

COMMERZBANK

The bank at your side



Disclosure Report as at 30 June

2019

in accordance with the Capital Requirements Regulation (CRR)

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Introduction

Commerzbank

Commerzbank is one of Germany's leading banks for private and corporate clients, and an internationally active universal bank with locations in almost 50 countries. It has one of the densest branch networks among German private banks, with approximately 1,000 branches. Commerzbank serves more than 18 million private and small-business customers as well as more than 70,000 corporate clients worldwide.

A detailed description of the structure and organisation of Commerzbank Group is given in the Annual Report 2018.

Objective of the Disclosure Report

In this report Commerzbank Aktiengesellschaft as the ultimate parent company of the regulated banking group is complying with the disclosure requirements of Articles 431 – 455 of regulation (EU) No. 575/2013 – the Capital Requirements Regulation (CRR) – and the guidelines on the disclosure requirements under Part Eight of Regulation (EU) No. 575/2013 – EBA/GL/2016/11 – as at 30 June 2019. The tables defined according to the EBA guidelines and integrated into the report are indicated by the table names provided with the prefix EU.

Scope

This Disclosure Report is based on the group of companies consolidated for regulatory purposes. The companies consolidated for regulatory purposes only include those carrying out banking and other financial business. The consolidated group consists of a domestic parent company and its affiliated companies. The aim of

regulatory consolidation is to prevent multiple use of capital that in fact exists only once by subsidiary companies in the financial sector. The companies consolidated under IFRS, by contrast, comprise all the companies controlled by the ultimate parent company.

In the context of the disclosure requirements (Article 431 (3) CRR), besides the Disclosure Report itself, all policies and processes have to be documented as a main component to fulfil the Pillar 3 requirements of the Basel framework. The appropriateness and practicality of the Bank's disclosure practice has to be reviewed on a regular basis. For this purpose, Commerzbank has defined guidelines for the Disclosure Report which regulate the overarching, strategic part of the instructions. The operative targets and responsibilities are additionally defined in separate documents.

With consolidated total assets that are regularly well in excess of €30bn, Commerzbank is one of the biggest financial institutions in Germany. Hence, independent of the criteria in Article 433 CRR, Commerzbank has implemented the reporting requirements during the period from Q2 2015 on and discloses the quarterly and semi-annually required information as appropriate.¹

Waiver rule pursuant to Article 7 CRR

According to the waiver rule pursuant to Article 7 CRR, the supervision of individual institutions within a banking group domiciled in Germany can, under certain circumstances, be replaced by the consolidated supervision. Within Commerzbank Group, comdirect bank AG continues to make use of the waiver rule. The same applies to Commerzbank AG as the parent institute. For more information, please refer to the Disclosure Report as at 31 December 2018.

¹ See EBA/GL/2014/14, title V (18).

Equity capital, capital requirement and risk-weighted assets (RWA)

Capital structure

The evaluations in the tables below comprehensively illustrate the total own funds available for the entire Commerzbank Group. These own funds are also the basis for the calculation of the equity capital adequacy as reported to the Bundesbank.

More details on the composition of Commerzbank's equity capital can be found in the Disclosure Report 2018 as well as in the Notes of the Annual Report 2018. Commerzbank does not apply the transitional arrangements set out in article 473a CRR. Information on capital, capital ratios and leverage ratio reflect the full impact of the IFRS 9 introduction.

Information on the issued capital instruments of Commerzbank Group according to Article 437 (1) b) and c) CRR are given on the

Commerzbank website in the section Debt holder information/Capital instruments.

Further information on our leverage ratio according to Article 451 CRR is given in note (41) (Regulatory capital requirements) and note (42) (Leverage ratio) of the Interim Report as at 30 June 2019, which is published on our website.

Information on liquidity risk and the liquidity coverage ratio (LCR) according to the guideline on LCR disclosure – EBA/GL/2017/01 – can be found in the Interim Report as at 30 June 2019 in the sections “Funding and liquidity”, “Liquidity risk” and in Note (43) (Liquidity Coverage Ratio) of the appendix.

The composition of the regulatory capital and the capital ratios as at 30 June 2019 are as follows:

CAP1: Equity structure (basis: EU 1423/2013)

Line €m		A: Amount on the day of disclosure
Common Equity Tier 1 capital: instruments and reserves		
1	Capital instruments and the related share premium accounts	18,444
1a	thereof: subscribed capital	1,252
1b	thereof capital reserve	17,192
2	Retained earnings	9,575
3	Accumulated other comprehensive income (and other reserves, to include unrealised gains and losses under the applicable accounting standards)	-194
3a	Funds for general banking risk	0
4	Amount of qualifying items referred to in Art. 484 (3) and the related share premium accounts subject to phase out from CET1	0
5	Minority interests (amount allowed in consolidated CET1)	732
5a	Independently reviewed interim profits net of any foreseeable charge or dividend	268
6	Common Equity Tier 1 (CET1) capital before regulatory adjustments	28,825
Common Equity Tier 1 (CET1) capital: regulatory adjustments		
7	Additional value adjustments (negative amount)	-272
8	Intangible assets (net of related tax liability) (negative amount)	-2,760
10	Deferred tax assets subject to future profit ratio excluding those arising from temporary differences (net of related tax liability where the conditions in Art. 38 (3) are met) (negative amount)	-781
11	Fair value reserves related to gains or losses on cash flow hedges	9
12	Negative amounts resulting from the calculation of expected loss amounts	-192
13	Any increase in equity that results from securitised assets (negative amount)	0
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	-128
15	Defined benefit pension fund assets (negative amount)	-80
16	Direct and indirect holdings by an institution of own CET1 instruments (negative amount)	-7
17	Holdings of the CET1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	0
18	Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	0
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)	0
20a	Exposure amount of the following items which qualify for a RW of 1250%, where the institution opts for the deduction alternative	-164
20b	thereof: qualifying holdings outside the financial sector (negative amount)	0
20c	thereof: securitisation positions (negative amount)	-164
20d	thereof: free deliveries (negative amount)	0
21	Deferred tax assets subject to future profit ratio and arising from temporary differences (amount above 10% threshold, net of related tax liability where the conditions in Art. 38 (3) are met) (negative amount)	-326
22	Amount exceeding the 15% threshold (negative amount)	0
23	thereof: direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities	0
25	thereof: deferred tax assets subject to future profit ratio and arising from temporary differences	0
25a	Losses for the current financial year (negative amount)	0
25b	Foreseeable tax charges relating to CET1 items (negative amount)	0
27	Qualifying AT1 deductions that exceed the AT1 capital of the institution (negative amount)	0
27a	Other CET1 capital elements or deductions	-100
28	Total regulatory adjustments to Common Equity Tier 1 (CET1) capital	-4,801

Line €m	A: Amount on the day of disclosure
29 CET1 capital	24,023
Additional Tier 1 (AT1) capital: instruments	
30 Capital instruments and the related share premium accounts	0
31 thereof: classified as equity under applicable accounting standards	0
32 thereof: classified as liabilities under applicable accounting standards	0
33 Amount of qualifying items referred to in Art. 484 (4) and the related share premium accounts subject to phase out from AT1	678
34 Qualifying Tier 1 capital included in consolidated AT1 capital (including minority interests not included in line 5) issued by subsidiaries and held by third parties	129
35 thereof: instruments issued by subsidiaries subject to phase out	0
36 Additional Tier 1 (AT1) capital before regulatory adjustments	807
Additional Tier 1 (AT1) capital; regulatory adjustments	
37 Direct and indirect holdings by an institution of own AT1 instruments (negative amount)	0
38 Holdings of the AT1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	0
39 Direct and indirect holdings of the AT1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	0
40 Direct and indirect holdings by the institution of the AT1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	0
42 Qualifying Tier 2 deductions that exceed the Tier 2 capital of the institution (negative amount)	0
43 Total regulatory adjustments to Additional Tier 1 (AT1) capital	0
44 Additional Tier 1 (AT1) capital	807
45 Tier 1 capital (T1 = CET1 + AT1)	24,830
Tier 2 capital: instruments and provisions	
46 Capital instruments and the related share premium accounts	4,615
47 Amount of qualifying items referred to in Art. 484 (5) and the related share premium accounts subject to phase out from Tier 2	228
48 Qualifying own funds instruments included in consolidated Tier 2 capital (including minority interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties	310
49 thereof: instruments issued by subsidiaries subject to phase out	0
50 Credit risk adjustments	0
51 Tier 2 capital before regulatory adjustments	5,153
Tier 2 capital: regulatory adjustments	
52 Direct and indirect holdings by an institution of own Tier 2 instruments and subordinated loans (negative amount)	-81
53 Holdings of the Tier 2 instruments and subordinated loans of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	0
54 Direct and indirect holdings of the Tier 2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	0
55 Direct and indirect holdings of the Tier 2 instruments and subordinated loans 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)	0
57 Total regulatory adjustments to Tier 2 capital	-81
58 Tier 2 capital	5,073
59 Total capital (TC = Tier 1 + Tier 2)	29,903
60 Total risk-weighted assets	186,797

Line €m		A: Amount on the day of disclosure
Capital ratios and buffers		
61	Common Equity Tier 1 ratio (as a percentage of total risk exposure amount)	12.9
62	Tier 1 ratio (as a percentage of total risk exposure amount)	13.3
63	Total capital ratio (as a percentage of total risk exposure amount)	16.0
64	Institution specific buffer requirement (CET1 requirement in accordance with Art. 92 (1) (a) plus capital conservation and countercyclical buffer ² requirements, plus systemic risk buffer, plus systemically important institution (G-SII or O-SII) buffer expressed as a percentage of risk exposure amount)	8.110
65	thereof: capital conservation buffer requirement	2.500
66	thereof: countercyclical buffer requirement	0.110
67	thereof: systemic risk buffer requirement	0
67a	thereof: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	1.0
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	8.4
Amounts below the thresholds for deduction (before risk weighting)		
72	Direct and indirect holdings by the institution of capital instruments 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)	536
73	Direct and indirect holdings by the institution of the CET1 instruments of relevant financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions)	277
75	Deferred tax assets subject to future profit ratio, arising from temporary differences (amount below 10% threshold, net of related tax liability where the conditions in Art. 38 (3) are met)	2,435
Applicable caps on the inclusion of provisions in Tier 2		
76	Credit risk adjustments included in Tier 2 in respect of exposures under the standard approach (before application of cap)	0
77	Cap on inclusion of credit risk adjustments in Tier 2 under the standardised approach	286
78	Credit risk adjustments included in Tier 2 in respect of exposures subject to the internal ratings-based approach (before application of cap)	0
79	Cap on inclusion of credit risk adjustments allowable in Tier 2 related to exposures subject to internal ratings-based approach	735
Capital instruments subject to phase-out arrangements		
80	Current cap for CET1 instruments subject to phase-out arrangements	0
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	0
82	Current cap on AT1 instruments subject to phase out arrangements	678
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	-394
84	Current cap on Tier 2 instruments subject to phase out arrangements	228
85	Amount excluded from Tier 2 due to cap (excess over cap after redemptions and maturities)	-256

Connection between balance-sheet and regulatory positions

The reconciliation between the Group's equity reported in the balance sheet and the equity reported for regulatory purposes is shown in the table CAP2 below.

