COMMERZBANK

Disclosure Report 2015

Disclosure in accordance with the Capital Requirements Regulation as at 31 December 2015

The bank at your side

Contents

Due to rounding, numbers and percentages presented throughout this report may not add up precisely to the totals provided.

Introduction

Commerzbank

Commerzbank is one of Germany's leading banks for private and corporate customers, and an internationally active universal bank with locations spanning more than 50 countries. Our customers have one of the densest networks of any private-sector bank in Germany at their disposal. Commerzbank serves a total of around 16 million private customers and 1 million business and corporate customers worldwide.

At Commerzbank, business activities are divided into the four operating segments of Private Customers, Mittelstandsbank, Corporates & Markets and Central & Eastern Europe. Through these segments, Commerzbank offers its private and corporate customers and its institutional investors a comprehensive portfolio of banking and capital market services. The Bank has merged all activities in commercial real estate and ship financing, in addition to public finance business, into the Non-Core Assets (NCA) run-off segment. The four operating segments are each overseen by a member of the Board of Managing Directors; responsibility for the Group divisions within NCA is divided between two Board members.

All staff and management functions are contained in Group Management: Group Audit, Group Communications, Group Compliance, Group Development & Strategy, Group Finance, Group Human Resources, Group Investor Relations, Group Legal, Group Treasury and the central risk functions. The support functions are provided by Group Services. These include Group Banking Operations, Group Markets Operations, Group Information Technology, Group Organisation & Security, Group Delivery Centre and Group Excellence & Support. The staff, management and support functions are combined in the Others and Consolidation division for reporting purposes.

On the domestic market, Commerzbank Aktiengesellschaft is headquartered in Frankfurt am Main, from where it manages a nationwide branch network through which all customer groups are served. Its major German subsidiaries are comdirect bank AG, Commerz Real AG and Hypothekenbank Frankfurt AG. Outside Germany, the Bank has 6 material subsidiaries, 23 operational foreign branches and 37 representative offices in more than 50 countries and is represented in all major financial centres, such as London, New York, Tokyo, Hong Kong and Singapore. However, the focus of the Bank's international activities is on Europe.

A detailed description of Commerzbank Group is given in the Annual Report 2015. Information regarding the remuneration system of Commerzbank is laid down in the Remuneration Report 2015 as well as in the section Remuneration Report in the Annual Report 2015.

Objective of the Disclosure Report

This report is intended to give the reader a detailed insight into Commerzbank's current risk profile and risk management. In particular, it contains information on:

- Commerzbank Group's structure from both a regulatory and accounting perspective,
- the Group's capital structure,
- Commerzbank Group's general risk management system,
- the Group's risk management in respect of specific types of risk.

The report may also be seen as complementary to the Annual Report pursuant to the German Commercial Code (Handelsgesetzbuch – HGB), as it – in contrast to the Annual Report primarily focuses on the supervisory perspective.

In this report Commerzbank Aktiengesellschaft as the ultimate parent company of the regulated banking group is complying with the disclosure requirements of Article 431 – 455 of the regulation (EU) No. 575/2013 – Capital Requirements Regulation (CRR) as at the reporting date 31 December 2015.

An overview of the structure of risk reporting in the Annual Report and Disclosure Report 2015 may be found in table 53 in the appendix to this document.

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 accordance with the materiality principle set out in Article 432 (1) CRR, this disclosure relates to the largest entities within Commerzbank Group. This enables the focus to be placed on the information that is most material. Subsidiaries classified as material during the annual risk inventory are included in the Disclosure Report according to a uniform definition of materiality throughout the Group. In addition, at least 95% coverage of the capital adequacy requirements of the entire Commerzbank Group must be achieved with these companies. This applies for default risks and also for market and operational risks. If this is not the case, other subsidiaries will be brought into the group of consolidated companies. Each year, in the run-up to the year-end disclosure report it is checked whether the 95% ratio is complied with or not for all risk types. An adjustment to the group of consolidated companies would be implemented as at 31 December, if applicable, and remains unchanged for the upcoming three quarterly reports.

In accordance with this definition of materiality, the following companies – as in last year's report - are included in the Disclosure Report 2015 alongside Commerzbank Aktiengesellschaft:

- mBank S.A.,
- comdirect bank AG,
- Commerz Real AG,
- Erste Europäische Pfandbrief- und Kommunalkreditbank AG in Luxembourg (EEPK), as at 15 February 2016 renamed into Commerzbank Finance & Covered Bond S.A. (CFCB) and
- Hypothekenbank Frankfurt AG.

These six companies account for at least 95% of the Commerzbank Group's total capital adequacy requirement. The 95% condition is also met in each case for the individual types of risk.

The information in this Disclosure Report generally relates to the six consolidated entities listed above. Where this is not the case (e.g. with regard to the capital structure), it is explicitly stated. All entities are fully consolidated both from a supervisory perspective and in accordance with IFRS.

In the context of the disclosure requirements (Article 431 (3) in the 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 Basle framework. The appropriateness and practicality of the institute's disclosure practice has to be verified regularly. 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 defined in addition in separate documents.

Commerzbank is one of the three biggest financial institutions in Germany and its consolidated balance sheet total regularly exceeds €30bn. 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

Under the waiver rule pursuant to Article 7 CRR in conjunction with section 2a.1 KWG, subsidiary companies in a banking group may apply for exemption from the requirements of Article 6 (1) CRR. This is on condition, among other things, that both the parent company and subsidiary have their registered office in Germany and the subsidiary is included in the supervision on a consolidated basis of the parent company.

Exemption is also on condition that there is no material practical or legal impediment to the transfer of own funds, that the parent company guarantees the commitments entered into by the subsidiary, the risk evaluation, measurement and control procedures of the parent company cover the subsidiary, and the parent company holds more than 50% of the voting rights in the subsidiary and can therefore exercise a dominant influence over the subsidiary.[2]

Hypothekenbank Frankfurt AG and comdirect bank AG have made use of the waiver rule since 2008. Both companies are – for instance by virtue of the risk management carried out at Group level (in line with MaRisk) – fully integrated into the internal processes and risk management of Commerzbank Aktiengesellschaft as the ultimate parent company of the banking group. This applies in particular to the methods used, risk management, monitoring of operations, management and reporting. Commerzbank Aktiengesellschaft holds 100% of the voting rights in Hypothekenbank Frankfurt AG and guarantees its commitments towards third parties (through letters of comfort). In addition, Commerzbank Aktiengesellschaft holds 81.3% of the voting rights in comdirect bank AG and guarantees its commitments towards third parties (through letters of comfort).

According to Article 7 CRR in conjunction with section 2a. 1 KWG, parent companies within the group of companies consolidated for regulatory purposes that have their registered office in Germany are also entitled to this exemption. The opportunity this offers for Commerzbank Aktiengesellschaft as the ultimate parent company of the Commerzbank Group to be exempted from the requirements at single entity level has been utilised since 2007. Commerzbank Aktiengesellschaft is integrated into the Commerzbank Group's management system, and there are no material, practical or legal impediments to the transfer of own funds to Commerzbank Aktiengesellschaft.

Utilisation of the waiver rule was reported at the outset to BaFin and the Bundesbank with evidence of compliance with the requirements and is subsequently monitored and documented on occasion.

[1] For this see EBA/GL/2014/14, title V (18).
[2] Under Article 7 (1) d) CRR, a dominant influence means either having a majority of voting rights or having the right to appoint a majority of the members of the management body of the subsidiary.

Equity capital

Capital structure

The Capital Requirements Directive (CRD) IV, the Capital Requirements Regulation (CRR), a European regulation which, unlike the CRD IV Directive, has direct legal effect for all European banks, as well as the SSM regulation (Regulation (EU) No. 1024/2013 of the European Commission, dated 15 October 2013, which granted the ECB a supervisory role to monitor the financial stability of banks), comprise the main standards to comply with the mandatory regulatory minimum capital ratios in regard of solvability. This legislation is supplemented at national level in Germany by further provisions in the German Banking Act (KWG), the Solvability Regulation and other codifications. In addition Implementing Technical Standards (ITS) and Regulatory Technical Standards (RTS) provide transparency about the regulation of particularly complex matters. Compared to earlier regulations, the introduction of the new system of rules in the year 2014 strengthened the quality of banks' regulatory capital, increased the capital requirements and ultimately implemented higher minimum requirements for banks' capital adequacy. To ensure that all these requirements did not take effect on a single date, certain parts of these new rules are subject to defined phase-in rules.

Common Equity Tier 1 (CET1) capital consists largely of subscribed capital plus reserves and non-controlling interests. Adjustments to this figure may be necessitated by any number of causes, for example goodwill, intangible assets, write-downs of assets (if assets are not valued cautiously enough in the regulator's view), shortfalls due to the comparison of expected losses with the provisions recognised for them and the correction of tax loss carry-forwards. Adding Additional Tier 1 capital (AT1), which can contain subordinated debt instruments with certain conditions, produces Tier 1 capital. Tier 2 capital consists largely of subordinated debt instruments which are not eligible as Additional Tier 1 capital. The eligibility of these capital components has been reduced. As a result components of Additional Tier 1 capital can only be considered with their linear amortized value when their time to maturity is equal to or smaller than 5 years.

Commerzbank seeks to achieve the following objectives in managing its capital:

- adherence to the statutory minimum capital requirements at Group level and in all companies included in the regulatory Group,
- ensuring that the planned capital ratios are met, including the new ECB/EBA requirements,
- provision of sufficient reserves to guarantee the Bank's freedom of action at all times,
- strategic allocation of Tier 1 capital to business segments and divisions in order to exploit growth opportunities.

The financial crisis made the importance of adequate CET1 capital levels for banks become an issue of increasing public concern. At Commerzbank Tier 1 capital has always been a key management target. The Bank's specifications for the capital ratios far exceed the minimum statutory requirements. The Bank's risk-bearing capacity and market expectations play an important role in determining the internal capital ratio targets. For this reason Commerzbank has stipulated minimum ratios for regulatory capital. CET1 capital is allocated via a regular process which takes account of the Bank's strategic direction, profitable new business opportunities in the core business of each banking department as well as risk-bearing capacity issues. Measures relating to the Bank's capital are approved by the Board of Managing Directors, subject to the authorisation granted by the annual general meeting. During the past year Commerzbank met the minimum statutory capital requirements as well as the requirements of the ECB and EBA at all times. All of the proposed new regulations are still subject to change. Parts of the proposed ITS and RTS are still outstanding. Consequently all figures for risk-weighted assets, capital and capital ratios reflect Commerzbank's current understanding of the regulations. When Commerzbank is pro-forma calculating the fully phased-in approach of the CRR requirements, the phase-in rules are being disregarded.

For a comprehensive overview of the Group's available equity, the tables 1 to 4 include the whole regulatory basis of consolidation. This equity capital is the basis for the calculation of the equity capital adequacy as reported to the Bundesbank.

Details on the issued capital instruments of Commerzbank Group according to Article 437 (1) b) and c) CRR are given on the internet pages of Commerzbank in the section Bondholder information/Capital instruments. Further information on our leverage ratio according to Article 451 CRR is given in Note 91 (Capital requirements and leverage ratio) in the Annual Report 2015, which is published on our internet pages.

The composition of the regulatory equity capital and the equity capital ratios are shown in the following table:

Table 1: Equity structure

Line		A: Amount on the day of disclosure	C: Residual amount[1]
Common Equity Tier 1 capital: instruments and reserves			
1	Capital instruments and the related share premium accounts	18,444	0
1a	thereof: subscribed capital	1,252	
1b	thereof capital reserve	17,192	
2	Retained earnings	10,637	
3	Accumulated other comprehensive income (and other reserves, to include unrealised gains and losses under the applicable accounting standards)	–778	see line 26a
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	
4a	Public sector capital injections grandfathered until 1 January 2018	0	
5	Minority interests (amount allowed in consolidated CET1)	761	–275
5a	Independently reviewed interim profits net of any foreseeable charge or dividend	756	
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**29,819**	
Common Equity Tier 1 (CET1) capital: regulatory adjustments			
7	Additional value adjustments (negative amount)	–376	
8	Intangible assets (net of related tax liability) (negative amount)	–2,303	–912
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)	–180	–270
11	Fair value reserves related to gains or losses on cash flow hedges	159	
12	Negative amounts resulting from the calculation of expected loss amounts	–369	–292
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	–127	–144
15	Defined benefit pension fund assets (negative amount)	–155	–232
16	Direct and indirect holdings by an institution of own CET1 instruments (negative amount)	–16	–19
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	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	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	0
20a	Exposure amount of the following items which qualify for a RW of 1250%, where the institution opts for the deduction alternative	–301	
20b	thereof: qualifying holdings outside the financial sector (negative amount)	0	
20c	thereof: securitisation positions (negative amount)	–300	
20d	thereof: free deliveries (negative amount)	–1	
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)	0	0
22	Amount exceeding the 15% threshold (negative amount)	0	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	0
25	thereof: deferred tax assets subject to future profit ratio and arising from temporary differences	0	0

Line		A: Amount on the day of disclosure	C: Residual amount[1]
25a	Losses for the current financial year (negative amount)	0	0
25b	Foreseeable tax charges relating to CET1 items (negative amount)	0	0
26	Regulatory adjustments applied to CET1 in respect of amounts subject to pre-CRR treatment	1,151	
26a	thereof: regulatory adjustments relating to unrealised profit and losses according to Art. 467 and 468	1,151	
26a.1	thereof: unrealised losses from risk positions to sovereigns in the category "available for sale" of the international accounting standard IAS39 adopted by the Union	384	
26a.2	thereof: unrealised profits from risk positions to sovereigns in the category "available for sale" of the international accounting standard IAS39 adopted by the Union	0	
26b	Amount to be deducted from or added to CET1 with regard to additional deduction or correction positions and deductions required pre CRR	0	
27	Qualifying AT1 deductions that exceed the AT1 capital of the institution (negative amount)	0	
27a	Other CET1 capital elements or deductions	0	
28	**Total regulatory adjustments to Common Equity Tier 1 (CET1) capital**	**−2,516**	
29	**CET1 capital**	**27,303**	
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	1,008	
33a	Public sector capital injections grandfathered until 1 January 2018	0	
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	0	0
35	thereof: instruments issued by subsidiaries subject to phase out	0	
36	**Additional Tier 1 (AT1) capital before regulatory adjustments**	**1,008**	
Additional Tier 1 (AT1) capital; regulatory adjustments			
37	Direct and indirect holdings by an institution of own AT1 instruments (negative amount)	0	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	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	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	0
41	Regulatory adjustments applied to AT1 capital in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase-out as prescribed in the CRR (i.e. CRR residual amounts)	−1,008	
41a	Residual amounts deducted from AT1 capital with regard to deduction from CET1 capital during the transitional period pursuant to Art. 472 CRR	−1,008	
41a.1	thereof: losses of the current financial year (net)	0	
41a.2	thereof: intangibles	−912	
41a.3	thereof: shortfall of provisions to expected losses	−94	
41a.4	thereof: direct holdings of own CET1 instruments	−2	
41a.5	thereof: reciprocal cross holdings	0	

Line		A: Amount on the day of disclosure	C: Residual amount[1]
41a.6	thereof: equity capital instruments of financial sector entities where the institution does not have a significant investment in those entities	0	
41a.7	thereof: equity capital instruments of financial sector entities where the institution has a significant investment in those entities	0	
41b	Residual amounts deducted from AT1 capital with regard to deductions from Tier 2 capital during the transitional period pursuant to Art. 475 CRR	0	
41b.1	thereof: reciprocal cross holdings of Tier 2 instruments	0	
41b.2	thereof: direct positions of non-significant capital holdings of other financial sector entities	0	
41c	Amount to be deducted from or added to AT1 capital with regard to additional deduction or correction positions and deductions required pre CRR	0	
41c.1	thereof: possible deduction or correction positions for unrealised losses	0	
41c.2	thereof: possible deduction or correction positions for unrealised profits	0	
41c.3	thereof: others	0	
42	Qualifying Tier 2 deductions that exceed the Tier 2 capital of the institution (negative amount)	0	
42a	Other AT1 capital elements or deductions	0	
43	Total regulatory adjustments to Additional Tier 1 (AT1) capital	–1,008	
44	Additional Tier 1 (AT1) capital	0	
45	**Tier 1 capital (T1 = CET1 + AT1)**	**27,303**	
Tier 2 capital: instruments and provisions			
46	Capital instruments and the related share premium accounts	5,351	
47	Amount of qualifying items referred to in Art. 484 – 5 and the related share premium accounts subject to phase out from Tier 2	185	
47a	Public sector capital injections grandfathered until 1 January 2018	0	
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	242	–92
49	thereof: instruments issued by subsidiaries subject to phase out	92	
50	Credit risk adjustments	0	
51	**Tier 2 capital before regulatory adjustments**	**5,778**	
Tier 2 capital: regulatory adjustments			
52	Direct and indirect holdings by an institution of own Tier 2 instruments and subordinated loans (negative amount)	–80	0
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	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	0
54a	thereof: new holdings not subject to transitional arrangements	0	0
54b	thereof: holdings existing before 1 January 2013 and subject to transitional arrangements	0	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	0
56	Regulatory adjustments applied to Tier 2 in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase-out as prescribed in the CRR (i.e. CRR residual amounts)	–198	
56a	Residual amounts deducted from Tier 2 capital with regard to deduction from Common Equity Tier1 capital during the transitional period pursuant to Art. 472 of the CRR	–198	
56a.1	thereof: shortfall of provisions to expected losses	–198	

