. The most recent valuation is used as the market value when compiling the LTV. In addition to distributing the loan volume by LTVs, the average LTV at Handelsbanken is calculated by weighting each property's highest LTV according to the principal debt (LTV Max).

Table 3.9 Breakdown of property lending by LTV, Handelsbanken's home markets

	2019			2018		
%	Residential property	Commercial property	Total	Residential property	Commercial property	Total
0–40%	74.2	77.2	74.8	73.6	76.4	74.1
41–60%	17.9	18.1	17.9	18.1	18.7	18.2
61–75%	5.4	2.7	4.8	5.6	3.0	5.1
> 75%	2.5	2.0	2.4	2.7	1.9	2.6
LTV-Max	55.4	53.7	55.0	56.0	54.2	55.7

LTV for property lending if property prices fall by 10 per cent, Handelsbanken's home markets

	2019			2018		
%	Residential property	Commercial property	Total	Residential property	Commercial property	Total
LTV-Max	61.5	59.7	61.1	62.2	60.3	61.8

LTV-Max The highest loan-to-value of the property is weighted according to the principal debt.
Values regarding 2018 have been slightly adjusted due to improvements to the calculation methods

Table 3.10 Breakdown of property lending by LTV, UK

	2019			2018		
%	Residential property	Commercial property	Total	Residential property	Commercial property	Total
0–40%	77.5	83.5	79.8	77.8	82.3	79.7
41–60%	18.6	15.0	17.2	18.6	15.6	17.3
61–75%	3.1	0.9	2.3	2.8	1.1	2.1
> 75%	0.7	0.6	0.7	0.8	1.0	0.9
LTV-Max	52.4	47.5	50.5	52.0	48.9	50.7

LTV for property lending if property prices fall by 10 per cent, UK

	2019			2018		
%	Residential property	Commercial property	Total	Residential property	Commercial property	Total
LTV-Max	58.3	52.7	56.1	57.8	54.3	56.3

LTV-Max The highest loan-to-value of the property is weighted according to the principal debt.
Values regarding 2018 have been slightly adjusted due to improvements to the calculation methods

Exposures approved for the IRB approach

For capital requirement calculations of corporate exposures, exposures secured by property correspond to about 71 per cent (66) of the total exposure amount. The equivalent figure for guarantees is approximately 5 per cent (7), for financial collateral around 1 per cent (2), and for other collateral around 1 per cent (1).

For retail exposures, exposures secured by collateral in residential property comprise about 92 per cent (92) of the total exposure amount. Of the remaining exposure amounts, about 1 percentage point (1) can be assigned to some form of collateral, while the other 7 percentage points (7) are assigned an LGD value based on other terms. These terms are chiefly determined by factors such as the type of borrower, type of credit, and number of borrowers.

For exposures to institutions, financial collateral covers some 39 per cent (55) of the exposure amount. The corresponding figure for guarantees is about 5 per cent (3).

Of the exposures covered by guarantees, totalling SEK 67,570 million (88,102), SEK 45,096 million (58,812) relates to guarantees from sovereigns, SEK 1,262 million (2,884) to guarantees from institutions, and SEK 21,212 million (26,406) to guarantees from corporates.

If an exposure is covered by several collateral objects and no individual collateral covers the total exposure, the exposure is divided into sub-exposures, one for each collateral object. The capital requirement is then calculated by sub-exposure, based on the existence of collateral.

Table 3.11 Acceptable collateral which reduces the capital requirement, IRB Approach

Acceptable collateral which reduces the capital requirement, IRB Approach		2019		2018	
SEK m	Type of collateral	Exposure amount covered by collateral	Proportion of exposure amount, %	Exposure amount covered by collateral	Proportion of exposure amount, %
Sovereign exposures	- Financial collateral	31	0	4 409	1
Corporate exposures	- Guarantees	63 000	5	83 525	7
	- Receivables	693	0	468	0
	- Financial collateral	14 416	1	24 637	2
	- Property	854 082	71	780 432	66
	- Other collateral	14 872	1	13 788	1
Retail exposures	- Residential property[1]	1 029 076	92	998 838	92
	- Other collateral[2]	14 900	1	11 342	1
Institution exposures	- Guarantees	2 867	5	2 635	3
	- Financial collateral	23 138	39	47 496	55
Securitisation positions	- Guarantees	1 148	100	1 205	98
Total		**2 022 347**	**74**	**1 968 775**	**72**

[1] Including shares in housing co-operative associations
[2] Including guarantees

Exposures calculated according to the standardised approach

For exposures reported in the institutional, corporate, and retail exposure categories according to the standardised approach, and exposures secured by property, collateral covers about 86 per cent (83) of the reported exposure value, of which about 1 percentage point (1) refers to guarantees and the remaining 85 percentage points (79) refer to property and financial collateral.

For all exposures calculated using the standardised approach, the regulations state a risk weight based on the exposure class of the counterparty.

Table 3.13 shows the exposure amount per exposure class, broken down by risk weights according to the standardised approach.

Table 3.12 Acceptable collateral which reduces the capital requirement, Standardised Approach

Acceptable collateral which reduces the capital requirement, Standardised Approach		2019		2018	
SEK m	Type of collateral	Exposure value covered by collateral[1]	Proportion of exposure value, %	Exposure value covered by collateral[1]	Proportion of exposure value, %
Sovereign exposures	- Financial collateral	20	6	-	0
Corporate exposures	- Guarantees	1 117	2	745	2
	- Financial collateral	322	1	189	0
	- Property	40 594	80	31 783	78
Retail exposures	- Guarantees	700	1	4	0
	- Financial collateral	6 646	6	1 056	1
	- Property	102 446	86	93 266	89
Institution exposures	- Guarantees	363	2	353	3
	- Financial collateral	6 620	45	3 914	33
Total		**159 726**	**86**	**131 310**	**83**

[1] Exposure value according to the standardised method is calculated excluding exposures with financial collateral. Those exposures are included in the exposure values in this table.

Table 3.13 EU CR5 – Standardised approach 2019

The table below shows the EAD broken down by exposure class and risk weight. It comprises figures obtained using the standardised approach. Total EAD has increased compared with the previous period.

EU CR5 – Standardised approach 2019		**Risk weight**																	
	Exposure classes SEK m	**0%**	**2%**	**4%**	**10%**	**20%**	**35%**	**50%**	**70%**	**75%**	**100%**	**150%**	**250%**	**370%**	**1 250%**	**Others**	**De-ducted**	**Total**	**Of which unrated**
1	Central governments or central banks	350											3					**353**	
2	Regional government or local authorities	0																**0**	
3	Public sector entities																		
4	Multilateral development banks	2																**2**	
5	International organisations																		
6	Institutions	0				2 057		412										**2 469**	
7	Corporates							0			8 491							**8 491**	7 401
8	Retail									10 205								**10 205**	10 205
9	Secured by mortgages on immovable property						125 988	14 303		10	1 197							**141 498**	141 498
10	Exposures in default										344	254						**598**	563
11	Exposures associated with particularly high risk											26						**26**	26
12	Covered bonds																		
13	Institutions and corporates with a short-term credit assessment																		
14	Collective investments undertakings										151							**151**	151
15	Equity												6 254					**6 254**	6 254
16	Other items	137									2 883		5			220		**3 245**	3 243
17	**Total**	**489**				**2 057**	**125 988**	**14 715**		**10 215**	**13 066**	**280**	**6 262**			**220**		**173 292**	**163 389**

EU CR5 – Standardised approach 2018		**Risk weight**																	
	Exposure classes SEK m	**0%**	**2%**	**4%**	**10%**	**20%**	**35%**	**50%**	**70%**	**75%**	**100%**	**150%**	**250%**	**370%**	**1 250%**	**Others**	**De-ducted**	**Total**	**Of which unrated**
1	Central governments or central banks	404																**404**	
2	Regional government or local authorities					25												**25**	
3	Public sector entities																		
4	Multilateral development banks																		
5	International organisations																		
6	Institutions	0				2 117		676										**2 793**	
7	Corporates										10 207							**10 207**	3 540
8	Retail									9 078								**9 078**	9 078
9	Secured by mortgages on immovable property						107 414	11 636		6 057								**125 107**	125 107
10	Exposures in default										358	347						**705**	587
11	Exposures associated with particularly high risk																		
12	Covered bonds																		
13	Institutions and corporates with a short-term credit assessment																		
14	Collective investments undertakings																		
15	Equity												6 254					**6 254**	6 254
16	Other items	160									6 277		5			162		**6 604**	6 604
17	**Total**	**564**				**2 142**	**107 414**	**12 312**		**15 135**	**16 842**	**347**	**6 259**			**162**		**161 177**	**151 170**

Table 3.14 Credit risk exposures approved for IRB Approach

Credit risk exposures approved for IRB Approach	Exposure amount		Of which off-balance-sheet		Risk-weighted exposure amount		Capital requirement		Average risk weight, %	
SEK m	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Sovereign exposures	**426 414**	**436 476**	**10 983**	**13 141**	**7 098**	**7 694**	**568**	**616**	**1.7**	**1.8**
Corporate exposures	**909 304**	**899 041**	**121 194**	**133 763**	**246 710**	**250 750**	**19 737**	**20 060**	**27.1**	**27.9**
Corporate lending	900 795	888 991	121 194	133 763	244 106	247 764	19 529	19 821	27.1	27.9
of which other lending, IRB Approach without own estimates of LGD and CCF	*110 550*	*125 126*	*64 725*	*72 146*	*33 651*	*37 526*	*2 693*	*3 002*	*30.4*	*30.0*
of which other lending, IRB Approach with own estimates of LGD and CCF	*790 245*	*763 865*	*56 469*	*61 617*	*210 455*	*210 238*	*16 836*	*16 819*	*26.6*	*27.5*
of which large corporates	*140 751*	*154 297*	*32 185*	*36 485*	*51 641*	*57 241*	*4 131*	*4 579*	*36.7*	*37.1*
of which medium-sized companies	*91 926*	*85 130*	*9 533*	*8 961*	*37 399*	*37 275*	*2 992*	*2 982*	*40.7*	*43.8*
of which property companies	*557 568*	*524 438*	*14 751*	*16 171*	*121 415*	*115 722*	*9 713*	*9 258*	*21.8*	*22.1*
Counterparty risk	8 509	10 050	-	-	2 604	2 986	208	239	30.6	29.7
Housing co-operative associations	**235 554**	**216 026**	**2 796**	**3 812**	**9 806**	**9 902**	**783**	**791**	**4.2**	**4.6**
Retail exposures	**1 119 800**	**1 079 337**	**58 312**	**55 531**	**82 406**	**85 185**	**6 593**	**6 815**	**7.4**	**7.9**
Private individuals	1 095 928	1 054 730	52 195	49 507	74 659	77 746	5 973	6 220	6.8	7.4
of which property loans	*1 046 593*	*991 558*	*36 074*	*29 601*	*63 871*	*62 459*	*5 110*	*4 997*	*6.1*	*6.3*
of which other	*49 335*	*63 172*	*16 121*	*19 906*	*10 788*	*15 287*	*863*	*1 223*	*21.9*	*24.2*
Small companies	23 872	24 607	6 117	6 024	7 747	7 438	620	595	32.5	30.2
of which property loans	*11 892*	*7 280*	*1 010*	*63*	*4 268*	*1 409*	*341*	*113*	*35.9*	*19.4*
of which other	*11 980*	*17 327*	*5 107*	*5 961*	*3 479*	*6 029*	*279*	*482*	*29.0*	*34.8*
Institution exposures	**57 663**	**78 120**	**6 316**	**6 014**	**14 436**	**14 858**	**1 155**	**1 189**	**25.0**	**19.0**
Lending to institutions	16 554	17 559	6 316	6 014	5 920	5 640	474	452	35.8	32.1
Counterparty risk	41 109	60 561	-	-	8 516	9 218	681	737	20.7	15.2
Equity exposures	**3 028**	**2 121**	**-**	**-**	**10 299**	**7 410**	**824**	**593**	**340.2**	**349.4**
of which listed equities	*1 129*	*545*	-	-	*3 274*	*1 581*	*262*	*126*	*290.0*	*290.0*
of which other equities	*1 899*	*1 576*	-	-	*7 025*	*5 829*	*562*	*467*	*370.0*	*370.0*
Non credit-obligation asset exposures	**6 946**	**2 239**	**-**	**-**	**6 946**	**2 239**	**556**	**179**	**100.0**	**100.0**
Securitisation positions	**-**	**22**	**-**	**-**	**-**	**51**	**-**	**4**	**-**	**229.2**
of which traditional securitisation	-	*22*	-	-	-	*51*	-	*4*	-	*229.2*
of which synthetic securitisation	-	-	-	-	-	-	-	-	-	-
Total IRB Approach	**2 758 709**	**2 713 382**	**199 601**	**212 261**	**377 701**	**378 089**	**30 216**	**30 247**	**13.7**	**13.9**
Risk weight floor for Swedish mortgage*					**173 604**	**163 123**	**13 888**	**13 050**		
Total IRB Approach including floor	**2 758 709**	**2 713 382**	**199 601**	**212 261**	**551 305**	**541 212**	**44 104**	**43 297**	**20.0**	**19.9**

***Handelsbanken report SFT's and repos net from 30 sep 2019. The exposure amount for 31 dec 2018 have been updated to reflect this.**

Table 3.15 Credit risk exposures according to standardised approach

Credit risk exposures according to standardised approach[1]	Exposure value		Of which off-balance-sheet		Risk-weighted exposure amount		Capital requirement		Average risk weight, %	
SEK m	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Sovereign and central banks	353	403	79	21	7	-	1	-	1.9	0.0
Municipalities	-	25	-	-	-	5	-	-	-	20.0
Multilateral development banks	274	183	2	-	0	-	0	-	0.0	0.0
International organisations	-	-	-	-	-	-	-	-	-	-
Institutions	9 639	9 570	407	490	762	897	61	72	7.9	9.4
Corporate	8 495	10 282	2 326	2 360	8 408	10 191	673	815	99.0	99.1
Retail	10 226	9 198	2 898	2 306	7 460	6 867	597	549	72.9	74.7
Property mortgages	141 499	125 107	2 064	7 126	50 655	46 682	4 052	3 735	35.8	37.3
Past due items	598	705	21	13	725	878	58	70	121.2	124.6
High risk items	26		-		39		3		150.0	
CIU'S	151	-	-	-	151	-	12	-	100.0	-
Equities	6 254	6 254	-	-	15 636	15 636	1 251	1 251	250.0	250.0
of which listed equities	-	-	-	-	-	-	-	-	-	-
of which unlisted equities	*6 254*	*6 254*	-	-	*15 636*	*15 636*	*1 251*	*1 251*	*250.0*	*250.0*
Other items	3 244	6 604	17	26	2 905	6 295	232	504	89.6	95.3
Total standardised approach	**180 759**	**168 331**	**7 814**	**12 342**	**86 748**	**87 451**	**6 940**	**6 996**	**48.0**	**52.0**

CAPITAL REQUIREMENTS FOR CREDIT RISK

This section presents the credit portfolio based on CRR. The presentations show both the IRB approach and the standardised approach. Portfolios in the IRB approach are divided into the IRB approach with own estimates of LGD and CCF, and the IRB approach without own estimates of LGD and CCF. When the capital requirement is calculated, this is normally done for the exposure amount, which is the sum of the exposure on the balance sheet and the exposure off the balance sheet multiplied by a conversion factor.

Exposure, exposure amounts and capital requirements

Tables 3.14 and 3.15 include information about exposures approved for the IRB approach and the standardised approach based on different definitions as well as details of capital requirements for various exposure classes, the exposures and the total exposure amounts in the credit portfolio approved for the IRB approach and their risk-weighted amounts as well as the capital requirement that these exposures give rise to. The Tables section specifies the geographic distribution of exposures (table T10) and their breakdown by industry or counterparty (table T11). 'Exposures' refers to the total exposures on and off the balance sheet. The exposure amount is the exposure on which the capital requirement is calculated according to CRR. The following are also shown: the average exposure amount during the year, the average risk weight for the exposures (the risk-weighted amount divided by the exposure amount), and the average LGD value applied.

The risk estimates according to the IRB approach with own estimates of LGD and CCF are based on the Bank's historical outcome data applying the margins of conservatism approved by the Swedish Financial Supervisory Authority. In the IRB approach with own estimates of LGD and CCF, the capital requirement is also affected by the maturity of the credit, unlike in the IRB approach without own estimates of LGD and CCF.

For corporate exposures, SEK 52,620 million (62,016) is covered by guarantees from counterparties within the sovereign and municipal exposure class or the institutional class. This reduces the exposure amount. The corresponding figure for exposures to institutions is SEK 1,435 million (2,149). When there is a guarantor with a lower PD than the counterparty, the capital requirement is calculated based on this PD instead of the original counterparty's, a practice known as substitution. This means that the guarantor's more advantageous PD can be used instead of the borrower's PD. On the other hand, the capital requirement does not take into account the fact that the credit risk is less, since both the borrower and the guarantor must default in order for the Bank to incur a loan loss.

For the parts of the credit portfolio which are not approved for the IRB approach and also where a permanent or time-limited approval has been given by the Swedish Financial Supervisory Authority, the capital requirements for credit risk are calculated using the standardised approach. Table 3.15 shows the exposures and capital requirements for the standardised portfolio.

When calculating risk weights according to the standardised approach, information regarding the external rating from external rating agencies is used, where applicable. Handelsbanken uses an external rating from Standard & Poor's for exposures to institutions and corporate exposures. Table 3.17 shows the exposure values for each credit quality step. No deduction is made from own funds for exposures in the standardised approach with external ratings.

Table 3.16 presents Handelsbanken's net exposures at the end of 2019 and the average value for the net exposure at the end of each quarter for the observation period. The table shows that these values are stable over time.

Table T13 in the Tables section shows the risk-weighted exposure amounts, before credit derivatives and net after credit risk-mitigation measures, by exposure class at the end of 2019. The amounts are calculated for exposures processed according to the Foundation IRB approach and exposures processed according to the Advanced IRB approach. The table shows that Handelsbanken's risk-weighted exposure amounts have not been affected by credit derivatives.

Table 3.16 EU CRB-B – Total and average net amount of exposures

The table below shows the total net exposure and average net exposure broken down by exposure class at year-end. For on-balance sheet items, the net value is the gross carrying value of exposure less allowances/impairments. For off-balance sheet items, the net value is the gross carrying value of the exposure less provisions. It comprises figures obtained using both the standardised and the IRB Approach. Net exposures have been stable over time based on an average of the three preceding quarters.

EU CRB-B – Total and average net amount of exposures 2019

SEK m		**Net value of exposures at the end of the period**	**Average net exposures over the period**
1	Central governments or central banks	382 484	386 399
2	Institutions	23 787	25 584
3	Corporates	1 452 923	1 469 083
4	*Of which: Specialised lending*		
5	*Of which: SMEs*	*771 801*	*763 786*
6	Retail	1 123 855	1 114 521
7	*Secured by real estate property*	*1 058 034*	*1 037 681*
8	*SMEs*	*12 000*	*9 701*
9	*Non-SMEs*	*1 046 034*	*1 027 980*
10	*Qualifying revolving*		
11	*Other retail*	*65 821*	*76 840*
12	*SMEs*	*13 347*	*16 154*
13	*Non-SMEs*	*52 474*	*60 686*
14	Equity	3 028	2 557
15	**Total IRB Approach**	**2 986 077**	**2 998 144**
16	Central governments or central banks	36	66
17	Regional governments or local authorities	0	0
18	Public sector entities		
19	Multilateral development banks	-	35
20	International organisations	-	0
21	Institutions	4 280	3 341
22	Corporates	14 357	16 969
23	*Of which: SMEs*	*3 120*	*3 525*
24	Retail	24 819	27 550
25	*Of which: SMEs*	*2 440*	*2 441*
26	Secured by mortgages on immovable property	147 341	140 238
27	*Of which: SMEs*	*29 412*	*27 813*
28	Exposures in default	621	672
29	Items associated with particularly high risk	26	13
30	Covered bonds		
31	Claims on institutions and corporates with a short-term credit assessment		
32	Collective investments undertakings	151	151
33	Equity exposures	6 254	6 254
34	Other exposures	4 957	6 937
35	**Total standardised approach**	**202 842**	**202 226**
36	**Total**	**3 188 919**	**3 200 370**

EU CRB-B – Total and average net amount of exposures 2018

	SEK m	Net value of exposures at the end of the period	Average net exposures over the period
1	Central governments or central banks	387 796	431 244
2	Institutions	22 108	21 637
3	Corporates	1 426 432	1 414 643
4	*Of which: Specialised lending*		
5	*Of which: SMEs*	*742 625*	*740 989*
6	Retail	1 083 528	1 072 681
7	*Secured by real estate property*	*997 512*	*982 785*
8	*SMEs*	*7 277*	*7 125*
9	*Non-SMEs*	*990 235*	*975 660*
10	*Qualifying revolving*		
11	*Other retail*	*86 016*	*89 896*
12	*SMEs*	*18 956*	*19 276*
13	*Non-SMEs*	*67 060*	*70 620*
14	Equity	2 121	1 942
15	**Total IRB Approach**	**2 921 985**	**2 942 147**
16	Central governments or central banks	51	295
17	Regional governments or local authorities	25	16
18	Public sector entities		
19	Multilateral development banks		243
20	International organisations		
21	Institutions	4 386	4 024
22	Corporates	19 930	21 015
23	*Of which: SMEs*	*2 507*	*3 920*
24	Retail	21 394	31 625
25	*Of which: SMEs*	*2 540*	*2 811*
26	Secured by mortgages on immovable property	127 127	122 005
27	*Of which: SMEs*	*23 901*	*23 146*
28	Exposures in default	718	709
29	Items associated with particularly high risk		
30	Covered bonds		
31	Claims on institutions and corporates with a short-term credit assessment		
32	Collective investments undertakings		63
33	Equity exposures	6 254	6 254
34	Other exposures	8 376	9 372
35	**Total standardised approach**	**188 261**	**195 621**
36	**Total**	**3 110 246**	**3 137 768**

Table 3.17 Exposure calculated according to standardised approach broken down into credit quality steps based on external ratings

Exposure calculated according to standardised approach broken down into credit quality steps based on external ratings 2019

	Sovereign and central banks		Municipalities		Institutions		Corporate	
SEK m	Exposure	Exposure value	Exposure	Exposure value	Exposure	Exposure value	Exposure	Exposure value
Credit quality step								
1	36	353	0	0	1 298	1 525	-	-
2	-	-	-	-	1 968	376	1089	0
3	-	-	-	-	179	108	0	-
4	-	-	-	-	274	77	-	-
5	-	-	-	-	223	67	-	-
6	-	-	-	-	2	1	-	-

Exposure calculated according to standardised approach broken down into credit quality steps based on external ratings 2018

	Sovereign and central banks		Municipalities		Institutions		Corporate	
SEK m	Exposure	Exposure value	Exposure	Exposure value	Exposure	Exposure value	Exposure	Exposure value
Credit quality step								
1	51	403	-	-	1 820	1 732	-	-
2	-	-	25	25	1 430	597	-	-
3	-	-	-	-	351	114	-	-
4	-	-	-	-	356	238	-	-
5	-	-	-	-	207	64	-	-
6	-	-	-	-	-	-	-	-

Risk weight and breakdown into risk classes
Table 3.18 shows exposures by exposure class and PD interval, in accordance with the EBA's division of PD intervals. This table includes gross exposures, average PD, LGD and CCF, the number of debtors, risk-weighted exposure amounts, risk weights, expected loss, value adjustments and other data.

The PD values applied in the IRB approach for corporate and retail exposures are based on the Bank's own loss and default history. Handelsbanken's PD models for corporates are based on the historical default frequency, by risk class and by portfolio. The estimates for each portfolio are based partly on the Bank's internal data and partly on data from other sources, such as external credit rating agencies, and are based on the duration of a hypothetical business cycle in which one of five years is a downturn year and the Swedish banking crisis in the 1990s is taken into account. Significant margins of conservatism are also added to these. See also the Risk classification methods section. Handelsbanken's low, stable default rates and loan loss ratio means that the Bank's PD values are low, particularly in good risk classes where defaults have been extremely rare even in times of major economic turbulence. The risk weights are also affected by the LGD values used. These are also calculated on the basis of the Bank's own loss history for all exposures covered by the IRB approach with own estimates of LGD and CCF.

The applied PD and LGD include margins of conservatism. Comprehensive tests have also been performed to ensure that the risk measures are applicable to the Bank's current portfolios. This means that differences between different banks' average risk weights are due to the credit quality of the existing exposures and the historic loan losses.

In January 2018, the SFSA approved the introduction of a Pillar 1 IRB system that results in a risk weight of 50 per cent for the aggregated UK commercial real estate ("CRE") portfolio. In 2017 the SFSA applied a Pillar 2 add-on for the CRE portfolio. The background was that the SFSA deemed that earlier applied risk weight levels in Handelsbanken for UK commercial real estate were not conservative enough, given the historic levels of losses that UK banks experienced in 2008-2009.

Differing portfolio composition is another factor which leads to variations in different banks' average risk weights for various exposure classes. One important aspect of several is how banks have chosen to categorise their exposures. Handelsbanken has classified its lending to housing co-operative associations as corporate exposures, while certain other banks have decided to classify this as retail exposures. At the same time, lending to housing co-operative associations has lower risk than corporate lending on average. This means that the total average risk weight for the corporate exposures class including housing co-operative associations will be lower for Handelsbanken than for banks which have classified housing co-operative associations as retail exposures. The average risk weight for corporate exposures excluding housing co-operative associations is 27.1 per cent (27.9).

Handelsbanken's choice is conservative, because exposures that are classified as corporates have a higher risk weight in the IRB approach than retail exposures with the same risk measure.

The Bank has very low exposures to counterparties in poorer risk classes. For corporate exposures, 98.1 per cent (97.7) of the exposure amount is in risk classes 1–5 with low PD values. The corresponding figure for exposures to institutions is 99.9 per cent (99.9). For retail exposures – private individuals and small companies – the corresponding figures in the better risk classes are 95 per cent (95) and 71 per cent (71), respectively. A clear majority of the Bank's exposures are in risk classes 1–4, which means that the average risk level in the credit portfolio is significantly lower than the level which is assessed as normal risk. See tables, AR:11 - AR:16 in the Annual Report, note G2.