CAP2: Reconciliation of equity as reported in the balance sheet with regulatory capital (EU 1423/2013 / Art. 437 a CRR)

Position €m	Equity IFRS (Phase in) ¹	Equity FINREP ²	Equity COREP ³
Subscribed capital	1,252	1,252	1,252
Capital reserve	17,192	17,192	17,192
Retained earnings	9,815	9,859	9,859
Silent participations	0	0	0
Actuarial profits/losses current year	-239	-239	-239
Changes due to the revaluation of own credit risk	-47	-47	-47
Revaluation reserve	39	33	33
Valuation of cash flow hedges	-9	-9	-9
Currency translation reserve	-221	-217	-217
Distributable profit/loss from previous year (after suspension of retained earnings)	0	0	0
Distributable profit/loss from current year	391	381	381
Non-controlling interests	1,244	1,241	1,241
Equity as shown in balance sheet	29,417	29,446	29,446
Effects from debit valuation adjustments			-112
Gains or losses on liabilities valued at fair value resulting from changes in own credit standing			-16
Correction to non-controlling interests (minority)			-509
Goodwill			-1,511
Intangible assets			-1,249
Surplus in plan assets			-80
Deferred tax assets from loss carryforwards			-781
Shortfall due to expected loss			-192
Prudential valuation			-272
First loss positions from securitisations			-164
Deferred tax assets from temporary differences which exceed the 10% threshold			-326
Others			-211
Common Equity Tier 1 nach Abzügen			24,023
Hybrid capital	1,238	1,238	1,238
Not eligible issues			-12
Capping due to Art. 471 CRR			-394
Others, especially hedge accounting, interests, agio, disagio			-25
Additional Tier 1 before deductions			807
Deduction of Additional Tier 1 capital (AT1)			0
Additional Tier 1 after deductions			807
Subordinated capital	6,932	6,932	6,932
Decreased offsetting in the last 5 years of residual maturity			-1,563
Not eligible non-controlling interests			-209
Allowance of capped AT1			138
Others, especially hedge accounting, interests, agio, disagio			-225
Tier 2 before deductions			5,073
Deduction of Tier 2 capital			0
Tier 2 after deductions			5,073
Own funds	37,587	37,616	29,903

¹ Equity as shown in balance sheet. ² Financial reporting, equity as shown in balance sheet, regulatory group of consolidated companies.

³ Common solvency ratio reporting, regulatory capital.

Capital requirement and RWA

The capital requirements set out below relate to the Commerzbank Group and the figures are the same with regard to content as in the capital adequacy reports submitted to the Deutsche Bundesbank under Basel 3 Pillar 1.

Capital requirements by risk type

Of the overall capital requirement 74.4% relates to credit risk positions (excluding counterparty credit risk). Commerzbank uses the Advanced Internal Ratings Based Approach (advanced IRBA; in the following referred to as IRBA) to determine the regulatory capital required. Article 150 CRR gives the option of partial use. The Standardised Approach to Credit Risk (SACR) may be used for part of the portfolios.

Commerzbank Group and accordingly the group companies included in the disclosure are, as IRBA banks as defined in Article 148 (5) CRR, generally obliged to value investments in accordance with the IRBA rules. For investments entered into prior to 1 January 2008, Commerzbank has opted to apply grandfathering. These investment positions are temporarily excluded from the IRBA and treated in accordance with the SACR rules. They are given a risk weighting of 100%. The CRR also allows items to be permanently exempted from the IRBA. Since 31 December 2009 Commerzbank has applied the option pursuant to section 70 sentence 1 no. 9b of the German Solvency Regulation (SolvV) and Article 150 CRR. All investment positions which do not fall under the above-mentioned

temporary grandfathering option are valued using the permanent partial use according to the SACR.

Of the overall capital requirement 7.4% relates to counterparty credit risk. Based on the EBA requirements, credit value adjustments (CVAs) are also assigned to this credit risk category

Securitised positions in the banking book are also shown as a separate credit risk category subject to a capital requirement in the table EU OV1 below (1.6% of total capital requirement). Commerzbank treats these according to the IRBA and SACR rules for securitised positions. Capital deduction items of securitisations directly reduce the liable equity and thus are not included in the capital requirements.

Pursuant to Article 92 (3) b) and c) CRR, adequate capital must be set aside for market risk positions. As at 30 Juni 2019, capital requirements here are 4.0% of total requirements. Commerzbank uses an internal market risk model to calculate the regulatory capital requirement. This affects both the equity price and interest rate-related risk positions in the trading book as well as the total of currency positions and commodity positions. The standardised approaches are applied for smaller units in Commerzbank Group in accordance with the partial use option.

To calculate the capital adequacy requirement for operational risks, Commerzbank uses the advanced measurement approach (AMA). This risk category accounts for 12.2% of the total capital requirements.

EU OV1: Overview of RWAs

€m		Risk weighted assets (RWAs)		Capital requirements	
Article in CRR		30.6.2019	31.3.2019	30.6.2019	
	1	Credit risk (excluding CCR)	138,906	138,755	11,112
438 (c) (d)	2	Of which the standardised approach	20,789	20,206	1,663
438 (c) (d)	3	Of which the foundation IRB (FIRB) approach	0	0	0
438 (c) (d)	4	Of which the advanced IRB (AIRB) approach	118,117	118,549	9,449
438 (d)	5	Of which equity IRB under the simple risk-weighted approach or the IMA	0	0	0
107, 438 (c) (d)	6	CCR (counterparty credit risk)	13,845	13,139	1,108
438 (c) (d)	7	Of which mark to market	1,684	1,779	135
438 (c) (d)	8	Of which original exposure	0	0	0
	9	Of which the standardised approach	0	0	0
	10	Of which internal model method (IMM)	7,633	7,572	611
438 (c) (d)	11	Of which risk exposure amount for contributions to the default fund of a CCP	178	175	14
438 (c) (d)	12	Of which CVA	4,349	3,613	348
438 (e)	13	Settlement risk	15	0	1
449 (o) (i)	14	Securitisation exposures in the banking book (after the cap)	3,028	3,043	242
	15	Of which securitisation positions IRB approach (Basel III)	1,608	1,982	129
	16	Of which supervisory formula approach (SFA)	559	670	45
	17	Of which internal assessment approach (IAA)	693	791	55
	18	Of which securitisation positions SA approach (Basel III)	928	1,061	74
	19	Of which risk weighted positions for credit risk: securitisation positions (revised securitisation rules; Basel 3.5)	493		39
	20	Of which approach based on internal ratings (SEC-ERBA)	267		21
	21	Of which the standardised approach (SEC-SA)	57		5
	22	Of which approach based on external ratings (SEC-ERBA)	50		4
	23	Of which internal assessment approach (IAA)	119		10
438 (e)	24	Market risk	7,526	8,014	602
	25	Of which the standardised approach	1,084	1,053	87
	26	Of which IMA	6,442	6,962	515
438 (e)	27	Large exposures	0	0	0
438 (f)	28	Operational risk	22,833	21,562	1,827
	29	Of which basic indicator approach	0	0	0
	30	Of which the standardised approach	0	0	0
	31	Of which advanced measurement approach	22,833	21,562	1,827
437 (2), 48, 60	32	Amounts below the thresholds for deduction (subject to 250% risk weight)	644	644	52
500	33	Floor adjustment	0	0	0
	34	Total	186,797	185,158	14,944

Risk-weighted assets were €186.8bn as at 30 June 2019, €1.6bn above the previous quarter's level. The increase was mainly due to higher risk weighted assets in operational risk driven by changes in the external loss database.

The overviews of the trend of risk-weighted assets (RWA) by main drivers EU CR8: RWA flow statements of credit risk exposures under the IRB approach, EU CCR7: RWA flow statements of CCR exposures under the IMM as well as EU MR2-B: RWA flow statements of market risk exposures under the IMA are given in the chapters on the respective risk types.

A. Credit risk (CR)

Credit risk (default risk from credit risk, CR) is defined as the risk of losses sustained or profits foregone due to the default of a counterparty. It is a quantifiable material risk and includes the material sub-risk types of credit default risk, issuer risk, country and transfer risk, dilution risk and reserve risk. The default risk from counterparty credit risk is shown separately in the section on counterparty credit risk in this report.

Credit risk mitigation

At Commerzbank, risks are mitigated via a range of measures including collateral and netting. The collateral mainly takes the form of mortgages, financial collateral, guarantees, indemnity letters, credit derivatives, life insurances, other registered liens and other real collateral. Within the scope of the IRBA assessments, this collateral was recognised by the regulator as eligible collateral.

The following Table EU CR3 provides an overview of the scope of use of credit risk mitigation techniques by asset class. Most of the positions in column c are secured by mortgage liens.

For details on the application of credit risk mitigation techniques in Commerzbank's IRBA and SACR portfolios please refer to the Disclosure Report as at 31 December 2018.

For the vast majority of its default risk positions from counterparty credit risk, Commerzbank Group uses the internal model method (IMM) according to Article 283 CRR. Here, the credit equivalent amounts are determined as expected future exposure through the simulation of various market scenarios, taking netting and collateral into account.

For securities repurchase agreements, lending and comparable transactions involving securities or goods, the exposures are determined in accordance with Article 283 and Article 273 (2) CRR on the basis of an internal model method, too. Guarantees and credit derivatives are taken into account via the substitution approach. The double-default procedure defined under Article 153 (3) CRR is applied.

Details on the use of credit risk mitigation techniques in default risks from counterparty credit risk are set out in the section on counterparty credit risk.

EU CR3: Credit risk mitigation (CRM) techniques – overview

€m	a	b	c	d	e
	Exposures unsecured – Carrying amount	Exposures secured – Carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
1 Central governments or central banks	11,301	1,089	17	638	293
2 Institutions	38,610	7,905	877	4,697	2
3 Corporates	179,619	40,800	14,297	11,621	299
4 thereof SMEs	7,197	6,318	2,573	436	0
5 thereof specialised lending	14,553	6,016	4,418	119	0
6 thereof other	157,869	28,466	7,306	11,067	299
7 Retail	49,334	89,849	63,670	170	0
8 thereof secured by mortgages / SMEs	69	960	770	8	0
9 thereof secured by mortgages / non-SMEs	3,544	76,822	55,398	2	0
10 thereof qualifying revolving	13,507	0	0	0	0
11 thereof other / SME	11,396	2,206	895	119	0
12 thereof other / non-SMEs	20,819	9,861	6,606	41	0
13 Equity exposures IRB	0	0	0	0	0
14 Other non-credit obligation assets	15,209	0	0	0	0
15 Total IRB approach	294,073	139,644	78,861	17,126	594
16 Central governments or central banks	73,455	0	0	0	0
17 Regional governments or local authorities	13,630	2	1	1	0
18 Public sector entities	4,479	191	7	83	0
19 Multilateral development banks	837	0	0	0	0
20 International organisations	395	0	0	0	0
21 Institutions	3,095	220	220	0	0
22 Corporates	7,196	909	288	174	0
23 thereof SMEs	521	83	4	25	0
24 Retail	8,635	419	202	9	0
25 thereof SMEs	30	11	9	0	0
26 Secured by mortgages on immovable property	0	2,493	2,493	0	0
27 thereof SMEs	0	1	1	0	0
28 Exposures in default	114	44	2	14	0
29 Items associated with particularly high risk	198	0	0	0	0
30 Covered bonds	13	0	0	0	0
31 Claims on institutions and corporates with a short-term credit assessment	16	0	0	0	0
32 Collective investment undertakings	2,639	0	0	0	0
33 Equity exposures	991	0	0	0	0
34 Other exposures	2,866	0	0	0	0
35 Total SACR	118,561	4,277	3,211	281	0
36 Total	412,633	143,921	82,072	17,407	594
37 of which loans	208,843	127,219	77,348	13,342	147
38 of which debt securities	35,741	1,067	0	557	293
39 of which defaulted positions	1,108	869	656	129	0

Credit risk and credit risk mitigation in the IRBA

The credit risk of the Commerzbank Group's IRBA portfolio divided into the relevant IRBA asset classes and PD ranges is shown below. The information in table EU CR6 on on-balance-sheet gross receivables refers to the risk exposure values to be determined according to Article 166 CRR. These represent the expected amounts of the IRBA positions that will be exposed to a risk of loss. The off-balance-sheet claims are shown before taking into account credit risk adjustments and conversion factors. Exposure at default (regulatory EaD) shows the exposure values after taking into account credit risk mitigation. The risk parameters CCF, PD and LGD are calculated as EaD-weighted averages. The IRBA default definition is also used for internal purposes.

The companies in Commerzbank Group use the IRBA approach. Hence they may use internal estimates of credit conversion factors (CCFs) for regulatory purposes, too. CCFs are necessary for off-balance-sheet transactions in order to assess the likely exposure in the event of a possible default on commitments that have not yet been drawn.