Line		A: Amount on the day of disclosure	C: Residual amount[1]
56a.2	thereof: CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities	0	
56a.3	thereof: CET1 instruments of financial sector entities where the institution has a significant investment in those entities	0	
56b	Residual amount deducted from Tier 2 capital with regard to deduction from AT1 capital during the transitional period pursuant to Art. 475 CRR	0	
56b.1	thereof: AT1 capital of financial sector entities where the institution does not have a significant investment in those entities	0	
56b.2	thereof: AT1 capital of financial sector entities where the institution has a significant investment in those entities	0	
56c	Amount to be deducted from or added to Tier 2 capital with regard to additional deduction or correction positions and deductions required pre CRR	0	
56c.1	thereof: possible deduction or correction positions for unrealised losses	0	
56c.2	thereof: possible deduction or correction positions for unrealised profits	0	
56d	Other Tier 2 capital elements or deductions	0	
57	Total regulatory adjustments to Tier 2 capital	−278	
58	Tier 2 capital	5,500	
59	Total capital (TC = Tier 1 + Tier 2)	32,803	
59a	Risk-weighted assets in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase-out as prescribed in CRR (i.e. CRR residual amounts)	287	
59a.1	thereof: items not to be deducted from CET1 (CRR residual amounts)	287	
59a.1.1	thereof: deferred tax assets subject to future profitability, net of related tax liabilities	270	
59a.1.2	thereof: indirect holdings of own CET1 instruments	17	
59a.1.3	thereof: items not to be deducted from CET1 capital positions (CRR residual amounts)	0	
59a.1.4	thereof: reciprocal cross holdings of CET1 instruments, direct holdings of non-significant investments in the capital of other financial sector entities	0	
59a.2	thereof: items not to be deducted from AT1 capital positions (CRR residual amounts)	0	
59a.2.1	thereof: indirect holdings of own AT1 instruments	0	
59a.2.2	thereof: indirect holdings of non-significant investments in the AT1 capital of other financial sector entities	0	
59a.2.3	thereof: indirect holdings of significant investments in the AT1 capital of other financial sector entities	0	
59a.3	thereof: items not to be deducted from Tier 2 capital positions (CRR residual amounts)	0	
59a.3.1	thereof: indirect holdings of own Tier 2 instruments	0	
59a.3.2	thereof: indirect holdings of non-significant investments in the capital of other financial sector entities	0	
59a.3.3	thereof: indirect holdings of significant investments in the capital of other financial sector entities	0	
60	**Total risk-weighted assets**	**198,232**	

Line		A: Amount on the day of disclosure	C: Residual amount[1]
Capital ratios and buffers			
61	Common Equity Tier 1 (as a percentage of total risk exposure amount)	13.8	
62	Tier 1 (as a percentage of total risk exposure amount)	13.8	
63	Total capital (as a percentage of total risk exposure amount)	16.5	
64	Institution specific buffer requirement (CET1 requirement in accordance with Art .92 – 1 (a) plus capital conservation and countercyclical buffer requirements, plus systemic risk buffer, plus systemically important institution (G-SII or O-SII) buffer expressed as a percentage of risk exposure amount)	4.5	
65	thereof: capital conservation buffer requirement	0	
66	thereof: countercyclical buffer requirement	0	
67	thereof: systemic risk buffer requirement	0	
67a	thereof: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	0	
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	9.3	
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)	1,111	
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)	430	
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)	2,717	
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	345	
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	769	
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	1,581	
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	0	
84	Current cap on Tier 2 instruments subject to phase out arrangements	532	
85	Amount excluded from Tier 2 due to cap (excess over cap after redemptions and maturities)	0	

[1] Amounts underlying regulations prior to (EU) No. 575/2013 or mandatory residual amounts according to regulation (EU) No. 575/2013.

The reconciliation of the Group's equity reported in the balance sheet with regulatory capital was as follows:

Table 2: Reconciliation of equity as reported in the balance sheet with regulatory capital

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	10,467	10,426	10,426
Silent participations	0	0	0
Actuarial profits/losses current year	211	211	211
Revaluation reserve	–597	–596	–596
Valuation of cash flow hedges	–159	–159	–159
Currency translation reserve	–25	–23	–23
Distributable profit/loss from previous year (after suspension of retained earnings)	0	0	0
Distributable profit/loss from current year	1,062	1,058	1,058
Non-controlling interests	1,004	991	991
Equity as shown in balance sheet	**30,407**	**30,352**	**30,352**
Effects from debit valuation adjustments			–96
Correction of revaluation reserve			511
Correction to cash flow hedges reserve			159
Correction to phase-in (IAS 19)			640
Correction to non-controlling interests (minority)			–230
Goodwill			–2,088
Intangible assets			–1,126
Surplus in plan assets			–155
Deferred tax assets from loss carryforwards			–180
Shortfall due to expected loss			–463
Prudential valuation			–376
Own shares			–18
First loss positions from securitisations			–300
Advance payment risks			–1
Deduction of offset components of Additional Tier 1 capital (AT1)			1,008
Deferred tax assets from temporary differences which exceed the 10% threshold			0
Dividend accrual			–250
Others and rounding			–83
CET1			**27,303**
Hybrid capital	1,021	1,080	1,080
Not eligible issues			–45
Others, especially hedge accounting, interests, agio, disagio			–27
Additional Tier 1 before deductions			**1,008**
Deduction of offset components of Additional Tier 1 capital (AT1)			–1,008
Additional Tier 1 after deductions			**0**
Subordinated capital	10,837	10,837	10,837
Decreased offsetting in the last 5 years of residual maturity			–3,834
Not eligible non-controlling interests			–785
Others, especially hedge accounting, interests, agio, disagio			–520
Tier 2 before deductions			**5,698**
Shortfall due to expected loss			–198
Tier 2 after deductions			**5,500**
Own funds	**42,265**	**42,269**	**32,803**

[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.

For Commerzbank as a banking group as defined in section 10a KWG and Article 11 CRR the capital relevant to the determination of regulatory capital is based on the consolidated financial statements under FINREP which is prepared based on the Groups balance sheet according to IFRS. To reconcile the requirements for regulatory capital with the slightly different amounts reported in the financial statements, capital as determined under IFRS was adjusted with the aid of so-called prudential filters.

There was no under-capitalisation of subsidiaries subject to the deduction method during the period under review.

Starting 2014, supervisory authorities have enforced new, higher capital requirements. In accordance with the Capital Requirements Directive (CRD IV), Capital Requirements Regulation (CRR) and the German CRD-IV Implementation Law, significantly stricter standards have been applied to banks' minimum capitalisation. The new regulations contain transitional provisions under which the minimum capital requirements can be satisfied on a step-by-step basis. The Bank has already integrated these future requirements in its internal capital planning.

Capital requirements

The capital requirements set out below relate to the Commerzbank Group and include details of the requirements relating to the material consolidated units included in this Disclosure Report. 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 80% relates to default risk positions. These include balance sheet, off-balance sheet and derivative positions, as well as advance payment risk positions. Of the total capital requirement for default risks, around €0.8bn relates to the trading book. 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 applies the partial use option pursuant to section 70 sentence 1 no. 9b SolvV and Article 150 CRR, respectively, and is using the SACR permanently to all investment positions which are not under the above-mentioned temporary grandfathering option.

Securitised positions in the banking book as well as counterparty risk positions from market value hedges in connection with securitisations also fall under the category of default risk positions subject to a 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.

In addition to default risk, adequate capital must also be set aside for market risk positions pursuant to Article 92 (3) b) and c) CRR. 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. The standardised approaches are applied for smaller units in the Commerzbank Group and for the total of currency positions and commodity positions in accordance with the partial use option.

To calculate the capital adequacy requirement for operational risks, Commerzbank uses the advanced measurement approach (AMA).

Table 3: Capital requirements and risk weighted assets by risk type

€m	31.12.2015		31.12.2014	
	Capital requirements	Risk weighted assets	Capital requirements	Risk weighted assets
Default risks				
Standardised Approach to Credit Risk (SACR)	**1,734**	**21,679**	**2,104**	**26,300**
Central governments or central banks	18	224	28	353
Regional or local authorities	169	2,114	47	588
Public sector bodies	15	185	36	446
Multilateral development banks	0	0	0	0
International organisations	0	0	0	0
Banks	81	1,018	129	1,607
Companies	658	8,227	651	8,139
thereof: SMEs	44	550	35	440
Retail banking	75	933	86	1,077
thereof: SMEs	1	11	18	219
Exposures secured by real estate property	55	682	55	681
thereof: SMEs	0	4	2	27
Defaulted positions	33	411	56	698
Particularly high risk positions	4	55	74	920
Covered debt instruments	2	20	2	27
Banks/companies with short-term external rating	0	0	0	0
Collective investment undertakings	45	564	414	5,172
Other exposures	580	7,245	527	6,589
Advanced approach (IRBA)	**10,170**	**127,130**	**10,926**	**136,579**
Central governments or central banks	545	6,811	396	4,949
Banks	1,845	23,066	2,298	28,722
Companies	6,348	79,346	6,678	83,479
thereof specialised lending	1,715	21,436	2,229	27,859
thereof SMEs	571	7,135	481	6,008
Retail banking	1,250	15,627	1,344	16,797
Secured by real estate property	754	9,425	777	9,718
thereof SMEs	28	344	13	161
Qualified revolving	41	508	51	635
Other	456	5,695	515	6,444
thereof SMEs	179	2,238	188	2,356
Other non-loan based assets	182	2,280	211	2,633
Securitisation risks	**223**	**2,782**	**249**	**3,112**
Securitised positions IRBA	93	1,163	129	1,612
thereof resecuritisations	4	50	5	67
Securitisation positions SACR	129	1,619	120	1,499
thereof resecuritisations	1	7	2	19
Investment risks	**85**	**1,066**	**65**	**807**
Investment positions SACR (permanent partial use)	85	1,066	65	807
thereof investments with method contin. (grandfathering)	12	148	18	230
Investment positions IRBA	0	0	0	0
Processing risk	**0**	**6**	**0**	**1**
Contribution to default fund	**1**	**7**	**1**	**8**
Non-material entities	540	6,745	541	6,764
Total default risk	**12,753**	**159,408**	**13,885**	**173,563**

Table 3 continued: Capital requirements and risk weighted assets by risk type

€m	31.12.2015		31.12.2014	
	Capital requirements	Risk weighted assets	Capital requirements	Risk weighted assets
Market risks in the trading book	**842**	**10,531**	**744**	**9,298**
Standardised Approach	**49**	**613**	**39**	**486**
Interest rate risk	29	361	26	323
thereof general price risk	23	290	22	274
thereof specific price risk	5	60	4	49
Specific price risk securitisations in trading book	0	4	1	13
Currency risk	20	246	11	142
Equity risk (general price risk)	0	1	0	5
Equity risk (specific price risk)	0	1	0	4
Commodity risk	0	0	0	0
Correlation Trading Portfolio	0	0	0	0
Internal model approach	**793**	**9,919**	**705**	**8,812**
Credit Value Adjustments (CVA)	**475**	**5,940**	**778**	**9,729**
Advanced	422	5,276	704	8,795
Standard	53	664	75	934
Non-material entities	76	956	82	1,028
Total market risk	**1,394**	**17,427**	**1,604**	**20,055**
Operational risks	**1,712**	**21,398**	**1,725**	**21,560**
Base indicator approach (BIA)	0	0	0	0
Standardised Approach	0	0	0	0
Advanced Measurement Approach (AMA)	1,709	21,362	1,720	21,503
Non-material entities	3	35	5	56
Supervisory capital requirements	**15,859**	**198,232**	**17,214**	**215,178**

The following table shows the development of risk-weighted assets in the course of the year under review for Commerzbank Group overall. In doing so the main risk drivers are given for each risk type.

Table 4: Change in risk-weighted assets in the course of the year

Risk weighted assets €bn	31.12.2015	Changes in risk weighted assets	31.12.2014
Credit risk	**159.4**	**−14.2**	**173.6**
Volume effects[1]		0.6	
Default/Recovery		−1.8	
PD/Rating		−2.1	
Collaterals/recovery factor		−1.2	
Others		−9.6	
Market risk	**17.4**	**−2.7**	**20.1**
Market risk (primary)		1.2	
VaR		1.5	
Stressed VaR		−0.2	
Incremental Risk		−0.1	
Others		0.1	
CVA Risk Capital Charge		−3.9	
Operational risk	**21.4**	**−0.2**	**21.6**
Loss data and risk scenario assessment		0.3	
Business Environment & Control System		−0.1	
Others		−0.4	
Total risk-weighted assets	**198.2**	**−17.0**	**215.2**

[1] Incl. changes in FX.

The risk-weighted assets amounted to €198.2bn as at 31 December 2015 and were significantly below the previous year's value of €215.2bn. This decline was mainly due to reductions in credit and market price risks (here the CVA Risk Capital Charge). The decline in risk-weighted assets in the area of credit risks was mainly due to the significant reduction in the credit portfolio in the Non-Core Assets segment, to the reduction in fair values/exposures in derivatives and to the decision to no longer risk-weight pension assets in connection with the changed interpretation of the European Banking Authority (EBA Q&A 2014_1567). The effects were partly offset by rises in credit risk resulting from exchange rate movements.

Risk-oriented overall bank management

Commerzbank defines risk as the danger of possible losses or profits foregone due to internal or external factors. In risk management, we normally distinguish between quantifiable and non-quantifiable types of risk. Quantifiable risks are those to which a value can normally be attached in financial statements or in regulatory capital requirements, while non-quantifiable types of risk include reputational and compliance risk.

Risk statement

According to Article 435 (1) e) and f) CRR, the risk statement is a declaration approved by the management body providing assurance that the risk management systems put in place are adequate and giving a description of the institution's general risk profile in connection to the business strategy. The approval by the Board of Managing Directors was given together with the approval of the Disclosure Report.

The fundamental aim of the business model is to position Commerzbank as a leading, fair and competent bank for private and corporate clients. Accordingly, our portfolio is clearly dominated by default risks, which account for more than 70% of economically required capital, with market risk accounting for a good 20%. Our two main markets, Germany and Poland, in turn account for 56% of the credit exposure. In line with our strategy of targeted growth in the Core Bank coupled with portfolio reduction in the Non Core Assets (NCA) segment, the Core Bank now accounts for the lion's share of default risk at over 85%. For 2016 we expect ongoing high volatilities on the capital markets and further strains from the low-interest environment. Hence, currently we do not expect that our aims on the cost/income ratio (< 60%) and on the return on equity of the core segments (> 10%), which were set in 2012 in a different interest and regulatory field, are reachable. However, despite the challenging environment, we aim at further strengthening our market position through an unchanged consistent cost management.

Commerzbank's business model, defined as part of the business strategy, is embedded as a set of objectives in the overall risk strategy. This takes into account exogenous factors, such as risks from the macroeconomic environment, and endogenous factors, in particular the results of the annual risk inventory. In the risk inventory process, all economically significant quantifiable and unquantifiable risks arising from our business activities are assessed in terms of their materiality for risk management. For all material risk types, corresponding sub-risk strategies are drawn up for the purposes of further detailed treatment and operationalisation.

Risk appetite refers to the maximum risk in terms of both, the amount and structure, which the Bank is willing and able to incur in pursuing its business objectives, without exposing itself to existential threats (risk tolerance). The guiding principle regarding risk appetite is to ensure that the Commerzbank Group has sufficient liquidity and capital resources on a sustained basis. The core function of a bank, to transform liquidity and risk, results in inevitable threats that can in extreme cases endanger the continued existence of the institution. For Commerzbank, in view of its business model, these inherent existential threats include e.g. the default of Germany, Poland, one or more of the other major EU countries (France, Italy, Spain or the UK) or the long-term default of the USA. These lie outside of the risk appetite.

Risk appetite is quantified in terms of risk limits and escalation mechanisms for liquidity and capital management, and by means of comprehensive early warning systems. Limits and guidelines are broken down across the risk types, segments and portfolios. They form an integral part of ongoing management and monitoring. In addition, regular portfolio-specific stress tests are also carried out. Our liquidity management is based on the liquidity gap profile, which determines the expected future available net liquidity from positions both on and off the balance sheet over time subject to various scenario assumptions. In addition, under Basel 3 the leverage ratio is used as a new and non-risk sensitive indicator of indebtedness. Compliance with economic risk-bearing capacity requirements and the regulatory capital ratios is reviewed by means of an early warning system in both a forecast scenario and an adverse scenario. This is based on a gone concern approach aimed at protecting unsubordinated lenders. The approach is supplemented by scenarios aimed at ensuring the institution's continuing existence (going concern perspective).