The risk weights applied by Handelsbanken result in a capital requirement that is, in relation to the Bank's actual historical loan losses in the past 10 years, considerably higher than the corresponding ratio for other Nordic and European banks on average. This means that Handelsbanken's risk weights are more cautious in relation to the Bank's historical losses than in models applied by other banks.

Table 3.18 EU CR6 – IRB approach – Credit risk exposures by exposure class and PD range

The following table shows the total EAD, undrawn commitments, exposure-weighted average PD, LGD and CCF, and exposure-weighted average risk weights broken down by exposure class and obligor grade. FI's board of directors decided to change the method used to apply current risk weight floor for Swedish mortgages on 25% though pillar 2 by replacing it with a corresponding requirement under article 458 CRR. The change entered into force on 31 December 2018. RWA and RWA density is here calculated using the IRB approach not including the risk weight floor.

EU CR6 – IRB Approach – Credit risk exposures by exposure class and PD range 2019

Exposure class	IRB Approach[1]	PD scale	Original on-balance-sheet gross exposures, SEK m	Off-balance-sheet exposures pre-CCF, SEK m	Average CCF	EAD post CRM and post CCF, SEK m	Average PD	Number of obligors[2]	Average LGD	Average maturity, year	RWAs, SEK m	RWA density	EL, SEK m	Value adjustments and provisions, SEK m
Sovereign exposures	IRB-F	0.00 to <0.15	360 762	21 618	35.89%	422 443	0.00%	391	44.79%	1.3	6 993	1.66%	5	-5
Sovereign exposures	IRB-F	0.15 to <0.25	28	0	75.00%	49	0.20%	15	45.00%	2.5	22	44.01%	0	0
Sovereign exposures	IRB-F	0.25 to <0.50												
Sovereign exposures	IRB-F	0.50 to <0.75												
Sovereign exposures	IRB-F	0.75 to <2.50	75	0	75.00%	2	1.00%	3	45.00%	2.5	2	79.55%	0	0
Sovereign exposures	IRB-F	2.50 to <10.00												
Sovereign exposures	IRB-F	10.00 to <100.00	2			2	20.00%	1	45.00%	2.5	5	252.53%	0	0
Sovereign exposures	IRB-F	100.00 (Default)												
Sovereign exposures	IRB-F	Other												
Sovereign exposures	**IRB-F**	**Subtotal**	**360 867**	**21 618**	**35.89%**	**422 496**	**0.00%**	**410**	**44.79%**	**1.3**	**7 022**	**1.66%**	**5**	**-5**
Institution exposures	IRB-F	0.00 to <0.15	8 697	8 606	54.04%	11 037	0.09%	82	37.66%	2.5	3 403	30.84%	3	-3
Institution exposures	IRB-F	0.15 to <0.25	4 069	1 681	43.30%	4 951	0.21%	37	27.61%	2.5	1 877	37.90%	3	-3
Institution exposures	IRB-F	0.25 to <0.50												
Institution exposures	IRB-F	0.50 to <0.75	30	459	61.08%	375	0.56%	13	45.00%	2.5	380	101.29%	1	0
Institution exposures	IRB-F	0.75 to <2.50	126	91	50.00%	172	1.10%	27	44.94%	2.5	217	126.17%	1	0
Institution exposures	IRB-F	2.50 to <10.00												
Institution exposures	IRB-F	10.00 to <100.00	5	28	50.00%	19	22.15%	9	45.00%	2.5	43	229.81%	2	0
Institution exposures	IRB-F	100.00 (Default)												
Institution exposures	IRB-F	Other												
Institution exposures	**IRB-F**	**Subtotal**	**12 927**	**10 865**	**52.63%**	**16 554**	**0.17%**	**168**	**34.90%**	**2.5**	**5 920**	**35.76%**	**10**	**-6**
Corporate exposures	IRB-F	0.00 to <0.15	43 295	97 341	58.93%	86 980	0.07%	2 404	39.53%	2.5	19 155	22.02%	25	-4
Corporate exposures	IRB-F	0.15 to <0.25	1 635	2 269	36.96%	2 506	0.16%	1 227	28.01%	2.5	492	19.66%	1	-2
Corporate exposures	IRB-F	0.25 to <0.50	7 664	8 328	46.11%	9 562	0.35%	871	34.61%	2.5	4 422	46.25%	11	-2
Corporate exposures	IRB-F	0.50 to <0.75	2 102	2 387	41.22%	3 076	0.61%	1 611	37.50%	2.5	1 634	53.11%	7	-6
Corporate exposures	IRB-F	0.75 to <2.50	3 452	10 536	50.63%	8 040	1.15%	1 376	39.94%	2.5	6 488	80.69%	35	-12
Corporate exposures	IRB-F	2.50 to <10.00	761	536	58.89%	868	7.95%	217	36.33%	2.5	1 067	122.97%	25	-12
Corporate exposures	IRB-F	10.00 to <100.00	325	207	50.56%	435	27.97%	136	32.87%	2.5	700	160.88%	37	-15
Corporate exposures	IRB-F	100.00 (Default)	259	416	88.05%	623	100.00%	38	44.68%	2.5	0	0.00%	240	-239
Corporate exposures	IRB-F	Other												
Corporate exposures	**IRB-F**	**Subtotal**	**59 493**	**122 020**	**56.67%**	**112 090**	**0.91%**	**7 880**	**38.80%**	**2.5**	**33 958**	**30.30%**	**381**	**-292**
Corporate exposures	IRB-A	0.00 to <0.15	707 168	204 398	19.19%	729 215	0.09%	29 787	20.19%	3.2	89 355	12.25%	136	-29
Corporate exposures	IRB-A	0.15 to <0.25	24 246	8 411	40.57%	29 326	0.16%	3 226	34.44%	2.6	7 233	24.67%	16	-16
Corporate exposures	IRB-A	0.25 to <0.50	171 138	32 820	21.37%	167 541	0.43%	8 068	25.90%	2.5	57 325	34.22%	183	-52
Corporate exposures	IRB-A	0.50 to <0.75	22 676	6 670	41.85%	25 281	0.61%	3 300	31.93%	2.7	11 263	44.55%	49	-35
Corporate exposures	IRB-A	0.75 to <2.50	55 363	21 592	25.44%	55 034	1.60%	6 516	28.62%	2.7	31 326	56.92%	252	-157
Corporate exposures	IRB-A	2.50 to <10.00	7 891	783	38.52%	7 786	7.28%	805	32.34%	2.8	8 273	106.26%	188	-71
Corporate exposures	IRB-A	10.00 to <100.00	5 052	923	30.44%	4 931	31.15%	833	33.39%	2.7	7 105	144.08%	501	-158
Corporate exposures	IRB-A	100.00 (Default)	5 457	207	28.58%	5 145	100.00%	243	39.98%	1.9	8 074	156.93%	2 598	-2 569
Corporate exposures	IRB-A	Other												
Corporate exposures	**IRB-A**	**Subtotal**	**998 991**	**275 804**	**21.24%**	**1 024 259**	**0.95%**	**52 778**	**22.53%**	**3.0**	**219 954**	**21.47%**	**3 923**	**-3 087**
Corporate exposures	Total	0.00 to <0.15	750 464	301 739	32.01%	816 197	0.08%	30 726	22.25%	3.1	108 509	13.29%	161	-33
Corporate exposures	Total	0.15 to <0.25	25 881	10 680	39.81%	31 832	0.16%	3 755	33.93%	2.6	7 726	24.27%	17	-19
Corporate exposures	Total	0.25 to <0.50	178 803	41 148	26.38%	177 102	0.43%	8 361	26.37%	2.5	61 748	34.87%	194	-55
Corporate exposures	Total	0.50 to <0.75	24 777	9 057	41.69%	28 357	0.61%	3 978	32.53%	2.7	12 896	45.48%	56	-40
Corporate exposures	Total	0.75 to <2.50	58 815	32 128	33.70%	63 074	1.54%	7 133	30.06%	2.7	37 814	59.95%	287	-169
Corporate exposures	Total	2.50 to <10.00	8 652	1 319	46.79%	8 653	7.35%	891	32.74%	2.8	9 340	107.93%	213	-84
Corporate exposures	Total	10.00 to <100.00	5 377	1 130	34.13%	5 366	30.89%	888	33.35%	2.7	7 805	145.44%	538	-173
Corporate exposures	Total	100.00 (Default)	5 716	623	68.31%	5 768	100.00%	252	40.49%	1.9	8 074	139.97%	2 839	-2 806
Corporate exposures	Total	Other												
Corporate exposures	**Total**	**Subtotal**	**1 058 485**	**397 824**	**32.11%**	**1 136 349**	**0.94%**	**55 984**	**24.14%**	**3.0**	**253 912**	**22.34%**	**4 305**	**-3 379**
Corporate exposures: SMEs	IRB-F	0.00 to <0.15	7 674	4 692	51.84%	6 795	0.06%	1 529	19.85%	2.5	561	8.26%	1	-1
Corporate exposures: SMEs	IRB-F	0.15 to <0.25	1 635	2 269	36.96%	2 506	0.16%	1 227	28.01%	2.5	492	19.66%	1	-2
Corporate exposures: SMEs	IRB-F	0.25 to <0.50	1 664	531	57.83%	1 888	0.45%	545	31.13%	2.5	672	35.59%	3	-1
Corporate exposures: SMEs	IRB-F	0.50 to <0.75	2 102	2 387	41.22%	3 076	0.61%	1 611	37.50%	2.5	1 635	53.11%	7	-6
Corporate exposures: SMEs	IRB-F	0.75 to <2.50	1 146	1 509	43.97%	1 636	2.07%	1 151	35.69%	2.5	1 133	69.28%	12	-7
Corporate exposures: SMEs	IRB-F	2.50 to <10.00	497	181	34.34%	552	7.41%	184	32.05%	2.5	465	84.17%	13	-7
Corporate exposures: SMEs	IRB-F	10.00 to <100.00	135	150	53.27%	220	32.15%	126	31.41%	2.5	280	127.30%	21	-9
Corporate exposures: SMEs	IRB-F	100.00 (Default)	62	38	29.16%	70	100.00%	28	42.19%	2.5	0	0.00%	28	-11
Corporate exposures: SMEs	IRB-F	Other												
Corporate exposures: SMEs	**IRB-F**	**Subtotal**	**14 915**	**11 757**	**45.75%**	**16 743**	**1.50%**	**6 401**	**27.78%**	**2.5**	**5 238**	**31.28%**	**86**	**-44**

EU CR6 – IRB Approach – Credit risk exposures by exposure class and PD range 2019

Exposure class	IRB Approach[1]	PD scale	Original on-balance-sheet gross exposures, SEK m	Off-balance-sheet exposures pre-CCF, SEK m	Average CCF	EAD post CRM and post CCF, SEK m	Average PD	Number of obligors[2]	Average LGD	Average maturity, year	RWAs, SEK m	RWA density	EL, SEK m	Value adjust-ments and provisions, SEK m
Corporate exposures: SMEs	IRB-A	0.00 to <0.15	491 952	24 483	30.58%	489 601	0.08%	27 230	15.62%	3.5	38 191	7.80%	72	-19
Corporate exposures: SMEs	IRB-A	0.15 to <0.25	24 246	8 411	40.57%	29 326	0.16%	3 226	34.44%	2.6	7 233	24.67%	16	-16
Corporate exposures: SMEs	IRB-A	0.25 to <0.50	104 618	4 023	34.98%	97 812	0.46%	7 023	22.54%	2.8	25 445	26.01%	104	-28
Corporate exposures: SMEs	IRB-A	0.50 to <0.75	22 676	6 670	41.85%	25 281	0.61%	3 300	31.93%	2.7	11 263	44.55%	49	-35
Corporate exposures: SMEs	IRB-A	0.75 to <2.50	41 484	4 490	39.55%	38 234	1.82%	6 029	25.98%	2.9	18 811	49.20%	192	-135
Corporate exposures: SMEs	IRB-A	2.50 to <10.00	5 294	636	40.15%	5 274	7.28%	754	32.85%	2.8	5 033	95.43%	129	-44
Corporate exposures: SMEs	IRB-A	10.00 to <100.00	4 451	534	37.10%	4 267	31.60%	798	33.21%	2.8	5 855	137.19%	439	-146
Corporate exposures: SMEs	IRB-A	100.00 (Default)	2 326	164	29.89%	2 005	100.00%	220	42.03%	2.5	3 926	195.86%	877	-856
Corporate exposures: SMEs	IRB-A	Other												
Corporate exposures: SMEs	**IRB-A**	**Subtotal**	**697 047**	**49 411**	**35.17%**	**691 800**	**0.79%**	**48 580**	**18.88%**	**3.3**	**115 757**	**16.73%**	**1 878**	**-1 279**
Corporate exposures: SMEs	Total	0.00 to <0.15	499 630	29 176	34.00%	496 396	0.08%	27 683	15.67%	3.5	38 753	7.81%	73	-20
Corporate exposures: SMEs	Total	0.15 to <0.25	25 881	10 680	39.81%	31 832	0.16%	3 755	33.93%	2.6	7 726	24.27%	17	-19
Corporate exposures: SMEs	Total	0.25 to <0.50	106 282	4 553	37.65%	99 700	0.46%	7 168	22.71%	2.8	26 117	26.20%	106	-29
Corporate exposures: SMEs	Total	0.50 to <0.75	24 777	9 057	41.69%	28 357	0.61%	3 978	32.53%	2.7	12 896	45.48%	56	-40
Corporate exposures: SMEs	Total	0.75 to <2.50	42 629	6 000	40.66%	39 870	1.83%	6 508	26.38%	2.9	19 944	50.02%	204	-142
Corporate exposures: SMEs	Total	2.50 to <10.00	5 790	817	38.86%	5 826	7.29%	816	32.77%	2.7	5 498	94.36%	142	-51
Corporate exposures: SMEs	Total	10.00 to <100.00	4 586	684	40.64%	4 487	31.62%	848	33.12%	2.8	6 134	136.71%	460	-155
Corporate exposures: SMEs	Total	100.00 (Default)	2 388	201	29.76%	2 075	100.00%	226	42.04%	2.5	3 926	189.23%	906	-868
Corporate exposures: SMEs	Total	Other												
Corporate exposures: SMEs	**Total**	**Subtotal**	**711 963**	**61 168**	**37.20%**	**708 543**	**0.81%**	**50 982**	**19.09%**	**3.3**	**120 994**	**17.08%**	**1 964**	**-1 324**
Retail exposures	IRB-A	0.00 to <0.15	816 776	42 891	98.42%	859 003	0.07%	1 327 131	14.39%		23 720	2.76%	90	-36
Retail exposures	IRB-A	0.15 to <0.25	67 629	7 126	93.75%	74 324	0.18%	283 032	24.93%		7 115	9.57%	33	-8
Retail exposures	IRB-A	0.25 to <0.50	92 226	3 783	67.67%	94 786	0.32%	313 254	20.05%		11 092	11.70%	62	-14
Retail exposures	IRB-A	0.50 to <0.75	31 363	2 526	84.71%	33 503	0.62%	56 017	25.10%		7 741	23.10%	52	-23
Retail exposures	IRB-A	0.75 to <2.50	36 282	5 672	63.94%	39 928	1.69%	390 185	24.59%		14 857	37.21%	154	-54
Retail exposures	IRB-A	2.50 to <10.00	5 009	1 382	64.22%	5 902	5.86%	99 935	34.16%		3 930	66.58%	121	-68
Retail exposures	IRB-A	10.00 to <100.00	9 674	321	56.37%	9 861	14.00%	55 325	22.69%		9 871	100.11%	361	-117
Retail exposures	IRB-A	100.00 (Default)	2 458	45	57.02%	2 493	100.00%	25 811	36.42%		4 114	165.03%	1 009	-987
Retail exposures	IRB-A	Other												
Retail exposures	**IRB-A**	**Subtotal**	**1 061 417**	**63 746**	**91.48%**	**1 119 800**	**0.55%**	**2 550 352**	**16.48%**		**82 440**	**7.36%**	**1 882**	**-1 307**
Retail exposures: Secured by real estate property	IRB-A	0.00 to <0.15	805 076	32 870	100.37%	838 082	0.07%	1 001 580	13.98%		22 247	2.65%	84	-31
Retail exposures: Secured by real estate property	IRB-A	0.15 to <0.25	65 635	1 960	103.30%	67 672	0.18%	59 760	23.66%		6 180	9.13%	28	-6
Retail exposures: Secured by real estate property	IRB-A	0.25 to <0.50	80 585	636	81.87%	81 106	0.31%	123 347	19.00%		8 987	11.08%	49	-7
Retail exposures: Secured by real estate property	IRB-A	0.50 to <0.75	28 831	544	91.82%	29 331	0.62%	19 262	24.12%		6 751	23.02%	44	-18
Retail exposures: Secured by real estate property	IRB-A	0.75 to <2.50	29 218	862	93.77%	30 042	1.77%	40 805	20.50%		10 798	35.94%	101	-12
Retail exposures: Secured by real estate property	IRB-A	2.50 to <10.00	2 280	192	86.94%	2 449	5.15%	2 931	29.70%		2 062	84.20%	39	-9
Retail exposures: Secured by real estate property	IRB-A	10.00 to <100.00	8 277	65	102.75%	8 348	12.51%	11 278	19.70%		8 533	102.22%	223	-35
Retail exposures: Secured by real estate property	IRB-A	100.00 (Default)	1 444	5	100.37%	1 455	100.00%	1 910	26.46%		2 614	179.65%	332	-326
Retail exposures: Secured by real estate property	IRB-A	Other												
Retail exposures: Secured by real estate property	**IRB-A**	**Subtotal**	**1 021 344**	**37 134**	**99.87%**	**1 058 485**	**0.40%**	**1 260 535**	**15.55%**		**68 172**	**6.44%**	**900**	**-444**

EU CR6 – IRB Approach – Credit risk exposures by exposure class and PD range 2019

Exposure class	IRB Approach[1]	PD scale	Original on-balance-sheet gross exposures, SEK m	Off-balance-sheet exposures pre-CCF, SEK m	Average CCF	EAD post CRM and post CCF, SEK m	Average PD	Number of obligors[2]	Average LGD	Average maturity, year	RWAs, SEK m	RWA density	EL, SEK m	Value adjust-ments and provisions, SEK m
Retail exposures: Other	IRB-A	0.00 to <0.15	11 699	10 019	92.00%	20 922	0.08%	325 551	30.69%		1 471	7.03%	5	-5
Retail exposures: Other	IRB-A	0.15 to <0.25	1 994	5 166	90.13%	6 652	0.17%	223 272	37.92%		935	14.06%	4	-2
Retail exposures: Other	IRB-A	0.25 to <0.50	11 640	3 148	64.80%	13 680	0.38%	189 907	26.25%		2 105	15.39%	13	-7
Retail exposures: Other	IRB-A	0.50 to <0.75	2 533	1 982	82.75%	4 172	0.58%	36 755	32.01%		990	23.72%	8	-5
Retail exposures: Other	IRB-A	0.75 to <2.50	7 065	4 810	58.59%	9 886	1.48%	349 380	37.05%		4 059	41.07%	53	-42
Retail exposures: Other	IRB-A	2.50 to <10.00	2 729	1 191	60.57%	3 453	6.37%	97 004	37.32%		1 868	54.09%	82	-60
Retail exposures: Other	IRB-A	10.00 to <100.00	1 398	256	44.66%	1 513	22.27%	44 047	39.22%		1 338	88.44%	139	-82
Retail exposures: Other	IRB-A	100.00 (Default)	1 014	40	51.69%	1 038	100.00%	23 901	50.38%		1 501	144.54%	678	-660
Retail exposures: Other	IRB-A	Other												
Retail exposures: Other	**IRB-A**	**Subtotal**	**40 072**	**26 612**	**79.77%**	**61 316**	**3.01%**	**1 289 817**	**32.51%**		**14 267**	**23.27%**	**982**	**-863**
Equity exposures	IRB-F	0.00 to <0.15												
Equity exposures	IRB-F	0.15 to <0.25												
Equity exposures	IRB-F	0.25 to <0.50												
Equity exposures	IRB-F	0.50 to <0.75												
Equity exposures	IRB-F	0.75 to <2.50												
Equity exposures	IRB-F	2.50 to <10.00												
Equity exposures	IRB-F	10.00 to <100.00												
Equity exposures	IRB-F	100.00 (Default)												
Equity exposures	IRB-F	Other	3 028			3 028		15			10 299	340.17%	55	0
Equity exposures	**IRB-F**	**Subtotal**	**3 028**			**3 028**		**15**			**10 299**	**340.17%**	**55**	**0**
Total	IRB-F	0.00 to <0.15	412 753	127 564	54.70%	520 460	0.02%	2 877	43.76%	1.5	29 553	5.68%	34	-12
Total	IRB-F	0.15 to <0.25	5 732	3 951	39.66%	7 506	0.19%	1 279	27.85%	2.5	2 391	31.85%	4	-4
Total	IRB-F	0.25 to <0.50	7 664	8 328	46.11%	9 562	0.35%	871	34.61%	2.5	4 422	46.25%	11	-2
Total	IRB-F	0.50 to <0.75	2 132	2 846	44.43%	3 451	0.60%	1 624	38.31%	2.5	2 014	58.35%	8	-6
Total	IRB-F	0.75 to <2.50	3 653	10 627	50.63%	8 214	1.15%	1 406	40.05%	2.5	6 706	81.65%	36	-12
Total	IRB-F	2.50 to <10.00	761	536	58.89%	868	7.95%	217	36.33%	2.5	1 067	122.97%	25	-12
Total	IRB-F	10.00 to <100.00	332	235	50.50%	455	27.70%	146	33.41%	2.5	747	164.04%	39	-16
Total	IRB-F	100.00 (Default)	259	416	88.05%	623	100.00%	38	44.68%	2.5	0	0.00%	239	-239
Total	IRB-F	Other	3 028			3 028		15			10 299	340.17%	55	0
Total	**IRB-F**	**Subtotal**	**436 314**	**154 503**	**53.48%**	**554 167**	**0.19%**	**8 466**	**43.04%**	**1.5**	**57 199**	**10.32%**	**451**	**-303**
Total	IRB-A	0.00 to <0.15	1 523 945	247 288	32.93%	1 588 218	0.08%	1 356 918	17.05%	1.5	113 074	7.12%	226	-65
Total	IRB-A	0.15 to <0.25	91 875	15 537	64.97%	103 650	0.17%	286 258	27.62%	0.7	14 349	13.84%	49	-25
Total	IRB-A	0.25 to <0.50	263 364	36 603	26.16%	262 327	0.39%	321 322	23.79%	1.6	68 417	26.08%	245	-66
Total	IRB-A	0.50 to <0.75	54 039	9 195	53.62%	58 784	0.61%	59 317	28.04%	1.2	19 003	32.33%	101	-58
Total	IRB-A	0.75 to <2.50	91 645	27 264	33.45%	94 963	1.64%	396 701	26.93%	1.6	46 183	48.63%	406	-211
Total	IRB-A	2.50 to <10.00	12 900	2 166	54.93%	13 688	6.67%	100 740	33.13%	1.6	12 203	89.15%	309	-140
Total	IRB-A	10.00 to <100.00	14 726	1 244	37.14%	14 792	19.72%	56 158	26.26%	0.9	16 976	114.77%	863	-275
Total	IRB-A	100.00 (Default)	7 914	252	33.68%	7 638	100.00%	26 054	38.82%	1.3	12 188	159.58%	3 606	-3 554
Total	IRB-A	Other												
Total	**IRB-A**	**Subtotal**	**2 060 408**	**339 549**	**34.43%**	**2 144 060**	**0.74%**	**2 603 130**	**19.37%**	**1.4**	**302 393**	**14.10%**	**5 805**	**-4 394**
Total	Total	0.00 to <0.15	1 936 697	374 852	40.34%	2 108 678	0.06%	1 358 330	23.64%	1.5	142 626	6.76%	260	-77
Total	Total	0.15 to <0.25	97 607	19 488	59.84%	111 156	0.17%	286 839	27.64%	0.9	16 739	15.06%	53	-29
Total	Total	0.25 to <0.50	271 028	44 931	29.86%	271 889	0.39%	321 615	24.17%	1.7	72 840	26.79%	257	-69
Total	Total	0.50 to <0.75	56 171	12 042	51.45%	62 235	0.61%	60 008	28.61%	1.2	21 017	33.77%	108	-64
Total	Total	0.75 to <2.50	95 298	37 891	38.27%	103 177	1.60%	397 348	27.97%	1.7	52 890	51.26%	441	-223
Total	Total	2.50 to <10.00	13 661	2 701	55.71%	14 556	6.75%	100 826	33.32%	1.6	13 270	91.17%	334	-152
Total	Total	10.00 to <100.00	15 058	1 479	39.26%	15 247	19.96%	56 223	26.47%	0.9	17 723	116.24%	901	-290
Total	Total	100.00 (Default)	8 174	668	67.55%	8 261	100.00%	26 063	39.26%	1.4	12 188	147.53%	3 848	-3 793
Total	Total	Other	3 028			3 028		15			10 299	340.17%	55	0
		Total (all portfolios)	**2 496 722**	**494 052**	**40.38%**	**2 698 227**	**0.62%**	**2 606 916**	**24.23%**	**1.5**	**359 592**	**13.33%**	**6 257**	**-4 697**

[1] There are two versions of the IRB Approach: the simplified version, the IRB Approach without own estimates of LGD and CCF (here IRB-F, in previous regulations called the foundation approach), and the more advanced method, the IRB Approach with own estimates of LGD and CCF (here IRB-A, in previous regulations called the advanced approach).

[2] The amount is based on the number of agreements rather than counterparties for retail exposures.