Tables EU CR6 and EU CR7 show only portfolios which fall within the scope of IRBA and are rated with a rating process that has been approved by the supervisory authority. Positions in the risk exposure class "Other non-loan-related assets" are not listed in table EU CR6. These assets amount to €4.4bn and do not have any creditworthiness risks and thus are not relevant for the management of default risks. Table EU CR6 also does not include

mBank S.A. positions of €1.8bn which are subject to the IRBA slotting approach in accordance with Article 153 (5) CRR and are shown in table EU CR10. Investment positions with a fixed risk weighting according to Article 155 (2) CRR are not relevant in Commerzbank Group as at 30 June 2019 and are therefore not part of table EU CR10.

Securitisation exposures in the IRBA are not included in the following tables; they are presented in detail in the Disclosure Report as at year-end. Counterparty default risks are shown in the section counterparty credit risks in the present report.

The impact of credit derivatives used for credit risk mitigation on the amount of RWA of credit risk in the IRBA portfolio at 30 June 2019 comes to less than 0.7% (see the next table EU CR7).

The risk exposure values shown in this section generally differ from the EaD values in the Annual Report (economic EaD) due to the following:

- As required by EBA guideline EBA/GL/2016/11 on disclosure requirements, credit risk and counterparty credit risk are presented separately in the Disclosure Report.
- Some transactions are not included in risk-weighted assets (RWA) for regulatory purposes but are included in the EaD of the Annual Report and Risk Report, respectively.
- The figures shown in this Disclosure Report refer to the regulatory scope of consolidation. By contrast, the figures in the Annual Report refer to the IFRS scope of consolidation.

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

	a	b	c	d	e	f	g	h	i	j	k	l	
	PD scale	Original on-balance-sheet gross exposure	Off-balance-sheet exposures pre-CCF	Average CCF	EaD post CRM and post CCF	Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA density	EL	Value adjustments and provisions
		€m	€m	%	€m	%		%	years ¹	€m	bps.	€m	€m
Zentralstaaten oder Zentralbanken	0.00 to < 0.15	9,048	778	0.43	12,517	0.03	397	28.29	2.3	1,283	10	1	
	0.15 to < 0.25	49	16	0.48	227	0.17	11	46.95	4.0	123	54	0	
	0.25 to < 0.50	612	111	0.35	843	0.30	19	58.23	2.4	601	71	2	
	0.50 to < 0.75	580	38	0.38	302	0.65	11	89.84	2.5	478	159	2	
	0.75 to < 2.50	248	66	0.38	99	1.09	22	95.10	1.4	174	176	1	
	2.50 to 10.00	217	209	0.44	212	6.06	56	87.38	1.2	638	301	12	
	10.00 to < 100.00	227	158	0.27	72	17.31	44	53.50	1.6	166	230	5	
	100.00 (default)	30	8	0.20	0	100.00	1	20.00	1.0	0	0	0	
Subtotal	11,011	1,383	0.42	14,271	0.25	542	33.12	2.3	3,464	24	23	3.9	
Institutions	0.00 to < 0.15	16,545	2,157	0.46	20,405	0.06	1,713	34.13	3.1	4,417	22	4	
	0.15 to < 0.25	2,405	1,144	0.41	2,291	0.19	171	43.35	1.7	971	42	2	
	0.25 to < 0.50	7,444	1,914	0.44	7,931	0.35	288	41.26	2.1	5,042	64	11	
	0.50 to < 0.75	3,678	608	0.44	3,827	0.58	124	41.15	3.1	3,176	83	9	
	0.75 to < 2.50	5,549	1,681	0.45	4,781	1.39	322	40.78	1.1	4,274	89	27	
	2.50 to 10.00	1,557	1,575	0.47	1,257	4.42	299	30.25	0.9	1,102	88	15	
	10.00 to < 100.00	160	202	0.45	69	47.03	39	6.00	1.3	20	28	1	
	100.00 (default)	60	0	0	54	100.00	18	64.62	1.0	8	15	34	
Subtotal	37,398	9,283	0.45	40,615	0.67	2,920	37.36	2.5	19,010	47	103	166.3	
Corporates, TOTAL	0.00 to < 0.15	18,234	35,134	0.40	32,800	0.05	14,112	40.43	2.2	8,165	25	11	
	0.15 to < 0.25	16,012	29,801	0.35	27,744	0.19	12,366	36.62	2.3	10,827	39	21	
	0.25 to < 0.50	24,077	32,374	0.40	36,571	0.34	17,904	34.64	2.5	20,452	56	51	
	0.50 to < 0.75	11,183	11,871	0.38	15,221	0.60	10,152	37.72	2.1	9,421	62	35	
	0.75 to < 2.50	16,328	12,825	0.36	17,688	1.22	20,205	36.18	1.9	13,921	79	86	
	2.50 to 10.00	4,409	2,859	0.36	5,011	4.51	11,589	34.27	1.5	5,618	112	88	
	10.00 to < 100.00	1,692	693	0.31	1,859	20.75	2,838	13.05	1.7	1,644	88	154	
	100.00 (default)	2,039	302	0.36	2,098	100.00	3,633	57.21	1.4	850	41	1,275	
Subtotal	93,974	125,859	0.41	138,992	2.73	30,592	39.84	2.4	70,898	51	1,720	1,546.3	
Corporates, thereof SMEs	0.00 to < 0.15	709	1,173	0.40	1,161	0.08	499	40.43	2.3	220	19	0	
	0.15 to < 0.25	914	706	0.35	1,087	0.20	491	38.90	2.5	355	33	1	
	0.25 to < 0.50	1,691	852	0.40	1,963	0.34	907	37.11	2.5	818	42	2	
	0.50 to < 0.75	1,036	675	0.39	1,265	0.60	679	39.53	2.1	685	54	3	
	0.75 to < 2.50	2,373	1,097	0.43	2,728	1.39	2,053	41.99	2.1	2,117	78	16	
	2.50 to 10.00	1,334	449	0.41	1,474	4.51	1,027	40.70	1.8	1,522	103	27	
	10.00 to < 100.00	259	57	0.31	242	20.75	171	43.85	1.9	441	182	21	
	100.00 (default)	385	69	0.36	398	100.00	249	68.36	1.5	229	57	265	
Subtotal	8,700	5,079	0.40	10,318	5.52	6,073	41.13	2.2	6,387	62	335	263.4	

¹ For retail, this parameter is not included in the RWA calculation, therefore – according to EBA/GL/2016/11 – no details are given here for retail.

EU CR6_cont.: IRB approach – Credit risk exposures by exposure class and PD range

	a	b	c	d	e	f	g	h	i	j	k	l	
	PD scale	Original on-balance-sheet gross exposure	Off-balance-sheet exposures pre-CCF	Average CCF	EaD post CRM and post CCF	Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA density	EL	Value adjustments and provisions
		€m	€m	%	€m	%		%	years ¹	€m	bps.	€m	€m
Corporates, thereof specialised lending	0.00 to < 0.15	5,388	532	0.50	5,630	0.05	503	43.40	4.2	1,496	27	1	
	0.15 to < 0.25	1,160	396	0.45	1,335	0.20	123	36.62	3.6	511	38	1	
	0.25 to < 0.50	3,005	507	0.63	3,298	0.35	357	34.64	3.8	1,606	49	4	
	0.50 to < 0.75	1,390	332	0.72	1,618	0.61	246	40.37	3.7	1,107	68	4	
	0.75 to < 2.50	2,313	429	0.56	2,513	1.31	266	36.18	3.5	1,991	79	12	
	2.50 to 10.00	827	297	0.44	952	5.19	159	34.27	3.5	1,061	111	15	
	10.00 to < 100.00	1,090	399	0.42	1,257	60.45	110	13.05	2.6	616	49	84	
	100.00 (default)	708	42	0.40	725	100.00	215	57.21	1.9	270	37	382	
Subtotal	15,881	2,934	0.53	17,327	9.20	1,919	37.75	3.7	8,659	50	504	362.8	
Corporates, thereof other	0.00 to < 0.15	12,137	33,429	0.40	26,009	0.09	3,715	40.65	2.2	6,449	25	9	
	0.15 to < 0.25	13,939	28,698	0.42	25,322	0.19	3,510	40.09	2.3	9,960	39	19	
	0.25 to < 0.50	19,381	31,015	0.43	31,310	0.35	4,723	40.56	2.6	18,028	58	44	
	0.50 to < 0.75	8,758	10,864	0.38	12,338	0.60	2,464	37.72	2.1	7,629	62	28	
	0.75 to < 2.50	11,642	11,299	0.36	12,447	1.22	4,421	38.13	1.9	9,813	79	58	
	2.50 to 10.00	2,249	2,114	0.36	2,585	4.67	2,681	38.31	1.5	3,036	117	46	
	10.00 to < 100.00	343	237	0.32	360	34.32	665	38.04	1.7	586	163	48	
	100.00 (default)	946	191	0.36	976	100.00	748	64.76	1.4	352	36	628	
Subtotal	69,393	117,846	0.41	111,347	1.46	22,679	40.04	2.3	55,852	50	880	920.2	
Retail	0.00 to < 0.15	43,217	17,793	0.49	57,230	0.04	1,961,962	15.86		1,797	3	8	
	0.15 to < 0.25	16,353	3,718	0.50	19,035	0.19	389,680	15.25		1,651	9	8	
	0.25 to < 0.50	21,528	6,061	0.52	25,936	0.35	422,008	15.82		3,727	14	23	
	0.50 to < 0.75	7,852	2,472	0.54	9,849	0.60	233,680	17.16		2,286	23	17	
	0.75 to < 2.50	10,421	2,912	0.53	12,536	1.24	559,656	16.71		4,399	35	52	
	2.50 to 10.00	4,172	728	0.52	4,639	4.52	232,227	16.96		2,716	59	78	
	10.00 to < 100.00	1,527	107	0.52	1,582	21.37	124,402	16.85		1,420	90	114	
	100.00 (default)	1,090	29	0.00	1,082	100.00	87,089	42.24		848	78	598	
Subtotal	106,162	33,819	0.76	131,888	1.56	4,089,771	26.89		18,842	14	899	797.7	
Total	0.00 to < 0.15	87,043	55,862	0.40	122,952	0.03	2,143,620	15.86	2.2	15,661	13	24	
	0.15 to < 0.25	34,819	34,679	0.35	49,297	0.17	420,251	15.25	1.7	13,572	28	31	
	0.25 to < 0.50	53,661	40,460	0.35	71,280	0.30	458,930	15.82	2.1	29,823	42	87	
	0.50 to < 0.75	23,294	14,989	0.38	29,198	0.58	248,821	17.16	2.1	15,361	53	63	
	0.75 to < 2.50	32,546	17,484	0.36	35,104	1.09	581,519	16.71	1.1	22,768	65	166	
	2.50 to 10.00	10,355	5,371	0.36	11,118	4.42	333,352	16.96	0.9	10,074	91	193	
	10.00 to < 100.00	3,606	1,160	0.27	3,582	17.31	129,660	6.00	1.3	3,249	91	273	
	100.00 (default)	3,219	339	0.00	3,235	100.00	90,452	20.00	1.0	1,706	53	1,906	
Total (all portfolios)	248,544	170,344	0.48	325,767	1.89	4,122,076	33.99	1.5	112,214	34	2,744	2,514.3	

¹ For retail, this parameter is not included in the RWA calculation, therefore – according to EBA/GL/2016/11 – no details are given here for retail.