Our Common Equity Tier 1 ratio is 13.8% under the transitional rules, or 12.0% with the full application of Basel 3. For the business year 2016 we aim to keep the CET1 ratio around 12%. The risk-bearing capacity (RBC) ratio of 193% (target: >100%) comfortably meets risk-bearing capacity requirements. Loan loss provisions once again were reduced by more than one-third year-on-year to stand at €696m in 2015. As regards Group loan loss provisions, in the non-strategic sub-portfolios we expect further charges for ship financing. Here, we still do not see any prospect of a general improvement in the environment, with conditions very tough in some parts of the market. For the operative core segments, we expect net releases to be much lower than before, leading to higher loan loss provisions than in 2015. Overall, we expect Group loan loss provisions to rise moderately, but to still remain at a very low level by historical standards.

Comprehensive, prompt, transparent and methodically adequate risk measurement is vital for ensuring that Commerzbank Group has sufficient liquidity and capital resources on a permanent basis. Our business and risk strategy is made measurable, transparent, and controllable by the processes used. The risk measurement methods and models that we use comply with the latest common banking industry standards and are regularly reviewed by risk control, internal audit, our external auditors and the German and European supervisory authorities. The processes ensure that our risk-bearing capacity is maintained on a lasting basis. We consider our risk management methods and processes to be appropriate and effective.

Risk management organisation

Risk Management in Commerzbank is an overarching bank mission and follows the principle of the "three lines of defence". Each unit (segments and functions) forms the first line of defence within its framework of operative responsibility. For credit, market and liquidity risk the responsibility for the second line of defence lies with the Chief Risk Officer (CRO). The CRO is responsible for implementing the Group's risk policy guidelines laid down by the Board of Managing Directors, and for the controlling of operational risks. Depending on the risk type, for other risks (e.g. IT risks or legal risks) the responsibility for the second line of defence might also be outside the risk function. The third line of defence is comprised internal audit.

The CRO is responsible for the risk management and regularly reports to the Board of Managing Directors and the Risk Committee of the Supervisory Board on the risk situation within the Group.

The responsibilities within the risk function are split between Credit Risk Management Core Bank, Credit Risk Management Non-Core Assets (NCA), Intensive Care, Market Risk Management and Risk Controlling and Capital Management. In the Core Bank segments, credit risk management is separated into a performing loan area and Intensive Care, while in the NCA segment it has been merged into a single unit across all rating classes. All divisions have a direct reporting line to the CRO. The heads of these five risk management divisions together with the CRO make up the Risk Management Board within Group Management.

The Board of Managing Directors has sole responsibility for fundamental strategic decisions. The Board of Managing Directors has delegated the operational risk management to committees. Under the relevant rules of procedure, these are the Group Credit Committee, the Group Market Risk Committee, the Group OpRisk Committee and the Group Strategic Risk Committee, which decides on risk issues of an overarching nature. The CRO chairs all these committees and has the right of veto. In addition, the CRO is a member of the Asset Liability Committee.

The Chairman of the Board of Managing Directors (CEO) at the reporting date took responsibility for controlling risks related to the Bank's business strategy, reputational risks and legal risks. The Chief Financial Officer (CFO) assumed responsibility for controlling compliance risk with particular regard to investor protection, insider trading guidelines and money laundering at the reporting date. The Chief Operating Officer (COO) is responsible for monitoring personnel and IT risks. Further details on risk management organisation can be found in the Risk Report of the Annual Report 2015.

Risk strategy and risk management

The overall risk strategy, together with the business strategy, defines the strategic risk management guidelines for the development of Commerzbank's investment portfolio. Furthermore, the risk appetite is set as the maximum risk that the Bank is prepared and able to accept while following its business objectives without exposing itself to existential threats over and above the risks inherent in the business. The guiding idea is to ensure that the Group holds sufficient liquidity and capital. Based on these requirements, suitable limits for the risk resources capital and liquidity reserve available to the Group are defined. The overarching limits of the overall risk strategy are consistent with the restructuring indicators of the recovery plan.

Banks' core functions as transformers of liquidity and risk result in inevitable threats that can in extreme cases endanger the continued existence of the institution. For Commerzbank, in view of its business model, these inherent existential threats include e.g. the default of Germany, Poland, one or more of the other major EU countries (France, Italy, Spain or the UK) or the long-term default of the USA. Others include a deep recession lasting several years with serious repercussions for the German economy, the collapse of the financial markets, the collapse of global clearing houses or a bank run. These existential threats are taken on board deliberately in the pursuit of the business targets. It may be necessary to adjust the business model and hence the business and risk strategies if the Board of Managing Directors' assessment of these threats to Commerzbank changes substantially.

The overall risk strategy covers all material risks to which Commerzbank is exposed. It is detailed further in the form of sub-risk strategies for the risk types which are material. These are then specified and made operational through policies, regulations and instructions/guidelines. By means of the risk inventory process – which is to be carried out annually or on an ad hoc basis as required – Commerzbank ensures that all risks of relevance to the Group are identified and their materiality is assessed. The assessment of the materiality of a risk is based on whether its occurrence could have a major direct or indirect negative impact on the Bank's risk-bearing capacity.

As part of the planning process, the Board of Managing Directors decides the extent to which the risk coverage potential of the Group should be utilised. On that basis, individual quantifiable types of risk, which contribute to the required capital, are limited in a second stage. A capital framework is allocated to the management-relevant units through the planning process. Compliance with limits and guidelines is monitored during the year, and adjustments are made where required. In addition, further qualitative and quantitative early warning indicators are established in the overall risk strategy. Potential negative developments can be identified at an early stage with the help of these indicators.

One of the primary tasks of risk management is the avoidance of risk concentrations. These can arise from the synchronous movement of risk positions both within a single risk type (intra-risk concentrations) and across different risk types (inter-risk concentrations). The latter results from common risk drivers or from interactions between different risk drivers of different risk types.

By establishing adequate risk management and controlling processes, Commerzbank provides for the identification, assessment, management, monitoring and communication of substantial risks and related risk concentrations. This ensures that all Commerzbank-specific risk concentrations are adequately taken into account. A major objective is to ensure early transparency regarding risk concentrations, and thus to reduce the potential risk of losses. The Bank uses a combination of portfolio and scenario analyses to manage and deal with Commerzbank-specific inter-risk concentrations. Stress tests are used to deepen the analysis of risk concentrations and, where necessary, to identify new drivers of risk concentrations. Management is regularly informed about the results of the analyses.

Commerzbank has adopted a code of conduct that defines binding minimum standards for Commerzbank's corporate responsibility, its dealings with customers, business partners and colleagues, and its day-to-day business. It goes without saying that the Bank complies with relevant laws, regulatory requirements, industry standards and internal rules, and this therefore forms a particularly important part of its risk culture. It demands appropriate and courageous conduct in compliance with rules, and any failure to comply with rules is penalised. Commerzbank plays its part in ensuring that the markets are competitive and fair, and is a reliable partner for the supervisory authorities. It takes a responsible approach to customer relationships and conducts its business with integrity. Commerzbank managers are expected to act as a role model by putting the code of conduct into practice and meeting compliance requirements.

The main pillar of the Bank's overall risk management and culture is the concept of "three lines of defence", which is a core element of the Corporate Charter. Under this "three lines of defence" principle, protecting against undesirable risks is an activity that is not restricted to the risk function. Each unit (segment or function) forms the first line of defence within its area of operational responsibility and is responsible for identifying and managing risks within it while complying with the prescribed risk standards and policies. For example, the front office forms the first line of defence in all business decisions and has to take risk aspects into account in reaching them. The second line of defence for each type of risk lays down standards for appropriate management of risks of that type, monitors this and ensures the application of such standards, and analyses and evaluates the risks. The risk function forms the second line of defence against credit and market risks associated with business decisions. Particularly for credit risk, this includes involvement in the credit decision process through means of a second vote. Units outside the risk function (Group Compliance and Group Finance) also operate as the second line of defence for certain risk types. The third line of defence is made up of the internal audit.

Under the provisions of the Remuneration Ordinance for Institutions (Institutsvergütungsverordnung), every year Commerzbank identifies, in a regular process, those employees whose actions have a material impact on Commerzbank's overall risk profile (risk takers). These risk takers are identified in accordance with regulatory requirements on the basis of their function within the organisation (including management level) and their function-related activities. Special regulations apply to risk takers as regards measuring their performance and the manner in which their variable remuneration is paid out.

Information in relation to the remuneration system of Commerzbank Group according to Article 450 CRR can be found in the Remuneration Report within the Annual Report 2015 and in the separate Remuneration Report on the internet pages of Commerzbank.

The nomination committee of Commerzbank's Supervisory Board supports the Supervisory Board in identifying candidates to fill positions on bank management bodies. In doing so it considers the fair balance and variety in knowledge, skills and experiences of all members of the Board of Managing Directors, designs a job description including the applicant profile and specifies the expenditure of time related to the job. The Supervisory Board will ensure that greater attention is paid to diversity and in particular to efforts to achieve an appropriate degree of female representation in the composition of the Board of Managing Directors. On 6 March 2016 the Supervisory Board nominated Dr. Bettina Orlopp for the Board of Managing Directors, as the first female member. Yet, the decision does require the supervisory's approval. Bettina Orlopp, who is currently a Divisional Board Member for Group Development & Strategy, will take the responsibility for the new managing board section Compliance, Human Resources and Legal.

With regard to § 111 (5) of the German Stock Companies Act (Aktiengesetz), which requires a ratio to be set for women on the Board of Managing Directors at Commerzbank AG, the Supervisory Board has set itself the objective of appointing women. It will therefore monitor the measures taken by the Board of Managing Directors to increase the percentage of women at management levels one and two as a way of systematically producing suitable candidates for appointment to the Board of Managing Directors.

In its meeting on 3 September 2015 the Commerzbank Supervisory Board set a target ratio of zero by 30 June 2017 for women on the Board of Managing Directors. In view of the present circumstances, the Supervisory Board was unable to set a higher binding target ratio for this period. It also takes the view that positions should be filled solely on the basis of qualification and expertise, regardless of gender.

Additional information on corporate governance according to Article 435 (2) CRR are provided in the Annual Report 2015 (Corporate Governance Report) and on the internet pages of Commerzbank.

Information on the indicators of global systemic importance according to Article 441 CRR is given in a separate disclosure on the internet pages of Commerzbank in the section Bondholder information/Transparency disclosures.

Risk-bearing capacity and stress testing

Risk-bearing capacity analysis is a key part of overall bank management and Commerzbank's ICAAP. The purpose is to ensure that sufficient capital is held at all times.

Commerzbank monitors risk-bearing capacity using a gone concern approach which seeks primarily to protect unsubordinated lenders. This objective should be achieved even in the event of extraordinarily high losses from an unlikely extreme event. The gone concern analysis is supplemented here by elements aimed at ensuring the institution's continuing existence (going concern perspective).

When determining the economically required capital, allowance is made for potential unexpected fluctuations in value. Where such fluctuations exceed forecasts, they must be covered by the available economic capital to absorb unexpected losses (economic risk coverage potential). The quantification of the economic risk coverage potential is based on a differentiated view on the accounting values of assets and liabilities and involves economic valuations of certain balance sheet items.

The capital requirement for the risks taken is quantified using the internal economic capital model. When assessing the economic capital required, allowance is made for all the types of risk at Commerzbank Group that are classified as material and quantifiable in the annual risk inventory. The economic risk approach therefore also comprises risk types that are not included in the regulatory requirements for banks' capital adequacy. The model also reflects diversification effects incorporating all types of risk. The confidence level of 99.91% in the economic capital model is in line with the underlying gone concern assumptions and ensures that the economic risk-bearing capacity concept is internally consistent. The quantifiable risks in the economic capital model can be divided into default risk, market risk, operational risk and (although not shown separately in the table below) business risk, property value change risk, investment portfolio risk and reserve risk. Business risk is the risk of a potential loss resulting from discrepancies between actual income and expense and the respective budgeted figures. Business risk is considered as a deductible amount in risk coverage potential. Investment portfolio risk indicates the risk of an unexpected fall in the value of unlisted investments. Property value change risk is the risk of an unexpected fall in the value of owned property which is either already booked as an asset in the

Group's balance sheet or which can be capitalized during the next twelve months by contractually assured obligations with option character (especially real estate). Reserve risk is the risk of additional charges being incurred on the portfolio of loans already in default through the creation of additional loan loss provisions. Allowance is made for this risk when considering risk-bearing capacity by means of a risk buffer. The results of the risk-bearing capacity analysis are shown using the risk-bearing capacity ratio (RBC ratio), indicating the excess of the risk coverage potential in relation to the economically required capital.

The risk-bearing capacity is monitored and managed monthly at Group level. Risk-bearing capacity is deemed to be assured as long as the RBC ratio is higher than 100%. In 2015, the RBC ratio was consistently above 100% and stood at 193% on 31 December 2015. The RBC ratio remained stable at a high level in the course of the year.

Table 5: Group's risk-bearing capacity

Risk-bearing capacity Group | €bn	31.12.2015	31.12.2014
Economic risk coverage potential[1]	**30**	**28**
Economically required capital[2]	**15**	**16**
thereof for credit risk	11	12
thereof for market risk	3	3
thereof for operational risk	2	2
thereof diversification effects	–2	–2
RBC ratio[3]	**193%**	**172%**

[1] Including potential deductible amounts for business risk.
[2] Including property value change risk, risk of unlisted investments and reserve risk.
[3] RBC ratio = economic risk coverage potential/economically required capital (including risk buffer).

The risk-bearing capacity and stress testing concept is subject to an annual internal review and is refined on an ongoing basis. The development of the regulatory environment is also taken into account.

Commerzbank uses macroeconomic stress tests to review the risk-bearing capacity in the event of assumed adverse changes in the economic environment. The scenarios on which they are based take into account the interdependence in development between the real and financial economies and extend over a time horizon of at least two years. They are updated quarterly and approved by the Asset Liability Committee (ALCO). The scenarios describe an extraordinary but plausible adverse development in the economy, focusing in particular on portfolio priorities and business strategies of relevance to Commerzbank. The scenario simulation is run monthly using the input parameters of the economic capital requirements calculation for all material and quantifiable risk types. In addition to the capital required, the profit and loss calculation is also subjected to a stress test based on the macroeconomic scenarios. Based on this, changes in the risk coverage potential are simulated. In the same way as the RBC ratio is embedded into Commerzbank's limit system, explicit limits on risk-bearing capacity are set as an early warning system in the stressed environment. The ongoing monitoring of the limit for the unstressed and stressed RBC ratio is a key part of internal reporting. Defined escalations are triggered if the limit is breached.

In addition to the regular stress tests, so-called reverse stress tests are implemented annually at Group level. Unlike regular stress testing, the result of the simulation – a sustained threat to the Bank – is determined in advance. The aim of the analysis process in the reverse stress test is to improve the transparency of Bank-specific risk potential and interactions of risk by identifying and assessing extreme scenarios and events. On this basis, for instance, action fields in risk management including the regular stress tests can be identified and taken into account in the ongoing development efforts.

Specific risk management

Default risk

Default risk 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, counterparty risk, country and transfer risk, dilution risk and reserve risk.

Risk management

Strategy and organisation

The credit risk strategy is the partial risk strategy for default risks and is derived from the overall risk strategy. It is embedded in the ICAAP process of the Commerzbank Group and forms a link between the Bank's overall risk management across all risk types and the operationalisation of default risk management. The overriding aim is to ensure the adequate structural risk quality of the credit portfolio. To this end, the credit risk strategy defines the credit risk appetite, specifies risk strategy priorities, provides an overview of the material credit risk management concepts and thereby plays an integral part in maintaining the Group's risk-bearing capacity. The credit risk strategy makes use of quantitative and qualitative management tools that give decision-makers clear guidance on both portfolio management and decisions in specific cases. Quantitative credit risk strategy guidelines limit risks in the Core Bank portfolio with regard to poorer credit ratings and exposures with high loss-at-default contributions (concentration management). Qualitative management guidelines in the form of credit policies define the target business of the Bank. At the level of individual transactions, they regulate the transaction type with which the risk resources provided are to be used. These credit policies are firmly embedded in the credit process: transactions which do not meet the requirements are escalated through a fixed competence regulation.

In the Core Bank, responsibilities are separated between the performing loan area on the one hand and Intensive Care on the other. Based hereupon, discrete back-office areas are responsible for operational credit risk management on a portfolio and an individual case basis.

All credit decisions in the performing loan area are risk/return decisions. The front and back office take joint responsibility for risk and return from an exposure, with the front office having primary responsibility for the return, and the back office for the risk. Accordingly, neither office can be overruled in its primary responsibility in the lending process.

Higher-risk Core Bank customers are handled by specialist Intensive Care areas. The customers are moved to these areas as soon as they meet defined criteria for assignment or mandatory transfer. The principal reasons for assignment to Intensive Care areas are criteria relating to number of days overdrawn, together with event-related criteria such as rating, third-party enforcement measures or credit fraud. Intensive Care decides on further action based on the circumstances of individual cases. Customers must be transferred to Intensive Care if they are in default (for example due to insolvency). This graduated approach ensures that higher-risk customers can continue to be managed promptly by specialists in a manner appropriate to the risks involved and in defined standardised processes.

In the NCA segment, by contrast, there is no separation of responsibilities between the performing loan area and Intensive Care. Credit risk management here has been merged into one unit across all rating classes.