EU CR6 – IRB approach – Credit risk exposures by exposure class and PD range 2018

Exposure class	IRB Approach[1]	PD scale	Original on-balance-sheet gross exposures, SEK m	Off-balance-sheet exposures pre-CCF, SEK m	Average CCF	EAD post CRM and post CCF, SEK m	Average PD	Number of obligors[2]	Average LGD	Average maturity, year	RWAs, SEK m	RWA density	EL, SEK m	Value adjustments and provisions, SEK m
Sovereign exposures	IRB-F	0.00 to <0.15	364 765	22 897	39.67%	432 487	0.00%	386	45.00%	1.3	7 564	1.75%	6	-17
Sovereign exposures	IRB-F	0.15 to <0.25	50	1	75.00%	72	0.20%	11	45.00%	2.5	32	44.65%	0	0
Sovereign exposures	IRB-F	0.25 to <0.50												
Sovereign exposures	IRB-F	0.50 to <0.75												
Sovereign exposures	IRB-F	0.75 to <2.50	82	0	75.00%	0	1.00%	3	45.00%	2.5	0	97.86%	0	0
Sovereign exposures	IRB-F	2.50 to <10.00	2	0	75.00%	2	5.00%	2	45.00%	2.5	3	158.85%	0	0
Sovereign exposures	IRB-F	10.00 to <100.00												
Sovereign exposures	IRB-F	100.00 (Default)												
Sovereign exposures	IRB-F	Other												
Sovereign exposures	**IRB-F**	**Subtotal**	**364 899**	**22 898**	**39.67%**	**432 561**	**0.00%**	**402**	**45.00%**	**1.3**	**7 599**	**1.76%**	**6**	**-17**
Institution exposures	IRB-F	0.00 to <0.15	10 020	6 314	47.77%	12 216	0.06%	84	33.10%	2.5	2 848	23.32%	3	-2
Institution exposures	IRB-F	0.15 to <0.25	4 019	1 326	35.72%	5 087	0.19%	25	37.92%	2.5	2 476	48.67%	4	-1
Institution exposures	IRB-F	0.25 to <0.50	32	235	50.00%	150	0.49%	12	45.00%	2.5	141	94.32%	0	0
Institution exposures	IRB-F	0.50 to <0.75												
Institution exposures	IRB-F	0.75 to <2.50	19	97	51.19%	68	1.19%	27	44.85%	2.5	86	125.65%	0	0
Institution exposures	IRB-F	2.50 to <10.00												
Institution exposures	IRB-F	10.00 to <100.00	29	20	50.00%	39	17.10%	11	45.00%	2.5	89	229.45%	3	0
Institution exposures	IRB-F	100.00 (Default)												
Institution exposures	IRB-F	Other												
Institution exposures	**IRB-F**	**Subtotal**	**14 119**	**7 992**	**45.89%**	**17 560**	**0.15%**	**159**	**34.67%**	**2.5**	**5 640**	**32.12%**	**10**	**-3**
Corporate exposures	IRB-F	0.00 to <0.15	59 215	105 012	61.12%	102 262	0.07%	2 778	38.73%	2.5	21 386	20.91%	28	-5
Corporate exposures	IRB-F	0.15 to <0.25	2 158	2 058	50.77%	3 267	0.17%	1 557	35.83%	2.5	863	26.42%	2	-2
Corporate exposures	IRB-F	0.25 to <0.50	5 960	9 706	48.60%	9 962	0.35%	779	40.14%	2.5	5 104	51.24%	14	-3
Corporate exposures	IRB-F	0.50 to <0.75	1 887	1 535	55.02%	2 662	0.64%	1 399	35.28%	2.5	1 330	49.97%	6	-4
Corporate exposures	IRB-F	0.75 to <2.50	3 433	15 169	51.24%	8 552	1.12%	1 107	42.42%	2.5	7 317	85.56%	40	-9
Corporate exposures	IRB-F	2.50 to <10.00	352	115	49.87%	387	8.47%	148	36.68%	2.5	469	121.37%	12	-4
Corporate exposures	IRB-F	10.00 to <100.00	704	529	57.68%	982	25.94%	180	40.20%	2.5	2 030	206.76%	99	-17
Corporate exposures	IRB-F	100.00 (Default)	353	310	99.77%	642	100.00%	52	43.39%	2.5	0	0.00%	278	-186
Corporate exposures	IRB-F	Other												
Corporate exposures	**IRB-F**	**Subtotal**	**74 062**	**134 434**	**58.94%**	**128 716**	**0.90%**	**8 000**	**38.97%**	**2.5**	**38 499**	**29.91%**	**479**	**-230**
Corporate exposures	IRB-A	0.00 to <0.15	675 402	209 629	21.57%	702 078	0.09%	30 497	21.03%	3.2	87 800	12.51%	137	-22
Corporate exposures	IRB-A	0.15 to <0.25	23 418	8 929	38.63%	26 947	0.17%	3 826	34.62%	2.9	7 364	27.33%	16	-13
Corporate exposures	IRB-A	0.25 to <0.50	141 941	29 137	24.94%	140 709	0.44%	7 027	26.17%	2.6	47 606	33.83%	158	-32
Corporate exposures	IRB-A	0.50 to <0.75	21 702	6 299	41.44%	24 052	0.64%	3 226	32.51%	2.8	11 211	46.61%	50	-31
Corporate exposures	IRB-A	0.75 to <2.50	58 779	20 283	26.45%	60 530	1.54%	5 914	29.33%	2.6	35 456	58.58%	274	-125
Corporate exposures	IRB-A	2.50 to <10.00	7 984	740	41.13%	8 150	7.16%	824	31.72%	2.8	8 069	99.00%	190	-70
Corporate exposures	IRB-A	10.00 to <100.00	9 957	1 911	21.71%	9 577	27.46%	873	33.69%	2.5	14 947	156.06%	892	-311
Corporate exposures	IRB-A	100.00 (Default)	4 280	74	26.91%	4 257	100.00%	265	39.63%	2.0	6 713	157.70%	1 680	-1 681
Corporate exposures	IRB-A	Other												
Corporate exposures	**IRB-A**	**Subtotal**	**943 463**	**277 002**	**23.34%**	**976 300**	**1.01%**	**52 452**	**23.24%**	**3.0**	**219 166**	**22.45%**	**3 397**	**-2 285**
Corporate exposures	Total	0.00 to <0.15	734 615	314 643	34.77%	804 340	0.08%	31 751	23.28%	3.1	109 186	13.57%	164	-27
Corporate exposures	Total	0.15 to <0.25	25 577	10 987	40.90%	30 214	0.17%	4 487	34.75%	2.8	8 227	27.23%	18	-15
Corporate exposures	Total	0.25 to <0.50	147 902	38 843	30.85%	150 671	0.43%	7 330	27.09%	2.6	52 711	34.98%	172	-36
Corporate exposures	Total	0.50 to <0.75	23 589	7 834	44.10%	26 714	0.64%	3 798	32.78%	2.7	12 542	46.95%	56	-35
Corporate exposures	Total	0.75 to <2.50	62 212	35 451	37.06%	69 082	1.48%	6 424	30.95%	2.6	42 772	61.92%	314	-135
Corporate exposures	Total	2.50 to <10.00	8 336	855	42.30%	8 537	7.22%	866	31.94%	2.8	8 538	100.01%	202	-74
Corporate exposures	Total	10.00 to <100.00	10 661	2 440	29.51%	10 559	27.32%	951	34.29%	2.5	16 976	160.78%	991	-328
Corporate exposures	Total	100.00 (Default)	4 633	384	85.74%	4 899	100.00%	282	40.12%	2.1	6 713	137.03%	1 959	-1 864
Corporate exposures	Total	Other												
Corporate exposures	**Total**	**Subtotal**	**1 017 525**	**411 437**	**34.97%**	**1 105 016**	**0.99%**	**55 889**	**25.07%**	**3.0**	**257 665**	**23.32%**	**3 876**	**-2 514**
Corporate exposures: SMEs	IRB-F	0.00 to <0.15	11 028	5 525	63.52%	10 756	0.08%	1 810	26.89%	2.5	1 449	13.47%	3	-2
Corporate exposures: SMEs	IRB-F	0.15 to <0.25	2 158	2 058	50.77%	3 267	0.17%	1 557	35.83%	2.5	863	26.42%	2	-2
Corporate exposures: SMEs	IRB-F	0.25 to <0.50	2 572	1 005	67.52%	2 860	0.45%	481	37.81%	2.5	1 243	43.46%	5	-1
Corporate exposures: SMEs	IRB-F	0.50 to <0.75	1 887	1 535	55.02%	2 662	0.64%	1 399	35.28%	2.5	1 330	49.97%	6	-4
Corporate exposures: SMEs	IRB-F	0.75 to <2.50	1 474	998	58.93%	1 950	1.87%	887	36.66%	2.5	1 352	69.33%	13	-6
Corporate exposures: SMEs	IRB-F	2.50 to <10.00	343	115	49.87%	377	8.53%	147	36.57%	2.5	458	121.44%	12	-4
Corporate exposures: SMEs	IRB-F	10.00 to <100.00	277	124	62.32%	327	30.59%	143	33.56%	2.5	471	144.25%	32	-11
Corporate exposures: SMEs	IRB-F	100.00 (Default)	181	3	76.22%	163	100.00%	43	38.65%	2.5	0	0.00%	63	-39
Corporate exposures: SMEs	IRB-F	Other												
Corporate exposures: SMEs	**IRB-F**	**Subtotal**	**19 920**	**11 363**	**59.87%**	**22 362**	**1.68%**	**6 467**	**31.79%**	**2.5**	**7 166**	**32.05%**	**136**	**-69**

EU CR6 – IRB approach – Credit risk exposures by exposure class and PD range 2018

Exposure class	IRB Approach[1]	PD scale	Original on-balance-sheet gross exposures, SEK m	Off-balance-sheet exposures pre-CCF, SEK m	Average CCF	EAD post CRM and post CCF, SEK m	Average PD	Number of obligors[2]	Average LGD	Average maturity, year	RWAs, SEK m	RWA density	EL, SEK m	Value adjustments and provisions, SEK m
Corporate exposures: SMEs	IRB-A	0.00 to <0.15	470 127	26 813	33.02%	458 305	0.09%	27 911	16.30%	3.5	38 219	8.34%	73	-13
Corporate exposures: SMEs	IRB-A	0.15 to <0.25	23 418	8 929	38.63%	26 947	0.17%	3 826	34.62%	2.9	7 364	27.33%	16	-13
Corporate exposures: SMEs	IRB-A	0.25 to <0.50	93 510	4 607	41.35%	91 218	0.47%	6 212	23.28%	2.8	24 611	26.98%	101	-20
Corporate exposures: SMEs	IRB-A	0.50 to <0.75	21 702	6 299	41.44%	24 052	0.64%	3 226	32.51%	2.8	11 211	46.61%	50	-31
Corporate exposures: SMEs	IRB-A	0.75 to <2.50	37 189	4 220	36.33%	36 268	1.80%	5 453	26.59%	2.9	18 288	50.43%	187	-101
Corporate exposures: SMEs	IRB-A	2.50 to <10.00	6 427	674	40.15%	6 559	7.38%	814	33.13%	2.7	6 408	97.69%	164	-57
Corporate exposures: SMEs	IRB-A	10.00 to <100.00	6 142	629	34.19%	5 697	30.47%	802	31.68%	2.9	7 640	134.11%	566	-226
Corporate exposures: SMEs	IRB-A	100.00 (Default)	2 174	64	26.38%	2 154	100.00%	236	42.48%	1.9	3 224	149.69%	1 038	-1 038
Corporate exposures: SMEs	IRB-A	Other												
Corporate exposures: SMEs	**IRB-A**	**Subtotal**	**660 689**	**52 235**	**36.09%**	**651 200**	**0.93%**	**48 480**	**19.60%**	**3.3**	**116 965**	**17.96%**	**2 195**	**-1 499**
Corporate exposures: SMEs	Total	0.00 to <0.15	481 156	32 337	38.23%	469 062	0.09%	28 579	16.54%	3.5	39 667	8.46%	76	-15
Corporate exposures: SMEs	Total	0.15 to <0.25	25 577	10 987	40.90%	30 214	0.17%	4 487	34.75%	2.8	8 227	27.23%	18	-15
Corporate exposures: SMEs	Total	0.25 to <0.50	96 082	5 612	46.04%	94 078	0.46%	6 353	23.72%	2.8	25 854	27.48%	106	-22
Corporate exposures: SMEs	Total	0.50 to <0.75	23 589	7 834	44.10%	26 714	0.64%	3 798	32.78%	2.7	12 542	46.95%	56	-35
Corporate exposures: SMEs	Total	0.75 to <2.50	38 663	5 219	40.66%	38 217	1.81%	5 841	27.11%	2.9	19 640	51.39%	201	-108
Corporate exposures: SMEs	Total	2.50 to <10.00	6 769	788	41.56%	6 936	7.45%	855	33.32%	2.7	6 866	98.98%	176	-60
Corporate exposures: SMEs	Total	10.00 to <100.00	6 419	754	38.83%	6 024	30.48%	857	31.78%	2.9	8 112	134.66%	599	-238
Corporate exposures: SMEs	Total	100.00 (Default)	2 354	66	28.31%	2 316	100.00%	252	42.21%	2.0	3 224	139.18%	1 099	-1 075
Corporate exposures: SMEs	Total	Other												
Corporate exposures: SMEs	**Total**	**Subtotal**	**680 609**	**63 597**	**40.34%**	**673 561**	**0.95%**	**51 022**	**20.00%**	**3.3**	**124 132**	**18.43%**	**2 331**	**-1 568**
Retail exposures	IRB-A	0.00 to <0.15	788 119	35 068	100.60%	823 449	0.07%	1 345 727	15.76%		25 100	3.05%	96	-34
Retail exposures	IRB-A	0.15 to <0.25	63 812	10 671	97.18%	74 211	0.18%	308 135	27.07%		7 715	10.40%	36	-7
Retail exposures	IRB-A	0.25 to <0.50	91 930	4 038	68.13%	94 115	0.32%	322 531	21.29%		11 624	12.35%	65	-15
Retail exposures	IRB-A	0.50 to <0.75	27 909	4 620	61.24%	30 738	0.61%	167 085	26.51%		7 302	23.76%	49	-23
Retail exposures	IRB-A	0.75 to <2.50	35 445	4 403	71.74%	38 656	1.71%	287 723	26.88%		15 427	39.91%	167	-58
Retail exposures	IRB-A	2.50 to <10.00	4 919	1 552	66.56%	5 960	6.00%	106 563	38.77%		3 624	60.80%	143	-85
Retail exposures	IRB-A	10.00 to <100.00	9 672	291	54.83%	9 844	13.89%	57 803	24.67%		10 116	102.76%	389	-97
Retail exposures	IRB-A	100.00 (Default)	2 361	3	71.53%	2 364	100.00%	23 496	39.34%		4 295	181.72%	964	-965
Retail exposures	IRB-A	Other												
Retail exposures	**IRB-A**	**Subtotal**	**1 024 167**	**60 646**	**91.65%**	**1 079 337**	**0.55%**	**2 618 739**	**17.98%**		**85 203**	**7.89%**	**1 909**	**-1 284**
Retail exposures: Secured by real estate property	IRB-A	0.00 to <0.15	773 120	24 591	104.00%	798 718	0.07%	998 153	15.18%		23 176	2.90%	88	-31
Retail exposures: Secured by real estate property	IRB-A	0.15 to <0.25	59 692	3 430	100.00%	63 122	0.17%	42 901	22.94%		5 542	8.78%	25	-3
Retail exposures: Secured by real estate property	IRB-A	0.25 to <0.50	76 653	114	98.79%	76 765	0.31%	124 262	19.63%		8 775	11.43%	47	-7
Retail exposures: Secured by real estate property	IRB-A	0.50 to <0.75	23 667	312	99.99%	23 978	0.62%	15 563	24.52%		5 640	23.52%	36	-15
Retail exposures: Secured by real estate property	IRB-A	0.75 to <2.50	25 951	181	111.21%	26 189	1.83%	31 523	20.19%		9 824	37.51%	91	-10
Retail exposures: Secured by real estate property	IRB-A	2.50 to <10.00	1 071	4	100.00%	1 074	4.88%	829	22.42%		702	65.33%	12	-3
Retail exposures: Secured by real estate property	IRB-A	10.00 to <100.00	7 901	25	113.93%	7 936	12.26%	11 073	20.16%		8 310	104.71%	209	-35
Retail exposures: Secured by real estate property	IRB-A	100.00 (Default)	1 055	2	100.00%	1 056	100.00%	1 371	21.02%		1 918	181.59%	153	-153
Retail exposures: Secured by real estate property	IRB-A	Other												
Retail exposures: Secured by real estate property	**IRB-A**	**Subtotal**	**969 110**	**28 659**	**103.51%**	**998 838**	**0.36%**	**1 225 353**	**16.42%**		**63 887**	**6.40%**	**661**	**-257**

EU CR6 – IRB approach – Credit risk exposures by exposure class and PD range 2018

Exposure class	IRB Approach[1]	PD scale	Original on-balance-sheet gross exposures, SEK m	Off-balance-sheet exposures pre-CCF, SEK m	Average CCF	EAD post CRM and post CCF, SEK m	Average PD	Number of obligors[2]	Average LGD	Average maturity, year	RWAs, SEK m	RWA density	EL, SEK m	Value adjustments and provisions, SEK m
Retail exposures: Other	IRB-A	0.00 to <0.15	14 999	10 475	92.64%	24 732	0.08%	347 572	34.48%		1 923	7.78%	7	-4
Retail exposures: Other	IRB-A	0.15 to <0.25	4 120	7 241	95.84%	11 089	0.18%	265 234	50.56%		2 173	19.59%	10	-4
Retail exposures: Other	IRB-A	0.25 to <0.50	15 278	3 924	67.24%	17 350	0.36%	198 269	28.61%		2 849	16.42%	18	-8
Retail exposures: Other	IRB-A	0.50 to <0.75	4 242	4 308	58.43%	6 759	0.57%	151 522	33.59%		1 663	24.60%	13	-8
Retail exposures: Other	IRB-A	0.75 to <2.50	9 494	4 222	70.04%	12 468	1.47%	256 200	40.93%		5 603	44.94%	75	-48
Retail exposures: Other	IRB-A	2.50 to <10.00	3 848	1 549	66.48%	4 886	6.24%	105 734	42.36%		2 922	59.80%	131	-82
Retail exposures: Other	IRB-A	10.00 to <100.00	1 771	266	49.22%	1 908	20.69%	46 730	43.43%		1 806	94.67%	183	-63
Retail exposures: Other	IRB-A	100.00 (Default)	1 306	2	40.60%	1 307	100.00%	22 125	54.15%		2 377	181.83%	811	-811
Retail exposures: Other	IRB-A	Other												
Retail exposures: Other	**IRB-A**	**Subtotal**	**55 058**	**31 987**	**81.03%**	**80 499**	**2.90%**	**1 393 386**	**37.37%**		**21 316**	**26.48%**	**1 248**	**-1 028**
Equity exposures	IRB-F	0.00 to <0.15												
Equity exposures	IRB-F	0.15 to <0.25												
Equity exposures	IRB-F	0.25 to <0.50												
Equity exposures	IRB-F	0.50 to <0.75												
Equity exposures	IRB-F	0.75 to <2.50												
Equity exposures	IRB-F	2.50 to <10.00												
Equity exposures	IRB-F	10.00 to <100.00												
Equity exposures	IRB-F	100.00 (Default)												
Equity exposures	IRB-F	Other	2 121			2 121		3			7 410	349.44%	42	0
Equity exposures	**IRB-F**	**Subtotal**	**2 121**			**2 121**		**3**			**7 410**	**349.44%**	**42**	**0**
Total	IRB-F	0.00 to <0.15	433 998	134 223	56.83%	546 965	0.02%	3 246	43.56%	1.5	31 797	5.81%	36	-22
Total	IRB-F	0.15 to <0.25	6 227	3 385	44.88%	8 426	0.18%	1 593	37.17%	2.5	3 371	40.01%	6	-4
Total	IRB-F	0.25 to <0.50	5 993	9 941	48.63%	10 112	0.36%	791	40.21%	2.5	5 246	51.87%	14	-3
Total	IRB-F	0.50 to <0.75	1 887	1 535	55.02%	2 662	0.64%	1 399	35.28%	2.5	1 330	49.97%	6	-4
Total	IRB-F	0.75 to <2.50	3 534	15 266	51.24%	8 621	1.12%	1 137	42.44%	2.5	7 403	85.87%	40	-9
Total	IRB-F	2.50 to <10.00	354	115	49.87%	389	8.45%	150	36.72%	2.5	472	121.56%	12	-4
Total	IRB-F	10.00 to <100.00	733	549	57.40%	1 020	25.60%	191	40.38%	2.5	2 119	207.62%	102	-17
Total	IRB-F	100.00 (Default)	353	310	99.77%	642	100.00%	52	43.39%	2.5	0	0.00%	279	-186
Total	IRB-F	Other	2 121			2 121		3			7 410	349.44%	42	0
Total	**IRB-F**	**Subtotal**	**455 200**	**165 324**	**55.64%**	**580 958**	**0.20%**	**8 562**	**43.19%**	**1.6**	**59 148**	**10.18%**	**537**	**-249**
Total	IRB-A	0.00 to <0.15	1 463 523	244 699	32.89%	1 525 527	0.08%	1 376 225	18.19%	1.5	112 899	7.40%	232	-57
Total	IRB-A	0.15 to <0.25	87 230	19 600	70.50%	101 158	0.17%	311 961	29.08%	0.8	15 079	14.91%	51	-20
Total	IRB-A	0.25 to <0.50	233 871	33 175	30.20%	234 824	0.39%	329 558	24.21%	1.6	59 230	25.22%	224	-47
Total	IRB-A	0.50 to <0.75	49 610	10 918	49.81%	54 789	0.62%	170 311	29.14%	1.2	18 514	33.79%	99	-54
Total	IRB-A	0.75 to <2.50	94 224	24 686	34.53%	99 186	1.60%	293 637	28.37%	1.6	50 883	51.30%	441	-184
Total	IRB-A	2.50 to <10.00	12 903	2 292	58.35%	14 111	6.67%	107 387	34.70%	1.6	11 693	82.86%	333	-155
Total	IRB-A	10.00 to <100.00	19 629	2 202	26.09%	19 421	20.58%	58 676	29.12%	1.2	25 063	129.05%	1 281	-408
Total	IRB-A	100.00 (Default)	6 641	77	28.89%	6 621	100.00%	23 761	39.53%	1.3	11 009	166.27%	2 645	-2 644
Total	IRB-A	Other												
Total	**IRB-A**	**Subtotal**	**1 967 631**	**337 649**	**35.61%**	**2 055 637**	**0.77%**	**2 671 191**	**20.48%**	**1.4**	**304 370**	**14.81%**	**5 306**	**-3 569**
Total	Total	0.00 to <0.15	1 897 521	378 921	41.37%	2 072 492	0.06%	1 377 951	24.88%	1.5	144 696	6.98%	268	-79
Total	Total	0.15 to <0.25	93 457	22 985	66.73%	109 584	0.17%	312 658	29.70%	0.9	18 450	16.84%	57	-24
Total	Total	0.25 to <0.50	239 864	43 116	34.45%	244 936	0.39%	329 873	24.87%	1.6	64 476	26.32%	238	-51
Total	Total	0.50 to <0.75	51 498	12 454	50.46%	57 452	0.62%	170 883	29.43%	1.3	19 844	34.54%	105	-58
Total	Total	0.75 to <2.50	97 758	39 952	40.92%	107 806	1.57%	294 177	29.50%	1.7	58 286	54.07%	481	-193
Total	Total	2.50 to <10.00	13 257	2 407	57.94%	14 499	6.72%	107 431	34.75%	1.7	12 165	83.90%	345	-159
Total	Total	10.00 to <100.00	20 361	2 751	32.34%	20 442	20.83%	58 765	29.68%	1.3	27 181	132.97%	1 383	-425
Total	Total	100.00 (Default)	6 994	387	85.61%	7 263	100.00%	23 778	39.87%	1.4	11 009	151.58%	2 923	-2 829
Total	Total	Other	2 121			2 121		3			7 410	349.44%	42	0
		Total (all portfolios)	**2 422 831**	**502 973**	**42.19%**	**2 636 595**	**0.64%**	**2 675 189**	**25.48%**	**1.5**	**363 517**	**13.79%**	**5 842**	**-3 818**

[1] There are two versions of the IRB approach: the simplified version, the IRB approach without own estimates of LGD and CCF (here IRB-F, in previous regulations called the foundation approach), and the more advanced method, the IRB approach with own estimates of LGD and CCF (here IRB-A, in previous regulations called the advanced approach).

[2] The amount is based on the number of agreements rather than counterparties for retail exposures.

Evolution of risk exposure amount for credit risk during 2019
In 2019, the Bank's risk exposure amount for credit risk increased by SEK 10.1 billion. The standardised approach accounted for a decrease of SEK 0.7 billion. The changes related to the IRB approach are described in more detail in the text and table below.

The largest increase in the risk exposure amount for the IRB approach during the year came from larger lending volumes to mortgages in Sweden, increasing the effect of the risk weight floor by SEK 10.5 billion. The effect of exchange rate movements, a general weakening of the Swedish Krona led to an increase of the risk exposure amount by SEK 10.3 billion. Changes in asset quality, reflecting the credit quality of the Bank's clients and quality of collateral, had a net impact of SEK -8.9 billion. The three main components of asset quality were; new business done with counterparties who had risk weights that were lower than the average in the Bank's existing credit portfolio SEK -10.4 billion, the net effect of existing counterparties having migrated between risk classes – in other words, the net of exposures to customers that migrate to better risk classes and customers that migrate to poorer classes SEK +7.2 billion, impact of improved use of collateral SEK -5.9 billion.

The underlying increase in credit volume increased the risk exposure amount by SEK 3.4 billion. Updates of model estimates decreased the risk exposure amount by SEK 2.7 billion. With respect to credit risk, the 'Other' item includes factors such as changes in shareholdings, the effects of defaults, and changes in maturity. In net terms, these factors contributed to a decrease in the risk exposure amount of SEK 2.5 billion.