EU CR6_Retail: IRB approach – Retail's Credit risk exposures by exposure class and PD range

	a	b	c	d	e	f	g	h	i	j	k	l	
	PD scale	Original on-balance-sheet gross exposure	Off-balance-sheet exposures pre-CCF	Average CCF	EaD post CRM and post CCF	Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA density	EL	Value adjustments and provisions
		€m	€m	%	€m	%		%	years ¹	€m	bps.	€m	€m
Retail	0.00 to < 0.15	43,217	17,793	0.49	57,230	0.04	1,961,962	15.86		1,797	3	8	
	0.15 to < 0.25	16,353	3,718	0.50	19,035	0.19	389,680	15.25		1,651	9	8	
	0.25 to < 0.50	21,528	6,061	0.52	25,936	0.35	422,008	15.82		3,727	14	23	
	0.50 to < 0.75	7,852	2,472	0.54	9,849	0.60	233,680	17.16		2,286	23	17	
	0.75 to < 2.50	10,421	2,912	0.53	12,536	1.24	559,656	16.71		4,399	35	52	
	2.50 to 10.00	4,172	728	0.52	4,639	4.52	232,227	16.96		2,716	59	78	
	10.00 to < 100.00	1,527	107	0.52	1,582	21.37	124,402	16.85		1,420	90	114	
	100.00 (default)	1,090	29	0.00	1,082	100.00	87,089	42.24		848	78	598	
Gesamt	106,162	33,819	0.76	131,888	1.56	4,089,771	26.89		18,842	14	899	797.7	
...secured by mortgages / SMEs	0.00 to < 0.15	66	3	0.89	68	0.10	197	30.59		4	6	0	
	0.15 to < 0.25	125	4	0.85	127	0.21	807	31.04		13	10	0	
	0.25 to < 0.50	302	15	0.84	309	0.35	1,825	30.95		47	15	0	
	0.50 to < 0.75	162	15	0.95	176	0.61	1,121	30.84		39	22	0	
	0.75 to < 2.50	217	18	1.08	236	1.27	1,393	33.10		90	38	1	
	2.50 to 10.00	62	1	1.55	64	4.92	401	34.32		55	87	1	
	10.00 to < 100.00	26	0	1.26	26	21.54	208	30.92		35	135	2	
	100.00 (default)	37	0	0.00	37	100.00	259	55.61		40	110	19	
Subtotal	996	56	0.97	1,042	4.89	6,211	32.48		325	31	24	23.1	
...secured by mortgages / non-SMEs	0.00 to < 0.15	36,304	1,184	0.95	37,431	0.06	283,435	15.86		962	3	4	
	0.15 to < 0.25	13,319	364	0.97	13,672	0.20	120,847	15.25		878	6	4	
	0.25 to < 0.50	16,271	591	0.98	16,851	0.36	110,146	15.82		1,725	10	10	
	0.50 to < 0.75	5,119	308	0.99	5,424	0.60	31,643	17.16		875	16	6	
	0.75 to < 2.50	4,495	190	0.98	4,679	1.24	28,572	16.71		1,177	25	10	
	2.50 to 10.00	1,342	27	0.96	1,368	4.92	10,181	16.96		779	57	11	
	10.00 to < 100.00	684	2	0.91	686	24.94	5,992	16.85		645	94	27	
	100.00 (default)	355	0	0.41	355	100.00	3,698	42.24		372	105	126	
Subtotal	77,889	2,667	0.97	80,466	0.99	594,237	16.02		7,413	9	197	189.8	
...qualifying revolving	0.00 to < 0.15	239	10,903	0.77	8,615	0.04	1,483,195	59.43		153	2	2	
	0.15 to < 0.25	49	501	0.77	435	0.19	106,733	58.56		28	6	0	
	0.25 to < 0.50	96	504	0.77	482	0.36	123,391	58.63		51	11	1	
	0.50 to < 0.75	69	228	0.76	243	0.62	64,448	58.72		40	16	1	
	0.75 to < 2.50	220	423	0.76	542	1.39	148,977	59.03		164	30	4	
	2.50 to 10.00	122	124	0.77	218	4.52	69,914	59.75		153	70	6	
	10.00 to < 100.00	32	15	0.76	44	21.63	29,163	61.01		68	156	6	
	100.00 (default)	13	0	0.76	13	100.00	4,701	72.56		2	19	9	
Subtotal	839	12,697	0.77	10,591	0.45	2,029,696	59.35		660	6	30	29.5	

¹ For retail, this parameter is not included in the RWA calculation, therefore – according to EBA/GL/2016/11 – no details are given here for retail.

EU CR6_Retail_cont.: IRB approach – Retail's Credit risk exposures by exposure class and PD range

	a	b	c	d	e	f	g	h	i	j	k	l	
	PD scale	Original on-balance-sheet gross exposure	Off-balance-sheet exposures pre-CCF	Average CCF	EaD post CRM and post CCF	Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA density	EL	Value adjustments and provisions
		€m	€m	%	€m	%		%	years ¹	€m	bps.	€m	€m
...other / SME	0.00 to < 0.15	260	1,175	0.49	845	0.10	12,538	48.55		83	10	0	
	0.15 to < 0.25	503	1,514	0.50	1,256	0.20	22,974	48.87		200	16	1	
	0.25 to < 0.50	984	2,182	0.52	2,119	0.37	42,765	49.04		499	24	4	
	0.50 to < 0.75	755	737	0.54	1,138	0.63	27,452	45.67		346	30	3	
	0.75 to < 2.50	2,205	1,114	0.53	2,773	1.27	64,421	44.01		1,085	39	15	
	2.50 to 10.00	1,219	390	0.52	1,407	4.87	44,634	44.78		766	54	31	
	10.00 to < 100.00	405	68	0.52	432	21.37	17,743	39.66		310	72	38	
	100.00 (default)	320	23	0.34	318	100.00	15,100	71.58		159	50	219	
	Subtotal	6,652	7,202	0.51	10,289	5.17	247,616	46.97		3,447	34	311	252.0
...other / non-SME	0.00 to < 0.15	6,349	4,529	0.86	10,271	0.06	357,428	32.03		594	6	2	
	0.15 to < 0.25	2,357	1,335	0.88	3,544	0.20	164,584	35.16		532	15	2	
	0.25 to < 0.50	3,876	2,769	0.83	6,174	0.36	174,509	42.57		1,406	23	9	
	0.50 to < 0.75	1,747	1,184	0.95	2,868	0.61	120,633	41.16		985	34	7	
	0.75 to < 2.50	3,285	1,167	0.86	4,306	1.31	331,072	40.10		1,883	44	22	
	2.50 to 10.00	1,426	186	0.87	1,583	4.55	204,000	39.81		963	61	29	
	10.00 to < 100.00	380	20	0.78	394	23.74	75,525	44.04		361	92	41	
	100.00 (default)	366	6	0.33	360	100.00	65,463	66.81		274	76	225	
	Subtotal	19,787	11,196	0.86	29,501	2.15	1,487,399	37.68		6,998	24	337	303.4

¹ For retail, this parameter is not included in the RWA calculation, therefore – according to EBA/GL/2016/11 – no details are given here for retail.

EU CR7: IRB approach – Effect on the RWAs of credit derivatives used as CRM techniques

€m	a		b	
		Pre-credit derivatives RWAs		Actual RWAs
1	Exposures under FIRB	0		0
2	Central governments or central banks	0		0
3	Institutions	0		0
4	Corporates - SMEs	0		0
5	Corporates - specialised lending	0		0
6	Corporates - other	0		0
7	Exposures under AIRB	118,934		118,117
8	Central governments or central banks	4,050		3,464
9	Institutions	18,830		19,011
	Corporates	72,824		72,412
10	thereof SMEs	6,387		6,387
11	thereof specialised lending	10,157		10,157
12	thereof other	56,280		55,868
	Retail	18,842		18,842
13	thereof secured by mortgages / SMEs	325		325
14	thereof secured by mortgages / non-SMEs	7,413		7,413
15	thereof qualifying revolving	660		660
16	thereof other / SME	3,447		3,447
17	thereof other / non-SMEs	6,998		6,998
18	Equity IRB	0		0
19	Other non-credit obligation assets	4,387		4,387
20	Total	118,934		118,117

EU CR10: IRB (specialised lending)

€m	Regulatory categories	Remaining maturity	Specialised lending					Expected loss
			a	b	c	d	e	
			On-balance-sheet amount	Off-balance-sheet amount	Risk weight	Exposure amount	RWAs	
Category 1	Less than 2.5 years		0	0	50%	0	0	0
	Equal to or more than 2.5 years		14	0	70%	14	10	0
Category 2	Less than 2.5 years		313	159	70%	351	245	1
	Equal to or more than 2.5 years		1,242	232	90%	1,259	1,129	10
Category 3	Less than 2.5 years		4	5	115%	5	6	0
	Equal to or more than 2.5 years		75	0	115%	75	86	2
Category 4	Less than 2.5 years		0	0	250%	0	0	0
	Equal to or more than 2.5 years		9	0	250%	9	22	1
Category 5	Less than 2.5 years		22	0	-	54	0	27
	Equal to or more than 2.5 years		43	0	-	67	0	34
Total	Less than 2.5 years		339	164		411	252	29
	Equal to or more than 2.5 years		1,382	232		1,425	1,247	47

Table EU CR8 below shows the changes in the RWA of credit risk exposures in the IRBA portfolio of Commerzbank Group between 31 March 2019 and 30 June 2019. The RWA reduction in the second quarter of 2019 essentially resulted from an improved portfolio quality (“Asset quality”, “Collateral effects”) and from duration effects (regular expiry of residual terms led to a decrease in RWA).

Further reductions resulted from FX rate fluctuations of the US dollar and pound sterling (“Foreign exchange movements”) and from “Model updates” driven by the recalibration of risk parameters. These effects are partially offset by further growth of the operating segments (“Asset size”).

EU CR8: RWA flow statements of credit risk exposures under the IRB approach

€m	a	b
	Risk weighted assets (RWAs)	Capital requirements
1 RWA at previous quarter end	118,549	9,484
2 Asset size	3,100	248
3 Asset quality	-933	-75
4 Model updates	-201	-16
5 Methodology and policy	0	0
6 Acquisitions and disposals	0	0
7 Foreign exchange movements	-496	-40
8 Collateral effects	-417	-33
9 Duration effects	-1,392	-111
10 Others	-93	-7
11 RWAs as at the end of the reporting period	118,117	9,449

Credit risk and credit risk mitigation in the SACR

The portfolios currently excluded from the IRBA are measured in accordance with SACR regulations as permitted under partial use provisions. In contrast to the IRBA, the SACR is largely based on a flat risk weighting or external ratings. Commerzbank has nominated the rating agencies Standard & Poor’s Rating Services, Moody’s Investors Service and FitchRatings for the use of external ratings.

Where an external credit rating is available for a position, that external rating is used to determine the risk weighting. Here, Commerzbank uses the standard mapping of external credit assessments to the relevant credit quality steps as published by the EBA in accordance with Article 136 CRR. Where two or more external credit ratings are available for one position, the risk weighting is assigned in accordance with the provisions of Article 138 CRR.

For unrated positions, if the conditions set out in Articles 139 and 140 CRR are met, a risk weighting is calculated on the basis of a derived credit rating. In all other cases, the position is treated as an unrated exposure.

Under the SACR, guarantees are treated according to the substitution principle. This means that the borrower’s risk weighting is replaced by that of the guarantor.

Consequently, the guaranteed amount is transferred from the borrower’s exposure class to that of the guarantor. This is why the exposure before CRM for assets guaranteed by central governments and central banks, for example, is less than after CRM. However, a transfer only takes place if the risk weighting of the guarantor is lower than that of the borrower.

This can be seen in table EU CR4. This table also shows the impact of the credit risk mitigation techniques used in the SACR portfolio in accordance with Chapter 4 of Title II of Part Three CRR and the conversion factors used in accordance with Article 111 CRR. For the reported SACR exposure value, unlike the IRBA, the valuation allowances based on each of the positions are deducted. Table EU CR5 shows the distribution of exposure values after credit risk mitigation and conversion factors by exposure class and risk weight in accordance with Article 444 (e) CRR.