The aim is to fully wind down all the assets grouped in this segment in a way that preserves value. To this end, EaD-based guidelines have been established and an asset management programme has been implemented. This is carried out through regular asset planning and is based on a risk matrix for Commercial Real Estate and Deutsche Schiffsbank. The parts of the portfolio shown within the risk matrix serve as a guideline for differentiated risk management within the overarching portfolio reduction mandate. The main aim here is to prioritise the winding down or reduction of those parts of the portfolio and individual loans for which the capital requirement is particularly high. Opportunities for selling sub-portfolios in a way that preserves value may also be used to free up capital as part of the systematic portfolio reduction.

For business in Public Finance, the reduction is primarily through regular maturities of assets. Market opportunities that arise are used in a targeted way for the sale of individual assets.

Risk management

Commerzbank manages default risk using a comprehensive risk management system. The management framework comprises an organisational structure, methods and models, quantitative and qualitative management tools and regulations and processes. The risk management system ensures that the entire portfolio and the sub-portfolios, right down to individual exposure level, are managed consistently and thoroughly on a top-down basis.

The ratios and measures required for the operational process of risk management are based on overarching Group objectives. They are enhanced at downstream levels by sub-portfolio and product specifics. Risk-based credit approval regulations focus management attention in the highest decision-making bodies on issues such as risk concentrations or deviations from the risk strategy.

Management of economic capital commitment

Economic capital commitment is managed in order to ensure that the Commerzbank Group holds sufficient capital. With this object in view, all risk types in the overall risk strategy for economic risk capital are given limits on a Group-wide basis, with, in particular, a CVaR limit being specified. Due to the systematically restricted options for reducing default risk on a short-term basis, it is important to take account of expected trends (medium-term and long-term) in order to manage credit risk. For this reason, medium-term forecast values of credit risk parameters play a key role in ongoing management. At segment and business area level, changes to forecasts are monitored and adjustments made when necessary. There is no cascaded limit concept for credit risk below Group level, i.e. the Group credit limit is not allocated to segments or business areas.

Management of risk concentrations

The avoidance of risk concentrations is a core strategy of risk management. Risk concentrations are actively managed in order to identify at an early stage and to contain the increased potential for loss in the synchronous movement of risk positions. In addition to exposure-related credit risk concentrations (bulk risks), default risk also includes, among others, country and sector concentrations. Segment-specific features are taken into account here.

A uniform definition based on "all-in" is used to manage bulk risk. The all-in concept comprises all customer credit lines approved by the Bank in their full amount – irrespective of the loan utilisation to date.

Management and the Supervisory Board's Risk Committee are regularly informed about the results of the analyses.

Country risk management

The Group's country risk calculation records both transfer risks and region-specific event risks defined by political and economic events which impact on the individual economic entities of a country. Country risks are managed on the basis of defined credit risk and transfer risk limits of the loss at default at country level. Country exposures which are significant for Commerzbank due to their size, and exposures in countries in which Commerzbank holds significant investments in comparison to the GDP of those countries are handled by the Strategic Risk Committee on a separate basis.

Loan portfolio model

The quantification of default risks takes place through a group-wide loan portfolio model in combination with internally developed rating systems. The risk parameters probability of default (PD), exposure at default (EaD[1]) and loss given default (LGD) are determined for every credit risk position. This enables the relevant expected loss to be calculated for each individual position.

The loan portfolio model also produces probability statements on losses from credit defaults and rating changes at portfolio level. Unexpected loss (credit value at risk – CVaR) is quantified on a risk horizon of one year. CVaR measures the extent of potential credit risk losses over and above the expected loss and must be backed by equity capital.

Commerzbank's loan portfolio model is an in-house model which, as with the CreditMetrics or Moody's KMV model, is based on the asset value approach. A Monte Carlo simulation simulates potential realisations of borrowers' assets and changes to borrowers' creditworthiness and defaults. Possible future losses at portfolio level are calculated and statistically analysed on this basis.

The loan portfolio model firstly requires transaction and customer data: level of exposure, creditworthiness, expected loss given default, country and sector classification.

Dependencies between possible default events are also modelled through around 60 systematic risk factors. Specific model parameters (correlations) measure the connection of individual borrowers to these system factors and the correlation between system factors. This way they quantify potential diversification effects between different sectors and countries.

[1] Economic EaD: Expected exposure amount taking into account a potential (partial) drawing of open lines and contingent liabilities that will adversely affect risk-bearing capacity in the event of default. For Public Finance securities the nominal is reported as EaD.

Rating architecture

A key component of Commerzbank's rating architecture is the use of single point of methodology rating procedures, which takes advantage of a central suite of computation kernels. This uniform process architecture not only facilitates risk management and monitoring but also lowers the risk of rating arbitrage within Commerzbank Group. In turn, the rating processes are in turn embedded in rating systems. In addition to the conventional methods of creditworthiness and risk assessment, these comprise all the processes for data collection, calculating ratings and monitoring and management.

The use of rating processes is an essential component of risk assessment in Commerzbank Group, irrespective of regulatory requirements. The resulting ratings are then used in the front and back office credit decision-making processes, the internal management processes to determine loan loss provisions under IFRS and in the internal measurement of the CVaR and risk-bearing capacity respectively. Rating processes which have already been approved are also being further revised and improved. These improvements make risk forecasts more accurate and improve management mechanisms.

The table below shows the rating processes used in the IRBA and their main elements as of the reporting date.

Table 6: IRBA rating procedure

Scope	Procedure	Hard facts	Soft facts	Overruling
Banks	RFI-BANK	▪	▪	▪
Countries	R-SCR	▪	▪	▪
Municipalities/federal states	R-LRG	▪		▪
Corporate customers	COSCO/R-CORP	▪	▪	▪
Financial Institutions (NBFI)	NBFI	▪	▪	▪
Private customers	CORES	▪		
Commercial real estate	RS-CRE	▪	▪	▪
Renewable energies	RS-REN	▪	▪	▪
Structured finance	RS-CFD	▪	▪	▪
Ship financing	RS-SHP	▪	▪	▪
ABS transactions (sponsors)	IAA	▪	▪	

Hard facts refer to system-based factors which are used in the rating process and allow no scope for interpretation. For instance, these may be data from companies' annual financial statements, the income of a private individual, or the age of the documents being used.

Soft facts refer to structured areas of analysis where the rating analyst needs to make an assessment and where there is therefore scope for discretion on a case-by-case basis. Examples include an assessment of management or the product quality of the customer being rated.

Overruling is a downstream area of analysis where there is a further opportunity for the analyst to assess circumstances separately based on his or her personal judgement. The system result can hereby be adjusted upwards or downwards. The relevant reason for the decision is documented. Overruling should particularly be used when there are strongly fluctuating developments (e.g. market changes) such that an adequate assessment of a company's situation based on the analysis of statistical information (e.g. annual financial statements) is not sufficient to give a future-oriented probability of default. Due to the degree of freedom this gives the rating process, overruling is subject to strict standards and regular monitoring.

The Commerzbank rating method comprises 25 rating classes for loans not in default (1.0 to 5.8) and five default classes (6.1 to 6.5). The Commerzbank master scale allocates a non-overlapping range of probabilities of default that are stable over time to each rating class. The rating methods are validated and recalibrated annually so that they reflect the latest projection based on all actual observed defaults. The default ranges assigned to the ratings are the same for all portfolios and remain stable over time. This ensures internal comparability consistent with the master scale method. For the purpose of guidance, the Commerzbank master scale shows external ratings as well as rating classes according to Article 136 CRR. However, a direct reconciliation is not possible, because external ratings of different portfolios show fluctuating default rates from year to year.

The credit approval authorities of both individual staff and the committees (full Board of Managing Directors, credit committee, credit sub-committees) are graduated amongst others by size of exposure and rating class.

Commerzbank master scale

Commerzbank AG rating	PD and EL mid-point %	PD and EL range %	S&P scale		Credit quality steps in accordance with Article 136 CRR[1]	
1.0	0	0	AAA	AAA	I	Investment grade
1.2	0.01	0–0.02				
1.4	0.02	0.02–0.03	AA+	AA		
1.6	0.04	0.03–0.05	AA, AA–		II	
1.8	0.07	0.05–0.08	A+, A	A		
2.0	0.11	0.08–0.13	A–			
2.2	0.17	0.13–0.21	BBB+	BBB	III	
2.4	0.26	0.21–0.31	BBB			
2.6	0.39	0.31–0.47				
2.8	0.57	0.47–0.68	BBB–			
3.0	0.81	0.68–0.96	BB+	BB	IV	Non-investment grade
3.2	1.14	0.96–1.34	BB			
3.4	1.56	1.34–1.81				
3.6	2.10	1.81–2.40	BB–			
3.8	2.74	2.40–3.10	B+	B	V	
4.0	3.50	3.10–3.90				
4.2	4.35	3.90–4.86	B			
4.4	5.42	4.86–6.04				
4.6	6.74	6.04–7.52				
4.8	8.39	7.52–9.35	B–			
5.0	10.43	9.35–11.64				
5.2	12.98	11.64–14.48	CCC+, CCC, CCC–, CC, C	CCC, CC, C	VI	
5.4	16.15	14.48–18.01				
5.6	20.09	18.01–22.41				
5.8	47.34	22.41–99.99				
6.1		>90 days past due				
6.2		Imminent insolvency				
6.3	100	Restructuring with recapitalisation	D			Default
6.4		Termination without insolvency				
6.5		Insolvency				

[1] CRR = Capital Requirements Regulation (EU) No 575/2013.

Commerzbank has defined an implementation plan for the successive transition of the SACR portfolios into the IRBA. As at 31 December 2015, Commerzbank has an AIRB coverage ratio at Group level of 94.8%, exceeding the AIRB exit threshold of 92% under section 10 of the Solvency Regulation (in the version applicable as at 1 January 2014). For loans and receivables that are not covered by the procedures approved by the supervisory authorities for the IRBA, the standardised approach for credit risk (SACR) applies, under which flat risk weightings are to be used or risk weightings are to be based on external assessments of the borrower's creditworthiness.

Risk parameters

In addition to classifying the default risk within the scope of the rating process, correctly assessing loss severity is essential for a reliable and holistic risk assessment. The loss severity is determined firstly by the exposure at default (EaD) and secondly by the loss given default (LGD).

When forecasting EaD unused credit lines and other contingent liabilities are included via credit conversion factors (CCFs). Depending on the transaction and the customer, the CCFs describe the probability of drawdown in the event of a default within the next twelve months.

The LGD is primarily determined by the expected proceeds from collateral and unsecured portions of loans. Proceeds from collateral are modelled via recovery rates representing a discount on the previously defined market value. The recovery rate depends on the characteristics of the collateral. For instance, when modelling for properties, the collateral is differentiated by property type and location. To determine the proceeds on unsecured portions of loans, the focus is primarily on the characteristics of the customer and the transaction.

The CCF and LGD models are based on bank-internal empirical loss data. For this purpose, Commerzbank refers to a database of internal credit defaults since 1997. New defaults are recorded continuously and are made available for statistical analysis once processing is complete. For quality assurance purposes, the data collection process is monitored by a number of controls and automatic checking procedures.

Both the internal and regulatory requirements of the CRR are taken into account when developing statistical models for estimating EaD and LGD. Discussions with experts from back office and debt workout departments play an important role when validating the results and identifying relevant factors. In instances where there is only a small number of historical default or collateral utilisation cases, the empirical analyses are supplemented with expert assessments. All of the models are regularly validated and recalibrated on the basis of the new findings. Empirically-based LGD and EaD parameters are used in all important internal processes at Commerzbank. The suitability of the models was verified by the Bundesbank and the BaFin as part of the inspection prior to the granting of authorisation for the advanced IRBA.

Finally, combining the above components yields an assessment of the expected loss (EL = EaD*PD*LGD) and the risk density as a ratio of EL to EaD (EL to EaD in basis points). The internal master scale is used to clearly allocate borrower PDs (customer ratings) and loan commitment risk densities (credit ratings) to the Bank's internal rating classes.

Validation

Pursuant to Article 185 CRR, all risk classification procedures are subject to a regular validation and calibration of parameters. Risk Management, which is independent of the front office units, is responsible for preparing the validation reports. Any particular irregularities and necessary changes are presented to the Bank's Strategic Risk Committee for approval. Regular monitoring of procedures is an additional system control element. To check the quality of the rating procedures, Internal Audit regularly reviews the methods and processes used and inspects validation and monitoring methods.

Detailed validation concepts are defining which analyses have to be carried out rotationally for the rating systems as well as for EaD and LGD models. In addition special topics can be scheduled during a model validation phase. All of the analysis results are grouped and evaluated using a traffic-light system. If the standards and limits that have been defined in the validation concept are not met, the specific causes must be established. Concrete steps must then be defined along with a timetable for implementing them. These steps may include, for instance, measures to improve data quality or a revision of the process in question.

Generally a distinction is made between quantitative and qualitative reviews of the models. Data quality aspects and statistical analyses are of specific interest in the quantitative validation. This involves comparing the model forecasts with the reality over the course of the assessment period. The quality of the forecasts is verified using statistical methods. Assessing the discriminatory power of rating procedures may involve using Gini coefficients, concordance indices and hit rate analyses, for instance. The calibration of procedures may be checked using various statistical tests, such as the Spiegelhalter or binomial test.

Depending on the type of model a different validation procedure to back-test each single model has to be applied, as described in the following:

- **Default/non-default rating procedure:** In default/non-default models, ratio selection, parameter estimates and calibration are mainly based on internal default periods. A check is therefore made during validation to ascertain whether the internally measured default rates tally with the predicted probabilities of default. Discriminatory power is also checked by calculating the AUC value, and the Gini coefficient respectively.
- **Shadow rating procedure:** The classic back-testing methods used for default/non-default models cannot normally be applied to portfolios with very few defaults. Consequently, back-testing in shadow rating procedures relies very heavily on comparisons with external ratings. Comparing the Bank's internal ratings with those of external agencies (Standard & Poor's, Moody's and FitchRatings) gives indications of how the Bank's credit rating estimates should be classified in relative terms. For this benchmarking, contingency tables, for example, are produced, variances analysed and the correlation coefficient determined according to Spearman. A benchmarking analysis is naturally only useful or possible if a large number of external ratings are available. If this is not the case, pseudo discriminatory power values, for example, can be calculated using either external or final internal ratings.

- **Hybrid models:** Hybrid models are basically mixtures of default/non–default models and shadow rating procedures. In some low-default portfolios, an internal data history has had time to develop. While this alone is not sufficient to develop a default/non-default model and corresponding validation, the available data history is yet being incorporated for validation or development purposes. The validation techniques of default/non-default models and shadow rating procedures are combined in these procedures.
- **Cash flow-based procedures:** In rating procedures for special funding, the customer's credit rating derives principally from the cash flows generated by the rating object. Typically, the rating procedures are therefore based on cash flow simulations using stochastic processes. The procedures are normally used in low default and low number respectively portfolios for which only very few external benchmarks exist. The models are therefore causally produced and often calibrated using expert knowledge. Direct comparisons of the predicted PDs with realised default rates and discriminatory power analyses using the AUC are not normally very meaningful due to the low number of defaults. The statistical testing of EaD and LGD predictions of these models are likewise difficult. Key elements of the validation of these procedures are descriptive analyses of the input data and comparisons of the cash flows and volatilities predicted by the users with actual cash flows.
- **Wholly expert-based PD procedures:** No external target criterion is available for these procedures and there are no cash flow simulations. Calibration is based wholly on expert knowledge. Validation is therefore very heavily reliant on expert know-how, as is the development. For the validation, the results produced by the procedure in particular are compared with the expert opinion, e.g. by evaluating the overruling pattern.
- **EaD and LGD models:** On the basis of additional default and loss data full-sample and out-of-sample tests are carried out through statistical backtests. In this context the validity of existing parameter differentiations and the discriminatory power of the applied risk factors have always to be analysed. Data quality and the representativeness of observations for future loss events are also important subjects of analyses.

The following table gives an overview of the quantitative validation procedures used for the individual rating procedures:

Table 7: Validation of IRBA rating procedures

	PD-Validation		EaD-/LGD-Validation	
Rating procedure	**Methodology**	**Data history** Years	**Methodology**	**Data history** Years
RFI-BANK	Shadowrating, Default/Non-Default	5	Calibrated empirically	16
R-SCR	Shadowrating	5	Calibrated empirically	16
R-LRG	Shadowrating	10	Expert-based	–
COSCO/R-CORP	Shadowrating, Default/Non-Default	5	Calibrated empirically	16
NBFI	Expert-based, Shadowrating	5	Expert-based	–
CORES	Default/Non-Default	5	Calibrated empirically	16
RS-CRE	Default/Non-Default, Shadowrating	5	Calibrated empirically	8
RS-CFD	Cashflow Simulation	5	Cashflow Simulation	8
RS-REN	Cashflow Simulation	5	Cashflow Simulation	8
RS-SHP	Cashflow Simulation	5	Cashflow Simulation	11
ABS IAA	IAA-Methods[1]	–	IAA-Methods[1]	–

[1] For internal classification procedure for securities see page 52.