Table 3.19 EU CR8 – RWA flow statements of credit risk exposures under the IRB Approach

The following table shows the change for risk exposure amount for credit risk calculated by the IRB Approach. It further specifies the capital requirement. The change of risk exposure amount is broken down by type of driver. The risk exposure amount has increased compared to the previous Period. The main drivers are foreign exchange movements and the 25 per cent risk weight floor on Swedish mortgages that entered into force on 31 December 2018.

EU CR8 – RWA flow statements of credit risk exposures under the IRB Approach 2019

SEK bn		RWA amounts	Capital requirements
1	**RWAs as at the end of the previous reporting period**	**541.2**	**43.3**
2	Asset size	3.4	0.3
3	Asset quality	-8.9	-0.7
4	Model updates	-2.7	-0.2
5	Methodology and policy	0.0	0.0
6	Acquisitions and disposals	0.0	0.0
7	Foreign exchange movements	10.3	0.8
8a	Risk weight floor for Swedish mortgages	10.5	0.8
8	Other	-2.5	-0.2
9	**RWAs as at the end of the reporting period**	**551.3**	**44.1**

EU CR8 – RWA flow statements of credit risk exposures under the IRB Approach 2018

SEK bn		RWA amounts	Capital requirements
1	**RWAs as at the end of the previous reporting period**	**348.4**	**27.9**
2	Asset size	7.9	0.6
3	Asset quality	-0.9	-0.1
4	Model updates	18.2	1.5
5	Methodology and policy	0.0	0.0
6	Acquisitions and disposals	0.0	0.0
7	Foreign exchange movements	8.3	0.7
8	Other	163.1	13.0
9	**RWAs as at the end of the reporting period**	-3.8	-0.3
		541.2	**43.3**

Figure 3.20 Proportion of counterparties migrating between internal risk classes, corporate exposures, 2013–2019

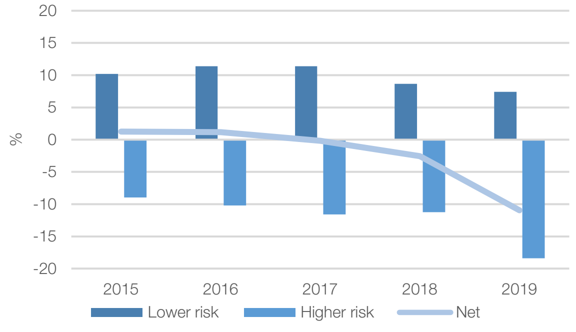


Figure 3.21 Proportion of counterparties migrating between internal risk classes, retail exposures – small companies, 2013–2019

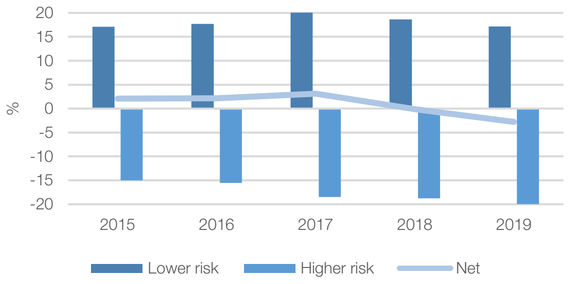
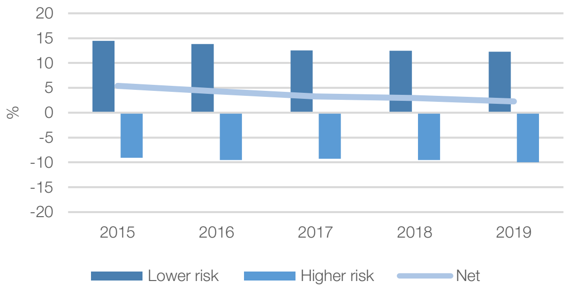


Figure 3.22 Proportion of counterparties whose internal rating migrates, retail exposures– private individuals, 2013–2019



Migrations

Trends in the quality of the credit portfolio can to some extent be identified by analysing changes in the internal risk assessment at counterparty level. This is known as rating migration. In this section, the number of migrating counterparties is measured. The negative net migration during 2019, in terms of the number of counterparties, was due to an adjustment of the internal rating system for customers with the business evaluation type Corporate and Property company. Most of the rating changes were small and between PD-risk classes indicating low risk of default.

The Bank's corporate counterparties are given an internal rating. The rating is converted to an internal risk class for application of the IRB approach for corporate exposures. Small companies, which due to their size are included in the exposure class for retail exposures are also given an internal rating, in the same way as for corporate exposures. However, this internal rating is not directly converted to an internal risk class for application of the IRB approach. However, for the purpose of showing migration in this analysis, the same calculation method is also used for Small companies.

In the analysis of how the risk assessment changes at the counterparty level for corporate counterparties, migration is monitored at the risk class calculated from the internal rating.

For private individuals, in addition to the internal rating, other factors are included when setting the risk class for the application of the IRB approach. In the analysis (Figure 3.22) of how the risk assessment changes at counterparty level for private individuals, only the internal rating is used on a 1–5 scale, from very low risk to very high risk.

Handelsbanken's internal rating method is dynamic, which means that the rating is re-assessed when there are signs that the counterparty's repayment capacity has changed to lower or higher risk. The internal rating is always updated once a year for all counterparties, regardless of whether there are signs that the repayment capacity has changed or not.

In the adjoining figures, the proportion of counterparties migrating between risk classes is presented for corporate exposures and small companies. For small companies, this is done by transforming the two-digit internal rating in to a one-digit figure which corresponds to the internal risk class for corporate exposures. Migration for retail exposures to private individuals is based on the internal rating.

Securitisation

Handelsbanken has no securitisations of its own nor any securitised exposures.

Table 3.23 Securitisation positions in the non-trading book by risk weight

Securitisation positions in the non-trading book by risk weight 2019[1,2]		Risk weight		
SEK m	Exposure amount	7–10%	12–850%	1 250%
Traditional securitisation	-	-	-	-
Synthetic securitisation	-	-	-	-
Total IRB Approach	**-**	**-**	**-**	**-**

[1] No securitisation positions in trading portfolio 2018 or 2019
[2] The exposures have an external rating from Standard & Poor's, Moody's and Fitch respectively.

Securitisation positions in the non-trading book by risk weight 2018[1,2]		Risk weight		
SEK m	Exposure amount	7–10%	12–850%	1 250%
Traditional securitisation	22	-	22	-
Synthetic securitisation	-	-	-	-
Total IRB Approach	**22**	**-**	**22**	**-**

[1] No securitisation positions in trading portfolio 2018.
[2] The exposures have an external rating from Standard & Poors, Moody's and Fitch respectively.

COUNTERPARTY CREDIT RISKS

Counterparty credit risk arises when the Bank has entered into a derivative contract or a contract for the loan of securities with a counterparty. Thus, in addition to derivatives, the capital adequacy regulations treat both repurchase agreements and securities lending as counterparty credit risks.

Counterparty credit risk is regarded as a credit risk where the market value of the contract determines the size of the exposure. If the contract has a positive value, the default of the counterparty means a potential loss for the Bank.

In calculating the capital requirement and economic capital (EC), counterparty credit exposures are taken into account based on the exposure amounts stipulated by the capital adequacy regulations. Handelsbanken applies the mark-to-market method to calculate exposure amounts for derivatives contracts for capital adequacy purposes. To determine the current replacement cost for all contracts with a positive value, the contracts are assigned their prevailing market values. To estimate the possible future credit exposure, the nominal amount of the contract is multiplied by the percentage rate stipulated in the regulations, which depends on the type of derivative and the maturity of the exposure.

Mitigation of counterparty credit risk

Counterparty credit risk occurs from the trade date up until delivery and means that the Bank can incur costs for winding down the position if the counterparty cannot fulfil its obligations. This risk exists in both derivative transactions and in securities financing transactions.

The size of counterparty credit exposures is restricted by setting credit limits in the regular credit process. The size of the exposures may vary substantially due to fluctuations in the price of the underlying asset. In order to take the risk that the exposure may increase into account, supplements are added to the value of the exposure when setting credit limits. These add-ons are calculated using standard amounts that depend on the type of contract and the time to maturity. The exposures are calculated and followed up daily.

The bank has very limited exposure to wrong-way risk as derivative transactions generally are client driven with the purpose of hedging the clients business from market risk exposures (i.e. the opposite of wrong-way risk). In order to formalize the evaluation of specific wrong way risk to ensure no clients deviates from the general assessment of correlation a formal evaluation will be integrated in the client onboarding process.

The counterparty credit risk in derivatives is reduced through close-out netting agreements, which involve offsetting positive values against negative values in all derivative transactions with the same counterparty. Netting agreements are supplemented with credit support annex (CSA) agreements, for issuing collateral for the net exposure, which further reduces the counterparty credit risk. The collateral for these transactions is mainly cash, but government instruments are also used. Due to the high proportion of cash, the concentration risks in the collateral are limited.

A small number of the collateral agreements entered into by the Bank include terms and conditions concerning rating-based threshold amounts for Handelsbanken. These conditions mean that the Bank must provide further collateral for the counterparty in question, in the event of external parties lowering the Bank's rating. At year-end, a downgrading from AA/Aa2 to AA-/Aa3 would have meant the Bank having to provide additional collateral of SEK 60 million (60).

The majority of Handelsbanken's contracts contain close-out netting, and the contracts with the largest exposures also contain CSA agreements.

Derivatives which are cleared via central counterparties also give rise to capital requirements. Central counterparties are clearing houses which act as the counterparty for both the buyer and seller in various transactions, and thus take over the responsibility for fulfilling the parties' obligations. All parties which use a central counterparty must provide collateral for all transactions. In most cases, the risk weight for centrally cleared derivatives is considerably lower than for other types of derivatives. The risk-weighted exposure amount for derivative transactions with central counterparties was SEK 143 million (136) at year-end.

Non-cleared derivative transactions also result in capital requirements for credit valuation adjustment (CVA) risk. This risk is related to the counterparty's credit quality. Currently the Bank does not hedge its CVA risk. The capital requirement for CVA risk was SEK 329 million (417) at year-end.

Payment risk

Payment risk arises in transactions where the Bank has fulfilled its commitments in the form of foreign exchange conversion, payments or delivery of securities, but cannot at the same time ensure that the counterparty has fulfilled its commitments to the Bank. The risk amount equals the amount of the payment transaction. The payment risks are not included in the credit limit of each customer; instead, they are covered by a separate limit. At Handelsbanken, the risk of value changes in spot transactions is categorised as payment risk, while the risk of value changes in derivative transactions is categorised as credit risk.

Table 3.24 Counterparty credit risk broken down into exposure classes, exposure amounts and risk-weighted exposure amounts, IRB Approach

Exposure amount broken down into derivatives and SFTs (securities financing transactions).

Counterparty risk broken down into exposure classes, exposure amounts and risk-weighted exposure amounts, IRB Approach	2019		2018	
SEK m	Exposure amount	Risk-weighted exposure amount	Exposure amount	Risk-weighted exposure amount
Exposure classes IRB Approach				
Institution exposures	41 109	8 516	60 561	9 218
Corporate exposures	8 509	2 604	10 050	2 986
Sovereign exposures	3 918	76	3 915	96
Total IRB Approach	**53 536**	**11 196**	**74 526**	**12 300**

Table 3.25 Counterparty credit risk broken down into exposure classes, exposure values and risk-weighted exposure amounts, standardised approach

Exposure value broken down into derivatives and SFTs (securities financing transactions).

Counterparty risk broken down into exposure classes, exposure values and risk-weighted exposure amounts, standardised approach	2019		2018	
SEK m	Exposure value	Risk-weighted exposure amount	Exposure value	Risk-weighted exposure amount
Exposure classes standardised approach				
Institution exposures	7 169	144	6 776	136
of which cleared via central counterparties	*7 165*	*143*	*6 776*	*136*
Other	299	19	378	162
Total standardised approach	**7 468**	**163**	**7 154**	**298**
Total IRB and standardised approach	**61 004**	**11 359**	**81 680**	**12 598**

Table 3.26 Counterparty credit risks in derivative contracts excluding standard add-ons for potential future exposure

Counterparty credit risks in derivative contracts excluding standard add-ons for potential future exposure		
SEK m	**2019**	**2018**
Gross fair value	66 877	79 091
Netting benefits	-29 673	-28 547
Netted current credit exposure	37 204	50 544
Collateral held[1]	-30 022	-43 805
Net credit exposure	7 182	6 739

[1] Including collateral used to offset market value in the balance sheet

Table 3.27 Counterparty credit risks in derivative contracts including potential future exposure

Counterparty credit risks in derivative contracts including potential future exposure 2019 SEK m	Current set-off exposure	Potential future exposure	Exposure amount	Risk-weighted exposure amount	Capital requirement
Sovereign exposures	1 433	577	2 010	76	6
Institution exposures	24 023	21 870	45 893	8 419	674
Corporate exposures	5 103	4 634	9 737	2 604	208
Others	7	15	22	15	1
Total	**30 566**	**27 096**	**57 662**	**11 114**	**889**
of which operations in the trading book	*7 557*	*10 459*	*18 016*	*3 960*	*317*

Counterparty credit risks in derivative contracts including potential future exposure 2018 SEK m	Current set-off exposure	Potential future exposure	Exposure amount	Risk-weighted exposure amount	Capital requirement
Sovereign exposures	1 714	658	2 372	95	8
Institution exposures	37 528	26 531	64 059	8 900	711
Corporate exposures	6 120	3 767	9 887	3 021	242
Others	75	45	120	88	7
Total	**45 437**	**31 001**	**76 438**	**12 104**	**968**
of which operations in the trading book	*10 665*	*11 993*	*22 658*	*4 185*	*335*

Market risk

Handelsbanken aims to have low market risks and low volatility in its earnings. Market risks mainly arise in Handelsbanken Capital Markets as a result of customer-driven transactions, in its role as market maker and in connection with the Bank's funding and liquidity management. In addition, market risk arises in the pension system. Market risks arise from price and volatility changes in the financial markets. Market risks are divided into interest rate risk, equity price risk, exchange rate risk and commodity price risk.

For a more detailed description of the Banks market risks, see Handelsbanken's Annual Report, note G2.

Table 4.1 EU MR1 – Market risk under the standardised approach

The following table shows capital requirements and REA for market risk according to the standardised approach (CRR) at year-end 2019

EU MR1 – Market risk under the standardised approach	**2019**		**2018**	
SEK m	**REA**	**Capital requirements**	**REA**	**Capital requirements**
Outright products				
Interest rate risk	8 130	651	9 552	764
of which general risk	*6 923*	*554*	*7 888*	*631*
of which specific risk	*1 207*	*97*	*1 664*	*133*
Equity risk	43	3	84	7
of which general risk	*12*	*1*	*27*	*2*
of which specific risk	*30*	*2*	*54*	*5*
of which CIUs	*1*	*0*	*3*	*0*
Foreign exchange risk	-	-	-	-
Commodity risk	54	4	85	7
Options				
Scenario approach	36	3	43	3
of which interest rate risk	*3*	*0*	*4*	*0*
of which equity risk	*33*	*3*	*39*	*3*
of which foreign exchange risk	-	-	-	-
of which commodity risk	-	-	*0*	*0*
Securitisation (specific risk)	-	-	-	-
Settlement risk	9	1	1	0
Total	**8 272**	**662**	**9 765**	**781**

Funding and liquidity risk

Liquidity risk is the risk that the Bank will not be able to meet its payment obligations as they fall due without being affected by unacceptable costs or losses.

The Bank has a low tolerance of liquidity risks and works actively to minimise them, both at aggregate level and in each individual currency. The aim is to have good access to liquidity, a low level of variation in results and a considerable capacity to meet customers' funding needs, even in difficult times. This is achieved by maintaining a good matching of incoming and outgoing cash flows over time in all currencies essential to the Bank and by maintaining large liquidity reserves of good quality.

For a more detailed description of the Banks funding and liquidity risk, see Handelsbanken's Annual Report, note G2.

Table 5.1 EU LIQ1 – LCR disclosure template

The following table shows weighted and unweighted components and levels for the liquidity coverage ratio (LCR) where the values presented are simple averages of month-end observations over the 12 months preceding the end of each quarter.

EU LIQ1 – LCR disclosure template Consolidated situation		**Total unweighted value (average)**				**Total weighted value (average)**			
SEK m	**Quarter ending on**	**31 Dec 19**	**30 Sep 19**	**30 Jun 19**	**31 Mar 19**	**31 Dec 19**	**30 Sep 19**	**30 Jun 19**	**31 Mar 19**
	Number of data points used in the calculation of averages	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**
	HIGH-QUALITY LIQUID ASSETS								
1	Total high-quality liquid assets (HQLA)					564 768	559 641	567 264	579 036
	CASH – OUTFLOWS								
2	Retail deposits and deposits from small business customers, of which:	669 814	663 665	650 960	638 669	60 575	60 164	59 077	57 904
3	*Stable deposits*	*295 324*	*291 734*	*287 384*	*283 171*	*14 766*	*14 587*	*14 369*	*14 158*
4	*Less stable deposits*	*374 490*	*371 931*	*363 576*	*355 498*	*45 809*	*45 577*	*44 708*	*43 746*
5	Unsecured wholesale funding	598 953	583 212	572 820	584 734	325 975	324 906	327 497	346 924
6	*Operational deposits (all counterparties) and deposits in networks of cooperative banks*	*215 406*	*201 951*	*189 948*	*182 449*	*52 717*	*49 468*	*46 412*	*44 476*
7	*Non-operational deposits (all counterparties)*	*298 253*	*286 477*	*295 326*	*312 493*	*187 964*	*180 654*	*193 539*	*212 656*
8	*Unsecured debt*	*85 294*	*94 784*	*87 546*	*89 792*	*85 294*	*94 784*	*87 546*	*89 792*
9	Secured wholesale funding					7 142	7 324	7 432	7 203
10	Additional requirements	261 565	267 302	273 795	279 909	38 819	37 159	36 900	36 587
11	*Outflows related to derivative exposures and other collateral requirements*	*11 373*	*9 877*	*9 592*	*9 090*	*10 953*	*9 580*	*9 415*	*8 985*
12	*Outflows related to loss of funding on debt products*	-	-	-	-	-	-	-	-
13	*Credit and liquidity facilities*	*250 192*	*257 425*	*264 203*	*270 819*	*27 866*	*27 579*	*27 485*	*27 602*
14	Other contractual funding obligations	2 847	1 804	1 528	1 445	2 847	1 804	1 528	1 446
15	Other contingent funding obligations	284 398	280 452	272 549	262 947	2 025	1 618	1 108	669
16	**TOTAL CASH OUTFLOWS**	**-**	**-**	**-**	**-**	**437 383**	**432 975**	**433 542**	**450 733**
	CASH – INFLOWS								
17	Secured lending (e.g. reverse repos)	49 684	47 977	45 864	43 368	27 992	27 507	27 172	25 739
18	Inflows from fully performing exposures	56 251	59 306	61 183	64 696	32 314	35 137	37 237	40 642
19	Other cash inflows	16 947	15 677	10 252	11 208	16 947	15 677	10 252	11 208
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**	**122 882**	**122 960**	**117 299**	**119 272**	**77 253**	**78 321**	**74 661**	**77 589**
EU-20a	***Fully exempt inflows***	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
EU-20b	***Inflows subject to 90% cap***	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
EU-20c	***Inflows subject to 75% cap***	**113 427**	**113 294**	**107 512**	**109 089**	**77 253**	**78 321**	**74 661**	**77 589**
21	**LIQUIDITY BUFFER**					**564 768**	**559 641**	**567 264**	**579 036**
22	**TOTAL NET CASH OUTFLOWS**					**360 130**	**354 654**	**358 881**	**373 144**
23	**LIQUIDITY COVERAGE RATIO (%)**					**157**	**158**	**159**	**156**

Table 5.2 Encumbered and unencumbered assets

The following table shows encumbered and unencumbered assets. The information is presented as quarterly medians over the previous 12 months.

	Encumbered and unencumbered assets 2019	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
SEK m		010	030	040	050	060	080	090	100
010	**Assets of the reporting institution**	**725 832**	**10 473**			**2 243 645**	**175 849**		
030	Equity instruments	5 584	0			15 296	0		
040	Debt securities	11 636	10 473	11 635	10 473	179 257	175 849	179 257	175 849
050	*of which: covered bonds*	981	981	981	981	43 588	42 328	43 588	42 328
060	*of which: asset-backed securities*	0	0	0	0	0	0	0	0
070	*of which: issued by general governments*	9 493	9 493	9 493	9 493	17 241	17 212	17 241	17 212
080	*of which: issued by financial corporations*	981	981	981	981	41 384	41 000	41 384	41 000
090	*of which: issued by non-financial corporations*	0	0	0	0	3 054	559	3 060	559
120	Other assets	706 783	0			2 065 755	0		

Table 5.3 Collateral received

The following table shows collateral received. The information is presented as quarterly medians over the previous 12 months.

	Collateral received 2019			Unencumbered	
		Fair value of encumbered collateral received or own debt securities issued		Fair value of collateral received or own debt securities issued available for encumbrance	
			of which notionally eligible EHQLA and HQLA		of which EHQLA and HQLA
SEK m		010	030	040	060
130	**Collateral received by the reporting institution**	**12 795**	**3 532**	**20 632**	**13 647**
140	Loans on demand	0	0	0	0
150	Equity instruments	8 801	0	6 936	0
160	Debt securities	3 532	3 532	13 696	13 647
170	*of which: covered bonds*	*237*	*237*	*10 666*	*10 617*
180	*of which: asset-backed securities*	*0*	*0*	*0*	*0*
190	*of which: issued by general governments*	*3 168*	*3 168*	*2 263*	*2 263*
200	*of which: issued by financial corporations*	*357*	*357*	*11 287*	*11 213*
210	*of which: issued by non-financial corporations*	*0*	*0*	*0*	*0*
220	Loans and advances other than loans on demand	0	0	0	0
230	Other collateral received	0	0	0	0
240	**Own debt securities issued other than own covered bonds or asset-backed securities**	**0**	**0**	**0**	**0**
241	**Own covered bonds and asset-backed securities issued and not yet pledged**			**0**	**0**
250	**Total assets, collateral received and own debt securities issued**	**739 001**	**14 468**		

Table 5.4 Sources of encumbrance

The following table shows sources of encumbrance. The information is presented as quarterly medians over the previous 12 months.

	Sources of encumbrance 2019	Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered
SEK m		010	030
010	**Carrying amount of selected financial liabilities**	**656 822**	**713 117**

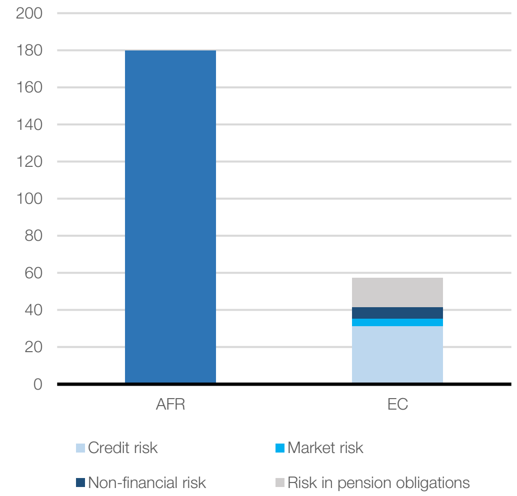
Economic capital

Group Risk Control is responsible for comprehensive monitoring of the Group's various risks. The Bank's model for economic capital (EC) is an instrument in this monitoring. It is also part of the Bank's assessment of the internal capital requirement which is reported quarterly to the Board. This assessment is intended to ensure that the Group has sufficient capital at all times in relation to all risks in the Group. The Group perspective means that EC includes risks in the insurance operations and risks in the Bank's pension obligations.

Handelsbanken's model for calculating EC identifies in one measurement the Group's overall risks and indicates the capital which, with very high probability, will cover unexpected losses or decreases in value. The capital and other financial resources that form a buffer to absorb negative outcomes are called available financial resources (AFR).

For a more detailed description of the Bank's capital, see Handelsbanken's Annual Report, note G2.

Figure 6.1 Total of AFR and EC including diversification 2019
SEK bn



Operational risk

Handelsbanken has a very low tolerance for operational risk and strives to keep the operational risk at a low level so that the operational losses remain low.

Operational risk refers to the risk of loss due to inadequate or failed internal processes, human error, erroneous systems or external events. The definition includes legal risk.

The Board has established the Handelsbanken Group's tolerance for operational risk. Handelsbanken has a low tolerance of operational risk, while operational risk is an inevitable component of all operations at the Bank. Significant operational risk that could cause major operational losses must be reduced through risk-mitigation measures to a lower risk level so that the risks lie within the Bank's risk tolerance, that is, so that the consequences and/or probability of an incident become acceptable. Losses resulting from an operational risk event can be covered by insurance or other solutions.

Operational risk must be managed so that the Group's operational losses remain low. The Group Chief Executive has established limits and threshold levels for operational risk. Risks above the threshold must have an action plan for risk-mitigation measures. The action plan must also be sufficient and the plan must be progressing according to the approved time schedule.

Handelsbanken's operational losses, which comprise expected and recognised operational losses and any recoveries, totalled SEK 53 million (58) in 2019. It is not unusual that the amount referring to operational losses is adjusted over time due to recoveries, or that additional losses are added which are related to a previously reported incident. This may affect the comparison figures for previously reported losses.

ORGANISATIONAL STRUCTURE

The responsibility for identifying, assessing and managing operational risk is an integral part of managerial responsibility at all levels in the Handelsbanken Group. The Bank's decentralised way of working and cost-consciousness promote good management of operational risk, which leads to vigilance against potential loss risks in daily procedures and events.

Operational risk management is described in Handelsbanken's Annual Report, note G2.

CAPITAL REQUIREMENT FOR OPERATIONAL RISK

Handelsbanken uses the standardised approach to calculate the capital requirement for operational risk. According to the standardised approach, the capital requirement is calculated by multiplying a factor specified in the regulations by the average operating income during the last three years of operation. Different factors are applied in different business segments.

At the end of 2019, the total capital requirement for operational risk for the consolidated situation was SEK 5,282 million (5,115).