EU CR4: Standardised approach – Credit risk exposure and CRM effects

Exposure classes €m	a		b		c		d		e		f	
	Exposures before CCF and CRM		Exposures post CCF and CRM		RWA		RWA density		RWA		RWA density	
	On-balance- sheet amount	Off-balance- sheet amount	On-balance- sheet amount	Off-balance- sheet amount	RWAs	RWA density	RWAs	RWA density	RWAs	RWA density	RWAs	RWA density
1 Central governments or central banks	73,405	50	77,764	274	791	1.0%						
2 Regional government or local authorities	12,868	764	13,539	26	629	4.6%						
3 Public sector entities	4,318	352	4,444	132	322	7.0%						
4 Multilateral development banks	837	0	837	0	0	0.0%						
5 International organisations	395	0	395	0	0	0.0%						
6 Institutions	3,312	3	3,110	3	610	19.6%						
7 Corporates	5,730	2,375	5,316	1,409	5,747	85.5%						
8 Retail	4,883	4,171	4,681	191	3,663	75.2%						
9 Secured by mortgages on immovable property	2,478	15	2,478	7	890	35.8%						
10 Exposures in default	153	5	138	1	174	125.5%						
11 Exposures associated with particularly high risk	198	0	198	0	297	150.0%						
12 Covered bonds	13	0	13	0	1	10.0%						
13 Institutions and corporates with a short-term credit assessment	16	0	16	0	3	20.0%						
14 Collective investment undertakings	2,639	0	2,639	0	734	27.8%						
15 Equity	991	0	991	0	1,378	139.0%						
16 Other items	2,802	64	2,802	64	6,194	216.1%						
17 Total	115,039	7,799	119,362	2,108	21,433	17.6%						

EU CR5: Standardised approach – Credit risk (post CCF and CRM) by exposure class and risk weight

Exposure classes €m	Risk weight																Total	Of which unrated	
	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Others	Deducted			
1 Central governments or central banks	77,305	0	0	88	10	0	339	0	0	70	0	215	0	0	0	0	0	78,028	71,324
2 Regional government or local authorities	11,352	0	0	0	1,649	0	531	0	0	33	0	0	0	0	0	0	0	13,565	12,217
3 Public sector entities	2,989	0	0	0	1,575	0	10	0	0	2	0	0	0	0	0	0	0	4,577	3,945
4 Multilateral development banks	837	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	837	255
5 International organisations	395	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	395	395
6 Institutions	168	30	0	0	2,829	0	86	0	0	0	0	0	0	0	0	0	0	3,113	2,996
7 Corporates	0	0	0	0	358	1	1,401	0	0	4,924	41	0	0	0	0	0	0	6,724	4,634
8 Retail	0	0	0	0	0	0	0	0	4,830	42	1	0	0	0	0	0	0	4,873	4,873
9 Secured by mortgages on immovable property	0	0	0	0	0	2,370	112	0	0	0	3	0	0	0	0	0	0	2,485	2,485
10 Exposures in default	0	0	0	0	0	0	0	0	0	68	71	0	0	0	0	0	0	139	139
11 Exposures associated with particularly high risk	0	0	0	0	0	0	0	0	0	0	198	0	0	0	0	0	0	198	198
12 Covered bonds	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13
13 Institutions and corporates with a short-term credit assessment	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	16	0
14 Collective investment undertakings	1,443	0	0	0	0	0	0	0	0	90	0	0	0	0	1,117	0	0	2,650	2,650
15 Equity	0	0	0	0	0	0	0	0	0	734	0	258	0	0	0	0	0	991	991
16 Other items	3	0	0	0	0	0	0	0	0	642	0	2,221	0	0	0	0	0	2,866	2,866
17 Total	94,493	30	0	100	6,437	2,371	2,478	0	4,830	6,605	314	2,694	0	0	1,117	0	0	121,470	109,981

Loan loss provisions for default risks

The following tables on loan loss provisions below show the gross carrying values of all risk positions in default and not in default in the IFRS categories AC and FVOCI, including the associated stock of credit risk adjustments, the credit risk adjustment charges in the first half of 2019 and the accumulated write-offs.

The gross carrying values for risk positions not in default also include loans that are past due by at least one day up to 90 days but are not defined as in default by virtue of the minimum threshold (2.5% of the limit or €100).

Commerzbank's criterion for the definition of defaulted claims is the definition of a default in accordance with Artikel 178 CRR. Pursuant to section 315a.1 of the German Commercial Code, Commerzbank Group issues consolidated financial statements based on International Financial Reporting Standards (IFRS). Credit risk mitigation techniques applicable to mitigate risks for the purpose of determining the capital requirement are not relevant for the determination of the claim amount in terms of accounting.

The information is structured by risk exposure class (table EU CR1-A), industry (table EU CR1-B) and geography (table EU CR1-C). The following definitions are used:

- Pursuant to the criteria of the EBA (most recently confirmed in EBA/OP/2017/02), specific credit risk adjustments include the following positions:
 - The sum of Lifetime Expected Credit Loss (LECL) for significant claims in default, determined on the basis of individual cash flow estimates, taking into account various possible scenarios (loan loss provision stage 3 on-balance and off-balance, significant).
 - LECL for non-significant exposures in default, transaction-based determined on the basis of statistical risk parameters (stage 3 on balance and off balance, non-significant)

- LECL for on- and off-balance exposures not in default showing a significant increase in credit risk as according to IFRS9 (stage 2 on- and off-balance) and ECL for on- and off-balance exposures not in default and not showing a significant increase in credit risk as according to IFRS9 (stage 1 on- and off-balance).
- There are no general credit risk adjustments pursuant to the EBA's definition mentioned above.
- The column accumulated write-offs is the balance of write-ups and write-downs.

The country clusters selected in table EU CR1-C match the classification by geographical area used for internal purposes. They are unmodified and base upon the materiality threshold as described in the Disclosure Report as at 31 Dezember 2018, Appendix 4.

The gross carrying value of the defaulted risk positions is at €3.8bn as at 30 June 2019 (December 2018: €3.9bn). Further information on this is given in the Interim Report as at 30 June 2019 in the chapter "Default risk". In addition to the loan loss provisions presented in the tables, the gross carrying values are also offset by collateral, which is taken into account accordingly in the calculation of the expected credit loss (specific credit risk adjustments).

The breakdown by gross carrying values reflects the Commerzbank Group's focus on Germany and selected markets throughout Europe. This means that the vast majority of the expected credit loss and the loan loss provisions, respectively, are attributable to borrowers based in these regions.

Deviating from tables EU CR1-A, EU CR1-B and EU CR1-C, the tables EU CR1-D and EU CR1-E also include positions of the IFRS category FVPL. The increase in the line Loans and advances in table EU CR1-E to €369.8bn (December 2018: €326.5bn) mainly results from the risk positions central governments/central banks, corporates and retail.

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

	a	b	c	d	e	f	g
€m	Gross carrying values of 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 (a+b-c-d)
1 Central governments or central banks	38	12,356	4	0	0	0	12,390
2 Institutions	15	46,621	122	0	29	22	46,515
3 Corporates	2,146	219,552	1,278	0	278	-21	220,419
4 thereof SMEs	427	13,325	236	0	72	31	13,515
5 thereof specialised lending	717	20,109	257	0	98	-90	20,569
thereof other	1,001	186,118	785	0	108	37	186,335
6 Retail	1,105	138,860	781	0	186	14	139,183
8 thereof secured by mortgages / SMEs	36	1,015	22	0	7	1	1,028
9 thereof secured by mortgages / non-SMEs	350	80,201	184	0	16	-5	80,366
10 thereof qualifying revolving	13	13,523	29	0	0	-2	13,507
12 thereof other / SME	336	13,511	246	0	84	10	13,602
13 thereof other / non-SMEs	369	30,610	300	0	78	11	30,680
14 Equity exposures IRB	0	0	0	0	0	0	0
Other non-credit obligation assets	148	15,061	0	0	0	0	15,209
15 Total IRB approach	3,452	432,450	2,186	0	493	15	433,716
16 Central governments or central banks	0	73,467	12	0	0	0	73,455
17 Regional governments or local authorities	0	13,633	1	0	0	-152	13,632
18 Public sector entities	0	4,671	1	0	0	0	4,670
19 Multilateral development banks	0	837	0	0	0	0	837
20 International organisations	0	395	0	0	0	0	395
21 Institutions	0	3,315	0	0	0	0	3,315
22 Corporates	0	8,118	12	0	0	-2	8,105
23 thereof SMEs	0	606	3	0	0	1	604
24 Retail	0	9,128	74	0	1	-14	9,054
25 thereof SMEs	0	48	7	0	0	-1	41
26 Secured by mortgages on immovable property	0	2,496	3	0	0	0	2,493
27 thereof SMEs	0	1	0	0	0	0	1
28 Exposures in default ¹	340	0	182	0	13	-17	158
29 Items associated with particularly high risk	0	198	0	0	0	0	198
30 Covered bonds	0	13	0	0	0	0	13
31 Claims on institutions and corporates with a short-term credit assessment	0	16	0	0	0	0	16

EU CR1-A_cont.: Credit quality of exposures by exposure class and instrument

€m	a	b	c	d	e	f	g
	Gross carrying values of 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 (a+b-c-d)
32 Collective investment undertakings	0	2,639	0	0	0	0	2,639
33 Equity exposures	0	991	0	0	0	0	991
34 Other exposures	0	2,866	0	0	0	0	2,866
35 Total SACR	340	122,784	285	0	15	-185	122,838
36 Total	3,792	555,233	2,471	0	675	-170	556,555
37 of which loans	3,307	334,939	2,184	0	650	-194	336,062
38 of which debt securities	6	36,839	37	0	26	-2	36,808
39 of which off-balance-sheet exposures	214	40,689	116	0	0	24	40,788

¹ According to EBA-Q&A_2017_3481, for the gross carrying values of the first column „a“ of exposures in default (in line 28) in application of Art. 112(j) CRR, the original asset class should be named in addition. To keep the consistency of the table in regard of totals formation under column „g: net values“ or in line 35 „Total SACR“, the required assignment is given below as follows:
The gross carrying values of the exposures in default (row 28) in SACR in the value of €340m with a value of €264m evolved from positions in the asset class „corporates“ (line 22) and with a value of €76m from the asset class „retail“ (line 24) in the SACR.

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

€m	a	b	c	d	e	f	g
	Gross carrying values of 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 (a+b-c-d)
1 Production and manufacturing industry	1,219	111,089	729	0	176	94	111,580
2 Energy and water supply	60	20,965	53	0	23	-47	20,973
3 Wholesale and retail trade; repairs	377	32,290	289	0	128	2	32,377
4 Transport and telecommunication	238	18,828	65	0	7	-3	19,000
5 Other financial industry and insurances	120	33,177	167	0	63	29	33,129
6 Banks	45	56,858	108	0	4	15	56,795
7 Other financial industry and insurances	335	28,152	76	0	11	5	28,410
8 Real estate activities	453	33,728	194	0	105	-52	33,987
9 Public administration and defence, compulsory social security	39	95,838	38	0	26	-192	95,839
10 Private households	873	122,465	730	0	127	-32	122,608
11 Others	35	1,844	22	0	4	11	1,857
12 Total	3,792	555,233	2,471	0	675	-170	556,555

EU CR1-C: Credit quality of exposures by geography

€m		a	b	c	d	e	f	g
		Gross carrying values of 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 (a+b-c-d)
1	Western Europe	2,343	437,296	1,407	0	572	-246	438,232
2	thereof							
	Germany	1,776	332,360	1,200	0	512	-64	332,935
3	Switzerland	47	11,378	9	0	1	1	11,416
4	Great Britain	139	24,017	10	0	2	-152	24,146
5	Italy	43	14,679	51	0	0	0	14,671
6	France	45	12,884	25	0	0	2	12,905
7	Netherlands	6	6,942	12	0	19	-19	6,935
8	Spain	15	6,612	5	0	0	-5	6,622
9	Others	272	28,424	95	0	38	-7	28,601
10	Eastern Europe	1,254	49,052	914	0	74	147	49,392
11	thereof							
	Poland	1,127	39,741	814	0	29	139	40,054
12	Others	127	9,311	100	0	45	9	9,338
13	North America	22	34,753	14	0	25	-73	34,761
14	thereof							
	USA	22	30,096	14	0	25	-73	30,104
15	Others	0	4,657	1	0	0	0	4,656
16	Asia	91	22,093	86	0	0	-2	22,098
17	thereof							
	China	10	6,909	7	0	0	1	6,912
18	Japan	0	1,016	1	0	0	0	1,015
19	Others	81	14,168	79	0	0	-3	14,171
20	Latin America	26	6,385	21	0	4	2	6,390
21	Other regions	56	5,654	28	0	0	2	5,682
22	Total	3,792	555,233	2,471	0	675	-170	556,555

EU CR1-D: Ageing of past-due exposures

€m		a	b	c	d	e	f
		Gross carrying values					
		≤ 30 days	> 30 days ≤ 60 days	> 60 days ≤ 90 days	> 90 days ≤ 180 days	> 180 days ≤ 1 year	> 1 year
1	Loans and advances	1,369	1,680	130	306	433	1,320
2	Debt securities	0	0	0	0	0	0
3	Total exposure	1,369	1,680	130	306	433	1,320

EU CR1-E: Non-performing and forborne exposures

€m		a	b	c	d	e	f	g	h	i	j	k	l	m	
		Gross carrying values 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 performing but past due > 30 days and ≤ 90 days	Of which performing forborne	Of which non-performing ¹			On performing exposures		On non-performing exposures ¹		On non-performing exposures ¹	Of which forborne			
Off which defaulted	Off which impaired ²			Of which forborne	Of which forborne	Of which forborne									
010	Debt securities	62,949	0	1	24	24	22	0	-59	0	0	0	0	0	
020	Loans and advances	369,830	223	1,741	3,647	3,544	3,074	1,258	-571	-60	-1,736	-408	930	945	
030	Off-balance-sheet exposures	179,599		462	358	340		102	195	18	86	11	48	21	

¹ Besides defaulted exposures, the non-performing exposures also include those cases, that do not show any default criterion, but due to the procedure of a forbearance measure for a probation period have to be staged as „non-performing“.