Qualitative validation is carried out in cooperation with the users of the risk models and particularly takes procedural conditions into consideration. This includes compliance of the procedures with regulations, overruling analyses and the general user acceptance. For EaD and LGD procedures the precise technical implementation of parameters in all using systems has to be verified. Asset Quality Reviews established in the back office also guarantee a continuously reliable data quality and the implementation of the model true to the process. By way of example the monthly reporting of rating coverage to the Board of Managing Directors ensures that the portfolios are valued using up-to-date and valid rating analyses.

The validations carried out in 2015 were largely unremarkable. A conservative adjustment was made to loss ratios for ship financing. As part of ongoing model maintenance, procedural refinements were made in 2015 that had not been triggered by findings in validation. Additional information has been added to the rating procedure for natural persons (CORES), and it has been recalibrated. The calibration for sub-portfolios was revised regarding the rating procedure for commercial real estate financing (RS-CRE), but there was no material change to the overall risk assessment of the portfolio. The calibration of the rating procedure for banks (RFI-BANK) was also updated. Apart from that only minor changes were made to the rating procedures. The table below summarises the validation results for all separately calibrated AIRB parameters and sub-models under the different procedures, i.e. PD, LGD and EAD. It shows the cases in which the tolerance limits set by the corresponding validation concepts were exceeded, thereby making adjustments necessary.

Some of the changes went live in the fourth quarter 2015 and some were implemented in the productive systems at the turn of the year 2015/2016. Overall the measures are expected to reduce RWA by around €1.2bn. This will feed through fully until the end of 2016.

Table 8: Validation results

	PD		LGD		EaD	
Validation	**Number**	**EaD in %**	**Number**	**EaD in %**	**Number**	**EaD in %**
Adequate	41	72	288	88	26	97
Too conservative – adjustment necessary	3	20	25	10	2	3
Too progressive – adjustment necessary	1	8	5	2	3	0
Total	**45**	**100**	**318**	**100**	**31**	**100**

Risk mitigation

At Commerzbank, risk mitigation amongst others takes the form of collateral and netting.

The collateral mainly takes the form of mortgages on owner-occupied and rented residential properties, mortgages on commercial properties and various forms of guarantees. The ship finance portfolio is mostly backed by ship mortgages.

Within the scope of IRBA assessments, processes for offsetting collateral instruments were recognised; in particular this includes land charges, financial collateral, guarantees, indemnity letters, credit derivatives, life insurances, mortgage liens in the land register and other real collateral.

In the IRBA, the Bank takes account of credit risk mitigating effects arising from the receipt of eligible guarantees (guarantees/sureties, comparable claims on third parties) by using the risk parameters (PD and LGD) of the guarantor. Under the SACR, the Bank uses the risk weightings laid down by the supervisory authority.

As part of the assessment of their declaration of liability, guarantors are subject to a review of their creditworthiness and rating in accordance with the sector and business to which they belong. The aim of the creditworthiness review is to establish a guarantor's maximum ability to pay.

An overview of the main types of guarantors and credit derivatives' counterparties, broken down by rating classes, is given in the following two tables:

Table 9: Guarantors and credit derivatives' counterparties by main type and rating classes (IRBA)

IRBA Exposure €m	Rating 1 (0.00-0.08%)	Rating 2 (0.08-0.68%)	Rating 3 (0.68-3.10%)	Rating 4 (3.10-9.35%)	Rating 5 (9.35-99.99%)	Rating 6 (100%)	Total
Public sector, defence and social security	3,955	27	0	0	0	0	3,982
Banks and financial institutions	1,160	806	141	1	1	0	2,109
Insurance companies	340	1,238	6	0	0	0	1,583
Industries	98	1,704	121	18	15	0	1,956
Other service companies	90	200	187	29	2	0	508
Private households	98	45	7	3	2	0	155
Other	4	1	5	1	0	0	11
Total IRBA 2015	**5,746**	**4,020**	**466**	**51**	**19**	**0**	**10,302**
Total IRBA 2014	4,918	3,287	459	42	20	0	8,727

Table 10: Guarantors and credit derivatives' counterparties by main type and rating classes (SACR)

SACR | Exposure €m	AAA	AA	A	BBB	BB	n.a.	Total
Public sector, defence and social security	3,389	382	0	479	0	0	4,251
Banks	34	69	6	0	0	0	109
Private households	0	0	18	0	0	0	18
Other	0	0	0	0	0	69	69
Total KSA 2015	**3,424**	**451**	**24**	**480**	**0**	**69**	**4,447**
Total KSA 2014	182	5,226	3	18	1	78	5,509

In accordance with the CRR, the quality of the collateral received is subject to rigorous review and is continuously monitored. In particular, this includes establishing the legal enforceability of the collateral and ensuring that it is valued regularly. The recoverability of the collateral instruments is reviewed on a regular basis during the term of a loan as part of the regular credit processing. Depending on the collateral type, this takes place at adequate intervals, at least annually, and apart from that based on the occasion. Positive correlations between the creditworthiness of the borrower and the value of the collateral or guarantee are established in the lending process and collateral instruments affected are not offset. Processing the collateral for corporate customers is in the exclusive responsibility of the risk function's collateral management.

The Bank carries out collateral concentration analyses for all lending collateral (physical and personal collateral). Various aspects such as collateral category, borrower's rating class and regional allocation of the collateral are examined. With reference to these aspects, the Board of Managing Directors is kept informed on a regular basis of the development of the collateral pool and possible anomalies/concentrations.

The valuation and processing of collateral are governed by universally applicable standards and collateral-specific instructions (guidelines, manuals, descriptions of processes, IT instructions, legally validated standard contracts and samples). The standards established to hedge against or mitigate the risks of loans, which also take account of the regulatory requirements of CRR, include:

- Legal and operational standards for documentation and data collection as well as valuation standards.
- Standardisation and updating of the collateral valuation are ensured by: laying down valuation processes, prescribing standardised valuation methods, parameters and defined discounts for collateral, clearly defining responsibilities for the processing and valuation process, as well as the requirements for revaluations at regular intervals.
- Other standards for taking account of specific risks, e.g. operational risks, correlation and concentration risks, market price change risks (e.g. due to currency fluctuations), country risks, legal risks or risks of changes in the law, and risks of insufficient insurance cover.

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

Also for securities repurchase, 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. Guarantees and credit derivatives are taken into account via the substitution approach. The double-default procedure defined under Article 153 (3) CRR is applied.

Quantitative information on default risks

Commerzbank Group's IRBA portfolio

The IRBA portfolio of all Commerzbank Group companies included in this Disclosure Report is shown below, broken down into the relevant IRBA asset classes. The structuring of the rating classes corresponds to the Commerzbank internal management via the PD master scale. These have been grouped into five main classes for reasons of clarity. Rating classes 6.1 to 6.5 comprise borrowers in default according to IRBA regulations, whereby the IRBA definition of default is also used for internal purposes. The risk parameters PD and LGD are calculated as exposure-weighted averages; the same also applies to the average risk weighting (RW).

The IRBA exposure value refers to the risk exposure values to be defined according to Article 166 CRR. These represent the expected amounts of the IRBA position that will be exposed to a risk of loss. The risk exposure value for off-balance sheet default risk exposures is calculated by multiplying with a conversion factor.

Commerzbank Aktiengesellschaft, Hypothekenbank Frankfurt AG, mBank S.A. and comdirect bank AG use the advanced IRB approach. They may therefore use the 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.

In tables 11 to 15, only portfolios which fall under the scope of application of the IRBA and are rated with a rating process that has been approved by the supervisory authority are shown. Positions in the asset class other non-loan-related assets are not listed. These assets amounting to €2.7bn do not have any creditworthiness risks and are therefore not relevant for the management of default risks. Furthermore, mBank S.A. positions in the amount of €1.5bn are not included; they are subject to the IRBA slotting approach. Securitisation positions in the IRBA are presented separately in the securitisations section in this chapter.

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

- For derivative positions, there are differences in definitions between the exposures reported in the Annual Report and the regulatory figures presented in this 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 presented in this Disclosure Report relate to six entities within the Commerzbank Group considered important for disclosure. By contrast, the figures in the Annual Report relate to all companies that have to be consolidated according to IFRS.

All of the IRBA exposures are presented as follows:

Table 11: IRBA exposures (EaD) by rating class – on-balance and off-balance

		Investment Grade		Non-Investment Grade			Default	
Asset class €m		**Rating 1 (0.00-0.08%)**	**Rating 2 (0.08-0.68%)**	**Rating 3 (0.68-3.10%)**	**Rating 4 (3.10-9.35%)**	**Rating 5 (9.35-99.99%)**	**Rating 6 (100%)**	**Total**
Central governments or central banks	EaD	11,880	7,603	1,980	41	121	0	21,624
	LGD %	26.5	29.4	60.6	94.7	39.0	80.0	30.9
	PD %	0.0	0.3	1.2	6.0	17.8	100.0	0.3
	RW %	7.8	37.2	136.4	318.0	188.4	0.0	31.5
	RWA	922	2,830	2,701	130	228	0	6,811
Institutions	EaD	20,132	23,365	7,698	3,054	339	156	54,745
	LGD %	39.1	35.6	36.5	22.5	22.0	69.7	36.3
	PD %	0.0	0.3	1.5	6.4	25.0	100.0	1.2
	RW %	18.7	44.9	80.1	73.8	119.2	0.0	42.1
	RWA	3,761	10,480	6,168	2,255	404	0	23,066
Corporates	EaD	17,884	84,871	27,100	6,635	5,468	5,188	147,145
	LGD %	34.8	39.1	35	31	28	47	37
	PD %	0.0	0.3	1	5	41	100	6
	RW %	16.5	46.5	77	108	115	28	53
	RWA	2,948	39,446	20,739	7,160	6,303	1,472	78,069
thereof specialised lending	EaD	4,342	4,264	7,872	3,938	4,726	2,585	27,727
	LGD %	32.8	48.6	28.6	29.1	28.1	41.8	33.5
	PD %	0.0	0.3	1.4	5.4	44.6	100.0	18.1
	RW %	19.0	70.0	71.3	110.1	111.8	43.1	72.7
	RWA	826	2,985	5,611	4,335	5,285	1,115	20,158
thereof SMEs	EaD	1,327	6,856	4,121	965	320	649	14,238
	LGD %	35.8	32.2	37.1	35.4	31.2	57.6	35.3
	PD %	0.0	0.3	1.5	5.2	17.9	100.0	5.9
	RW %	15.6	33.6	73.3	96.1	125.5	42.2	50.1
	RWA	207	2,304	3,021	927	402	274	7,135
Retail	EaD	32,355	49,052	12,098	3,143	1,474	1,354	99,475
	LGD %	28.7	24.8	30.4	29.4	28.0	53.8	27.3
	PD %	0.0	0.3	1.4	5.3	20.1	100.0	2.1
	RW %	2.6	12.3	35.5	58.2	97.5	88.5	15.7
	RWA	827	6,046	4,290	1,829	1,437	1,198	15,627
Total	**EaD**	**82,250**	**164,892**	**48,876**	**12,873**	**7,401**	**6,698**	**322,990**
	LGD %	**32.2**	**33.9**	**35.0**	**29.0**	**28.3**	**49.2**	**33.6**
	PD %	**0.0**	**0.3**	**1.4**	**5.5**	**35.9**	**100.0**	**3.5**
	RW %	**10.3**	**35.7**	**69.4**	**88.4**	**113.1**	**39.9**	**38.3**
	RWA	**8,457**	**58,802**	**33,897**	**11,375**	**8,372**	**2,670**	**123,573**

Table 12: IRBA exposures (EaD) in retail banking by rating classes – on-balance and off-balance

		Investment Grade		Non-Investment Grade			Default	
Asset class €m		**Rating 1 (0.00-0.08%)**	**Rating 2 (0.08-0.68%)**	**Rating 3 (0.68-3.10%)**	**Rating 4 (3.10-9.35%)**	**Rating 5 (9.35-99.99%)**	**Rating 6 (100%)**	**Total**
Retail banking	**EaD**	**32,355**	**49,052**	**12,098**	**3,143**	**1,474**	**1,354**	**99,475**
	LGD %	**28.7**	**24.8**	**30.4**	**29.4**	**28.0**	**53.8**	**27.3**
	PD %	**0.0**	**0.3**	**1.4**	**5.3**	**20.1**	**100.0**	**2.1**
	RW %	**2.6**	**12.3**	**35.5**	**58.2**	**97.5**	**88.5**	**15.7**
	RWA	**827**	**6,046**	**4,290**	**1,829**	**1,437**	**1,198**	**15,627**
Secured by mortgages on immovable property, excluding SMEs	EaD	20,438	36,825	5,637	1,265	782	606	65,554
	LGD %	19.5	21.0	22.6	19.7	21.1	37.8	20.8
	PD %	0.0	0.3	1.3	5.4	20.4	100.0	1.6
	RW %	2.6	11.3	34.0	69.6	117.5	112.5	13.9
	RWA	522	4,161	1,914	880	920	682	9,080
Secured by mortgages on immovable property, SMEs	EaD	26	487	342	61	43	54	1,012
	LGD %	12.0	21.5	24.8	22.0	29.8	52.7	24.4
	PD %	0.1	0.3	1.3	5.7	19.0	100.0	7.0
	RW %	1.5	10.2	28.6	59.6	126.4	197.9	34.0
	RWA	0	50	98	36	54	106	344
Qualifying revolving	EaD	6,261	1,341	504	117	36	11	8,271
	LGD %	59.6	59.7	60.3	60.3	60.1	61.9	59.7
	PD %	0.0	0.3	1.4	5.3	16.8	100.0	0.4
	RW %	1.6	8.0	31.2	79.5	145.0	0.0	6.1
	RWA	98	107	157	93	52	0	508
Other, excluding SMEs	EaD	4,970	6,555	2,793	767	280	375	15,740
	LGD %	26.1	32.1	35.9	36.1	37.3	67.0	32.0
	PD %	0.0	0.3	1.4	5.1	21.6	100.0	3.4
	RW %	3.6	17.4	42.6	56.5	82.6	76.9	22.0
	RWA	177	1,140	1,188	433	231	289	3,457
Other, SMEs	EaD	659	3,843	2,823	933	333	307	8,898
	LGD %	38.3	36.5	36.0	33.8	32.7	69.1	37.2
	PD %	0.0	0.3	1.5	5.3	18.5	100.0	5.3
	RW %	4.4	15.3	33.0	41.5	54.2	39.3	25.2
	RWA	29	588	932	387	181	121	2,238

The following two tables solely show off-balance sheet IRBA-positions:

Table 13: IRBA exposures (EaD[1]) for off-balance sheet transactions by rating class – unutilised lending commitments

		Investment Grade		Non-Investment Grade			Default	
Asset class €m		**Rating 1 (0.00-0.08%)**	**Rating 2 (0.08-0.68%)**	**Rating 3 (0.68-3.10%)**	**Rating 4 (3.10-9.35%)**	**Rating 5 (9.35-99.99%)**	**Rating 6 (100%)**	**Total**
Central governments or central banks	Total sum	596	56	61	24	67	0	805
	Ø CCF (%)	45	46	48	41	49	45	46
	EaD	346	27	30	6	6	0	416
	Ø EaD	38	2	3	19	1,400	0	281
Institutions	Total sum	910	1,036	425	185	61	0	2,618
	Ø CCF (%)	45	47	40	54	50	0	47
	EaD	578	529	103	68	6	0	1,283
	Ø EaD	36	19	77	14	24	0	34
Corporates	Total sum	10,480	64,672	10,872	1,080	386	147	87,637
	Ø CCF (%)	45	48	48	49	46	44	47
	EaD	4,539	29,534	4,630	448	179	62	39,392
	Ø EaD	27	24	10	8	3	2	13
thereof specialised lending	Total sum	359	766	376	188	275	21	1,985
	Ø CCF (%)	49	48	49	51	49	55	49
	EaD	176	367	186	94	133	12	968
	Ø EaD	9	11	8	3	8	1	8
thereof SMEs	Total sum	385	1,922	1,011	170	34	24	3,547
	Ø CCF (%)	43	49	50	51	47	35	48
	EaD	166	950	501	88	15	8	1,728
	Ø EaD	1	5	1	1	1	1	2
Retail	Total sum	14,023	10,353	2,902	390	66	15	27,749
	Ø CCF (%)	71	73	78	79	108	32	81
	EaD	9,553	7,055	1,871	221	36	6	18,744
	Ø EaD	0	0	0	0	0	0	0
thereof secured by mortgages on immovable property, SMEs	Total sum	0	20	30	3	1	0	54
	Ø CCF (%)	100	88	115	125	280	0	143
	EaD	0	18	32	3	1	0	54
	Ø EaD	0	0	0	0	0	0	0
thereof secured by mortgages on immovable property, excluding SMEs	Total sum	1,507	3,024	585	35	2	0	5,154
	Ø CCF (%)	99	99	100	98	84	18	93
	EaD	1,495	2,995	584	35	2	0	5,112
	Ø EaD	0	0	0	0	0	0	0
thereof qualified revolving	Total sum	9,225	1,626	399	54	9	0	11,314
	Ø CCF (%)	66	64	61	61	63	58	63
	EaD	6,113	1,039	244	33	6	0	7,435
	Ø EaD	0	0	0	0	0	0	0
thereof other SMEs	Total sum	963	3,897	1,344	219	41	7	6,471
	Ø CCF (%)	44	47	49	47	47	40	47
	EaD	420	1,809	660	102	19	3	3,012
	Ø EaD	1	1	1	0	0	0	1
thereof other, excluding SMEs	Total sum	2,328	1,786	543	78	14	7	4,756
	Ø CCF (%)	64	67	64	62	66	46	64
	EaD	1,525	1,194	352	48	9	3	3,130
	Ø EaD	1	0	0	0	0	0	0
Total	**Total sum**	**26,009**	**76,118**	**14,259**	**1,679**	**581**	**161**	**118,808**
	Ø CCF (%)	**56**	**60**	**62**	**64**	**78**	**38**	**64**
	EaD	**15,016**	**37,145**	**6,634**	**743**	**227**	**68**	**59,835**
	Ø EaD	**18**	**9**	**11**	**6**	**146**	**1**	**38**

[1] EaD is calculated from the assessment basis, CCFs, collateral deposits and withdrawals, and substitution effects.