Compliance risk

Handelsbanken has a low tolerance of compliance risks and, as far as possible, must prevent these risks. In cases where the Compliance function has reported a compliance risk as major or critical, and there is no action plan, or Compliance considers the action plan to be inadequate, the risk level is regarded as being outside the Bank's risk tolerance.

Compliance risks are the risks that are associated with inadequate compliance.

By compliance is meant the observance of regulations, laws, directives and recommendations from public authorities, internal rules, as well as generally accepted business practices or standards relating to operations that are subject to a license conducted by the Handelsbanken Group. The Handelsbanken Group has high ambitions regarding good administrative order, ethical standards and compliance with laws and regulations. In its Policy for Compliance, Handelsbanken's Board has established that the Handelsbanken Group "has a low tolerance of compliance risks and, as far as possible, must prevent these risks." Inadequate compliance may lead to increased operational risks, risk of sanctions or other interventions, financial losses or a loss of confidence in the Handelsbanken Group's operations. Measures to ensure that compliance is observed are part of internal control and the responsibility for ensuring compliance rests with function managers, and product owners, as well as with managers and employees of Handelsbanken. The primary responsibilities of the Compliance function are to work actively to ensure a high level of compliance and to ensure that the low tolerance of compliance risks is fulfilled. The work of the Compliance function aims to protect the Bank from compliance risks. Management of compliance risk is described in Handelsbanken's Annual Report.

ORGANISATION

The Compliance function is organised into Group Compliance as well as local compliance units in subsidiaries and other legal entities. All compliance units must be independent of the business operations and organisationally separate from the functions and areas which are subject to control.

Tables

CREDIT RISK

Information about past due and impaired loans

Table T1 EU CR1-B – Credit quality of exposures by industry or counterparty types

The following table specifies gross exposures by exposure class and by industry. It further specifies credit risk adjustments, write-offs and net values. Specific credit risk adjustment has decreased compared to the previous period. The total net value has increased compared to the previous period.

EU CR1-B – Credit quality of exposures by industry or counterparty types 2019		Gross carrying values of						
SEK m		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges	Net values
1	Agriculture, forestry and fishing	142	56 472	89		0	23	56 525
2	Mining and quarrying	0	5 763	2		0	0	5 761
3	Manufacturing	1 416	95 021	1 313		7	491	95 124
4	Electricity, gas, steam and air conditioning supply	9	34 062	12		0	3	34 059
5	Water supply	0	5 154	8		11	0	5 146
6	Construction	505	76 476	322		0	105	76 659
7	Wholesale and retail trade	250	68 853	200		14	55	68 903
8	Transport and storage	2 002	29 242	565		6	211	30 679
9	Accommodation and food service activities	57	15 248	32		0	5	15 273
10	Information and communication	85	10 542	76		0	27	10 551
10a	Financial and insurance activities	128	93 770	110		3	32	93 788
11	Real estate activities	1 045	833 467	460		21	110	834 052
12	Professional, scientific and technical activities	181	142 507	131		0	32	142 557
13	Administrative and support service activities	52	19 564	52		0	14	19 564
14	Public administration and defence, compulsory social security	294	48 069	8		0	0	48 355
15	Education	71	18 768	22		0	7	18 817
16	Human health services and social work activities	83	26 944	13		0	1	27 014
17	Arts, entertainment and recreation	132	12 627	67		0	23	12 692
17a	Activities of households as employers	0	1 462	0		0	0	1 462
17b	Activities of extraterritorial organisations and bodies	9	1 586	5		0	1	1 590
18	Other services[1]	3 083	1 588 593	1 328		18	367	1 590 348
19	**Total**	**9 544**	**3 184 190**	**4 815**		**80**	**1 507**	**3 188 919**

[1] Other services include retail exposures.

EU CR1-B – Credit quality of exposures by industry or counterparty types 2018		Gross carrying values of						
SEK m		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges	Net values
1	Agriculture, forestry and fishing	114	55 423	82		2	19	55 455
2	Mining and quarrying	1	6 832	3		0	0	6 830
3	Manufacturing	480	89 509	358		30	96	89 631
4	Electricity, gas, steam and air conditioning supply	50	33 427	52		0	17	33 425
5	Water supply	4	5 076	12		50	1	5 068
6	Construction	438	79 015	246		1	61	79 207
7	Wholesale and retail trade	216	62 200	176		63	44	62 240
8	Transport and storage	1 931	29 351	437		25	145	30 845
9	Accommodation and food service activities	72	13 316	41		4	9	13 347
10	Information and communication	69	14 143	77		0	24	14 135
10a	Financial and insurance activities	263	97 453	186		12	59	97 530
11	Real estate activities	980	786 120	572		80	109	786 528
12	Professional, scientific and technical activities	153	145 557	127		0	29	145 583
13	Administrative and support service activities	49	17 886	50		0	11	17 885
14	Public administration and defence, compulsory social security	62	32 169	31		0	9	32 200
15	Education	42	20 230	36		0	11	20 236
16	Human health services and social work activities	5	31 868	10		0	1	31 863
17	Arts, entertainment and recreation	158	11 880	59		1	16	11 979
17a	Activities of households as employers	0	1 028	0		0	0	1 028
17b	Activities of extraterritorial organisations and bodies	9	1 467	5		0	1	1 471
18	Other services[1]	3 111	1 572 044	1 395		81	359	1 573 760
19	**Total**	**8 207**	**3 105 994**	**3 955**		**349**	**1 021**	**3 110 246**

[1] Other services include retail exposures.

Table T2 EU CR1-C – Credit quality of exposures by geography

The following table specifies gross exposures by exposure class and by geography. It further specifies credit risk adjustments, write-offs and net values. Gross exposures have increased compared to the previous period.

EU CR1-C - Credit quality of exposures by geography 2019		**Gross carrying values of**						
SEK m		**Defaulted exposures**	**Non-defaulted exposures**	**Specific credit risk adjustment**	**General credit risk adjustment**	**Accumulated write-offs**	**Credit risk adjustment charges**	**Net values**
1	Sweden	3 743	1 729 581	2 469		52	801	1 730 855
2	UK	782	405 929	262		1	38	406 449
3	Norway	2 019	369 545	748		7	247	370 816
4	Denmark	1 019	159 537	427		11	130	160 129
5	Finland	1 507	289 487	620		3	191	290 374
6	The Netherlands	27	74 654	12		6	1	74 669
18	Other countries	447	155 457	277		0	99	155 627
19	**Total**	**9 544**	**3 184 190**	**4 815**		**80**	**1 507**	**3 188 919**

EU CR1-C - Credit quality of exposures by geography 2018		**Gross carrying values of**						
SEK m		**Defaulted exposures**	**Non-defaulted exposures**	**Specific credit risk adjustment**	**General credit risk adjustment**	**Accumulated write-offs**	**Credit risk adjustment charges**	**Net values**
1	Sweden	2 490	1 673 837	1 447		248	363	1 674 880
2	UK	888	362 408	285		0	55	363 011
3	Norway	2 100	324 276	681		27	188	325 695
4	Denmark	1 045	161 703	476		35	131	162 272
5	Finland	1 222	308 244	746		12	196	308 720
6	The Netherlands	27	55 451	9		27	1	55 469
18	Other countries	435	220 075	311		0	87	220 199
19	**Total**	**8 207**	**3 105 994**	**3 955**		**349**	**1 021**	**3 110 246**

Table T3 Credit quality of performing and non-performing exposures by past due days

Gross carrying amount of performing and non-performing exposures according to the scope of regulatory consolidation in accordance with Chapter 2 of Title II of Part One of the CRR.
This table has been added in accordance with new regulation from 2020, se corresponding tables for 2018 data.

	Credit quality of performing and non-performing exposures by past due days 2019	Gross carrying amount/nominal amount												
		Performing exposures				Non-performing exposures								
	SEK m		Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days			Unlikely to pay that are not past due or are past due ≤ 90 days	Past due > 90 days ≤ 180 days	Past due > 180 days ≤ 1 year	Past due > 1 year ≤ 2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	Of which defaulted
1	Loans and advances	2 658 454	2 657 580	874		9 145	6 609	349	527	654	540	279	187	9 145
2	*Central banks*	347 386	347 386	-		-	-	-	-	-	-	-	-	-
3	*General governments*	12 607	12 607	-	-	-	-	-	-	-	-	-	-	-
4	*Credit institutions*	17 745	17 745	0		-	0	-	-	-	-	-	-	-
5	*Other financial corporations*	23 192	23 186	6		28	25	0	0	3	0	0	0	28
6	*Non-financial corporations*	1 038 410	1 038 128	282		5 342	4 639	56	191	144	145	87	80	5 342
7	*Of which SMEs*	727 166	726 943	223		2 040	1 537	41	160	97	102	51	52	2 040
8	*Households*	1 219 114	1 218 528	586		3 774	1 945	293	336	507	394	192	107	3 774
9	Debt securities	6 380	6 380											
10	*Central banks*	1 006	1 006	-		-	-	-	-	-	-	-	-	-
11	*General governments*	403	403	-		-	-	-	-	-	-	-	-	-
12	*Credit institutions*	4 971	4 971	-		-	-	-	-	-	-	-	-	-
13	*Other financial corporations*	-	-	-		-	-	-	-	-	-	-	-	-
14	*Non-financial corporations*	-	-	-		-	-	-	-	-	-	-	-	-
15	Off-balance-sheet exposures	534 662				652								652
16	*Central banks*	-				-								-
17	*General governments*	17 441				-								-
18	*Credit institutions*	14 574				1								1
19	*Other financial corporations*	8 551				-								-
20	*Non-financial corporations*	415 564				585								585
21	*Households*	78 532				66								66
22	**Total**	**3 199 496**	**2 663 960**	**874**		**9 797**	**6 609**	**349**	**527**	**654**	**540**	**279**	**187**	**9 797**

Table T4 Performing and non-performing exposures and related provisions

Gross carrying amount of performing and non-performing exposures and the related accumulated impairment, provisions, accumulated change in fair value due to credit risk, accumulated partial write-off, and collateral and financial guarantees received, according to the scope of regulatory consolidation in accordance with Chapter 2 of Title II of Part One of the CRR.
This table has been added in accordance with new regulation from 2020, se corresponding tables for 2018 data.

	Performing and non-performing exposures and related provisions 2019	Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions						Accumulated partial write off	Collateral and financial guarantees received	
		Performing exposures			Non-performing exposures			Performing exposures accumulated impairment and provisions			Non-performing exposures – accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions					
	SEK m		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		On performing exposures	On non-performing exposures
1	Loans and advances	2 658 454	2 598 043	51 591	9 145	291	8 831	-799	-362	-437	-3 773	-6	-3 767	-113	2 226 472	6 057
2	*Central banks*	347 386	347 386	-	-	-	-	-	-	-	-	-	-	-	-	-
3	*General governments*	12 607	12 241	366	-	-	-	-2	-1	-1	-	-	-	-	6 951	-
4	*Credit institutions*	17 745	17 488	247	-	-	-	-4	-2	-2	-	-	-	-	4 808	7
5	*Other financial corporations*	23 192	22 901	263	28	-	28	-6	-2	-3	-14	-	-14	-4	16 001	22
6	*Non-financial corporations*	1 038 410	1 009 030	24 102	5 342	59	5 281	-456	-202	-253	-2 676	-2	-2 674	-86	967 057	3 571
7	*Of which SMEs*	727 166	707 731	17 442	2 040	47	1 993	-363	-158	-204	-650	-1	-649	-62	715 678	1 534
8	*Households*	1 219 114	1 188 997	26 613	3 774	233	3 527	-332	-154	-177	-1 083	-4	-1 079	-24	1 231 654	2 457
9	Debt securities	6 380	6 380	-	-	-	-	-2	-2	-	-	-	-	-	1 551	-
10	*Central banks*	1 006	1 006	-	-	-	-	-	-	-	-	-	-	-	-	-
11	*General governments*	403	403	-	-	-	-	-	-	-	-	-	-	-	403	-
12	*Credit institutions*	4 971	4 971	-	-	-	-	-2	-2	-	-	-	-	-	-	-
13	*Other financial corporations*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	*Non-financial corporations*	-	-	-	-	-	-	-	-	-	-	-	-	-	1 148	-
15	Off-balance-sheet exposures	534 662	350 635	7 478	652	1	651	-135	-69	-66	-3 873	-	-106	-	86 670	523
16	*Central banks*	-	-	-	-	-	-	-	-	-	-	-	-		-	-
17	*General governments*	17 441	10 339	36	-	-	-	-	-	-	-	-	-		266	-
18	*Credit institutions*	14 574	10 364	522	1	-	1	-9	-1	-8	-9	-	-		742	1
19	*Other financial corporations*	8 551	6 459	139	-	-	-	-2	-1	-1	-14	-	-		1 466	-
20	*Non-financial corporations*	415 564	253 293	6 144	586	1	585	-79	-36	-42	-2 772	-	-98		66 996	487
21	*Households*	78 532	70 180	636	66	0	66	-46	-31	-14	-1 078	-	-8		17 201	36
22	**Total**	**3 199 496**	**2 955 058**	**59 069**	**9 797**	**293**	**9 488**	**-936**	**-433**	**-503**	**-7 646**	**-6**	**-3 873**	**-113**	**2 314 693**	**6 580**

EU CR1-E – Non-performing and forborne exposures 2018

		Gross carrying amount of performing and non-performing exposures							Accumulated impairment and provisions and negative fair value adjustments due to credit risk				Collaterals and financial guarantees received	
					Of which non-performing				On performing exposures		On non-performing exposures			
	SEK m		Of which performing but past due > 30 days and <= 90 days	Of which performing forborne		Of which defaulted	Of which impaired	Of which forborne		Of which forborne		Of which forborne	Of which non- performing exposures	Of which forborne exposures
10	Debt securities	6 598	-	-	-	-	-	-	-1	-	-	-	-	-
20	Loans and advances	2 559 601	421	7 971	23 211	15 241	12 776	19 406	-985	-263	-5 173	-3 817	3 043	4 966
30	Off-balance-sheet exposures	534 856	267	2 467	2 881	414	26	2 805	-141	-4	-	0	50	229

Table T5 EU CR2-B – Changes in the stock of defaulted and impaired loans and debt securities

The following table shows the changes for the amount of defaulted loans, impaired loans and impaired debt securities. The closing balance has increased compared to the previous period.

EU CR2-B – Changes in the stock of defaulted and impaired loans and debt securities 2019 SEK m		Gross carrying value defaulted exposures
1	**Opening balance**	**7 730**
2	Loans an debt securities that have defaulted or impaired since the last reporting period	2 131
3	Returned to non-defaulted status	-386
4	Amounts written-off	-501
5	Other changes	171
6	**Closing balance**	**9 145**

EU CR2-B – Changes in the stock of defaulted and impaired loans and debt securities 2018 SEK m		Gross carrying value defaulted exposures
1	**Opening balance**	**7 944**
2	Loans an debt securities that have defaulted or impaired since the last reporting period	2 271
3	Returned to non-defaulted status	-265
4	Amounts written-off	-2 966
5	Other changes	746
6	**Closing balance**	**7 730**

Table T6 Change in provision for probable loan losses

The following table shows the changes for the amount of general and specific credit risk adjustments. The closing balance has increased compared to the previous period. Figures for 2018 have been updated to match those in the 2018 annual report.

Change in provision for expected loan losses 2019 SEK m	Stage 1	Stage 2	Stage 3	Total
Provision at beginning of year	**-394**	**-624**	**-2 937**	**-3 955**
Derecognised assets	54	120	81	255
Write-offs	1	1	419	421
Remeasurements due to changes in credit risk	-207	-133	-43	-383
Changes due to update in the methodology for estimation	-2	-3	-	-5
Foreign exchange effect, etc.	-12	-10	-47	-69
Purchased or originated assets	-59	-26	-16	-101
Transfer to Stage 1	-30	63	1	34
Transfer to Stage 2	104	-256	20	-132
Transfer to Stage 3	113	358	-1 351	-880
Provision at end of period	**-432**	**-510**	**-3 873**	**-4 815**

Change in provision for expected loan losses 2018 SEK m	Stage 1	Stage 2	Stage 3	Total
Provision at beginning of year	**-511**	**-662**	**-4 696**	**-5 869**
Derecognised assets	67	122	145	334
Write-offs	0	26	2 685	2 711
Remeasurements due to changes in credit risk	-117	-642	-175	-934
Changes due to update in the methodology for estimation	53	179	0	232
Foreign exchange effect, etc.	-8	-25	-40	-73
Purchased or originated assets	-87	-86	-16	-189
Transfer to Stage 1	-17	62	0	45
Transfer to Stage 2	105	-278	2	-171
Transfer to Stage 3	121	680	-842	-41
Provision at end of period	**-394**	**-624**	**-2 937**	**-3 955**

Table T7 EU CR3 – CRM techniques – Overview

The table shows secured exposures and unsecured exposures. The outstanding secured exposures are broken down by amounts secured by collateral, guarantees and credit derivatives. Relations are in line with the previous period.

EU CR3 - CRM techniques - Overview 2019

	SEK m	Exposures unsecured – Carrying amount	Exposures secured – Carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
1	Total loans	963 743	2 248 125	2 147 420	100 705	-
2	Total debt securities	5 963	403	0	403	-
3	**Total exposures**	**969 706**	**2 248 528**	**2 147 420**	**101 108**	**-**
4	Of which defaulted	2 818	2 854	2 459	395	-

EU CR3 - CRM techniques - Overview 2018

	SEK m	Exposures unsecured – Carrying amount	Exposures secured – Carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
1	Total loans	977 492	2 126 158	2 028 865	97 293	-
2	Total debt securities	6 597	0	0	0	-
3	**Total exposures**	**984 089**	**2 126 158**	**2 028 865**	**97 293**	**-**
4	Of which defaulted	2 500	2 770	2 702	68	-

Table T8 Credit quality of forborne exposures

Gross carrying amount of forborne exposures and the related accumulated impairment, provisions, accumulated change in fair value due to credit risk, and collateral and financial guarantees received, according to the scope of regulatory consolidation in accordance with Chapter 2 of Title II of Part One of the CRR. This table has been added in accordance with new regulation from 2020, se corresponding tables for 2018 data.

	Credit quality of forborne exposures 2019	**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 m	**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 forbearance measures**
1	Loans and advances	4 623	5 314	4 920	4 527	-60	-2 647	4 208	1 174
2	*Central banks*								
3	*General governments*								
4	*Credit institutions*	0	0	0	0	0	0	0	0
5	*Other financial corporations*	9	14	14	14	0	-8	13	7
6	*Non-financial corporations*	2 727	4 066	3 998	3 712	-48	-2 132	1 923	623
7	*Households*	1 887	1 232	907	799	-13	-506	2 273	545
8	Debt Securities	0	0	0	0	0	0	0	0
9	Loan commitments given	458	482	460	303	-3	-75	84	37
10	***Total***	**5 081**	**5 796**	**5 380**	**4 830**	**-63**	**-2 721**	**4 292**	**1 211**

Table T9 Collateral obtained by taking possession and execution processes

Information on the instruments that were cancelled in exchange for the collateral obtained by taking possession and on the value of the collateral obtained by taking possession. This table has been added in accordance with new regulation from 2020, se corresponding tables for 2018 data.

Collateral obtained by taking possession and execution processes 2019

	SEK m	Value at initial recognition	Accumulated negative changes
1	Property, plant and equipment (PP&E)	-	-
2	Other than PP&E	2	-
3	*Residential immovable property*	*1*	-
4	*Commercial Immovable property*	-	-
5	*Movable property (auto, shipping, etc.)*	*1*	-
6	*Equity and debt instruments*	-	-
7	*Other*	-	-
8	***Total***	***2***	**-**

Table T10 EU CRB-C – Geographical breakdown of exposures

The table below shows the total exposure broken down by exposure class and geographic area at year-end. It comprises figures obtained using both the standardised and the IRB Approach. The total exposure has increased compared to the previous period.

EU CRB-C – Geographical breakdown of exposures 2019

		Net value							
SEK m		Sweden	UK	Norway	Denmark	Finland	The Netherlands	Other countries	Total
1	Central governments or central banks	66 723	87 252	26 354	18 567	114 620	7 999	60 969	382 484
2	Institutions	8 879	1 524	1 991	1 129	615	891	8 758	23 787
3	Corporates	745 397	224 358	227 720	58 940	126 461	5 674	64 374	1 452 924
4	Retail	886 230	897	109 935	74 507	45 883	184	6 219	1 123 855
5	Equity	2 357		69	600	1			3 027
6	**Total IRB Approach**	**1 709 586**	**314 031**	**366 069**	**153 743**	**287 580**	**14 748**	**140 320**	**2 986 077**
7	Central governments or central banks	12	3	0		21		0	36
8	Regional governments or local authorities					0			0
9	Public sector entities								
10	Multilateral development banks								
11	International organisations								
12	Institutions	14	268	2	5	78	14	3 899	4 280
13	Corporates	3 435	2877	1000	982	351	2175	3 537	14 357
14	Retail	5 350	8 312	2 120	5 131	1 903	673	1 330	24 819
15	Secured by mortgages on immovable property	2 752	80 482	1111	192	70	57 001	5 732	147 340
16	Exposures in default	479	90	5	8	1		38	621
17	Items associated with particularly high risk		17				9		26
18	Covered bonds								
19	Claims on institutions and corporates with a short-term credit assessment								
20	Collective investments undertakings	151							151
21	Equity exposures	6 220						35	6 255
22	Other exposures	2 856	369	509	68	370	49	736	4 957
23	**Total standardised approach**	**21 269**	**92 418**	**4 747**	**6 386**	**2 794**	**59 921**	**15 307**	**202 842**
24	**Total**	**1 730 855**	**406 449**	**370 816**	**160 129**	**290 374**	**74 669**	**155 627**	**3 188 919**

EU CRB-C – Geographical breakdown of exposures 2018

		Net value							
SEK m		Sweden	UK	Norway	Denmark	Finland	The Netherlands	Other countries	Total
1	Central governments or central banks	31 929	75 386	4 836	25 545	139 067	3 109	107 924	387 796
2	Institutions	9 407	896	1 095	1 554	543	683	7 930	22 108
3	Corporates	749 445	199 294	214 793	58 411	120 446	5 199	78 843	1 426 431
4	Retail	857 580	1 148	100 358	71 264	46 600	181	6 398	1 083 529
5	Equity	1 515		43	538	25			2 121
6	**Total IRB Approach**	**1 649 876**	**276 724**	**321 125**	**157 312**	**306 681**	**9 172**	**201 095**	**2 921 985**
7	Central governments or central banks	30				20			50
8	Regional governments or local authorities							25	25
9	Public sector entities								
10	Multilateral development banks								
11	International organisations								
12	Institutions	661	183	6	3	5	0	3 528	4 386
13	Corporates	5 409	2002	1511	698	325	1063	8 922	19 930
14	Retail	4 879	8 181	1 891	4 048	1 087	675	633	21 394
15	Secured by mortgages on immovable property	1 554	75 314	762	63	41	44 519	4 874	127 127
16	Exposures in default	456	214		8	1		39	718
17	Items associated with particularly high risk								
18	Covered bonds								
19	Claims on institutions and corporates with a short-term credit assessment								
20	Collective investments undertakings								
21	Equity exposures	6 220						35	6 255
22	Other exposures	5 795	393	400	140	560	40	1048	8 376
23	**Total standardised approach**	**25 004**	**86 287**	**4 570**	**4 960**	**2 039**	**46 297**	**19 104**	**188 261**
24	**Total**	**1 674 880**	**363 011**	**325 695**	**162 272**	**308 720**	**55 469**	**220 199**	**3 110 246**

Table T11 EU CRB-D – Concentration of exposures by industry or counterparty types

The table below shows the total exposure broken down by exposure class and industry at year-end. It comprises figures obtained using both the standardised and the IRB Approach. The total exposure has increased compared to the previous period.