² Defaulted exposures, not including fair value positions.

Table EU CR2-A below shows the total credit risk adjustments and changes therein in the first half of 2019. Claims under the IFRS categories AC and FVOCI and their corresponding loan loss provisions are included in the table. Increases and decreases, respectively, for estimated loan losses are given on a net basis (position 2/3).

The table EU CR2-B shows the changes in the stock of defaulted and impaired loans and debt securities. Claims under the IFRS categories AC and FVOCI and their corresponding loan loss provisions are included in the table.

The chapter on Default risk of the Interim Report as at 30 June 2019 provides more details on this.

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

€m	a	b
	Accumulated specific credit risk adjustment	Accumulated general credit risk adjustment
1 Balance as of 31 December 2018	2,537	0
2/3 Increases due to amounts set aside / decreases due to amounts reversed for estimated loan losses during the period	23	0
4 Decreases due to amounts taken against accumulated credit risk adjustments	-143	0
5 Transfers between credit risk adjustments	137	0
6 Impact of exchange rate differences	9	0
7 Business combinations, including acquisitions and disposals of subsidiaries	0	0
8 Other adjustments	-78	0
9 Balance as of 30 June 2019	2,486	0
10 Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	0	0
11 Specific credit risk adjustments directly recorded to the statement of profit or loss	-10	0

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

€m	a
	Defaulted exposures
1 Balance as of 31 December 2018	3,330
2 Loans and debt securities that have defaulted or impaired since the last reporting period	207
3 Returned to non-defaulted status	-134
4 Amounts written off	-703
5 Other changes	602
6 Balance as of 30 June 2019	3,302

B. Counterparty credit risk (CCR)

Counterparty credit risk (default risk from counterparty default risk) is defined as the risk of losses sustained or profits foregone due to the default of a counterparty in the context of a derivative or securities financing transaction. In addition to market price risks, derivative positions also give rise to default risks when a claim arises against the counterparty in the form of positive market values.

Although in a regulatory context wrong way risk is normally mentioned in connection with counterparty risk, Commerzbank also considers it in connection with issuer risk (e.g. between the issuer of a bond and the guarantor).

Commerzbank also looks at what is known as correlation risk (wrong way risk). This occurs when a counterparty's exposure and credit quality (rating) are negatively correlated. Wrong way risk is therefore an additional risk source, as the credit exposure is generally measured independently from the counterparty's creditwor-

thiness. Commerzbank has a clear definition of specific and general wrong way risk. There are guidelines to assist in identifying and quantifying wrong way risk. They also set out how the exposure must be adjusted to allow for the wrong way risk. In the case of secured transactions, the potential relationship between the performance of the collateral and the credit rating of the counterparty also has to be considered and captured according to the Commerzbank collateral matrix.¹

The derivative positions shown in the tables below do not include securitisation positions as defined in the CRR; these are described in each case in detail in the Disclosure Report as at year-end. This means that interest rate and currency swaps or credit derivative transactions entered into with special-purpose securitisation companies are not included.

¹ Although in a regulatory context wrong way risk is normally mentioned in connection with counterparty risk, Commerzbank also considers it in connection with issuer risk (e.g. between the issuer of a bond and the guarantor).

Information on regulatory methods

EU CCR1: Analysis of CCR exposure by approach

€m	a	b	c	d	e	f	g
	Notional	Replacement cost/current market value	Potential future credit exposure	EEPE	Multiplier	EaD post CRM	RWAs
1	Mark to market approach	2,868	762			3,435	1,435
2	Original exposure	0				0	0
3	Standardised approach	0			1.4	0	0
4	IMM (for derivatives and SFTs)			18,041	1.4	17,956	7,569
5	Of which securities financing transactions			4,476	1.4	4,559	953
6	Of which derivatives and long settlement transactions			13,565	1.4	13,397	6,616
7	Of which from contractual cross-product netting			0	1.4	0	0
8	Financial collateral simple method (for SFTs)					0	0
9	Financial collateral comprehensive method (for SFTs)					1,187	243
10	VaR for SFTs					0	0
11	Total						9,247

EU CCR2: CVA (credit value adjustments) capital charge

€m	a	b
	Exposure value	RWAs
1	Total portfolios subject to the advanced method	4,076
2	(i) VaR component (including the 3x multiplier)	667
3	(ii) SVaR component (including the 3x multiplier)	3,409
4	All portfolios subject to the standardised method	273
EU4	Based on the original exposure method	0
5	Total subject to the CVA capital charge	4,349

EU CCR8: Exposures to CCP (central counterparties)

€m		a	b
		EaD post CRM	RWAs
1	Exposures to QCCPs (total)		248.9
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	3,433	70.7
3	(i) OTC derivatives	727	16.5
4	(ii) Exchange-traded derivatives	875	17.5
5	(iii) SFTs	1,831	36.6
6	(iv) Netting sets where cross-product netting has been approved	0	0.0
7	Segregated initial margin	0	
8	Non-segregated initial margin	0	0.0
9	Prefunded default fund contributions	292	178.3
10	Alternative calculation of own funds requirements for exposures		0.0
11	Exposures to non-QCCPs (total)		0.0
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which	0	0.0
13	(i) OTC derivatives	0	0.0
14	(ii) Exchange-traded derivatives	0	0.0
15	(iii) SFTs	0	0.0
16	(iv) Netting sets where cross-product netting has been approved	0	0.0
17	Segregated initial margin	0	
18	Non-segregated initial margin	0	0.0
19	Prefunded default fund contributions	0	0.0
20	Unfunded default fund contributions	0	0.0

Information by regulatory risk-weighting approach

EU CCR4: IRB approach – CCR exposures by portfolio and PD scale

	PD scale	a EaD post CRM €m	b Average PD %	c Number of obligors	d Average LGD %	e Average maturity ¹ years	f RWAs €m	g RWA density
Central governments or central banks	0.00 to < 0.15	551	0.05	41	55.51	1.8	132	24.0%
	0.15 to < 0.25	4	0.22	7	100.00	1.6	4	87.0%
	0.25 to < 0.50	103	0.28	10	29.92	0.2	24	23.5%
	0.50 to < 0.75	0	0.69	2	100.00	0.2	0	121.0%
	0.75 to < 2.50	39	0.81	7	100.00	1.6	67	173.3%
	2.50 to < 10.00	3	6.18	10	86.47	1.0	9	295.7%
	10.00 to < 100.00	0	54.97	2	100.00	1.0	1	461.7%
	100.00 (Default)	0	0	0	0	0	0	0.0%
	Subtotal	700	0.17	79	54.64	1.5	237	33.8%
Institutions	0.00 to < 0.15	6,296	0.06	315	48.20	2.3	1,915	30.4%
	0.15 to < 0.25	442	0.19	82	55.00	2.2	246	55.8%
	0.25 to < 0.50	732	0.36	103	48.46	2.6	600	82.0%
	0.50 to < 0.75	240	0.64	40	54.23	1.9	237	98.6%
	0.75 to < 2.50	160	1.42	97	46.89	1.5	177	110.5%
	2.50 to < 10.00	117	5.39	73	49.38	2.9	238	202.6%
	10.00 to < 100.00	39	11.04	7	40.79	4.9	89	228.0%
	100.00 (Default)	0	0	0	0	0	0	0.0%
	Subtotal	8,026	0.27	717	48.73	2.3	3,501	43.6%
Corporates TOTAL	0.00 to < 0.15	3,435	0.05	1,962	36.18	2.0	781	22.7%
	0.15 to < 0.25	3,264	0.18	1,174	39.59	1.8	1,130	34.6%
	0.25 to < 0.50	1,589	0.34	1,820	46.83	2.3	1,029	64.8%
	0.50 to < 0.75	430	0.58	972	40.69	2.6	323	75.0%
	0.75 to < 2.50	314	1.15	1,636	42.24	2.2	306	97.5%
	2.50 to < 10.00	707	4.25	680	42.63	2.3	1,354	191.5%
	10.00 to < 100.00	46	18.48	128	35.24	3.1	101	221.5%
	100.00 (Default)	5	100.00	36	47.98	1.8	3	64.2%
	Subtotal	9,789	0.82	4,203	40.52	2.3	5,027	51.4%
Corporates, thereof SMEs	0.00 to < 0.15	168	0.05	175	46.89	3.9	45	27.0%
	0.15 to < 0.25	137	0.18	80	54.59	4.6	86	63.3%
	0.25 to < 0.50	38	0.37	150	63.86	3.4	34	87.3%
	0.50 to < 0.75	22	0.61	115	51.75	3.9	20	93.3%
	0.75 to < 2.50	67	1.44	330	54.17	2.8	75	112.8%
	2.50 to < 10.00	18	4.25	172	49.55	2.3	25	135.2%
	10.00 to < 100.00	1	36.99	25	35.24	3.1	1	135.0%
	100.00 (Default)	4	100.00	8	79.83	3.0	2	56.2%
	Subtotal	455	1.55	1,055	52.33	3.8	289	63.6%
Corporates, thereof specialised lending	0.00 to < 0.15	0	0.00	0	0.00	0.0	0	0.0%
	0.15 to < 0.25	0	0.00	0	0.00	0.0	0	0.0%
	0.25 to < 0.50	0	0.00	0	0.00	0.0	0	0.0%
	0.50 to < 0.75	0	0.00	0	0.00	0.0	0	0.0%
	0.75 to < 2.50	0	0.00	0	0.00	0.0	0	0.0%
	2.50 to < 10.00	0	0.00	0	0.00	0.0	0	0.0%
	10.00 to < 100.00	0	0.00	0	0.00	0.0	0	0.0%
	100.00 (Default)	0	0.00	0	0.00	0.0	0	0.0%
	Subtotal	0	0.00	0	0.00	0.0	0	0.0%

¹ Parameter is not subject to the RWA calculation for retail business. Hence, in compliance with EBA/GL/2016/11, no disclosure for retail business.