Table 14: IRBA exposures (EaD[1]) for off-balance sheet transactions by rating class – other unutilised non-derivative off-balance sheet assets[2]

		Investment Grade		Non-Investment Grade			Default	
Asset class €m		**Rating 1 (0.00-0.08%)**	**Rating 2 (0.08-0.68%)**	**Rating 3 (0.68-3.10%)**	**Rating 4 (3.10-9.35%)**	**Rating 5 (9.35-99.99%)**	**Rating 6 (100%)**	**Total**
Central governments or central banks	Total sum	142	125	95	29	389	0	780
	Ø CCF (%)	38	42	43	47	25	0	39
	EaD	94	77	39	14	58	0	282
	Ø EaD	1	1	0	0	7	0	2
Institutions	Total sum	1,309	2,765	1,975	2,278	367	19	8,714
	Ø CCF (%)	42	41	45	47	46	43	44
	EaD	785	1,228	854	934	144	7	3,953
	Ø EaD	39	7	6	32	2	6	15
Corporates	Total sum	3,289	17,414	4,098	645	212	237	25,893
	Ø CCF (%)	23	32	33	33	29	29	31
	EaD	1,051	6,595	876	168	56	63	8,809
	Ø EaD	7	15	5	1	1	1	5
thereof specialised lending	Total sum	156	416	86	45	50	17	770
	Ø CCF (%)	20	36	40	39	27	21	33
	EaD	32	205	38	23	12	3	314
	Ø EaD	1	10	1	1	0	1	3
thereof SMEs	Total sum	225	1,119	396	91	32	28	1,892
	Ø CCF (%)	20	23	33	34	36	38	30
	EaD	45	247	125	29	9	10	465
	Ø EaD	0	1	1	0	1	0	1
Retail	Total sum	180	529	175	46	13	21	963
	Ø CCF (%)	26	30	26	29	27	29	28
	EaD	50	133	44	12	4	7	249
	Ø EaD	0	0	0	0	0	0	0
thereof secured by mortgages on immovable property, SMEs	Total sum	0	0	0	0	0	0	0
	Ø CCF (%)	0	0	0	0	0	0	0
	EaD	0	0	0	0	0	0	0
	Ø EaD	0	0	0	0	0	0	0
thereof secured by mortgages on immovable property, excluding SMEs	Total sum	0	0	0	0	0	0	0
	Ø CCF (%)	0	0	0	0	0	0	0
	EaD	0	0	0	0	0	0	0
	Ø EaD	0	0	0	0	0	0	0
thereof qualified revolving	Total sum	0	0	0	0	0	0	0
	Ø CCF (%)	0	0	0	0	0	0	0
	EaD	0	0	0	0	0	0	0
	Ø EaD	0	0	0	0	0	0	0
thereof other SMEs	Total sum	100	458	152	41	11	17	779
	Ø CCF (%)	23	24	26	26	32	34	27
	EaD	26	107	38	10	3	6	190
	Ø EaD	0	0	0	0	0	0	0
thereof other, excluding SMEs	Total sum	79	71	22	5	1	4	184
	Ø CCF (%)	29	36	26	31	22	24	28
	EaD	24	26	6	2	0	1	60
	Ø EaD	0	0	0	0	0	0	0
Total	**Total sum**	**4,919**	**20,833**	**6,343**	**2,998**	**981**	**277**	**36,351**
	Ø CCF (%)	**30**	**34**	**34**	**36**	**30**	**31**	**33**
	EaD	**1,980**	**8,034**	**1,813**	**1,129**	**261**	**77**	**13,294**
	Ø EaD	**8**	**8**	**3**	**5**	**2**	**1**	**5**

[1] EaD is calculated from the assessment basis, CCFs, collateral deposits and withdrawals, and substitution effects. [2] Securities lending and repurchase transactions are not included.

The following table shows the scope of the credit risk mitigation effects of financial collateral, guarantees, credit derivatives, mortgage liens and life insurances under the IRBA. In addition to the collateral in the SACR, in IRBA some physical and other collateral which is only eligible for recognition under the IRBA, is also offset. In the table below, financial collateral and IRBA collateral are shown separately from the guarantees.

Table 15: Total collateralised IRBA exposures (EaD)[1]

Asset class €m	Financial collateral	Guarantees	Life insurances	Credit derivatives	Mortgage liens	Other IRBA-collateral[2]	Total
Central governments or central banks	52	279	0	0	0	0	332
Institutions	2,059	2,741	0	5	17	23	4,846
Corporates	3,233	6,496	158	559	10,611	3,856	24,912
thereof specialised lending	14	0	0	0	5,277	0	5,290
thereof SMEs	581	689	59	0	3,024	924	5,276
Retail	1,985	323	1,182	0	46,759	258	50,507
Secured by mortgages on immovable property	766	24	890	0	41,376	1	43,057
thereof SMEs	11	17	9	0	827	0	865
Qualifying revolving	0	0	0	0	0	0	0
Other	1,219	299	292	0	5,383	257	7,450
thereof SMEs	171	232	41	0	904	255	1,603
Other non credit-obligation assets	0	0	0	0	0	0	0
Total 2015	**7,330**	**9,840**	**1,339**	**563**	**57,387**	**4,137**	**80,596**
Total 2014	7,725	8,336	1,445	316	56,730	4,030	78,582

[1] For reasons of materiality, secured investment positions are not represented.
[2] Exposures secured by mortgage liens on residential and commercial property do not form an asset class of their own under the IRBA. They are therefore shown under other IRBA collateral. Mortgage liens in the land register also fall into this category.

The calculation of collateral is based on market values weighted with recovery rates. These recovery rates are based on empirical data and form part of the LGD models. By definition, the rates cannot exceed 100%; therefore, the figures shown are normally lower than the market values. By contrast, under the IRBA the so-called substitution approach to offset guarantees and credit derivatives is used. The protection does therefore not take effect in the LGD as is the case with financial and other IRBA collateral but via the substitution of the debtor's risk parameters with those of the guarantor. Alternatively, the double-default procedure may be used in the IRBA.

Table 51 in the Appendix contains an overview of the credit risk parameters PD and LGD by relevant geographical location (countries in which Commerzbank has been authorised or has a branch or a subsidiary).

Commerzbank Group's SACR portfolio

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. 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.

External ratings for positions in local currency are not used to derive risk weightings for foreign currency exposures.

SACR portfolio by risk weightings The risk weightings determined by external ratings or flat risk weightings and the allocations of the exposures to these risk weightings are shown below. The table shows the SACR exposures (EaD) before and after credit risk mitigation (CRM) according to part 3 title II chapter 4 CRR.

Table 16: Exposures in the Standard Approach to Credit Risk – before credit risk mitigation

	Risk weightings (RW)[1]											
Asset class **€m**	**0%**	**2%**	**10%**	**20%**	**35%**	**50%**	**75%**	**100%**	**150%**	**250%**	**Other RW**	**Total**
Central gov. or central banks	38,378	0	0	0	0	192	0	0	0	0	0	38,571
Regional gov. or local authorities	19,100	0	0	7,756	0	542	0	258	0	0	0	27,656
Public-sector entities	8,284	0	0	884	0	24	0	0	0	0	0	9,191
Multilateral development banks	277	0	0	0	0	0	0	0	0	0	0	277
International organisations	341	0	0	0	0	0	0	0	0	0	0	341
Institutions	638	4,055	0	3,906	0	261	0	0	0	0	0	8,860
Corporates	0	568	0	2,308	0	1,870	0	10,107	402	0	0	15,255
thereof SMEs	0	0	0	0	0	97	0	743	0	0	0	840
Retail	0	0	0	0	0	0	1,428	0	0	0	0	1,428
thereof SMEs	0	0	0	0	0	0	28	0	0	0	0	28
Secured by mortgages on immovable property	0	0	0	0	1,236	416	3	41	0	0	0	1,696
thereof SMEs	0	0	0	0	0	0	0	0	0	0	0	0
Defaulted positions	0	0	0	0	0	0	0	291	101	0	0	392
Particularly high risk exposures	0	0	0	0	0	0	0	0	37	0	0	37
Covered bonds	0	0	0	101	0	0	0	0	0	0	0	101
Collective investment undertakings	0	0	0	0	0	0	0	260	0	0	489	749
Other items	0	0	0	0	0	0	0	453	0	2,717	0	3,170
Equity exposures	0	0	0	0	0	0	0	550	0	207	0	756
Total 2015	**67,019**	**4,622**	**0**	**14,955**	**1,236**	**3,305**	**1,432**	**11,959**	**539**	**2,924**	**489**	**108,480**
Total 2014	91,178	2,208	37	11,815	1,054	5,471	1,875	10,836	1,835	2,628	6,184	135,128

[1] No positions in RW 70%.

Table 17: Exposures in the Standard Approach to Credit Risk – after credit risk mitigation

	Risk weightings (RW)[1]											
Asset class **€m**	**0%**	**2%**	**10%**	**20%**	**35%**	**50%**	**75%**	**100%**	**150%**	**250%**	**Other RW**	**Total**
Central gov. or central banks	43,362	0	0	41	0	432	0	0	0	0	0	43,835
Regional gov. or local authorities	21,964	0	0	7,846	0	574	0	258	0	0	0	30,641
Public-sector entities	8,713	0	0	896	0	11	0	0	0	0	0	9,620
Multilateral development banks	340	0	0	0	0	0	0	0	0	0	0	340
International organisations	341	0	0	0	0	0	0	0	0	0	0	341
Institutions	639	4,055	0	3,972	0	285	0	0	0	0	0	8,951
Corporates	0	568	0	1,587	1	288	0	7,170	402	0	0	10,015
thereof SMEs	0	0	0	0	0	8	0	564	0	0	0	572
Retail	0	0	0	0	0	0	1,248	0	0	0	0	1,248
thereof SMEs	0	0	0	0	0	0	20	0	0	0	0	20
Secured by mortgages on immovable property	0	0	0	0	1,236	416	3	40	0	0	0	1,695
thereof SMEs	0	0	0	0	2	8	0	0	0	0	0	10
Defaulted positions	0	0	0	0	0	0	0	269	95	0	0	364
Particularly high risk exposures	0	0	0	0	0	0	0	0	37	0	0	37
Covered bonds	0	0	0	101	0	0	0	0	0	0	0	101
Collective investment undertakings	0	0	0	0	0	0	0	260	0	0	489	749
Other items	0	0	0	0	0	0	0	453	0	2,717	0	3,170
Equity exposures	0	0	0	0	0	0	0	550	0	207	0	756
Total 2015	**75,359**	**4,622**	**0**	**14,442**	**1,238**	**2,006**	**1,251**	**8,998**	**533**	**2,924**	**489**	**111,862**
Total 2014	94,508	2,208	37	10,998	1,057	3,654	1,533	9,211	1,374	2,628	6,184	133,398

[1] No positions in RW 70%.

In order to mitigate credit risk in the SACR, Commerzbank Group takes financial collateral and guarantees into consideration. These will be dealt with separately in the section risk mitigation. Furthermore, collateral in the form of property charges also reduce the risk weighting.

To determine the SACR exposure before credit risk mitigation, the nominal value before credit risk mitigation is multiplied by the respective SACR conversion factor in accordance with Article 111 CRR. The risk exposure after credit risk mitigation corresponds to the value of the exposure reduced by the amount of the collateral value taking into account the conversion factors. For the SACR exposure, in contrast to the IRBA, the valuation allowances based on each of the positions are deducted.

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 risk weighting class to that of the guarantor. However, this shift only takes place if the risk weighting of the guarantor is lower than that of the borrower. This is why the exposure before CRM for assets guaranteed by central governments and central banks for example is less than after CRM. This can be seen in the table under the 0% risk weighting.

Past due positions are shown with a risk weighting of 150%. Depending on the valuation allowances based on them (SLLP, Port LLP impaired) or the collateral, a risk weighting of 100% can be applied or this may lead to a shift to a lower risk weighting class, respectively.

The following table shows the scope of the credit risk mitigation effects of financial collateral, guarantees, life insurances, credit derivatives and mortgage liens and under the SACR. The effectively secured exposures, i.e. taking into consideration all of the relevant haircuts for the collateral, are allocated to the SACR asset class. In taking financial collateral into account as a credit-risk mitigating technique, Commerzbank generally uses the comprehensive method as defined under Articles 223 to 228 CRR. In doing so, the risk exposure value for the default risk position is reduced by the value of the financial collateral.

Table 18: Collateralised SACR risk exposures[1]

Asset class €m	Financial collateral	Guarantees	Life insurances	Credit derivatives	Mortgage liens	Total
Central gov. or central banks	0	0	0	0	0	0
Regional governments or local authorities	2	0	0	0	0	2
Public-sector entities	0	14	0	0	0	14
Institutions	14	11	0	0	0	25
Corporates	646	4,361	10	0	304	5,322
thereof SMEs	165	97	0	0	8	271
Retail	140	34	6	0	952	1,132
thereof SMEs	7	0	0	0	1	8
Secured by mortgages on immovable property	0	1	0	0	396	397
thereof SMEs	0	0	0	0	0	0
Defaulted positions	1	27	0	0	50	77
Total 2015	**803**	**4,447**	**16**	**0**	**1,702**	**6,969**
Total 2014	2,841	5,509	23	0	1,617	9,989

[1] For reasons of materiality, secured investment positions are not presented.

The secured positions shown under mortgage liens are the exposures that are allocated to the SACR asset class exposures secured by immovable property. For the purposes of comparability with the figures shown under the IRBA, this asset class is not presented separately and, instead, the exposures secured by immovable property are classified by the respective asset class of the borrower.

Overarching portfolio analyses

This section provides an overview of the total portfolio containing default risks with an assessment basis[1] amounting to €526bn as at 31 December 2015.

We show the sum of SACR and IBRA positions with their assessment basis (risk exposure value), as defined in Article 111 ff. and 151 ff. CRR. The IRBA assessment basis for loans represents the amount claimed by the customer. Unlike the volume of assets determined in accordance with IFRS accounting standards, valuation allowances are not deducted. Off-balance sheet positions relate to the amount committed to but not yet claimed by the customer. A weighting with the conversion factor does not take place. For securities, the IRBA assessment basis is determined from the highest value of the acquisition costs or the sum of the carrying amount and default risk-related write-downs. For derivative positions, the credit equivalent amount as defined in Article 271 ff. CRR is applied. The SACR assessment basis is calculated using the IFRS carrying value of the positions giving consideration to the write-downs of the last approved annual financial statement. The assessment basis includes all positions subject to credit risks regardless of whether the positions are listed in the banking or the trading book.

Effectively securitised positions are not included in the tables below. In accordance with Articles 243 and 244 CRR, positions are deemed to be effectively securitised if there has been an effective and operative transfer of risk. This applies regardless of whether these are traditionally or synthetically securitised positions. Securitisation positions arising from Group companies included in this Disclosure Report acting as investors or sponsors have also not been shown. Due to their particular significance, these are shown in the separate chapter on securitisations.

Other non-loan-related assets and other items, respectively, are only listed when they are characterised as claims. These are mainly cash items in the process of collection and accrued items. Other non-loan-related assets which are largely formed through tangible assets as well as other positions which are not characterised as claims are not included in the following tables. Only positions exposed to credit risks are shown.

[1] Original risk position before applying conversion factors.

The selected country clusters correspond to the geographical classification of the assessment basis used for internal purposes.