EU CRB-D – Concentration of exposures by industry or counterparty types 2019

SEK m		Agri-culture, forestry and fishing	Mining and quarrying	Manufac-turing	Electricity, gas, steam and air conditio-ning supply	Water supply	Cons-truction	Wholesale and retail trade	Transport and storage	Accom-modation and food service activities	Informa-tion and communi-cation	Financial and insurance activities	Real estate activities	Profes-sional, scientific and technical activities	Adminis-trative and support service activities	Public adminis-tration and defence, compulsory social security	Education	Human health services and social work activities	Arts, entertain-ment and recreation	Other services	Activities of house-holds as em-ployers	Activities of extra-territorial organisa-tions and bodies	Total
1	Central governments or central banks				1 759	446		0					1 062		9	14 304	7 845	6 463		350 594		2	382 484
2	Institutions											11 798			122	2 769				9 028		70	23 787
3	Corporates	20 590	5 652	88 380	31 964	4 556	62 456	55 737	26 006	12 185	4 426	66 243	804 216	115 705	14 897	29 919	6 736	13 632	4 051	82 823	1 361	1 389	1 452 924
4	Retail	35 480	85	5 056	325	127	12 932	12 058	3 498	2 673	5 967	1 019	10 247	23 586	4 284	20	4 184	6 698	8 431	986 973	100	111	1 123 854
5	Equity						7				0	178	12	93						2 738			3 028
6	**Total IRB Approach**	**56 070**	**5 737**	**93 436**	**34 048**	**5 129**	**75 395**	**67 795**	**29 504**	**14 858**	**10 393**	**79 238**	**815 537**	**139 384**	**19 312**	**47 012**	**18 765**	**26 793**	**12 482**	**1 432 156**	**1 461**	**1 572**	**2 986 077**
7	Central governments or central banks															0				36		0	36
8	Regional governments or local authorities															0							0
9	Public sector entities																						
10	Multilateral development banks																						
11	International organisations																						
12	Institutions	5		0								685				618				2 972			4 280
13	Corporates	8	3	1 430	2	2	33	600	1 060	178	13	808	2 435	512	73	6	1	16	18	7 150	0	9	14 357
14	Retail	279	20	231	7	12	315	391	83	147	104	90	184	519	136	708	40	137	76	21 338	0	2	24 819
15	Secured by mortgages on immovable property	162	2	21	2	3	910	111	32	90	41	6 779	15 846	2 141	42	6	11	66	117	120 953		6	147 341
16	Exposures in default	0		0			2	1	0	0	0		6	0	0	0	0	0		611		1	621
17	Items associated with particularly high risk						3													23			26
18	Covered bonds																						
19	Claims on institutions and corporates with a short-term credit assessment																						
20	Collective investments undertakings																			151			151
21	Equity exposures											6 188								66			6 254
22	Other exposures	1	0	6	0	0	1	6	0	0	0	0	44	1	1	5	0	1	0	4 891	0	0	4 957
23	**Total standardised approach**	**455**	**25**	**1 688**	**11**	**17**	**1 264**	**1 109**	**1 175**	**415**	**158**	**14 550**	**18 515**	**3 173**	**252**	**1 343**	**52**	**220**	**211**	**158 191**	**0**	**18**	**202 842**
24	**Total**	56 525	5 762	95 124	34 059	5 146	76 659	68 904	30 679	15 272	10 551	93 788	834 052	142 557	19 564	48 355	18 817	27 014	12 693	1 590 347	1 461	1 590	3 188 919

EU CRB-D – Concentration of exposures by industry or counterparty types 2018

	SEK m	Agri-culture, forestry and fishing	Mining and quarrying	Manufac-turing	Electricity, gas, steam and air conditio-ning supply	Water supply	Cons-truction	Wholesale and retail trade	Transport and storage	Accom-modation and food service activities	Informa-tion and communi-cation	Financial and insurance activities	Real estate activities	Profes-sional, scientific and technical activities	Adminis-trative and support service activities	Public adminis-tration and defence, compulsory social security	Education	Human health services and social work activities	Arts, entertain-ment and recreation	Other services	Activities of house-holds as em-ployers	Activities of extra-territorial organisa-tions and bodies	Total
1	Central governments or central banks				1 716	446		1					1 302		2	14 431	9 385	7 348		353 163		2	387 796
2	Institutions	7										9 432				2 600				10 069		0	22 108
3	Corporates	21 406	6 744	82 990	31 361	4 471	65 182	50 151	26 749	10 674	8 496	74 246	755 935	120 863	13 770	14 699	7 066	18 148	3 569	107 597	994	1 321	1 426 432
5	Equity										0	18								2 102			2 120
6	**Total IRB Approach**	**55 033**	**6 822**	**88 060**	**33 413**	**5 058**	**77 741**	**61 527**	**30 313**	**13 207**	**14 029**	**84 573**	**766 690**	**143 044**	**17 743**	**31 751**	**20 203**	**31 693**	**11 815**	**1 426 795**	**1 028**	**1 447**	**2 921 985**
7	Central governments or central banks																			51			51
8	Regional governments or local authorities																			25			25
9	Public sector entities																						
10	Multilateral development banks																						
11	International organisations																						
12	Institutions	42		0							0	334				433				3 561		16	4 386
13	Corporates	9		1 389	1	2	53	401	456	0	6	1 038	5 231	1 264	32		0	6	1	10 041		0	19 930
14	Retail	264	3	178	10	7	227	277	70	96	67	91	267	408	102	11	29	120	76	19 089	0	2	21 394
15	Secured by mortgages on immovable property	106	4	3			1 184	34	6	44	33	5 307	14 334	864	8		4	43	86	105 061		6	127 127
16	Exposures in default	0				0	2	0	0	0			7	4	0					705			718
17	Items associated with particularly high risk																						
18	Covered bonds																						
19	Claims on institutions and corporates with a short-term credit assessment																						
20	Collective investments undertakings																						
21	Equity exposures											6 188								66			6 254
22	Other exposures	1										0				5				8 370			8 376
23	**Total standardised approach**	**422**	**7**	**1 570**	**11**	**9**	**1 466**	**712**	**532**	**140**	**106**	**12 958**	**19 839**	**2 540**	**142**	**449**	**33**	**169**	**163**	**146 969**	**0**	**24**	**188 261**
24	**Total**	**55 455**	**6 829**	**89 630**	**33 424**	**5 067**	**79 207**	**62 239**	**30 845**	**13 347**	**14 135**	**97 531**	**786 529**	**145 584**	**17 885**	**32 200**	**20 236**	**31 862**	**11 978**	**1 573 764**	**1 028**	**1 471**	**3 110 246**

Table T12 EU CRB-E – Maturity of exposures

The table shows the total exposure broken down by exposure class and residual maturity at year-end. It comprises figures obtained using both the standardised and the IRB Approach. The total exposure has increased compared to the previous period.

EU CRB-E – Maturity of exposures 2019

		Net exposure value					
SEK m		On demand	< = 1 year	> 1 year < = 5 years	> 5 years	No stated maturity	Total
1	Central governments or central banks		361 274	8 794	12 366	50	382 484
2	Institutions		8 198	5 283	10 305	0	23 786
3	Corporates		346 035	629 065	477 799	25	1 452 924
4	Retail		48 647	30 712	1 044 507	-11	1 123 855
5	Equity		0	0	0	3 028	3 028
6	*Total IRB Approach*		*764 154*	*673 854*	*1 544 977*	*3 092*	*2 986 077*
7	Central governments or central banks		0	0	0	36	36
8	Regional governments or local authorities						
9	Public sector entities						
10	Multilateral development banks						
11	International organisations						
12	Institutions		4 071	134	0	75	4 280
13	Corporates		4 803	4 278	2 248	3 028	14 357
14	Retail		3 079	2 724	9 533	9 483	24 819
15	Secured by mortgages on immovable property		13 684	45 033	88 624	0	147 341
16	Exposures in default		85	4	68	464	621
17	Items associated with particularly high risk		5	2	19	0	26
18	Covered bonds						
19	Claims on institutions and corporates with a short-term credit assessment						
20	Collective investments undertakings		0	0	0	151	151
21	Equity exposures		0	0	0	6 254	6 254
22	Other exposures		67	67	72	4 751	4 957
23	*Total standardised approach*		*25 794*	*52 242*	*100 564*	*24 242*	*202 842*
24	*Total*		*789 948*	*726 096*	*1 645 541*	*27 334*	*3 188 919*

EU CRB-E – Maturity of exposures 2018

		Net exposure value					
SEK m		On demand	< = 1 year	> 1 year < = 5 years	> 5 years	No stated maturity	Total
1	Central governments or central banks		372 373	8 995	5 805	622	387 795
2	Institutions		11 003	4 915	6 191	0	22 109
3	Corporates		668 826	613 363	144 150	93	1 426 432
4	Retail		537 245	267 152	185 360	93 771	1 083 528
5	Equity		0	0	0	2 121	2 121
6	*Total IRB Approach*		*1 589 447*	*894 425*	*341 506*	*96 607*	*2 921 985*
7	Central governments or central banks		0	0	0	51	51
8	Regional governments or local authorities		25	0	0	0	25
9	Public sector entities						
10	Multilateral development banks						
11	International organisations						
12	Institutions		3 846	37	0	504	4 387
13	Corporates		12 335	2 306	791	4 498	19 930
14	Retail		2 317	1 477	1 538	16 061	21 393
15	Secured by mortgages on immovable property		9 631	32 918	49 093	35 484	127 126
16	Exposures in default		114	3	49	553	719
17	Items associated with particularly high risk						
18	Covered bonds						
19	Claims on institutions and corporates with a short-term credit assessment						
20	Collective investments undertakings						
21	Equity exposures		0	0	0	6 254	6 254
22	Other exposures		151	1	0	8 224	8 376
23	*Total standardised approach*		*28 419*	*36 742*	*51 471*	*71 629*	*188 261*
24	*Total*		*1 617 866*	*931 167*	*392 977*	*168 236*	*3 110 246*

Table T13 EU CR7 – IRB Approach – Effect on the RWAs of credit derivatives used as CRM techniques

The table shows gross risk exposure amount and net risk exposure amount after taking into account the impact of netting agreements and collateral posting. The information is broken down by exposure classes. Risk exposure amount is calculated using the Foundation IRB Approach and the Advanced IRB Approach, specified separately. Handelsbanken's risk exposure amount is not affected by credit derivatives.

EU CR7 – IRB Approach – Effect on the RWAs of credit derivatives used as CRM techniques 2019

SEK m		Pre-credit derivatives RWAs	Actual RWAs
1	**Exposures under FIRB**	**46 900**	**46 900**
2	Central governments and central banks	7 022	7 022
3	Institutions	5 920	5 920
4	Corporates – SMEs	5 238	5 238
5	Corporates – Specialised lending		
6	Corporates – Other	28 720	28 720
7	**Exposures under AIRB**	**475 964**	**475 964**
8	Central governments and central banks		
9	Institutions		
10	Corporates – SMEs	115 757	115 757
11	Corporates – Specialised lending		
12	Corporates – Other	104 197	104 197
13	Retail – Secured by real estate SMEs	4 407	4 407
14	Retail – Secured by real estate non-SMEs	237 335	237 335
15	Retail – Qualifying revolving		
16	Retail - Other SMEs	3 470	3 470
17	Retail – Other non-SMEs	10 798	10 798
18	Equity IRB	10 299	10 299
19	Other non-credit obligation assets	6 946	6 946
20	**Total**	**540 109**	**540 109**

EU CR7 – IRB Approach – Effect on the RWAs of credit derivatives used as CRM techniques 2018

SEK m		Pre-credit derivatives RWAs	Actual RWAs
1	**Exposures under FIRB**	**51 738**	**51 738**
2	Central governments and central banks	7 599	7 599
3	Institutions	5 640	5 640
4	Corporates – SMEs	7 166	7 166
5	Corporates – Specialised lending		
6	Corporates – Other	31 333	31 333
7	**Exposures under AIRB**	**467 474**	**467 474**
8	Central governments and central banks		
9	Institutions		
10	Corporates – SMEs	116 965	116 965
11	Corporates – Specialised lending		
12	Corporates – Other	102 201	102 201
13	Retail – Secured by real estate SMEs	2 237	2 237
14	Retail – Secured by real estate non-SMEs	224 755	224 755
15	Retail – Qualifying revolving		
16	Retail - Other SMEs	6 029	6 029
17	Retail – Other non-SMEs	15 287	15 287
18	Equity IRB	7 410	7 410
19	Other non-credit obligation assets	2 240	2 240
20	**Total**	**528 862**	**528 862**

Table T14 EU CR4 – Standardised approach – Credit risk exposure and CRM effects

The table shows exposures before and after credit conversion factors and credit risk mitigation, and risk exposure amounts and risk weights according to the standardised approach. The amounts and risk weights are specified by exposure class. The total exposure has increased compared to the previous year.

EU CR4 – Standardised approach – Credit risk exposure and CRM effects 2019		Exposures before CCF and CRM		Exposures post CCF and CRM		RWAs and RWA density	
	Exposure classes SEK m	**On-balance-sheet amount**	**Off-balance-sheet amount**	**On-balance-sheet amount**	**Off-balance-sheet amount**	**RWAs**	**RWA density, %**
1	Central governments or central banks	36	0	274	79	7	1.90
2	Regional governments or local authorities	0	0	0	0	0	0.00
3	Public sector entities						
4	Multilateral development banks						
5	International organisations						
6	Institutions	1 812	2 468	2 063	407	618	25.01
7	Corporates	6 977	7 380	6 164	2 327	8 404	98.98
8	Retail	14 256	10 563	7 308	2 899	7 446	72.96
9	Secured by mortgages on immovable property	139 447	7 893	139 434	2 064	50 652	35.80
10	Exposures in default	578	43	577	21	725	121.22
11	Exposures associated with particularly high risk	26	0	26	0	39	150.00
12	Covered bonds						
13	Institutions and corporates with a short-term credit assessment						
14	Collective investments undertakings	151	0	151	0	151	100.00
15	Equity	6 254	0	6 254	0	15 636	250.00
16	Other items	4 920	38	3 226	17	2 907	89.61
17	**Total**	**174 457**	**28 385**	**165 477**	**7 814**	**86 585**	**49.97**

EU CR4 – Standardised approach – Credit risk exposure and CRM effects 2018		Exposures before CCF and CRM		Exposures post CCF and CRM		RWAs and RWA density	
	Exposure classes SEK m	**On-balance-sheet amount**	**Off-balance-sheet amount**	**On-balance-sheet amount**	**Off-balance-sheet amount**	**RWAs**	**RWA density, %**
1	Central governments or central banks	51	0	383	21	0	0.00
2	Regional governments or local authorities	25	0	25	0	5	20.00
3	Public sector entities						
4	Multilateral development banks						
5	International organisations						
6	Institutions	2 153	2 233	2 304	490	762	27.26
7	Corporates	8 889	11 040	7 850	2 356	10 117	99.12
8	Retail	11 136	10 258	6 772	2 306	6 779	74.67
9	Secured by mortgages on immovable property	117 980	9 147	117 980	7 126	46 680	37.31
10	Exposures in default	692	27	692	13	878	124.58
11	Exposures associated with particularly high risk						
12	Covered bonds						
13	Institutions and corporates with a short-term credit assessment						
14	Collective investments undertakings						
15	Equity	6 254	0	6 254	0	15 636	250.00
16	Other items	8 245	131	6 578	26	6 295	95.31
17	**Total**	**155 425**	**32 836**	**148 838**	**12 338**	**87 152**	**54.07**

Table T15 EU CR10 – IRB (specialised lending and equities)

The following table shows carrying values, exposure amounts, risk-weighted assets and capital requirements for specialised lending and equity exposures. Risk-weighted assets are calculated using the simple risk-weighted approach. Risk-weighted assets has increased compared to the previous period.

EU CR10 – IRB (specialised lending and equities) 2019 SEK m		Specialised lending					
Regulatory categories	**Remaining maturity**	**On-balance-sheet amount**	**Off-balance-sheet amount**	**Risk weight, %**	**Exposure amount**	**RWAs**	**Expected losses**
Category 1	Less than 2.5 years			50			
	Equal or more than 2.5 years			70			
Category 2	Less than 2.5 years			70			
	Equal or more than 2.5 years			90			
Category 3	Less than 2.5 years			115			
	Equal or more than 2.5 years			115			
Category 4	Less than 2.5 years			250			
	Equal or more than 2.5 years			250			
Category 5	Less than 2.5 years			-			
	Equal or more than 2.5 years			-			
Total	**Less than 2.5 years**						
	Equal or more than 2.5 years						

Equities under the simple risk-weighted approach SEK m					
Categories	**On-balance-sheet amount**	**Off-balance-sheet amount**	**Risk weight, %**	**Exposure amount**	**RWAs**	**Capital requirements**
Private equity exposures			190			
Exchange-traded equity exposures	1 129		290	1 129	3 274	262
Other equity exposures	1 899		370	1 899	7 025	562
Total	**3 028**			**3 028**	**10 299**	**824**

EU CR10 – IRB (specialised lending and equities) 2018 SEK m		Specialised lending					
Regulatory categories	**Remaining maturity**	**On-balance-sheet amount**	**Off-balance-sheet amount**	**Risk weight, %**	**Exposure amount**	**RWAs**	**Expected losses**
Category 1	Less than 2.5 years			50			
	Equal or more than 2.5 years			70			
Category 2	Less than 2.5 years			70			
	Equal or more than 2.5 years			90			
Category 3	Less than 2.5 years			115			
	Equal or more than 2.5 years			115			
Category 4	Less than 2.5 years			250			
	Equal or more than 2.5 years			250			
Category 5	Less than 2.5 years			-			
	Equal or more than 2.5 years			-			
Total	**Less than 2.5 years**						
	Equal or more than 2.5 years						

Equities under the simple risk-weighted approach **SEK m**						
Categories	**On-balance-sheet amount**	**Off-balance-sheet amount**	**Risk weight, %**	**Exposure amount**	**RWAs**	**Capital requirements**
Private equity exposures			190			
Exchange-traded equity exposures	545		290	545	1 581	126
Other equity exposures	1 576		370	1 576	5 829	467
Total	**2 121**			**2 121**	**7 410**	**593**

Table T16 EU CCR1 – Analysis of CCR exposure by approach

The table shows the approach used to calculate credit counterparty risk (CCR) exposure and REA and the main parameters used within each approach. The risk exposure amount is in line with the previous period.

EU CCR1 – Analysis of CCR exposure by approach 2019

SEK m		Notional	Replacement cost/current market value	Potential future credit exposure	EEPE[1]	Multiplier	EAD post CRM	RWAs
1	Mark to market	1 686 406	32 147	21 692			53 839	11 215
2	Original exposure							
3	Standardised approach							
4	IMM (for derivatives and SFTs)							
5	Of which securities financing transactions							
6	Of which derivatives and long settlement transactions							
7	Of which form contractual cross-product netting							
8	Financial collateral simple method (for SFTs)							
9	Financial collateral comprehensive method (for SFTs)							
10	VaR for SFTs							
11	**Total**	**1 686 406**	**32 147**	**21 692**			**53 839**	**11 215**

[1] Effective expected positive exposure (EEPE): The weighted average of effective expected exposure over the first year of a netting set or, if all the contracts within the netting set mature within less than 1 year, over the time period of the longest maturity contract in the netting set, where the weights are the proportion of the entire time period that an individual expected exposure represents.

EU CCR1 – Analysis of CCR exposure by approach 2018

SEK m		Notional	Replacement cost/current market value	Potential future credit exposure	EEPE[1]	Multiplier	EAD post CRM	RWAs
1	Mark to market	1 839 044	63 252	33 231			96 483	12 462
2	Original exposure							
3	Standardised approach							
4	IMM (for derivatives and SFTs)							
5	Of which securities financing transactions							
6	Of which derivatives and long settlement transactions							
7	Of which form contractual cross-product netting							
8	Financial collateral simple method (for SFTs)							
9	Financial collateral comprehensive method (for SFTs)							
10	VaR for SFTs							
11	**Total**	**1 839 044**	**63 252**	**33 231**			**96 483**	**12 462**

Table T17 EU CCR2 – CVA capital charge

The table shows exposure value and risk-weighted assets for credit value adjustment (CVA) broken down by approach. Risk-weighted assets have decreased compared to the previous year.

EU CCR2 – CVA capital charge 2019 SEK m		Exposure value	RWAs
1	Total portfolios subject to the advanced method		
2	(i) VaR component (including the 3x multiplier)		
3	(ii) SVaR component (including the 3x multiplier)		
4	All portfolios subject to the standardised method	16 529	4 114
EU4	Based on the original exposure method		
5	Total subject to the CVA capital charge	16 529	4 114

EU CCR2 – CVA capital charge 2018 SEK m		Exposure value	RWAs
1	Total portfolios subject to the advanced method		
2	(i) VaR component (including the 3x multiplier)		
3	(ii) SVaR component (including the 3x multiplier)		
4	All portfolios subject to the standardised method	18 822	5 218
EU4	Based on the original exposure method		
5	Total subject to the CVA capital charge	18 822	5 218

Table T18 EU CCR3 – Standardised approach – CCR exposures by regulatory portfolio and risk

The table shows EAD for credit counterparty risk (CCR) according to the standardised approach. Amounts are broken down by exposure class and risk weight. The regulatory capital requirement is in line with the previous period.

EU CCR3 – Standardised approach – CCR exposures by regulatory portfolio and risk 2019		Risk weight													
SEK m	Exposure classes	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	Others	Total	Of which unrated
1	Central governments or central banks														
2	Regional governments or local authorities														
3	Public sector entities														
4	Multilateral development banks	272												272	
5	International organisations														
6	Institutions	0	7 165			4								7 169	
7	Corporates										5			5	
8	Retail									21				21	21
9	Institutions and corporates with a short-term credit assessment														
10	Other items														
11	**Total**	**272**	**7 165**			**4**				**21**	**5**			**7 467**	**21**

EU CCR3 – Standardised approach – CCR exposures by regulatory portfolio and risk 2018		Risk weight													
SEK m	Exposure classes	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	Others	Total	Of which unrated
1	Central governments or central banks														
2	Regional governments or local authorities														
3	Public sector entities														
4	Multilateral development banks	183												183	
5	International organisations														
6	Institutions		6 776											6 776	
7	Corporates										75			75	41
8	Retail									120				120	120
9	Institutions and corporates with a short-term credit assessment														
10	Other items														
11	**Total**	**183**	**6 776**							**120**	**75**			**7 154**	**161**

Table T19 EU CCR4 – IRB Approach – CCR exposures by portfolio and PD scale

The table shows credit counterparty risk (CCR) exposures and risk-weighted assets subject to the IRB Approach. Amounts are broken down by exposure class and obligor grade. The table further specifies average PD, average LGD and resulting risk weights. The total exposure has increased compared to the previous period.

EU CCR4 – IRB Approach – CCR exposures by portfolio and PD scale 2019 SEK m	PD scale	EAD post CRM, SEK m	Average PD	Number of obligors	Average LGD	Average maturity, year	RWA, SEK m	RWA density
Sovereign exposures	0.00 to <0.15	3 918	0.00%	45	44.65%	1.39	76	1.94%
Sovereign exposures	0.15 to <0.25							
Sovereign exposures	0.25 to <0.50							
Sovereign exposures	0.50 to <0.75							
Sovereign exposures	0.75 to <2.50							
Sovereign exposures	2.50 to <10.00							
Sovereign exposures	10.00 to <100.00							
Sovereign exposures	100.00 (Default)							
Sovereign exposures	**Sub-total**	**3 918**	**0.00%**	**45**	**44.65%**	**1.39**	**76**	**1.94%**
Institution exposures	0.00 to <0.15	24 768	0.09%	57	22.73%	2.44	4 793	19.35%
Institution exposures	0.15 to <0.25	14 370	0.21%	14	14.78%	2.49	2 973	20.69%
Institution exposures	0.25 to <0.50							
Institution exposures	0.50 to <0.75	1 952	0.56%	5	17.04%	2.50	749	38.39%
Institution exposures	0.75 to <2.50	19	1.04%	2	2.06%	2.41	1	3.31%
Institution exposures	2.50 to <10.00							
Institution exposures	10.00 to <100.00							
Institution exposures	100.00 (Default)							
Institution exposures	**Sub-total**	**41 109**	**0.15%**	**78**	**19.67%**	**2.46**	**8 516**	**20.72%**
Corporate exposures	0.00 to <0.15	6 977	0.07%	768	42.98%	2.44	1 565	22.44%
Corporate exposures	0.15 to <0.25	86	0.16%	131	39.66%	2.50	24	28.17%
Corporate exposures	0.25 to <0.50	1 027	0.34%	150	44.36%	2.50	607	59.13%
Corporate exposures	0.50 to <0.75	59	0.61%	107	43.77%	2.50	38	63.48%
Corporate exposures	0.75 to <2.50	314	1.48%	124	43.96%	2.50	316	100.56%
Corporate exposures	2.50 to <10.00	31	8.04%	23	26.40%	2.50	32	102.11%
Corporate exposures	10.00 to <100.00	11	20.69%	14	39.59%	2.50	22	196.25%
Corporate exposures	100.00 (Default)	4	100.00%	2	45.00%	2.50	0	0.00%
Corporate exposures	**Sub-total**	**8 509**	**0.26%**	**1 319**	**43.09%**	**2.45**	**2 604**	**30.60%**
Total (all portfolios)		**53 536**	**0.16%**	**1 442**	**25.22%**	**2.38**	**11 196**	**20.91%**

EU CCR4 – IRB Approach – CCR exposures by portfolio and PD scale 2018 SEK m	PD scale	EAD post CRM, SEK m	Average PD	Number of obligors	Average LGD	Average maturity, year	RWA, SEK m	RWA density
Sovereign exposures	0.00 to <0.15	8 228	0.00%	44	20.89%	1.34	96	1.16%
Sovereign exposures	0.15 to <0.25							
Sovereign exposures	0.25 to <0.50							
Sovereign exposures	0.50 to <0.75							
Sovereign exposures	0.75 to <2.50							
Sovereign exposures	2.50 to <10.00							
Sovereign exposures	10.00 to <100.00							
Sovereign exposures	100.00 (Default)							
Sovereign exposures	**Sub-total**	**8 228**	**0.00%**	**44**	**20.89%**	**1.34**	**96**	**1.16%**
Institution exposures	0.00 to <0.15	45 041	0.07%	69	14.46%	2.02	4 639	10.30%
Institution exposures	0.15 to <0.25	17 462	0.19%	13	14.42%	2.36	3 369	19.29%
Institution exposures	0.25 to <0.50	6 329	0.49%	9	9.11%	1.01	1 200	18.96%
Institution exposures	0.50 to <0.75							
Institution exposures	0.75 to <2.50	32	0.99%	3	15.31%	0.10	10	32.33%
Institution exposures	2.50 to <10.00							
Institution exposures	10.00 to <100.00							
Institution exposures	100.00 (Default)							
Institution exposures	**Sub-total**	**68 864**	**0.14%**	**94**	**13.96%**	**2.01**	**9 218**	**13.39%**
Corporate exposures	0.00 to <0.15	17 318	0.09%	843	20.26%	1.78	1 785	10.31%
Corporate exposures	0.15 to <0.25	108	0.17%	157	43.40%	0.85	32	29.48%
Corporate exposures	0.25 to <0.50	987	0.38%	162	44.90%	5.89	600	60.76%
Corporate exposures	0.50 to <0.75	54	0.64%	82	40.46%	1.03	31	58.20%
Corporate exposures	0.75 to <2.50	501	1.77%	134	37.98%	1.80	445	88.72%
Corporate exposures	2.50 to <10.00	11	7.68%	16	45.00%	3.19	17	153.28%
Corporate exposures	10.00 to <100.00	34	16.82%	13	45.00%	0.44	76	223.48%
Corporate exposures	100.00 (Default)	0	100.00%	1	45.00%	0.10	0	0.00%
Corporate exposures	**Sub-total**	**19 013**	**0.18%**	**1 408**	**22.25%**	**1.99**	**2 986**	**15.71%**
Total (all portfolios)		**96 105**	**0.14%**	**1 546**	**16.19%**	**1.95**	**12 300**	**12.80%**

Table T20 EU CCR5-A – Impact of netting and collateral held on exposure values

The table shows the impact of netting and collateral held on credit counterparty risk for derivatives and securities finance transactions.
The total net exposure has decreased compared to the previous period.