EU CCR4_cont.: IRB approach – CCR exposures by portfolio and PD scale

	PD scale	a EaD post CRM €m	b Average PD %	c Number of obligors	d Average LGD %	e Average maturity ¹ years	f RWAs €m	g RWA density
Corporates, thereof other	0.00 to < 0.15	3,267	0.08	806	36.18	2.0	735	22.5%
	0.15 to < 0.25	3,127	0.18	507	39.59	1.8	1,044	33.4%
	0.25 to < 0.50	1,550	0.34	760	46.83	2.3	996	64.2%
	0.50 to < 0.75	409	0.58	371	40.69	2.6	302	74.0%
	0.75 to < 2.50	247	1.15	488	42.24	2.2	231	93.3%
	2.50 to < 10.00	689	6.62	168	42.63	4.8	1,329	193.1%
	10.00 to < 100.00	45	18.48	39	41.12	3.9	100	223.4%
	100.00 (Default)	0	100.00	10	47.98	1.8	1	154.2%
	Subtotal	9,334	0.78	3,148	39.95	2.2	4,738	50.8%
Retail	0.00 to < 0.15	111	0.04	4470	46.42		6	5.7%
	0.15 to < 0.25	8	0.20	472	46.73		1	18.7%
	0.25 to < 0.50	10	0.36	604	45.77		3	27.1%
	0.50 to < 0.75	3	0.56	222	47.12		1	34.9%
	0.75 to < 2.50	6	1.25	660	47.29		3	46.0%
	2.50 to < 10.00	10	3.50	698	48.07		7	71.0%
	10.00 to < 100.00	2	43.27	98	45.44		3	125.5%
	100.00 (Default)	0	100.00	18	28.38		0	18.8%
	Subtotal	150	1.13	3,617	47.67		24	16.1%
Total	0.00 to < 0.15	10,393	0.04	3,572	36.18	1.4	2,834	27.3%
	0.15 to < 0.25	3,717	0.18	912	39.59	1.2	1,382	37.2%
	0.25 to < 0.50	2,434	0.28	1,325	29.92	0.2	1,657	68.1%
	0.50 to < 0.75	674	0.56	639	40.69	0.2	561	83.3%
	0.75 to < 2.50	518	0.81	1,252	42.24	1.1	552	106.5%
	2.50 to < 10.00	837	3.50	772	42.63	1.0	1,608	192.1%
	10.00 to < 100.00	87	11.04	122	35.24	1.0	194	222.3%
	100.00 (Default)	5	100.00	27	28.38	1.8	3	63.6%
	Total (all portfolios)	18,665	0.56	8,616	44.64	2.3	8,790	47.1%

¹ Parameter is not subject to the RWA calculation for retail business. Hence, in compliance with EBA/GL/2016/11, no disclosure for retail business.

EU CCR4_cont.: IRB approach – CCR exposures by retail sub-portfolio and PD scale

		a	b	c	d	e	f	g
	PD scale	EaD post CRM €m	Average PD %	Number of obligors	Average LGD %	Average maturity years	RWAs €m	RWA density
Retail	0.00 to < 0.15	111	0.04	4470	46.42		6	5.7%
	0.15 to < 0.25	8	0.20	472	46.73		1	18.7%
	0.25 to < 0.50	10	0.36	604	45.77		3	27.1%
	0.50 to < 0.75	3	0.56	222	47.12		1	34.9%
	0.75 to < 2.50	6	1.25	660	47.29		3	46.0%
	2.50 to < 10.00	10	3.50	698	48.07		7	71.0%
	10.00 to < 100.00	2	43.27	98	45.44		3	125.5%
	100.00 (Default)	0	100.00	18	28.38		0	18.8%
	Subtotal	150	1.13	3,617	47.67		24	16.1%
...secured by mortgages / SMEs	0.00 to < 0.15	0	0.00	0	0.00		0	0.0%
	0.15 to < 0.25	0	0.00	0	0.00		0	0.0%
	0.25 to < 0.50	0	0.00	0	0.00		0	0.0%
	0.50 to < 0.75	0	0.00	0	0.00		0	0.0%
	0.75 to < 2.50	0	0.00	0	0.00		0	0.0%
	2.50 to < 10.00	0	0.00	0	0.00		0	0.0%
	10.00 to < 100.00	0	0.00	0	0.00		0	0.0%
	100.00 (Default)	0	0.00	0	0.00		0	0.0%
	Subtotal	0	0.00	0	0.00		0	0.0%
...secured by mortgages / non-SMEs	0.00 to < 0.15	0	0.00	0	0.00		0	0.0%
	0.15 to < 0.25	0	0.00	0	0.00		0	0.0%
	0.25 to < 0.50	0	0.00	0	0.00		0	0.0%
	0.50 to < 0.75	0	0.00	0	0.00		0	0.0%
	0.75 to < 2.50	0	0.00	0	0.00		0	0.0%
	2.50 to < 10.00	0	0.00	0	0.00		0	0.0%
	10.00 to < 100.00	0	0.00	0	0.00		0	0.0%
	100.00 (Default)	0	0.00	0	0.00		0	0.0%
	Subtotal	0	0.00	0	0.00		0	0.0%
...qualified revolving	0.00 to < 0.15	0	0.00	0	0.00		0	0.0%
	0.15 to < 0.25	0	0.00	0	0.00		0	0.0%
	0.25 to < 0.50	0	0.00	0	0.00		0	0.0%
	0.50 to < 0.75	0	0.00	0	0.00		0	0.0%
	0.75 to < 2.50	0	0.00	0	0.00		0	0.0%
	2.50 to < 10.00	0	0.00	0	0.00		0	0.0%
	10.00 to < 100.00	0	0.00	0	0.00		0	0.0%
	100.00 (Default)	0	0.00	0	0.00		0	0.0%
	Subtotal	0	0.00	0	0.00		0	0.0%
...other / SMEs	0.00 to < 0.15	4	0.09	129	49.99		0	9.4%
	0.15 to < 0.25	5	0.20	185	52.62		1	17.4%
	0.25 to < 0.50	7	0.36	264	53.12		2	25.4%
	0.50 to < 0.75	2	0.61	103	53.92		1	34.6%
	0.75 to < 2.50	5	1.25	310	51.69		2	45.1%
	2.50 to < 10.00	3	4.70	140	56.77		2	67.0%
	10.00 to < 100.00	1	43.27	27	63.41		1	124.2%
	100.00 (Default)	0	100.00	8	66.84		0	18.7%
	Subtotal	27	2.25	1,166	53.01		9	33.3%
...other / non-SMEs	0.00 to < 0.15	107	0.04	2106	46.42		6	5.6%
	0.15 to < 0.25	3	0.21	51	46.73		1	20.9%
	0.25 to < 0.50	4	0.39	38	45.77		1	30.2%
	0.50 to < 0.75	0	0.56	8	47.12		0	38.1%
	0.75 to < 2.50	0	1.32	20	47.29		0	56.4%
	2.50 to < 10.00	7	3.50	209	48.07		5	72.6%
	10.00 to < 100.00	2	47.34	22	45.44		2	126.1%
	100.00 (Default)	0	100.00	1	28.38		0	18.8%
	Subtotal	122	0.88	2,451	46.49		15	12.3%

¹ Parameter is not subject to the RWA calculation for retail business. Hence, in compliance with EBA/GL/2016/11, no disclosure for retail business.

EU CCR7: RWA flow statements of CCR exposures under the IMM

€m	a	b
	Risk weighted assets (RWAs)	Capital requirements
1 RWAs as at the end of the previous reporting period	7,572	606
2 Asset size	-402	-32
3 Asset quality	250	20
4 Model updates	228	18
5 Methodology and policy	0	0
6 Acquisitions and disposals	0	0
7 Foreign exchange movements	-14	-1
8 Other	0	0
9 RWAs as at the end of the reporting period	7,633	611

EU CCR3: Standardised approach – CCR exposures by regulatory portfolio and risk weight

Exposure classes €m	Risk weight											Total	Of which unrated
	0%	2%	4%	10%	20%	50%	70%	75%	100%	150%	Other		
1 Central governments or central banks	1,363	0	0	0	0	0	0	0	0	0	0	1,363	1,246
2 Regional governments or local authorities	929	0	0	0	1	0	0	0	0	0	0	929	929
3 Public sector entities	703	0	0	0	112	0	0	0	0	0	0	816	816
4 Multilateral development banks	0	0	0	0	0	0	0	0	0	0	0	0	0
5 International organisations	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Institutions	4	1,500	101	0	294	175	0	0	15	0	0	2,088	1,769
7 Corporates	0	1,832	0	0	0	31	0	0	209	0	0	2,072	2,035
8 Retail	0	0	0	0	0	0	0	30	0	0	0	30	30
9 Durch Immobilien besichert	0	0	0	0	0	0	0	0	0	0	0	0	0
10 Exposures in default	0	0	0	0	0	0	0	0	0	1	0	1	1
11 Items associated with particularly high risk	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Covered bonds	0	0	0	0	0	0	0	0	0	0	0	0	0
13 Institutions and corporates with a short-term credit assessment	0	0	0	0	21	4	0	0	0	0	0	26	0
14 Collective investment undertakings	0	0	0	0	0	0	0	0	0	0	0	0	0
15 Equity exposure	0	0	0	0	0	0	0	0	0	0	0	0	0
16 Other items	0	0	0	0	0	0	0	0	0	0	0	0	0
17 Total	2,999	3,332	101	0	428	210	0	30	225	1	0	7,326	6,828

Further information on counterparty credit risk

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

€m	a	b	c	d	e
	Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
1 Derivatives	155,772	126,191	29,581	19,323	10,259
2 SFTs (securities financing transactions)	153,806	147,545	6,261	1,100	5,161
3 Cross-product netting	0	0	0	0	0
4 Total	309,578	273,736	35,842	20,422	15,420

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

€m	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
	Segregated	Unsegregated	Segregated	Unsegregated		
1 Cash	358	19,399	0	22,122	634	3,657
2 Sovereign Bonds	0	982	0	3,396	523	6,578
3 Other Bonds	0	1,703	0	849	16	2,154
4 Equities	0	0	0	0	195	4,737
5 Other collateral	0	0	0	464	0	0
6 Total	358	22,084	0	26,831	1,369	17,125

EU CCR6: Credit derivatives exposures

€m	a		b	c
	Credit derivative hedges		Protection sold	Other credit derivatives
	Protection bought			
1 Notionals				
2 Single-name credit default swaps		3,821	1,689	11,633
3 Index credit default swaps		50	650	5,075
4 Total return swaps		0	0	1,543
5 Credit options		0	0	0
6 Other credit derivatives		0	0	0
7 Total notionals		3,871	2,339	18,250
8 Fair values				
9 Positive fair value (asset)		716	59	237
10 Negative fair value (liability)		35	653	210

C. Market risk (MR)

Market risk is the risk of financial losses due to changes in market prices (interest rates, commodities, credit spreads, exchange rates and equity prices) or in parameters that affect prices such as volatilities and correlations. Losses may impact profit or loss directly, e.g. in the case of trading book positions. However, for banking book positions they would be reflected in the revaluation reserve or in hidden liabilities/reserves.

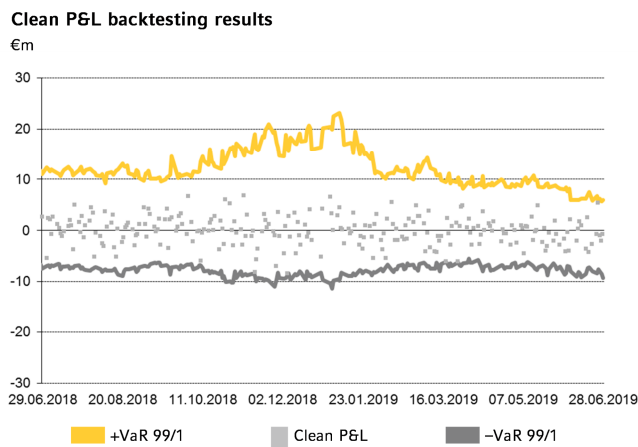
Details on risk management in the market risk area, in particular on strategy and organisation, risk control and fungibility and valuation of financial instruments, are given in Commerzbank's Disclosure Report as at 31 December 2018. Also, the internal model (historical simulation) which Commerzbank uses to perform VaR and stress test calculations, is described here.

The reliability of the internal model (historic simulation) is monitored in various ways, including by backtesting on a daily basis. The VaR calculated is set against actually occurring profits and losses. The process draws a distinction between "clean P&L" and "dirty P&L" backtesting. In the former, exactly the same positions in the income statement are used as were used for calculating the VaR. This means that the profits and losses result only from changes in market prices (hypothetical changes in the portfolio value). In dirty P&L backtesting, by contrast, profits and losses from newly concluded and expired transactions from the day under consideration are also included (actual profits and losses induced by portfolio value changes). Profits and losses from valuation adjustments and model reserves are factored into dirty and clean P&L according to the regulatory requirements.