Table 19: Assessment basis by country cluster (independent of segment classification)

Asset class €m	Germany	Western Europe (without Germany)	Central and Eastern Europe	North America	Asia	Other	Total
SACR							
Central gov. or central banks	9,895	18,911	9,439	305	0	126	38,676
Regional governments or local authorities	18,184	7,406	303	2,715	141	0	28,748
Public-sector entities	8,888	250	26	206	0	0	9,370
Multilateral development banks	0	0	0	0	0	277	277
International organisations	0	0	0	0	0	341	341
Institutions	3,129	4,668	32	267	194	671	8,961
Corporates	3,725	6,185	2,768	2,787	302	230	15,997
thereof SMEs	72	159	732	0	0	58	1,021
Retail	4,398	87	735	5	17	30	5,271
thereof SMEs	36	20	9	0	1	21	87
Secured by mortgages on immovable property	711	20	972	0	2	0	1,705
thereof SMEs	10	0	0	0	0	0	10
Defaulted positions	161	375	211	22	11	0	781
Positions of particularly high risk	35	1	0	0	0	0	37
Covered bonds	0	101	0	0	0	0	101
Institutions/corporates with short-term credit assessment	0	0	0	0	0	0	0
Collective investment undertakings	748	0	1	0	0	0	749
Other items	2,599	64	113	0	0	0	2,776
Total SACR	**52,474**	**38,069**	**14,599**	**6,306**	**667**	**1,675**	**113,789**
IRBA							
Central gov. or central banks	239	4,821	837	7,642	6,004	2,707	22,250
Institutions	6,739	23,420	3,516	5,610	14,566	8,780	62,632
Corporates	106,668	68,018	12,679	14,140	8,656	6,246	216,407
thereof specialised lending	13,489	12,076	2,425	461	208	2,312	30,971
thereof SMEs	13,469	782	3,289	298	101	15	17,954
Retail	96,286	1,036	11,289	159	331	127	109,227
Secured by mortgages on immovable property	58,434	576	7,352	93	135	43	66,633
thereof SMEs	479	4	543	4	0	0	1,030
Qualifying revolving	11,930	110	19	22	34	35	12,149
Other	25,922	350	3,918	45	161	50	30,445
thereof SMEs	11,513	74	1,421	14	77	1	13,100
Other non credit-obligation assets	1,422	13	307	0	0	9	1,752
Total IRBA	**211,355**	**97,308**	**28,628**	**27,550**	**29,558**	**17,869**	**412,268**
Total 2015	**263,828**	**135,377**	**43,227**	**33,857**	**30,225**	**19,543**	**526,057**

The breakdown by sector is based on a system used internally and relates to the systematic of the Federal Statistical Office.

Table 20: Assessment basis by sector

Asset class €m	Financial services	Manufacturing industry[1]	Public sector[2]	Other services[3]	Private households	Other	Total
SACR							
Central gov. or central banks	5,179	0	33,275	4	218	0	38,676
Regional governments or local authorities	0	0	28,736	2	0	10	28,748
Public-sector entities	2,990	103	5,661	579	22	16	9,370
Multilateral development banks	277	0	0	0	0	0	277
International organisations	0	0	341	0	0	0	341
Institutions	7,366	132	251	1,184	27	3	8,961
Corporates	5,255	3,830	628	5,662	493	128	15,997
thereof SMEs	288	285	0	316	119	13	1,021
Retail	59	76	0	388	4,736	12	5,271
thereof SMEs	34	8	0	15	30	0	87
Secured by mortgages on immovable property	25	60	0	490	1,130	1	1,705
thereof SMEs	1	0	0	9	0	0	10
Defaulted positions	379	139	10	161	86	6	781
Positions of particularly high risk	37	0	0	0	0	0	37
Covered bonds	101	0	0	0	0	0	101
Institutions/corporates with short-term credit assessment	0	0	0	0	0	0	0
Collective investment undertakings	199	1	0	549	0	0	749
Other items	42	5	2,717	12	0	0	2,776
Total SACR	**21,908**	**4,345**	**71,618**	**9,031**	**6,711**	**176**	**113,789**
IRBA							
Central gov. or central banks	8,768	0	12,738	742	1	0	22,250
Institute	57,097	810	3,034	923	635	133	62,632
Corporates	19,852	111,974	1	82,267	1,096	1,216	216,407
thereof specialised lending	2,519	9,313	0	19,045	62	32	30,971
thereof SMEs	617	7,552	0	9,323	280	182	17,954
Retail	1,139	7,305	0	19,616	80,715	452	109,227
Secured by mortgages on immovable property	692	1,379	0	8,341	56,072	148	66,633
thereof SMEs	10	13	0	461	544	3	1,030
Qualifying revolving	0	0	0	0	12,149	0	12,149
Other	446	5,926	0	11,275	12,494	304	30,445
thereof SMEs	159	5,169	0	6,661	931	179	13,100
Other non credit-obligation assets	11	107	59	1,105	470	0	1,752
Total IRBA	**86,867**	**120,196**	**15,833**	**104,654**	**82,918**	**1,801**	**412,268**
Total 2015	**108,775**	**124,541**	**87,450**	**113,685**	**89,629**	**1,977**	**526,057**

[1] Including water supply.
[2] Public sector, defence and social security.
[3] Amongst others commerce, transport, corporate and personal related services.

The breakdown according to residual term is based on maturity. Overnight receivables include call and overnight transactions and credit lines that can be terminated at any time.

Table 21: Assessment basis by time to maturity

Asset class | €m	Due on demand	>1 day to 3 months	>3 months to 1 year	>1 year to 5 years	Over 5 years	Total
SACR						
Central gov. or central banks	7,665	2,492	2,042	11,215	15,262	38,676
Regional governments or local authorities	1,216	479	1,347	7,690	18,016	28,748
Public-sector entities	72	844	3,768	3,050	1,636	9,370
Multilateral development banks	0	0	0	0	277	277
International organisations	0	0	161	113	68	341
Institutions	2,750	1,099	2,899	1,148	1,063	8,961
Corporates	3,236	808	860	2,658	8,435	15,997
thereof SMEs	143	76	244	330	228	1,021
Retail	4,392	34	91	140	614	5,271
thereof SMEs	62	3	7	12	4	87
Secured by mortgages on immovable property	497	5	30	137	1,036	1,705
thereof SMEs	1	0	0	1	8	10
Defaulted positions	209	5	177	341	47	781
Particularly high risk positions	37	0	0	0	0	37
Covered bonds	0	0	0	101	0	101
Institutions/corporates with short-term credit assessment	0	0	0	0	0	0
Collective investment undertakings	1	0	0	0	748	749
Other items	59	0	1	0	2,717	2,776
Total SACR	**20,134**	**5,768**	**11,375**	**26,594**	**49,920**	**113,789**
IRBA						
Central gov. or central banks	7,213	3,672	1,375	4,164	5,825	22,250
Institutions	13,646	6,812	14,989	15,602	11,584	62,632
Corporates	53,807	18,059	27,086	78,233	39,222	216,407
thereof specialised lending	3,490	844	2,890	11,876	11,870	30,971
thereof SMEs	4,244	1,721	2,853	3,873	5,263	17,954
Retail	26,073	1,728	5,875	8,612	66,939	109,227
Secured by mortgages on immovable property	235	309	2,955	5,275	57,859	66,633
thereof SMEs	3	3	12	56	957	1,030
Qualifying revolving	12,140	4	3	2	0	12,149
Other	13,698	1,415	2,918	3,334	9,080	30,445
thereof SMEs	8,910	688	958	1,431	1,113	13,100
Other non credit-obligation assets	1,468	0	0	0	284	1,752
Total IRBA	**102,207**	**30,271**	**49,325**	**106,611**	**123,853**	**412,268**
Total 2015	**122,341**	**36,039**	**60,699**	**133,205**	**173,773**	**526,057**
Total 2014	108,269	39,899	59,285	130,786	201,538	539,777

Default risks arising from derivative positions

In addition to market risks, derivative positions also give rise to default risks when a claim arises against the counterparty in the form of positive market values.

Commerzbank also looks at the so-called wrong way risk. This occurs when a counterparty's exposure and credit quality are negatively correlated. Wrong way risk is therefore an additional risk source, as the exposure is generally measured independently from the counterparty's creditworthiness.

The derivative positions shown in the tables below do not include securitisation positions as defined in CRR as these are shown in the securitisations chapter. This means that interest rate and currency swaps or credit derivative transactions entered into with special-purpose securitisation companies are not included.

Table 22: Positive replacement values by risk type before/after netting/collateral

	Replacement values	
Risk type | €m	**2015**	**2014**
Interest rate risk	119,317	168,985
Currency risk	14,993	16,792
Equity risk	3,094	2,950
Precious metal risk	151	208
Commodity price risk	2,710	2,329
Credit derivatives	2,344	2,447
Collateral	22,489	23,280
Replacement values before netting/collateral	**165,098**	**216,991**
Nettable value	132,406	180,227
Eligible collateral	16,077	15,497
Replacement values after netting/collateral	**16,615**	**21,267**

The positive market values listed in the table are the expenses which would be incurred by the Bank to replace the contracts originally concluded with transactions of an equivalent financial value. From the Bank's point of view, a positive market value thus indicates the maximum potential counterparty-specific default risk. The positive market value is understood as a replacement value in the regulatory sense. The amounts shown in the table reflect the positive replacement values before taking related collateral into account and before exercising offsetting agreements. The replacement values are broken down according to risk types in the contracts involved. The collateral provided for derivative positions is shown as a separate risk type as it cannot be allocated to other specific risk types.

The replacement values arising from equity risk relate to the derivative default risk positions from financial instruments of risk type equity pursuant to Article 4 (50) c) CRR and do not take the rules for embedded derivatives pursuant to IAS 39 into account. From 2015 on, listed derivatives are included as well (previous year's values were adjusted accordingly). The proportion of derivatives processed via a central counterparty was 40% as at the end of the year.

In order to minimise both the economic and the regulatory credit risk arising from these instruments, Commerzbank concludes master agreements (bilateral netting agreements) such as the 2002 ISDA Master Agreement or the German Master Agreement for Financial Futures with the respective business partners. By means of such bilateral netting agreements, the positive and negative fair values of the derivatives contracts included under a master agreement can be offset against one another and the future regulatory risk add-ons for these products can be reduced. This netting process reduces the credit risk to a single net claim on the contracting party (close-out netting).

For both regulatory reports and the internal measurement and monitoring of the credit commitments, these risk-mitigating techniques are only used if Commerzbank considers them enforceable in the jurisdiction in question, should the counterparty become insolvent. Legal opinions are obtained from various international law firms in order to verify enforceability.

Similar to the master agreements are the collateral agreements (e.g. collateral annex for financial futures contracts, credit support annex), which Commerzbank concludes with its business associates to secure the net claim or liability remaining after netting (receipt or provision of collateral). As a rule, this collateral management reduces credit risk by means of prompt – mostly daily or weekly – measurement and adjustment of the customer exposure. The – mostly cash – collateral and netting opportunities shown in the aforementioned table reduce the exposure to counterparties to €16,615m (2014: €21,267m).

The basis for determining the offset amounts for the default risk from derivative positions is not the positive market values but instead the credit equivalent values. To determine the assessment basis of derivative default risk positions, Commerzbank uses the internal model method (IMM) pursuant to Article 283 ff. CRR and the market valuation method pursuant to Article 274 CRR.

The approach to risk quantification under the IMM is generally based on a risk simulation which generates future market scenarios and creates portfolio valuations based on these scenarios. Netting and collateral agreements are taken into account.

In applying the internal model method, the EaD is defined per counterparty as the product of the alpha factor and the calculated effective expected positive exposure E*. Risks that are not taken into account when determining E*, correlation risks for example, are included in the capital adequacy calculation through the alpha factor. Banks can either estimate the alpha factor themselves or use the supervisory value of 1.4. Commerzbank does not estimate its own alpha factor, preferring instead to use the supervisory value to calculate exposure at default.

The credit equivalent values for the counterparty default risk from derivative positions – including exchange-traded derivatives – used to determine the (net) assessment basis amounted to €12,108m at the end of 2015 using the market valuation method and €16,426m using the internal model method. Credit equivalent values effectively correspond to the exposures of on-balance sheet default risk positions as a credit conversion factor of 100% is applied to derivative positions.

All operative units, branches and subsidiaries are, subject to compliance with the regulations, authorised to use credit derivatives to hedge credit risks in loan portfolios (i.e. purchase of hedges). This allows them to hedge credit risks with a credit derivative without having to sell or assign the loan.

Table 23: Breakdown of credit derivative business in the banking and trading book

	Banking book		Trading book	
Type of credit derivative Nominal value | €m	**Buy position**	**Sell position**	**Buy position**	**Sell position**
Credit Default Swap	5,048	3,725	30,227	32,822
Total Return Swap	0	0	4,055	0
Total 2015	**5,048**	**3,725**	**34,282**	**32,822**
Total 2014	4,796	3,410	44,865	42,614

Contractual agreements that oblige Commerzbank to provide additional collateral to its counterparties in the event of a downgrading of its own rating are governed in the Credit Support Annexes which are established as part of the netting master agreements for the OTC derivative business.

The counterparty ratings (from Standard & Poor's, Moody's and FitchRatings) are automatically uploaded on a daily basis via interfaces with Reuters, Telerate or Bloomberg into the collateral management system, which can simulate downgrade scenarios if necessary. This makes it possible to carry out an advance analysis of the potential effects on the collateral amounts. Commerzbank regularly reviews these collateral amounts as part of its stress test assuming a simultaneous two-notch downgrade by the three big rating agencies.

The results of this stress test are shown in the table below:

Table 24: Additional contractual obligations

Additional contractual obligations | €m	
Contractual derivative outflows and margin calls	584
thereof collateralised interest rate derivatives	100
thereof uncollateralised interest rate derivatives	484
Other contractual outflows and margin calls	33
Total 2015	**617**
Total 2014	617

As a part of the new regulatory requirements of Basel 3, Commerzbank Group additionally calculated in 2015 the capital requirements for credit value adjustments (CVA risk) according to Article 381 ff. CRR. For the portfolios of Commerzbank Aktiengesellschaft, CVA risk is calculated by use of the advanced method according to Article 383 CRR with a sensitivity based approach. For the Group's subsidiaries the Standardised approach according to Article 384 CRR is applied. As at 31 December 2015 there were eligible hedges according to Article 386 CRR (iTraxx senior financials in the amount of €550m and single name CDS in the amount of €2m). The capital requirements for CVA risk amounted to €497m (€6,208m RWA) as at 31 December 2015.

Loan loss provisions for default risks

The responsibility for processing non-performing loans for the Core Bank lies with Group Intensive Care, whereas Group Risk Management – Credit Risk NCA is responsible for the Non-Core Assets segment. These two areas bring together the specific expert knowledge needed to support customers undergoing restructuring and to successfully process default commitments including collateral realisation.

The lending risks reported under the IFRS category LaR are taken into account by forming specific loan loss provisions (SLLP), portfolio loan loss provisions (PLLP) and general loan loss provisions (GLLP) for on- and off-balance sheet loan assets on the basis of the rules and regulations according to IAS 37 and 39.

When determining loan loss provisions, the fundamental criteria include whether the claims are in default or not and whether the claims are insignificant (exposure up to €3m) or significant (exposure over €3m).

All claims which are in default under the Basel regulations are defined as in default or non-performing. The following events are decisive in determining the default of a customer:

- Imminent insolvency (over 90 days past due).
- The Bank is assisting in the financial rescue/restructuring measures of the customer with or without restructuring contributions.
- The Bank has demanded repayment of its claim.
- The customer becomes insolvent.

A portfolio loan loss provision or allowance, respectively (PLLP impaired) is recognised for non-significant defaulted claims on the basis of internal parameters. For significant defaulted claims, the net present value of the expected future cash flows is used to calculate both specific loan loss provisions and specific valuation allowances (SLLP). The cash flows include both the expected payments and the expected proceeds from realising collateral and other recoverable cash flows. The loan loss provision is equal to the difference between the claim amount and the net present value of all the expected cash flows. The calculation of the general loan loss provision (GLLP and PLLP non-impaired) for on-balance sheet and off-balance sheet transactions takes place at the level of each individual transaction using internal default parameters (PD, LGD) and taking the LIP factor into account (LIP = loss identification period). Country risks are not accounted for separately under IFRS but are included for the purposes of the SLLP calculation in the individual cash flow estimates and given a lump-sum value in the LGD parameters when calculating portfolio loan loss provisions.

Impairment tests are also performed for securities classified as available for sale (AfS) and loans and receivables (LaR) if the fair value is below the amortised acquisition costs due to the credit rating. At each balance sheet date, it will be reviewed whether there is objective evidence (trigger event) of impairment and whether this case of loss would impact on the expected cash flows. The trigger event will be reviewed on the basis of the creditworthiness of the borrower/issuer or the issue rating, e.g. for Pfandbriefe (mortgage bonds) and ABS transactions. Trigger events may include:

- Past due/default in payments of interest or principal on the part of the issuer/borrower.
- Restructuring of the debt instrument due to significant financial difficulties on the part of the issuer (of a security) or debtor (of a loan).
- Increased probability of a restructuring procedure.
- Increased probability of insolvency.

The trigger events are operationalised through a combination of rating and fair value changes. To achieve this, the individual securities are split into three groups (listed and unlisted equity instruments and debt instruments) that form the basis for further individual impairment reviews. If trigger events are found, an impairment affecting the income statement is made and the corresponding claim is deemed to be non-performing. For AfS positions, if no trigger event is found but the fair value is below the amortised acquisition cost, the revaluation reserve is charged. The impairment amount is determined from the difference between the amortised acquisition cost and the fair value.

The total amount of the loan loss provisions, insofar as they relate to claims on the balance sheet, is deducted from the respective balance sheet items. Provision for risks in off-balance-sheet business – guarantees, endorsement liabilities, lending commitments – is shown as other provisions for specific/portfolio risks in lending business.

In accordance with the Group's write-down policy, impaired positions are written down to the net present value of the claim two years after the notice of termination using existing loss provisions and valuation allowances (SLLPs/PLLPs impaired). Amounts recovered on claims written down are recognised in the income statement.