EU CCR5-A – Impact of netting and collateral held on exposure values 2019 SEK m		Gross fair value	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
1	Derivatives	66 877	-29 673	37 204	-30 022	7 182
2	SFTs	18 436	-	18 436	-15 094	3 342
3	Cross-product netting	-	-	-	-	-
4	**Total**	**85 313**	**-29 673**	**55 640**	**-45 116**	**10 524**

EU CCR5-A – Impact of netting and collateral held on exposure values 2018 SEK m		Gross fair value	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
1	Derivatives	79 091	-28 547	50 544	-43 805	6 739
2	SFTs	25 619	0	25 619	-21 579	4 040
3	Cross-product netting	-	-	-	-	-
4	**Total**	**104 710**	**-28 547**	**76 163**	**-65 384**	**10 779**

Table T21 EU CCR5-B – Composition of collateral for exposures to CCR

The table shows collateral posted or received to support or reduce counterparty credit risk (CCR) exposures related to derivative transactions and securities finance transactions, including transactions cleared through a CCP.

EU CCR5-B – Composition of collateral for exposures to CCR 2019	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral			
SEK m	Segregated	Unsegregated	Segregated	Unsegregated	Fair value of collateral received	Fair value of posted collateral
Total	**129**	**36 262**	**3 878**	**9 446**	**39 574**	**6 519**

EU CCR5-B – Composition of collateral for exposures to CCR 2018	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral			
SEK m	Segregated	Unsegregated	Segregated	Unsegregated	Fair value of collateral received	Fair value of posted collateral
Total		**49 615**	**3 451**	**6 133**	**5 051**	**7 841**

Table T22 EU CCR6 – Credit derivative exposures

The table shows exposures to credit derivative transactions broken down to derivatives bought or sold as well as notional amounts and fair value. Total fair value have increased compared to the previous year.

EU CCR6 – Credit derivative exposures 2019	Credit derivative hedges		Other credit derivatives
SEK m	Protection bought	Protection sold	
Notionals			
Single-name credit default swaps	116	3 904	
Index credit default swaps	66	4 072	
Total return swaps			
Credit options			
Other credit derivatives	20	1 034	
Total notionals	**202**	**9 010**	
Fair values			
Positive fair value (asset)	***7***	***729***	
Negative fair value (liability)	***41***	***40***	

EU CCR6 – Credit derivative exposures 2018	Credit derivative hedges		Other credit derivatives
SEK m	Protection bought	Protection sold	
Notionals			
Single-name credit default swaps	58	2 434	
Index credit default swaps	21	3 000	
Total return swaps			
Credit options			
Other credit derivatives	10	575	
Total notionals	**89**	**6 009**	
Fair values			
Positive fair value (asset)	***23***	***111***	
Negative fair value (liability)	***12***	***235***	

Table T23 EU CCR8 – Exposures to CCPs

The table shows exposures to QCCPs. The total exposure has increased compared to the previous period.

EU CCR8 – Exposures to CCPs 2019 SEK m		EAD post CRM	RWAs
1	**Exposures to QCCPs (total)**	**7 254**	**153**
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	7 034	141
3	(i) OTC derivatives	6 942	139
4	(ii) Exchange-traded derivatives	92	2
5	(iii) SFTs	-	-
6	(iv) Netting sets where cross-product netting has been approved	-	-
7	Segregated initial margin	-	-
8	Non-segregated initial margin	-	-
9	Prefunded default fund contributions	220	12
10	Alternative calculation of own funds requirements for exposures		
11	**Exposures to non-QCCPs (total)**		
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which	-	-
13	(i) OTC derivatives		
14	(ii) Exchange-traded derivatives		
15	(iii) SFTs		
16	(iv) Netting sets where cross-product netting has been approved		
17	Segregated initial margin		
18	Non-segregated initial margin		
19	Prefunded default fund contributions		
20	Unfunded default fund contributions		

EU CCR8 – Exposures to CCPs 2018 SEK m		EAD post CRM	RWAs
1	**Exposures to QCCPs (total)**	**6 938**	**141**
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	6 776	136
3	(i) OTC derivatives	6 585	132
4	(ii) Exchange-traded derivatives	191	4
5	(iii) SFTs	-	-
6	(iv) Netting sets where cross-product netting has been approved	-	-
7	Segregated initial margin	-	-
8	Non-segregated initial margin	-	-
9	Prefunded default fund contributions	162	5
10	Alternative calculation of own funds requirements for exposures		
11	**Exposures to non-QCCPs (total)**		
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which	-	-
13	(i) OTC derivatives		
14	(ii) Exchange-traded derivatives		
15	(iii) SFTs		
16	(iv) Netting sets where cross-product netting has been approved		
17	Segregated initial margin		
18	Non-segregated initial margin		
19	Prefunded default fund contributions		
20	Unfunded default fund contributions		

OWN FUNDS

Table T24 Capital instruments main features, CET1

Presentation in accordance with the requirements of Commission Implementing Regulation (EU) No 1423/2013.

Capital instruments main features, CET1		
Issuer	Svenska Handelsbanken AB	Svenska Handelsbanken AB
Unique identifier (e.g. CUSIP, ISIN or Bloomberg identifier for private placement)	SE0007100599	SE0007100607
Governing law(s) of the instrument	Swedish law	Swedish law
Regulatory treatment		
Transitional CRR rules	Common equity tier 1 capital	Common equity tier 1 capital
Post-transitional CRR rules	Common equity tier 1 capital	Common equity tier 1 capital
Eligible at solo/(sub)consolidated/solo & (sub)consolidated	Solo & (sub)consolidated	Solo & (sub)consolidated
Instrument type (types to be specified by each jurisdiction)	Share capital, class A	Share capital, class B
Amount recognised in regulatory capital (currency in million, as of most recent reporting date)	SEK 11,616m	SEK 211m
Nominal amount of instrument	SEK 3,014m	SEK 55m
Issue price	SEK 11,616m	SEK 211m
Redemption price	N/A	N/A
Accounting classification	Equity	Equity
Original date of issuance	1871	1990
Perpetual or dated	Perpetual	Perpetual
Original maturity date	N/A	N/A
Issuer call subject to the previous supervisory approval	N/A	N/A
Optional call date, contingent call dates and redemption amount	N/A	N/A
Subsequent call dates, if applicable	N/A	N/A
Coupons/dividends		
Fixed or floating dividend/coupon	N/A	N/A
Coupon rate and any related index	N/A	N/A
Existence of a dividend stopper	N/A	N/A
Fully discretionary, partially discretionary or mandatory (in terms of timing)	N/A	N/A
Fully discretionary, partially discretionary or mandatory (in terms of amount)	N/A	N/A
Existence of step-up or other incentive to redeem	No	No
Non-cumulative or cumulative	Non-cumulative	Non-cumulative
Convertible or non-convertible	Non-convertible	Non-convertible
If convertible, conversion trigger(s)	N/A	N/A
If convertible, fully or partially	N/A	N/A
If convertible, conversion rate	N/A	N/A
If convertible, mandatory or optional conversion	N/A	N/A
If convertible, specify instrument type convertible into	N/A	N/A
If convertible, specify issuer of instrument it converts into	N/A	N/A
Write-down features	No	No
If write-down, write-down trigger(s)	N/A	N/A
If write-down, full or partial	N/A	N/A
If write-down, permanent or temporary	N/A	N/A
If temporary write-down, description of write-up mechanism	N/A	N/A
Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Lowest, next senior is additional tier 1 capital	Lowest, next senior is additional tier 1 capital
Non-compliant transitioned features	No	No
If yes, specify non-compliant features	N/A	N/A
Non-compliant transitioned features	No	No
If yes, specify non-compliant features	N/A	N/A

Table T25 Capital instruments main features, AT1

Presentation in accordance with the requirements of Commission Implementing Regulation (EU) No 1423/2013.

Capital instruments main features, AT1		
Issuer	Svenska Handelsbanken AB	Svenska Handelsbanken AB
Unique identifier (eg CUSIP, ISIN or Bloomberg identifier for private placement)	XS1194054166	XS1952091202
Governing law(s) of the instrument	Mainly English law, Swedish insolvency law	Mainly English law, Swedish insolvency law
Regulatory treatment		
Transitional CRR rules	Additional tier 1 capital	Additional tier 1 capital
Post-transitional CRR rules	Tier 1 capital	Tier 1 capital
Eligible at solo/(sub)consolidated/solo & (sub)consolidated	Solo & (sub)consolidated	Solo & (sub)consolidated
Instrument type (types to be specified by each jurisdiction)	Additional tier 1 capital	Additional tier 1 capital
Amount recognised in regulatory capital (currency in million, at most recent reporting date)	SEK 11,185m	SEK 4,633m
Nominal amount of instrument	USD 1,200m	USD 500m
Issue price	100%	100%
Redemption price	100%	100%
Accounting classification	Liability – amortised cost	Liability – amortised cost
Original date of issuance	25 Feb 2015	22 Feb 2019
Perpetual or dated	Perpetual	Perpetual
Original maturity date	No maturity date	No maturity date
Issuer call subject to the previous supervisory approval	Yes	Yes
Optional call date, contingent call dates and redemption amount	1 Mar 2021, Tax/Regulatory call, 100% of nominal amount	1 Mar 2024, Tax/Regulatory call, 100% of nominal amount
Subsequent call dates, if applicable	Callable each subsequent interest reset date after first redemption date	Callable each subsequent interest reset date after first redemption date
Coupons/dividends		
Fixed or floating dividend/coupon	Fixed	Fixed
Coupon rate and any related index	5.25%	6.25%
Existence of a dividend stopper	No	No
Fully discretionary, partially discretionary or mandatory (in terms of timing)	N/A	N/A
Fully discretionary, partially discretionary or mandatory (in terms of amount)	N/A	N/A
Existence of step-up or other incentive to redeem	No	No
Non-cumulative or cumulative	Non-cumulative	Non-cumulative
Convertible or non-convertible	Non-convertible	Convertible
If convertible, conversion trigger(s)	N/A	Common equity tier 1 ratio 8% consolidated, 5.125% parent company
If convertible, fully or partially	N/A	Fully
If convertible, conversion rate	N/A	The greater of the current market price of an ordinary share on the conversion date translated into USD at the prevailing exchange rate, and the SEK equivalent of the floor price (USD 7.58) on the conversion date. The floor price may not be lower than the quota value (Sw: kvotvärde) of the share.
If convertible, mandatory or optional conversion	N/A	Mandatory
If convertible, specify instrument type convertible into	N/A	Share capital, class A
If convertible, specify issuer of instrument it converts into	N/A	Svenska Handelsbanken AB
Write-down features	Yes	No
If write-down, write-down trigger(s)	Common equity tier 1 ratio 8% consolidated,5.125% parent company	N/A
If write-down, full or partial	Full or partial	N/A
If write-down, permanent or temporary	Temporary	N/A
If temporary write-down, description of write-up mechanism	Fully discretionary	N/A
Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Subordinate to all instruments except shares, next in priority are subordinated loans	Subordinate to all instruments except shares, next in priority are subordinated loans
Non-compliant transitioned features	N/A	N/A
If yes, specify non-compliant features	N/A	N/A

Table T26 Capital instruments main features, T2

Presentation in accordance with the requirements of Commission Implementing Regulation (EU) No 1423/2013.

Capital instruments main features, T2				
Issuer	Svenska Handelsbanken AB	Svenska Handelsbanken AB	Svenska Handelsbanken AB	Svenska Handelsbanken AB
Unique identifier (eg CUSIP, ISIN or Bloomberg identifier for private placement)	XS1717456914	XS1717459694	XS1782803503	XS1875333178
Governing law(s) of the instrument	Mainly English law, Swedish insolvency law	Mainly English law, Swedish insolvency law	Mainly English law, Swedish insolvency law	Mainly English law. Swedish insolvency law
Regulatory treatment				
Transitional CRR rules	Tier 2 capital	Tier 2 capital	Tier 2 capital	Tier 2 capital
Post-transitional CRR rules	Tier 2 capital	Tier 2 capital	Tier 2 capital	Tier 2 capital
Eligible at solo/(sub)consolidated/solo & (sub)consolidated	Solo & (sub)consolidated	Solo & (sub)consolidated	Solo & (sub)consolidated	Solo & (sub)consolidated
Instrument type (types to be specified by each jurisdiction)	Subordinated loan	Subordinated loan	Subordinated loan	Subordinated loan
Amount recognised in regulatory capital (currency in million, at most recent reporting date)	SEK 1,298m	SEK 1,698m	SEK 7,822m	SEK 7,821m
Nominal amount of instrument	SEK 1,300m	SEK 1,700m	EUR 750m	EUR 750m
Issue price	100%	100%	99.923%	99.962%
Redemption price	100%	100%	100%	100%
Accounting classification	Liability – amortised cost	Liability – amortised cost	Liability – amortised cost	Liability – amortised cost
Original date of issuance	15 Nov 2017	15 Nov 2017	2 Mar 2018	5 Sep 2018
Perpetual or dated	Dated	Dated	Dated	Dated
Original maturity date	15 Nov 2027	15 Nov 2027	2 Mar 2028	5 Mar 2029
Issuer call subject to the previous supervisory approval	Yes	Yes	Yes	Yes
Optional call date, contingent call dates and redemption amount	15 Nov 2022, Tax/Regulatory call, 100% of nominal amount	15 Nov 2022, Tax/Regulatory call, 100% of nominal amount	2 Mar 2023, Tax/Regulatory call, 100% of nominal amount	5 Mar 2024. Tax/Regulatory call. 100% of nominal amount
Subsequent call dates, if applicable	Callable each subsequent interest payment date after first redemption date	Callable each subsequent interest payment date after first redemption date	N/A	N/A
Coupons/dividends				
Fixed or floating dividend/coupon	Fixed	Floating	Fixed	Fixed
Coupon rate and any related index	1.41%	1.089%	1.25%	1.625%
Existence of a dividend stopper	No	No	No	No
Fully discretionary, partially discretionary or mandatory(in terms of timing)	Mandatory	Mandatory	Mandatory	Mandatory
Fully discretionary, partially discretionary or mandatory (in terms of amount)	Mandatory	Mandatory	Mandatory	Mandatory
Existence of step-up or other incentive to redeem	No	No	No	No
Non-cumulative or cumulative	Non-cumulative	Non-cumulative	Non-cumulative	Non-cumulative
Convertible or non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible
If convertible, conversion trigger(s)	N/A	N/A	N/A	N/A
If convertible, full or partial	N/A	N/A	N/A	N/A
If convertible, conversion rate	N/A	N/A	N/A	N/A
If convertible, mandatory or optional conversion	N/A	N/A	N/A	N/A
If convertible, specify instrument type convertible into	N/A	N/A	N/A	N/A
If convertible, specify issuer of instrument it converts into	N/A	N/A	N/A	N/A
Write-down features	No	No	No	No
If write-down, write-down trigger(s)	N/A	N/A	N/A	N/A
If write-down, full or partial	N/A	N/A	N/A	N/A
If write-down, permanent or temporary	N/A	N/A	N/A	N/A
If temporary write-down, description of write-up mechanism	N/A	N/A	N/A	N/A
Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Subordinate to all senior lending	Subordinate to all senior lending	Subordinate to all senior lending	Subordinate to all senior lending
Non-compliant transitioned features	No	No	No	No
If yes, specify non-compliant features	N/A	N/A	N/A	N/A

Reference table for CRR pursuant to EBA/GL/2016/11

This report, Risk and Capital – Information according to Pillar 3, together with the Bank's Annual Report, provides information as stipulated in the disclosure requirements regarding risk and capital management in Part Eight of Regulation (EU) No 575/2013 (CRR). For each article, the reference table below states in which of the two publications the information can be found.

Requirements on disclosures regarding banks' risk and capital management are stipulated in the accounting and capital requirement regulations. As of 2019, the risk and capital information that is applicable in order to fulfil both sets of regulations is presented in note G2 and note G49 of Handelsbanken's Annual Report for 2019.

The disclosures that are specific to CRR can be found in this report in the form of quantitative information to be provided as stipulated in EBA/GL/2016/11 and explanatory texts to the tables.

More information about Handelsbanken's management of operational risk, compliance risk, risks in the remuneration system, risks in the insurance operations, market risk, funding and liquidity risk can be found in note G2 of the Annual Report. Information about own funds and the capital requirement is also presented in the Annual Report, note G49. Information to be provided quarterly as stipulated in EBA/GL/2016/11 is published on Handelsbanken's website. For each article in Part Eight of Regulation (EU) No 575/2013 (CRR), the reference table below states in which of the two publications the information can be found.

Article in CRR	Description	Reference in Risk and Capital – Information according to Pillar 3	Reference in Handelsbanken's Annual Report and interim reports or on the Handelsbanken website
Title I	**General principles**		
Article 431	**Scope of disclosure requirements**		
1	General disclosure requirements	This report, Risk and Capital – Information according to Pillar 3	www.handelsbanken.com/en/investor-relations
2	Requirement to disclose information about operational risk	Section: Operational risk – Capital requirements for operational risk, page 57	Section: Operational Risk, page 127
3	Requirement to have a formal policy to comply with the disclosure requirements	Section: Signatures of the CEO, CFO and CRO, page 90	
4	Upon request, explanations of rating decisions to SMEs or other corporate applicants for loans	Can be provided upon request	
Article 432	**Non-material, proprietary or confidential information**		
1–4	Institutions may exclude non-material, proprietary or confidential information under certain conditions	Section: Information items not disclosed under EBA/GL/2014/14, page 89	
Article 433	**Frequency of disclosure**		
	Frequency requirements for publishing disclosures of Pillar 3 information	Sections: Introduction. In accordance with EBA/GL/2016/11, in conjunction with the publication of annual, semi-annual and quarterly financial information, page 2,3	Section: Financial calender
Article 434	**Means of disclosures**		
1	Information medium for Pillar 3 disclosures and references to equivalent data in other media	This report, Risk and Capital – Information according to Pillar 3, this table, and in the text where applicable	Handelsbanken's Annual Report and interim reports
2	Reference to the locations where equivalent disclosures that fulfil CRR, accounting, listing or other requirements are published	This table, Reference table for CRR pursuant to EBA/GL/2016/11	
Title II	**Technical criteria on transparency and disclosure**		
Article 435	**Risk management objectives and policies**		
1 a	Strategies and processes to manage the risks	Sections: Credit risk – Counterparty credit risks, page 51	Handelsbanken's Annual Report, note G2, sections: Risk management – Risk strategy – Resilient risk management, page 96; Market risk, page 117 Funding and Liquidity risks, page 121 Operational risk, page 127 Compliance risk, page 130 Risk in the remuneration system, page 131 Risk in the insurance operations, page 131
1 b	Structure and organisation of the risk management organisation including its authority and statutes	Sections: Credit risk – Counterparty credit risks, page 51	Handelsbanken's Annual Report, note G2, sections: Risk management – Risk strategy – Resilient risk management, page 96; Market risk, page 117 Funding and Liquidity risks, page 121 Operational risk, page 127 Compliance risk, page 130 Risk in the remuneration system, page 131 Risk in the insurance operations, page 131
1 c	Scope and nature of risk reporting and measurement systems	Sections: Credit risk – Counterparty credit risks, page 51	Handelsbanken's Annual Report, note G2, sections: Risk management – Risk strategy – Resilient risk management, page 96; Market risk, page 117 Funding and Liquidity risks, page 121 Operational risk, page 127 Compliance risk, page 130 Risk in the remuneration system, page 131 Risk in the insurance operations, page 131

Article in CRR	Description	Reference in Risk and Capital – Information according to Pillar 3	Reference in Handelsbanken's Annual Report and interim reports or on the Handelsbanken website
1 d	Policies for hedging and mitigating risk	Section: Credit risk – Counterparty credit risks, page 51	Handelsbanken's Annual Report, note G2, sections: Market risk, page 117 Funding and Liquidity risks, page 121 Operational risk, page 127 Compliance risk, page 130 Risk in the remuneration system, page 131 Risk in the insurance operations, page 131
1 e	Declaration of conformity that the risk management system is fit-for-purpose in relation to the institution's profile and strategy		Handelsbanken's Annual Report, note G2, section: Risk management – The Board's risk declaration and risk statement, page 98
1 f	Risk statement with overall risk profile		Handelsbanken's Annual Report, note G2, section: Risk management – The Board's risk declaration and risk statement, page 98
2 a–c	Corporate governance disclosures		Handelsbanken's Annual Report, section: Corporate Governance Report, which is part of the administration report, page 63
2 d	Whether or not the institution has set up a separate risk committee		Handelsbanken's Annual Report, section: Corporate Governance Report, which is part of the administration report, page 63
2 e	Description of the information flow on risk to the management body		Handelsbanken's Annual Report, section: Corporate Governance Report, which is part of the administration report; Note G2 Section Risk management – Risk organisation – Reporting and monitoring the risk and capital situation, page 98
Article 436	**Scope of application**		
a	Name of the institution to which the requirements in CRR apply	The inside front cover of this report	
b i–iv	Outline of the differences in the basis of consolidation for accounting and prudential purposes		Handelsbanken´s Annual Report note G2, section: Market risk – Prudent valuation, page 120
c	Current or foreseen material practical or legal impediments to the prompt transfer of own funds or repayment of liabilities among the parent undertaking and its subsidiaries	Section: Own funds and capital requirement – Own funds, page 4	
d	Amount by which own funds are less than required in those subsidiaries not included in the consolidation	Section: Introduction, page 2	
e	If applicable, the circumstance of making use of the provisions laid down in Articles 7 and 9	Not applicable	
Article 437	**Own funds**		
1 a	General disclosure requirements regarding own funds	Section: Own funds and capital requirement, Table 2.2 Own funds, page 6-7	Handelsbanken's Annual Report, note G49, page 181-183
1 b	Description of the main features of capital instruments	Section: Tables - T24 Capital instruments main features CET1 ; T25 Capital instruments main features, AT1; T26 Capital instruments main features, T2, page 78-80	Handelsbanken's Annual Report, note G49, page 181-183
1 c	Full terms and conditions of capital instruments	Section: Tables - T24 Capital instruments main features CET1 ; T25 Capital instruments main features, AT1; T26 Capital instruments main features, T2, page 78-80	
1 d i–iii	Separate disclosures on the nature of prudential filters, deductions, and items not deducted	Section: Own funds and capital requirement - table 2.2 Own funds, page 6-7	Handelsbanken's Annual Report, note G49, page 181-183
1 e	Description of restrictions applied to the calculation of own funds	Section: Own funds and capital requirement – Own funds, page 4	
1 f	Explanation of the basis on which capital ratios have been calculated if other than the basis specified in CRR	Not applicable	
Article 438	**Capital requirements**		
a	Institution's approach to assessing the adequacy of its internal capital	Section: Economic Capital, page 56	Handelsbanken's Annual Report, note G2, section: Economic capital, page 132
b	Upon demand from the relevant competent authority, the result of the institution's internal capital adequacy assessment process	Provided upon request. Section: Own funds and capital requirement – Capital requirement – Capital requirement in Pillar 2, page 15	
c	Capital requirements for credit risk calculated using the standardised approach	Section: Credit risk – Capital requirements for credit risk; table 3.15 Credit risks exposures according to standardised approach, page 38; Section: Own funds and capital requirement, table 2.11 EU OV1 - Overview of RWAs, page 16	
d	Capital requirements for credit risk calculated using the IRB approach	Section: Credit risk – Capital requirements for credit risk; table 3.14 Credit risks exposures approved for IRB approach, page 38; Section: Own funds and capital requirement, table: 2.11 EU OV1 - Overview of RWAs, page 16	
e	Capital requirements for market risk	Section: Market risk; Table 4.1 EU MR1 - Market risk under the standardised approach, page 53; Section: Own funds and capital requirement, table 2.11 EU OV1 - Overview of RWAs, page 16	
f	Capital requirements for operational risk	Section: Own funds and capital requirement, table 2.11 EU OV1 - Overview of RWAs, page 16	
g	Capital adequacy ratio of the financial conglomerate	Section: Own funds and capital requirement, table 2.13 Capital adequacy financial conglomerate, page 16	