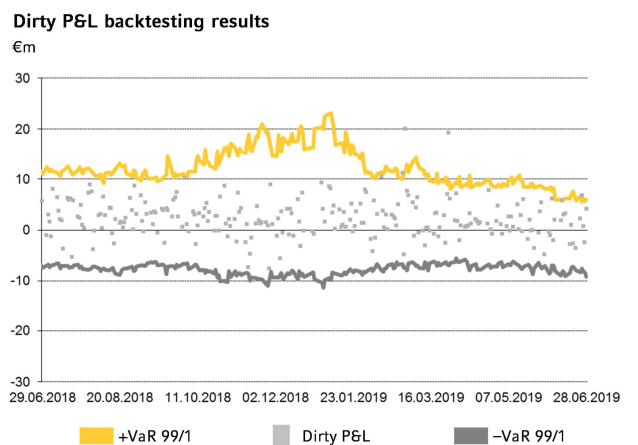
If the resulting loss exceeds the VaR, it is described as a negative backtesting outlier. Analysing the results of backtesting provides an informative basis for checking parameters and for improving the market risk model. In the period from 30 June 2018 to 30 June 2019 no negative clean P&L and no negative dirty P&L outliers were recognised.

As such, the results are in line with statistical expectations and confirm the quality of the VaR model. Backtesting is also used by the supervisory authorities for evaluating internal risk models. Negative outliers are classified by means of a traffic-light system laid down by the supervisory authorities. All negative backtesting outliers at Group level (from both clean P&L and dirty P&L) must be reported to the supervisory authorities, citing their extent and cause.

EU MR4: Comparison of VaR estimates with gains/losses (clean)



EU MR4: Comparison of VaR estimates with gains/losses (dirty)



Further information on the validation of the individual components of the internal model as well as on the further processing of the outcome in the respective committees are given in the Disclosure Report as at 31 December 2018.

Quantitative information on market risks

Pursuant to Article 92 (3) b) and c) CRR, adequate capital must be set aside for market risk positions. Commerzbank uses an internal market risk model to calculate the regulatory capital requirement. This affects both the equity price and interest rate-related risk positions in the trading book as well as the currency positions and commodity positions. The standardised approaches are applied for smaller units in the Commerzbank Group in accordance with the partial use option.

EU MR1: Market risk under the standardised approach

€m		a	b
		RWAs	Capital requirements
Outright products			
1	Interest rate risk (general and specific)	367	29
2	Equity risk (general and specific)	0	0
3	Foreign exchange risk	666	53
4	Commodity risk	0	0
Options			
5	Simplified approach	0	0
6	Delta-plus method	0	0
7	Scenario approach	0	0
8	Securitisations (specific risk)	0	0
9	Collective investment undertakings	52	4
10	Total	1,084	87

Market risk in the internal model approach

As at 30 June 2019, the internal model approach accounted for 86% of all market risk assets. The risk-weighted assets for market risk positions in the internal model approach decreased by €520m to €6,442m in the second quarter of 2019. The following table EU

Development of market risk assets in the standard approach

The standard approach is essentially used to include the market risk positions of investments/subsidiaries into the calculation of capital requirements. As at 30 June 2019, the standard approach accounts for 14% of total market risk assets. The risk-weighted assets for market risk positions in the standard approach decreased by €449m to €1,084m in the first half-year of 2019 and was mainly caused by the sale of the equity division.

MR2-B gives information on the drivers of the development in RWAs. The decrease in line 2 (movement in risk levels) is driven by a lower SVaR due to position changes in the Corporate Clients segment.

EU MR2-A: MR under the Internal Model Approach (IMA)

€m		a	b
		RWAs	Capital requirements
1	VaR (higher of values a) and b))	1,071	86
a)	Previous day's VaR (Article 365(1) of the CRR (VaRt-1))		30
b)	Average of the daily VaR (Article 365(1)) of the CRR on each of the preceding 60 business days (VaRavg) x multiplication factor (mc) in accordance with Article 366 of the CRR		86
2	sVaR (higher of values a) and b))	4,850	388
a)	Latest sVaR (Article 365(2) of the CRR (SVaRt-1))		126
b)	Average of the sVaR (Article 365(2) of the CRR) during the preceding 60 business days (SVaRavg) x multiplication factor (ms) (Article 366 of the CRR)		388
3	IRC (higher of values a) and b))	521	42
a)	Most recent IRC value (incremental default and migration risks calculated in accordance with Article 370 and Article 371 of the CRR)		23
b)	Average of the IRC number over the preceding 12 weeks		42
4	Comprehensive risk measure (higher of values a), b) and c))	0	0
a)	Most recent risk number for the correlation trading portfolio (Article 377 of the CRR)		0
b)	Average of the risk number for the correlation trading portfolio over the preceding 12 weeks		0
c)	8% of the own funds requirement in the standardised approach on the most recent risk number for the correlation trading portfolio (Article 338(4) of the CRR)		0
5	Others	0	0
6	Total	6,442	515

EU MR2-B: RWA flow statements of market risk exposures under the Internal Model Approach (IMA)

€m		a	b	c	d	e	f	g
		VaR	SVaR	IRC	Comprehensive risk measure	Others	Total RWAs	Total capital requirement
1	RWAs at previous quarter end	1,141	5,261	560	0	0	6,962	557
1a	Regulatory adjustment	0	0	0	0	0	0	0
1b	RWAs at previous quarter end (end of day)	1,141	5,261	560	0	0	6,962	557
2	Movement in risk levels	-70	-411	-39	0	0	-520	-42
3	Model updates/changes	0	0	0	0	0	0	0
4	Methodology and policy	0	0	0	0	0	0	0
5	Acquisitions and disposals	0	0	0	0	0	0	0
6	Foreign exchange movements ¹	0	0	0	0	0	0	0
7	Others	0	0	0	0	0	0	0
8a	RWAs at the end of the reporting period (end of day)	1,071	4,850	521	0	0	6,442	515
8b	Regulatory adjustment	0	0	0	0	0	0	0
8	RWA at the end of the reporting period	1,071	4,850	521	0	0	6,442	515

¹ Changes of RWA which are due to foreign exchange movements are reported under „Movement in risk levels“.

Market risk in the trading book

In the following, we show the development of the regulatory market risk ratios of the trading book portfolio. Most of Commerzbank's trading book positions derive from the Corporate Clients segment and the Treasury division.

The VaR (10 day 99%) fell from €31m to €29m over the first half-year of 2019. The market risk profile is diversified across all asset classes.

The stressed VaR increased over the first half-year of 2019 by €7m to €119m. The average value remained more or less stable compared with the average of 2018. The higher value at the period end was primarily owing to exposure changes in the Corporate Clients segment. The incremental risk charge increased slightly from €19m to €23m.

EU MR3: IMA values for trading portfolios

	€m	a
VaR (10 day 99%)		
1	Maximum value	36
2	Average value	24
3	Minimum value	18
4	Period end	29
sVaR (10 day 99%)		
5	Maximum value	130
6	Average value	107
7	Minimum value	88
8	Period end	119
IRC (99.9%)		
9	Maximum value	85
10	Average value	43
11	Minimum value	22
12	Period end	23
Comprehensive risk capital charge (99.9%)		
13	Maximum value	-
14	Average value	-
15	Minimum value	-
16	Period end	-

Appendix

Supplement to equity structure (CAP1)

Line	(B) Reference to article in the regulation (EU) Nr. 575/2013	Line	(B) Reference to article in the regulation (EU) Nr. 575/2013
1	26 (1), 27, 28, 29	38	56 (b), 58
1a	EBA list 26 (3)	39	56 (c), 59, 60, 79
1b	EBA list 26 (3)	40	56 (d), 59, 79
2	26 (1) (c)	42	56 (e)
3	26 (1)	43	
3a	26 (1) (f)	44	
4	486 (2)	45	
5	84	46	62, 63
5a	26 (2)	47	486 (4)
6		48	87, 88
7	34, 105	49	486 (4)
8	36 (1) (b), 37	50	62 (c) & (d)
10	36 (1) (c), 38	51	
11	33 (1) (a)	52	63 (b) (i), 66 (a), 67
12	36 (1) (d), 40, 159	53	66 (b), 68
13	32 (1)	54	66 (c), 69, 70, 79
14	33 (1) (b)	55	66 (d), 69, 79
15	36 (1) (e), 41	57	
16	36 (1) (f), 42	58	
17	36 (1) (g), 44	59	
18	36 (1) (h), 43, 45, 46, 49 (2) & (3), 79	60	
19	36 (1) (i), 43, 45, 47, 48 (1) (b), 49 (1) - (3), 79	61	92 (2) (a)
20a	36 (1) (k)	62	92 (2) (b)
20b	36 (1) (k) (i), 89 - 91	63	92 (2) (c)
20c	36 (1) (k) (ii), 243 (1) (b), 244 (1) (b), 258	64	CRD 128, 129, 130, 131, 133
20d	36 (1) (k) (iii), 379 (3)	65	
21	36 (1) (c), 38, 48 (1) (a)	66	
22	48 (1)	67	
23	36 (1) (i), 48 (1) (b)	67a	
25	36 (1) (c), 38, 48 (1) (a)	68	CRD 128
25a	36 (1) (a)	72	36 (1) (h), 45, 46, 56 (c), 59, 60, 66 (c), 69, 70
25b	36 (1) (l)	73	36 (1) (i), 45, 48
27	36 (1) (j)	75	36 (1) (c), 38, 48
28		76	62
29		77	62
30	51, 52	78	62
31		79	62
32		80	484 (3), 486 (2) & (5)
33	486 (3)	81	484 (3), 486 (2) & (5)
34	85, 86	82	484 (4), 486 (3) & (5)
35	486 (3)	83	484 (4), 486 (3) & (5)
36		84	484 (5), 486 (4) & (5)
37	52 (1) (b), 56 (a), 57	85	484 (5), 486 (4) & (5)

List of abbreviations

AMA	Advanced Measurement Approach	IFRS	International Financial Reporting Standards
AC	At Cost	IMA	Internal Model Approach
CCF	Credit Conversion Factor	IMM	Internal Model Method
CRD	Capital Requirements Directive	IRBA	Internal Ratings Based Approach
CRR	Capital Requirements Regulation	LECL	Lifetime Expected Credit Loss
CVA	Credit Value Adjustments	LGD	Loss Given Default
EaD	Exposure at Default	PD	Probability of Default
EBA	European Banking Authority	RWA	Risk Weighted Assets
ECL	Expected Credit Loss	SACR	Standard Approach to Credit Risk
EEPE	Effective Expected Positive Exposure	SFT	Securities Financing Transaction
FVOCI	Fair Value through Other Comprehensive Income	SME	Small and medium-sized enterprises
FVPL	Fair Value through Profit or Loss	sVaR	stressed Value-at-Risk
IRC	Incremental Risk Charge	VaR	Value-at-Risk
IAS	International Accounting Standards		

Disclaimer

Commerzbank's internal risk measurement methods and models which form the basis for the calculation of the figures shown in this report are state-of-the-art and are based on banking sector practice. The risk models produce results appropriate to the management of the Bank. The measurement approaches are regularly reviewed by risk control, internal audit and the German and European supervisory authorities. Despite being carefully developed and regularly monitored, models cannot cover all the influencing factors that have an impact in reality or illustrate their complex behaviour and interactions. These limits to risk modelling apply particularly in extreme situations. Supplementary stress tests and scenario analyses can only show examples of the risks to which a portfolio may be exposed in extreme market situations. However, stress testing all imaginable scenarios is not feasible. Stress tests cannot offer a final estimate of the maximum loss should an extreme event occur.

The interpretations with regard to CRR/CRD IV rules are still ongoing. Therefore requirements for adjustment may occur e.g. due to modified interpretations in the course of the Q&A-process with EBA or due to new binding Technical Standards or guidelines. Against this background we will continue to refine our methods and models in line with the interpretation of the rules. Thus, our measures may not be comparable with previously published measures and our competitors' measures published may differ from ours.

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