Article in CRR	Description	Reference in Risk and Capital – Information according to Pillar 3	Reference in Handelsbanken's Annual Report and interim reports or on the Handelsbanken website
Article 439	**Exposure to counterparty credit risk**		
a	Methodology to assign internal capital and credit limits for counterparty credit exposures	Section: Credit risk – Counterparty credit risks, page 51	
b	Policies for securing collateral and establishing credit reserves	Section: Credit risk – Counterparty credit risks, page 51	
c	Policies with respect to wrong-way risk exposures	Section: Credit risk – Counterparty credit risks, page 51	
d	Impact of the amount of collateral the institution would have to provide given a downgrade in its credit rating	Section: Credit risk – Counterparty credit risks, page 51	
e	Net derivatives credit exposure	Section: Credit risk, Table T20 EU CCR5-A - Impact of netting and collateral held on exposure values, page 75 and Table T22 EU CCR6 - Credit derivative exposures, page 76	
f	Methods for measures of exposure value	Section: Credit risk – Counterparty credit risks, page 51	
g	Notional value of credit derivative hedges and the distribution of current credit exposure by types of credit exposure	Section: Tables, T22 EU CCR6 - Credit derivative exposures, page 76	
h	Notional amounts of credit derivative transactions in the bank's own credit portfolio as well as intermediation activities	Section: Credit risk – Counterparty credit risks, page 51	
i	Estimate of alpha if the institution has received the permission of the competent authorities to estimate alpha	Not applicable	
Article 440	**Capital buffers**		
1 a	Geographic distribution of credit exposures for calculating the countercyclical capital buffer	Section: Own funds and capital requirement, Table 2.5 Geographical breakdown of credit exposures relevant for the calculation of the countercyclical capital buffer, page 8	
1 b	Amount of the countercyclical capital buffer	Section: Own funds and capital requirement, Table 2.4 Amount of institution -specific countercyclical capital buffer, page 8	
Article 441	**Indicators of global systemic importance**		
1	Indicators used for determining the score of the institution in accordance with the identification methodology		www.handelsbanken.com/en/investor-relations/reports-and-presentations
Article 442	**Credit risk adjustments**		
a	Definitions for accounting purposes of 'past due' and 'impaired'	Section: Credit risk – Expected credit losses and section Definitions and explanations, page 19	Handelsbanken's Annual Report, note G2, page 96
b	Methods for determining specific and general credit risk adjustments	Section: Credit risk – Expected credit losses, page 19	Handelsbanken's Annual Report, note G2, page 96
c	Total amount of all exposures and the average amount of the exposures over the period, broken down by different types of exposure classes	Section: Credit risk, Table 3.16 EU CRB-B - Total and average net amount of exposures, page 40; Section: Tables, Table T9 Collateral obtained by taking possession and execution processes, page 64	
d	Geographic distribution of the exposures, broken down by exposure classes	Section:Table,T2 EU CR1-C - Credit quality of exposures by geography, page 60	
e	Distribution of exposures by industry or counterparty type, broken down by exposure classes	Section: Tables, T1 EU CR1-B - Credit quality of exposures by industry or counterparty types, page 59	
f	Residual maturity of all exposures, broken down by exposure classes	Section: Table, T3 Credit quality of performing and non-performing exposures by past due days, page 61	
g i–iii	Distribution of exposures by industry and counterparty type broken down by impaired exposures and past due exposures, specific and general credit risk adjustments, and the charges for specific and general credit risk adjustments	Section: Tables, T1 EU CR1-B - Credit quality of exposures by industry or counterparty types, page 59	
h	Geographic breakdown of impaired and past due exposures	Section: Tables, T2 EU CR1-C - Credit quality of exposures by geography, page 60	
i i–v	Reconciliation of changes in specific and general credit risk adjustments for impaired loans	Section: Credit risk – Expected credit losses; Table 3.1 EU CR1-A - Credit quality of exposures by exposure class and instrument, page 20 Table 3.2 EU CR2-A - Changes in the stock of general and specific credit risk adjustments, page 22	
Article 443	**Unencumbered assets**		
	Disclosure of unencumbered assets in accordance with EBA guidelines EBA/GL/2014/03	Tables: 5.2 Encumbered and unencumbered assets, 5.3 Collateral received, 5.4 Sources of encumbrance, page 55	Handelsbanken's Annual Report, note G2, section: Funding and liquidity risk – Encumbered assets and cover pools, page123
Article 444	**Use of external credit assessment institutions (ECAIs)**		
a	Names of the nominated external credit assessment institutions (ECAIs) and export credit agencies (ECAs)	Section: Credit risk – Calculation of capital requirements for credit risk – Comparisons with external ratings, page 25; Section: Capital requirements for credit risk – Exposure, exposure amounts and capital requirements, page 39	
b	Exposure classes for which each ECAI or ECA is used	Section: Credit risk – Calculation of capital requirements for credit risk – Comparisons with external ratings, page 25	
c	Description of the process used to transfer the issuer and issue credit assessments onto items not included in the trading book	Not applicable	
d	Association of the external rating of each nominated ECAI or ECA with the institution's scale of credit quality steps	Section: Credit risk – Calculation of capital requirements for credit risk – Comparisons with external ratings, page 25	
e	Exposure values before and after credit risk mitigation associated with each credit quality step	Section: Credit risk – Capital requirements for credit risk – Exposure, exposure amounts and capital requirements Table 3.17 Exposure calculated according to standardised approach broken down into credit quality steps based on external ratings, page 41	
Article 445	**Exposure to market risk**		
	Capital requirements for market risk	Section: Market risk, Table 4.1 EU MR1 - Market risk under the standardised approach, page 53 Section: Own funds and capital requirement, table 2.11 EU OV1 - Overview of RWAs, page 16	
Article 446	**Operational risk**		
	Methodology for calculating capital requirements for operational risk	Section: Own funds and capital requirement – Operational risk, page 57	

Article in CRR	Description	Reference in Risk and Capital – Information according to Pillar 3	Reference in Handelsbanken's Annual Report and interim reports or on the Handelsbanken website
Article 447	**Exposures in equities not included in the trading book**		
a	Differentiation between exposures based on their objectives		Handelsbanken's Annual Report, note G2, table 27, page 120
b	Balance sheet value, fair value and, for those traded on an exchange, comparison to the market price where it is materially different from fair value		Handelsbanken's Annual Report, note G2, section: Market risk – Equity price risk – Equity price risk outside the trading book, page119
c	Types, nature and amounts of exchange-traded exposures, private equity exposures in sufficiently diversified portfolios, and other exposures		Handelsbanken's Annual Report, note G2, table 27, page 120
d	Cumulative realised gains or losses arising from sales and liquidations in the period		Handelsbanken's Annual Report, note G2, table 27, page 120
e	Total unrealised gains or losses		Handelsbanken's Annual Report, note G2, table 27, page 120
Article 448	**Exposure to interest rate risk on positions not included in the trading book**		
a	Nature of the interest rate risk and key assumptions and frequency of measurement of interest rate risk		Handelsbanken's Annual Report, note G2, section: Market risk – Interest rate risk – Interest rate risk in the non-trading book, page 118
b	Variation in earnings, economic value or other relevant measure used by management for upward and downward rate shocks according to methods for measuring interest rate risk, broken down by currency		Handelsbanken's Annual Report, note G2, section: Market risk – Interest rate risk – Interest rate risk in the non-trading book, page 118
Article 449	**Exposure to securitisation positions**		
a	Objectives in relation to securitisation activity	Section: Credit risk – Capital requirements for credit risk – Securitisation, page 50	
b	Nature of other risks including liquidity risk inherent in securitised assets	Not applicable	
c	Type of risks in terms of seniority of underlying securitisation positions and in terms of assets underlying those positions that the institution has assumed and retained with re-securitisation activity	Not applicable	
d–e	Different roles played by the institution in the securitisation process and extent of the institution's involvement in these roles	Section: Credit risk – Capital requirements for credit risk – Securitisation, page 50	
f	Description of the processes to monitor changes in the credit and market risk of positions	Section: Credit risk – Capital requirements for credit risk – Securitisation, page 50	
g	Description of the policy governing the use of hedging and unfunded protection to mitigate the risks of retained securitisation and re-securitisation exposures	Section: Credit risk – Capital requirements for credit risk – Securitisation, page 50	
h	Methods for calculating risk-weighted exposure amounts for securitisation activities	Section: Credit risk – Capital requirements for credit risk – Securitisation, page 50	
i	Types of special purpose entities that the institution, in its capacity as sponsor, uses to securitise third-party exposures	Not applicable	
j i–vi	Accounting policies for securitisation activities	Not applicable	
k	Names of the external credit assessment institutions (ECAIs) used for securitisations	Section: Credit risk, Table 3.23 Securitisation positions in the non-trading book by risk weight, page 51	
l	Description of the IRB approach	Not applicable	
m	Explanation of significant changes to any of the quantitative disclosures in points n–q since the preceding reporting period	Not applicable	
n i–vi	Information on securitisation exposures in the trading book and in the non-trading book, broken down by exposure type	Section: Credit risk, Table 3.23 Securitisation positions in the non-trading book by risk weight, page 51	
o i–ii	Additional information on securitisation exposures in the trading book and in the non-trading book	Not applicable	
p	Information on securitisation exposures in the non-trading book that are impaired/past due and the losses recognised during the current period, both broken down by exposure type	Not applicable	
q	Total outstanding exposures securitised in the trading book and subject to a capital requirement for market risk, broken down into traditional and synthetic securitisation and by exposure type	Not applicable	
r	Where applicable, whether the institution has provided support and the impact on own funds	Not applicable	

Article in CRR	Description	Reference in Risk and Capital – Information according to Pillar 3	Reference in Handelsbanken's Annual Report and interim reports or on the Handelsbanken website
Article 450	**Remuneration policy**		
1 a	Decision-making process used for determining remuneration policy, and number of meetings held by main body overseeing remuneration during the financial year		Handelsbanken's Annual Report, section: Corporate Governance Report, which is part of the administration report, page 63
1 b	Information on link between pay and performance		Handelsbanken's Annual Report, section: Corporate Governance Report, which is part of the administration report, page 63
1 c–f	Criteria for performance measurement, parameters and rationale for any variable component scheme		Handelsbanken's Annual Report, section: Corporate Governance Report, which is part of the administration report, page 63
1 g–i	Aggregate quantitative information on remuneration, including breakdowns		Handelsbanken's Annual Report, section: Note G1, Note G8 and Corporate Governance Report, which is part of the administration report, page 84,136
1 j	Upon demand, total remuneration for each member of the management body or senior management		Handelsbanken's Annual Report, section: Note G8 and Corporate Governance Report, which is part of the administration report, page 136
2	Quantitative information about remuneration to members of the institution's management body for significant institutions		Handelsbanken's Annual Report, section: Note G8, Corporate Governance Report, which is part of the administration report.
Article 451	**Leverage**		
1 a	Leverage ratio	Section: Own funds and capital requirement – Leverage ratio, Table 2.13 LRCom Leverage ratio common disclosure, page 17	
1 b	Breakdown of the total exposure amount	Section: Own funds and capital requirement – Leverage ratio, Table 2.13 LRCom Leverage ratio common disclosure, page 17	
1 c	Where applicable, the amount of derecognised fiduciary items	Section: Own funds and capital requirement – Leverage ratio, Table 2.13 LRCom Leverage ratio common disclosure, page 17	
1 d	Description of the processes used to manage the risk of excessive leverage		Handelsbanken's Annual Report, note G2, section: Capital planning section describes how the Bank monitors capitalisation, page 133
1 e	Description of factors that had an impact on the leverage ratio during the period to which the disclosed leverage ratio refers	Section: Own funds and capital requirement – Leverage ratio, Table 2.13 LRCom Leverage ratio common disclosure, page 17	
Title III	**Qualifying requirements for the use of particular instruments or methodologies**		
Article 452	**Use of the IRB approach to credit risk**		
a	Competent authority's permission of the approach or approved transition	Section: Credit risk – Calculation of capital requirements for credit risk, page 22	
b	Explanation of the following:		
b i	Structure of internal rating systems and relation between internal and external ratings	Sections: Credit risk – Calculation of capital requirements for credit risk – Risk rating system, page 23 Credit risk – Calculation of capital requirements for credit risk – Risk classification methods – Comparisons with external ratings, page 25	
b ii	Use of internal estimates other than for calculating risk-weighted exposure amounts	Not applicable	
b iii	Process for managing and recognising credit risk mitigation	Section: Credit risk – Collateral and actions that reduce the capital requirement, page 33	
b iv	Control mechanisms for rating systems	Section: Credit risk – Calculation of capital requirements for credit risk – Quality assurance of the rating system, page 25	
c i–v	Description of internal ratings process, provided separately for each IRB exposure class	Sections: Credit risk – Calculation of capital requirements for credit risk – Exposure classes; Risk classification methods, page 23	
d	Exposure values, provided separately for each IRB exposure class	Section: Credit risk – Capital requirements for credit risk – Exposure, exposure amounts and capital requirements, page 39	
e i–iii	Total exposures, exposure-weighted average risk weight, and total amount of undrawn commitments by risk class for the exposure classes central governments and central banks, institutions, corporates, and equities	Section: Credit risk – Capital requirements for credit risk – Risk weight and breakdown into risk classes; Table 3.18 EU CR6 - IRB approach - Credit risk exposures by exposure class and PD range, page 43-48	
f	Information on retail exposures in the IRB approach	Sections: Credit risk – Calculation of capital requirements for credit risk – Exposure classes, page 23	
g	Actual specific credit risk adjustments in preceding period	Section: Credit risk – Expected credit losses, page 19 Table 3.2 EU CR2-A Changes in the stock of general and specific credit risk adjustments, page 22	
h	Factors that impacted on the loss experience in preceding period	Section: Credit risk – Expected credit losses; Table 3.2 EU CR2-A Changes in the stock of general and specific credit risk adjustments, page 22	
i	Institution's estimates against actual outcomes	Section: Credit risk – Calculation of capital requirements for credit risk – Forecasts and outcomes in IRB approach, page 26	
j i–ii	Geographic breakdown of PD and LGD for all IRB exposure classes	Section: Table, T10 EU CRB-C, page 65	

Article in CRR	Description	Reference in Risk and Capital – Information according to Pillar 3	Reference in Handelsbanken's Annual Report and interim reports or on the Handelsbanken website
Article 453	**Use of credit risk mitigation techniques**		
a	Policies and processes for on- and off-balance-sheet netting	Sections: Credit risk – Collateral and actions that reduce the capital requirement, page 33; Counterparty credit risks – Mitigation of counterparty credit risk, page 51	
b	Policies and processes for collateral valuation and management	Sections: Credit risk – Collateral and actions that reduce the capital requirement, page 33; Counterparty credit risks – Mitigation of counterparty credit risk, page 51	
c	Main types of collateral taken by the institution	Sections: Credit risk – Collateral and actions that reduce the capital requirement, page 33; Counterparty credit risks – Mitigation of counterparty credit risk, page 51	
d	Main types of guarantor and credit derivative counterparty and their creditworthiness	Section: Information items not disclosed under EBA/GL/2014/14, page 89	
e	Information about market or credit risk concentrations within the credit mitigation taken	Section:Tables,T22 EU CCR6 - Credit derivative exposures, page 76	
f	Exposure value covered by eligible financial and other collateral for exposures under the standardised approach or the IRB approach without own estimates of LGD and CCF	Section:Tables, T 20 EU CCR5A-Impact of netting and collateral held on exposure valuesT21 EU CCR 5B –Composition of collateral for exposures to CCR and T19 EU CCR 4 –IRB approach –CCR exposures by portfolio and PD scale, pages 74-75	
g	Exposure value covered by guarantees or credit derivatives	Section:Tables,T20 EU CCR5-A - Impact of netting and collateral held on exposure values, page 75	
Article 454	**Use of the Advanced Measurement Approaches to operational risk**		
	Description of the use of insurance and other risk transfer mechanisms to mitigate operational risk	Not applicable	
Article 455	**Use of Internal Market Risk Models**		
a i	Characteristics of the models used	Not applicable	
a ii	Methodologies in internal models for incremental default and migration risk and for correlation trading	Not applicable	
a iii	Description of stress testing applied to the sub-portfolio	Not applicable	
a iv	Description of the approaches used for back-testing and validating the accuracy and consistency of the internal models and modelling processes	Not applicable	
b	Scope of permission by the competent authority	Not applicable	
c	Description of the extent and methodologies for compliance with the requirements set out in Articles 104 and 105	Not applicable	
d i–iii	Highest, lowest and mean values for value-at-risk measures, stressed value-at-risk measures, risk numbers for incremental default and migration risk and for the specific risk of the correlation trading portfolio	Not applicable	
e	Elements of the own funds requirement for market risk	Not applicable	
f	Weighted average liquidity horizon for each sub-portfolio covered by the internal models	Not applicable	
g	Comparison of the daily end-of-day value-at-risk measures to the one-day changes of the portfolio's value by the end of the subsequent business day	Not applicable	

Definitions and explanations

ADDITIONAL TIER 1 CAPITAL
Additional tier 1 capital comprises perpetual subordinated loans which meet the requirements stated in Regulation (EU) No 575/2013 and can therefore be included in the tier 1 capital.

AFR
Available financial resources (AFR) is the Bank's equity with the addition of other financial values on and off the balance sheet, available to cover losses with a one-year time horizon.

BUFFER REQUIREMENT FOR SYSTEMICALLY IMPORTANT INSTITUTIONS
The buffer requirement for banks considered especially important to the financial system. For institutions that are systemically important on a global scale, the requirement can be up to 3.5 per cent. For other systemically important institutions, it can be up to 2 per cent.

CAPITAL CONSERVATION BUFFER
The purpose of this buffer requirement of 2.5 per cent is to ensure that all banks maintain buffer capital exceeding the minimum capital requirements.

CAPITAL REQUIREMENT
The statutory capital requirement means that an institution which is subject to CRR must have a common equity tier 1 ratio of at least 4.5 per cent, a tier 1 ratio of at least 6 per cent and a total capital ratio of at least 8 per cent. This means that own funds must be at least the percentage of the risk exposure amount specified for each ratio. For definitions of each of the own funds amounts, see Common equity tier 1 capital, Tier 1 capital, and Total capital. In addition to the general requirements, the supervisory authority may add institution-specific requirements in accordance with the second pillar of the regulations.

COMBINED BUFFER REQUIREMENT
The sum of the capital conservation buffer, the countercyclical buffer, and the buffer requirement which is the higher of the requirement for systemically important institutions or the systemic risk buffer.

COMMON EQUITY TIER 1 CAPITAL
Common equity tier 1 capital is one of the components of own funds and mainly comprises equity. Deductions are made for dividends generated, goodwill, and other intangible assets as well as the difference between an expected loss and provisions made for probable loan losses.

COMMON EQUITY TIER 1 RATIO
Common equity tier 1 capital in relation to total risk exposure amount.

COUNTERCYCLICAL BUFFER
A buffer requirement that varies over the business cycle to counteract excessively high credit growth. The level is set by the Swedish Financial Supervisory Authority and can be between 0 and 2.5 per cent.

CRD IV
The EU Credit Institutions Directive: Directive 2013/36/EU on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms.

CREDIT CONVERSION FACTOR (CCF)
The factor used when calculating the exposure amount for unutilised overdraft facilities, committed loan offers, guarantees, and other off-balance-sheet commitments.

CREDIT RISK PROTECTION
Risk-mitigation factors and measures, such as property mortgages.

CREDITS IN DEFAULT
Impaired exposures that are also classified as 'defaulted' under Article 178 of CRR.

CRR
The EU Capital Requirements Regulation for credit institutions and investment firms: Regulation (EU) No 575/2013 on prudential requirements for credit institutions and investment firms.

CVA
The credit valuation adjustment (CVA) risk measures the risk that the market value of a derivative will decrease, owing to deterioration of the creditworthiness of the counterparty. The CVA is a component in the regulations for the valuation of derivatives. The adjustment in the value is based on the counterparty's creditworthiness. An exposure to a counterparty with weaker creditworthiness must have a lower carrying amount than the equivalent exposure to a counterparty with better creditworthiness. In this context, credit risk means that if a given counterparty's creditworthiness weakens, the balance sheet values of all derivative transactions with this counterparty with a positive market value decrease – and thus the Bank's equity decreases. To factor in this risk in the capital adequacy, the credit valuation adjustment risk has been introduced as part of the capital adequacy regulations.

DEFAULT
An exposure to a specific counterparty is deemed to be in default if any of the following criteria are fulfilled:

- The institution deems it probable that the counterparty will not be able to fulfil its commitments towards the institution without the institution having to realise any collateral or take similar measures.
- The counterparty is more than 90 days past due with a payment, unless it is an insignificant amount.

EC
Economic capital (EC) is a model for calculating economic capital which, in one measurement, identifies the Group's overall risks and indicates the capital which, with very high probability, will cover unexpected losses or decreases in value.

EL
Expected loss (EL) is calculated by multiplying PD by LGD and the exposure amount.

ELIGIBLE LIABILITIES AND OWN FUNDS
The sum of bail-in-able senior liabilities according to the definition in Swedish resolution law (SFS 2015:1016) and own funds.

EXPOSURE AMOUNT
Exposure amount (exposure at default) is the amount which is subject to capital adequacy requirements. It is calculated including interest and fees. For off-balance-sheet items, the amounts are recalculated using the credit conversion factor (CCF). For derivatives, the exposure amount is calculated as positive MTM (mark-to-market) plus value change risk, that is, the nominal amount multiplied by the upward adjustment factor.

EXPOSURE VALUE
Exposure value is the same as exposure amount. The exposure value concept is used in the standardised approach for credit risk.

FORBEARANCE
Credit agreements that have been eased in credit terms through the modification of existing terms or new credit agreements with easements that have refinanced old contracts in whole or in part, if this has occurred because the borrower has faced / is facing financial difficulties

IRB
Internal Ratings Based Approach.

IRB APPROACH
There are two versions of the internal ratings based (IRB) approach: the simplified version, the IRB approach without own estimates of LGD and CCF (in previous regulations called the foundation approach), and the more advanced method, the IRB approach with own estimates of LGD and CCF (in previous regulations called the advanced approach).

LEVERAGE RATIO
Tier 1 capital in relation to total assets, including certain off-balance-sheet items recalculated with conversion factors defined in the standardised approach and regulatory adjustments from own funds.

LGD
The loss given default (LGD) is the proportion of an exposure that the Bank will lose, on average, in the event of a default.

LIQUIDITY COVERAGE RATIO (LCR)
High-quality liquid assets in relation to an estimated net outflow of liquidity over a period of 30 days.

LOAN LOSS RATIO
Loan losses and changes in value of repossessed property in relation to loans to the public and credit institutions (excluding banks), and also repossessed property and credit guarantees at the beginning of the year.

MREL REQUIREMENT
Minimum requirement for eligible liabilities and own funds. Requirement is set annually by the SNDO, the resolution authority, according to Swedish resolution law (SFS 2015:1016).

NPL NON-PERFORMING LOANS/NPE NON-PERFORMING EXPOSURES
Non-performing loans/exposures are defined as defaulted exposures plus forborne exposures. A default shall be considered to have occurred when the obligor it's unlikely to pay its credit obligation to the institution or the obligor is past due more than 90 days on any material credit obligation.

OWN FUNDS/TOTAL CAPITAL
Own funds are the sum of tier 1 and tier 2 capital.

PD
The probability of default (PD) is the probability of a borrower defaulting within one year. For example, a PD of 0.2 per cent means that two borrowers of 1,000 are expected to default within one year.

PERFORMING CREDITS
Credits that are neither impaired nor defaulted.

RISK EXPOSURE AMOUNT
The capital requirement in accordance with CRR, multiplied by 12.5. The risk exposure amount is used in conjunction with market risk and operational risk.

RISK WEIGHT
A measure to describe the level of risk an exposure is expected to have under the capital adequacy regulations.

RISK-WEIGHTED EXPOSURE AMOUNT
Exposure amount multiplied by risk weight. The risk-weighted exposure amount is used in conjunction with credit risk including counterparty risks.

SECURITISATION
A programme whereby the credit risk associated with an exposure or pool of exposures is tranched, and the payments within the framework of the programme depend on the performance of the exposure or pool of exposures. The subordination of tranches determines the distribution of losses during the life of the programme.

SPECIFIC CREDIT RISK ADJUSTMENT
Specific credit risk adjustments consist of collective and individual credit risk adjustments. These apply to exposures covered by either the standardised approach or the IRB approach.

STANDARDISED APPROACH
The method for calculating and reporting credit risk according to CRR. This relies on standardised risk weights based on external ratings. The standardised approach is also applied for market risk and operational risk.

SYSTEMIC RISK BUFFER
A buffer requirement of 3 per cent for the largest banks in Sweden. The aim of the systemic risk buffer is to protect the banking system as a whole in times of financial instability.

TIER 1 CAPITAL
Common equity tier 1 capital including additional tier 1 capital.

TIER 1 RATIO
Tier 1 capital in relation to total risk exposure amount.

TIER 2 CAPITAL
Tier 2 capital is one of the components of own funds and mainly consists of subordinated loans which fulfil the requirements stated in Regulation (EU) No 575/2013 to be included as tier 2 capital.

TOTAL CAPITAL RATIO
Total capital in relation to total risk exposure amount.

TOTAL LIABILITIES AND OWN FUNDS
The sum of the Bank's total liabilities and own funds

TOTAL RISK EXPOSURE AMOUNT
The sum of risk exposure amount and risk-weighted exposure amount.

Information items not disclosed under EBA/GL/2014/14

Reference	Description	Reason for non-disclosure[1]	Reference to information which replaces non-disclosed information
Table EU OVA, CRR 435 1 b	The approved levels for risk to which the institution is exposed.	Limit levels of the Bank's risk tolerance are strictly confidential. The information refers to business relationships that are of competitive importance.	Key figures and risk measures on which the limit levels are based are stated in the report.
Table EU CRC, CRR 453 d	The description of the main types of guarantors and counterparties for credit derivatives and their creditworthiness.	The Bank's guarantors and credit derivative counterparties are strictly confidential information. The information refers to business relationships that are of competitive importance.	Key figures and risk measures that are affected by the Bank's guarantors and credit derivative counterparties are stated in the report.
Table EU MRA, CRR 455 c	A description of the procedures and systems implemented to guarantee the opportunity to trade for the positions included in the trading book in order to fulfil the requirements of article 104. A description of the method used to guarantee that the guidelines and processes implemented for the general management of the trading book are appropriate.	The Bank's guidelines for risk-taking in the trading book and investment regulations for the liquidity portfolio are strictly confidential. The information refers to business relationships that are of competitive importance.	Footnote in Handelsbanken's Annual Report, table AR:22.

[1] Non-disclosed information is available to the supervisory authority.

Signatures of the CEO, CFO and CRO

The Information Policy for the Handelsbanken Group, adopted by Handelsbanken's Board, and the CEO's Guidelines for communication in the Handelsbanken Group are Handelsbanken's steering documents for compliance with the disclosure requirements in Regulation (EU) No 575/2013.

The control environment described in the Annual Report's Corporate Governance Report and in this report is fundamental to Handelsbanken's internal control of disclosures under Part Eight of Regulation (EU) No 575/2013: organisational structure, division of responsibilities, guidelines and steering documents. Another part of the internal control process is the identification and management of the risks that may affect the preparation of disclosures under Part Eight of Regulation (EU) No 575/2013 and the control activities incorporated in the process for preparing disclosures. The Bank has information and communication paths intended to promote the completeness, accuracy, meaningfulness, and consistency over time of disclosures under Part Eight of Regulation (EU) No 575/2013.

The responsibility for internal control of disclosures under Part Eight of Regulation (EU) No 575/2013 has been delegated from the CEO to managers who report directly to the CEO and who are in charge of internal control within their respective units.

We hereby declare that the disclosures under Part Eight of Regulation (EU) No 575/2013 have been prepared in accordance with Handelsbanken's internal control framework. The information which is provided under Part Eight of Regulation (EU) No 575/2013 is satisfactory, including in terms of control and frequency, in relation to the disclosure requirements in the Regulation and provides market participants with a comprehensive picture of Handelsbanken's risk profile.

STOCKHOLM FEBRUARY 2020

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