The tables below on loan loss provisions show the total amount of non-performing claims or those past due in the IFRS categories LaR (loans) including the related loan loss provisions with the corresponding write-downs grouped by sector and country of residence of the respective borrower.

Past due loans refer to all loans that are in arrears by at least one day up to 90 days and are not defined as loans in default under consideration of the minimum threshold (2.5% of the limit or €100).

The table below sets the on-balance and off-balance sheet total claims from non-performing and past due claims against the loan loss provisions, net allocations and direct write-downs. The following definitions are used here:

- SLLP on-balance is the sum of specific loan loss provisions for significant claims, determined on the basis of individual cash flow estimates.
- PLLP impaired on-balance is the sum of portfolio loan loss provisions for insignificant non-performing claims, determined on the basis of internal risk parameters per portfolio.
- SLLP and PLLP impaired off-balance is the total sum of provisions for significant and insignificant off-balance sheet claims. These provisions are determined in the same way as for on-balance sheet claims.
- GLLP/PLLP non impaired (NI) on-/off-balance) is the sum of general loan loss provisions relating to past due claims.

The net additions column shows the net position from additions and reversals of loan loss provisions for on-balance and off-balance sheet transactions. This does not include direct write-downs and recoveries on written-down assets. These are shown separately in the columns Direct write-up/-downs and Recoveries on written-down assets.

Table 25: Non-performing and past-due loans by sector

Sector €m	Non-performing loans	SLLP on-balance (SCRA)	PLLP impaired on-balance (SCRA)	SLLP+PLLP impaired off-balance (SCRA)	Direct write-up/ -downs
Agriculture and forestry	46	18	4	1	1
Fisheries	1	0	0	0	0
Mining and quarrying of stone	47	37	0	0	0
Manufacturing industry	1,470	808	77	30	53
Energy and water supply	208	75	2	3	1
Construction	345	161	27	31	9
Trade, maintenance and repair of motor vehicles and consumer goods	537	213	71	9	30
Hotels and restaurants	35	3	7	0	6
Transport and communication	1,292	592	15	17	100
Banking and insurance	569	311	7	0	9
Real estate[1]	1,283	257	43	9	153
Public sector[2]	1	0	0	0	0
Education and training	9	2	1	0	0
Health, veterinary and social work	45	18	8	2	2
Other public and personal service activities	124	36	16	1	15
Private households	901	15	359	2	56
Non-profit organizations	8	0	2	0	0
Total 2015	**6,922**	**2,546**	**640**	**105**	**434**
Total 2014	11,592	4,170	782	104	390

[1] Including the rental of movable property and business service deliveries. [2] Including defence and social security

Table 25 continued: Non-performing and past-due loans by sector

Sector €m	Past due loans	GLLP/PLLP NI on-/off-balance for past due loans	Net additions	Recoveries on written-down assets
Agriculture and forestry	15	0	32	3
Fisheries	0	0	0	0
Mining and quarrying of stone	2	0	13	2
Manufacturing industry	1,013	3	92	71
Energy and water supply	31	0	54	7
Construction	55	1	76	12
Trade, maintenance and repair of motor vehicles and consumer goods	403	3	25	32
Hotels and restaurants	11	0	−4	0
Transport and communication	712	29	244	37
Banking and insurance	1,191	6	105	33
Real estate[1]	409	3	−53	20
Public sector[2]	3	0	0	0
Education and training	2	0	0	0
Health, veterinary and social work	30	0	−27	4
Other public and personal service activities	61	1	−3	3
Private households	540	13	8	21
Non-profit organizations	3	0	−33	0
Total 2015	**4,481**	**59**	**530**	**245**
Total 2014	3,836	37	909	227

[1] Including the rental of movable property and business service deliveries. [2] Including defence and social security.

Commerzbank bases its definition of the total sum of non-performing and past due claims on its accounting. Pursuant to section 315a.1 of the German Commercial Code, the Commerzbank Group issues consolidated financial statements based on International Financial Reporting Standards (IFRS). For this reason, the book values according to IFRS are applied for the total amount of non-performing and past due claims. Credit risk mitigation techniques which can mitigate risks for the purposes of determining the capital requirement are not relevant for the determination of the claim amount for accounting procedures.

The total non-performing and past due claims amount to €11.4bn, of which €6.9bn is attributable to the default portfolio (non-performing loans) and €4.5bn is attributable to past due loans. In addition to the loan loss provisions presented below, collateral value is also held against the total non-performing claims, which is taken into account accordingly in the calculation of the SLLP, PLLP and GLLP. The amounts recovered from written-down claims amounting to €245m are booked as income in the loan loss provisions.

Table 26: Non-performing and past-due loans by country cluster

Country cluster €m	Non-performing loans	SLLP on-balance	PLLP impaired on-balance (SCRA)	SLLP+PLLP impaired off-balance (SCRA)	Direct write-up/ -downs	Past due loans	GLLP/PLLP NI on-/off-balance for past due loans
Germany	3,082	977	317	83	306	2,039	35
Western Europe (excl. Germany)	1,777	791	6	7	63	732	9
Central and Eastern Europe	1,310	399	313	3	54	1,134	13
North America	35	30	1	3	14	18	0
Asia	288	142	2	0	2	263	0
Other	429	208	1	10	−4	295	2
Total 2015	**6,922**	**2,546**	**640**	**105**	**434**	**4,481**	**59**
Total 2014	11,592	4,170	782	104	390	3,836	37

The breakdown by country cluster reflects Commerzbank Group's focus on Germany and selected markets throughout Europe. This means that the vast majority of the loan loss provisions are attributable to borrowers based in these regions.

The table below only shows the development of loan loss provisions relating to the lending business. Only claims or loan commitments under the IFRS category LaR and their corresponding loan loss provisions are included in the table. Valuation allowances on securities are not recognised in loan loss provisions but in net investment income. Note (36) of the consolidated financial statement in the Annual Report 2015 provides more details on this.

Table 27: Development of loan loss provision in 2015

Type of provision €m	Opening balance	Additions	Reversals	Utilisation	Exchange rate changes	Other changes	Closing balance
SLLP on-balance (SCRA)	4,170	1,168	782	1,928	152	−235	2,546
PLLP impaired on-balance (SCRA)	782	371	233	251	7	−36	640
SLLP+PLLP impaired off-balance (SCRA)	104	56	58	2	2	3	105
GLLP/PLLP NI on/off-balance	816	117	148	0	5	0	790
Total	**5,872**	**1,712**	**1,220**	**2,181**	**166**	**−267**	**4,081**

Table 28 shows the realised losses over the reporting period in detail. Losses incurred in the lending business refer to direct write-downs (net of write-ups) and the utilisation of valuation allowances for claims classified as IRBA positions according to CRR.

Amounts recovered on written-down claims reduce the realised loss. In addition, table 29 shows the expected losses of the preceding period for the non-defaulted portfolio.

Table 28: Realised losses 2015

Asset class €m	Utilisation of risk provision	Direct write-downs	Write-ups	Recoveries on written-down assets	Total
Central governments or central banks	0	0	0	0	0
Banks	96	3	0	2	97
Companies	1,601	415	13	169	1,834
thereof SMEs	76	28	1	16	87
thereof specialised lending	1,277	298	0	101	1,474
thereof other	248	89	12	52	273
Retail	186	103	2	55	232
thereof SMEs	70	26	1	15	80
thereof secured by mortgages on immovable property	44	33	0	14	62
thereof qualifying revolving	1	1	0	1	2
thereof other	71	43	1	25	88
Total 2015	**1,882**	**521**	**14**	**226**	**2,163**
Total 2014	1,366	220	2	13	1,571

Table 29: Expected and realised losses since 2013

Asset class €m	Expected loss as at 31.12.2014	Realised loss 2015	Expected loss as at 31.12.2013	Realised loss 2014	Expected loss as at 31.12.2012	Realised loss 2013
Central governments or central banks	29	0	27	0	26	0
Banks	147	97	133	2	128	–17
Companies	960	1,834	979	1,346	1,024	1,159
thereof SMEs	61	87		0		
thereof specialised lending	649	1,474		1,021		
thereof other	251	273		325		
Retail	252	232	246	223	178	176
thereof SMEs	67	80		0		
thereof secured by mortgages on immovable property	97	62		76		
thereof qualifying revolving	20	2		1		
thereof other	68	88		146		
Total	**1,388**	**2,163**	**1,384**	**1,571**	**1,356**	**1,318**

The significant increase in realised losses during 2015 was mainly due to a higher utilisation of risk provision and direct write-downs in respect to sales in the commercial real estate and the shipping portfolio.

From our perspective, the direct comparison of the realised loss to the expected loss may lead to limited results, as the realised loss comprises the utilisation of risk provisions and write-downs of defaulted assets across several reporting periods whereas the expected loss relates to a one-year horizon only.

Deviating from the Annual Report, the expected loss amounts reported in this Disclosure Report do not include SACR or securitisation positions. Also, due to the change to SACR (permanent partial use pursuant to Article 150 CRR) in 2009, the asset class Investments is not shown here.

Investments in the banking book

Investment risks or shareholder risks are potential losses arising from the provision of equity capital to investments as a result of a fall in their value. They can be caused by general market fluctuations or company-specific factors.

Composition of investments

Commerzbank's portfolio of holdings is broken down in accordance with its significance to business policy. The bulk of the investments held as financial assets (banking book) and all holdings in consolidated companies are designed to further the Bank's business objectives by supporting business lines/segments in the Bank (segment-supporting investments) or by having a strategic management or service function for the Group as a whole (other strategic investments).

There are also other non-strategic investments, some of which are allocated to the Non-Core Assets segment. A divestment concept is applied here, the aim of which is to optimise Commerzbank's market value, capital and income statement under appropriate market conditions.

Risk management

The investment risks are managed centrally as part of the ongoing management and monitoring of Commerzbank's holdings by the Group Development & Strategy department and locally by the segments. The central monitoring is primarily concentrated on the non-strategic investments, while the strategic investments that form part of the Bank's core business are controlled on a decentralised basis by the Commerzbank segments responsible for them. The strategic investments are mainly majority holdings.

Under the "three lines of defence" principle, aimed at protecting against undesirable risks and set out by Commerzbank in the overall risk strategy, the respective operational segments responsible therefore represent the first line of defence for investment risks, while Development & Strategy, as the area responsible for investment risk strategy, represents the second line.

Valuation of investments for regulatory purposes

Commerzbank Group and accordingly the group companies included in the disclosure report are, as IRBA banks as defined in Article 147 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 applies the partial use option pursuant to section 70 sentence 1 no. 9b SolvV and Article 150 CRR and is using the SACR permanently to value all investment positions which are not under the above-mentioned temporary grandfathering option. Investments that are associated with particularly high risk according to the definition under Article 128 CRR, such as private equity investments or venture capital investments, are recognised in the corresponding SACR asset class.

Valuation and accounting principles

Investments and shares in the banking book comprise equity instruments classified as available for sale (AfS) and those reported in the financial statements as fully consolidated or using the equity method are also included. Therefore all equity instruments not held in the trading portfolio are accounted for in this category.

Investments classified as AfS are reported at their fair value if it is available. Differences between historic costs and fair value are reported as equity capital not affecting net income. Not listed or listed but not traded equity instruments are reported at their historic costs if their fair value is not reliably determinable.

Listed investments are continuously monitored with regard to their market price development. External analysts' opinions and share price forecasts (consensus forecasts) are included in the risk assessment. The listed holdings are monitored by means of impairment tests carried out at least quarterly by Group Finance in accordance with the impairment policy and tested for any significant qualitative or quantitative indicators (trigger events) of impairment. As soon as there are any indications of significant or lasting impairment, unrealised losses are written down.

Risks arising from unlisted holdings are subject to regular monitoring involving a database-supported year-end valuation, a monitoring of trigger events to each balance sheet reporting date and special monitoring of investments classified as critical. Various valuation methods (e.g. capitalised earnings value, net asset value, and liquidation value) are used to quantify the risks, depending on the book value, status (e.g. active, inactive or in liquidation) and type of business activity (e.g. operational, property holding company or holding) of the investment. If the intention is to sell the investment, it will be written down, if necessary, to a lower expected selling price; appreciation in value would be reported as revaluation reserve without net income effects. With companies valued using the equity method, the valuation is equal to the proportionate IFRS equity capital.

Quantitative information on investments

This section covers investments as defined in Article 112 p) CRR. This means that only equity investments that are not consolidated for regulatory purposes but relate to the companies covered by this report are shown. The definition of an investment in CRR is wider than the usual accounting definition. For example, shares in limited companies (GmbHs), profit-sharing certificates with equity characteristics, promissory notes and derivative positions whose underlying is an investment position have to be classified as investments for regulatory purposes. Classical forms of investments nevertheless make up the majority of this CRR asset class.

The table below shows the book value and fair value of the investment instruments under IFRS as reported in the financial statements for the investment groups relevant to the Group's objectives and strategy.

Table 30: Valuation of investment instruments

	Book value (IFRS)		Fair value		Market value (listed positions)	
Investment group | €m	**2015**	**2014**	**2015**	**2014**	**2015**	**2014**
Segment-supporting investments	**454**	**400**	**457**	**403**	**5**	**59**
thereof listed positions	2	56	5	59	5	59
thereof unlisted positions	452	344	452	344	0	0
Other strategic investments	**141**	**27**	**141**	**27**	**0**	**0**
Other investments	**162**	**154**	**162**	**154**	**0**	**0**
thereof listed positions	0	0	0	0	0	0
thereof unlisted positions	162	154	162	154	0	0
Funds and certificates	**0**	**67**	**0**	**67**	**0**	**30**
thereof listed positions	0	30	0	30	0	30
thereof unlisted positions	0	37	0	37	0	0
thereof unassigned	0	0	0	0	0	0
Investments total	**757**	**648**	**759**	**651**	**5**	**89**

For listed positions the market value is given as well. For listed investments the book value under IFRS equals their historic costs. Differences between book value under IFRS and fair value of listed investments result from the revaluation reserve.

For unlisted companies the book values under IFRS are used as fair value. Special purpose vehicles (SPVs) are not shown as they are not investments pursuant to regulatory definitions. The positions shown under Other strategic investments as well as Funds and certificates are unlisted positions. All unlisted positions are classified as adequately diversified investment portfolios.

Shares in investment funds are allocated to the investment group funds and certificates if the precise composition of the investment fund is not known and an average risk weighting supplied by the investment company is not used for capital adequacy purposes. Only shares in investment funds that invest wholly or partly in investment instruments are relevant. Shares in investment funds that are solely invested in fixed-income securities (e.g. bond funds) are not reported here.

Table 31: Realised and unrealised profits/losses from investment instruments

		Unrealised revaluation profit/loss		
€m	**Realised profit/loss from sale/liquidation**	**Total**	**thereof accounted for in CET1 capital**	**thereof accounted for in Tier 2 capital**
2015	**106**	**285**	**285**	**0**
2014	– 1	41	41	0

Securitisations

Securitisation process

In the securitisation business Commerzbank acts in the three roles provided for in regulatory legislation, namely as originator, sponsor and investor.

› **Originator** Parts of the Bank's own loan portfolio are placed selectively on the capital markets through securitisation transactions. The transfer of the credit risk is mainly by means of synthetic securitisations where the portfolio is hedged through financial guarantee contracts. During the year under review Commerzbank issued two transactions: CoCo Finance II-2 backed by corporate loans with a volume of €3bn, and CoSMO Finance III-1, backed by SME loans, with a volume of €1bn. During the reporting year the €2bn CosMO Finance II-2 securitisation (SME loans) matured. The €2bn CoCo Finance II-1 (corporate loans) and the USD 500m Co-Trax Finance II-1 (trade financing with banks) issues of Commerzbank were repaid on schedule. Hypothekenbank Frankfurt repaid the Semper Finance 2006-1 transaction, of which only €18m was still outstanding. As at the reporting date of 31 December 2015, out of the outstanding securitisations by Commerzbank Aktiengesellschaft, risk exposures of €3.9bn (securitised volume €4.1bn) were retained. By far the largest portion of these exposures (€3.7bn) consists of senior tranches that are nearly all rated good or very good. As at the reporting date, the Commerzbank Group's securitisation transactions placed on the capital markets and used to free up regulatory capital were as follows:

Table 32: Securitisation transactions with regulatory capital relief

Securitisation programme[2]	Type[1]	Securitisation pool	Maturity	Issue currency	Current volume | €m
CoSMO Finance III– 1	S	Companies	2025	EUR	1,000
Coco Finance II– 2	S	Companies	2025	EUR	3,000
CB MezzCAP	T	Companies	2036	EUR	71
Total Commerzbank AG					**4,071**
Provide Gems 2002– 1	S	RMBS	2048	EUR	71
Semper Finance 2007– 1	S	CMBS	2046	EUR	13
Total Hypothekenbank Frankfurt AG					**84**
Total					**4,155**

[1] S = synthetic, T = True Sale.
[2] Securitisation of own customer receivables.

In addition, in recent years Commerzbank has issued the SME Commerz SCB GmbH transaction (original volume €1.5bn), which does not qualify for reliefs in capital for regulatory purposes. Both, the Rügen Eins (original volume €1.6bn) and TS Lago transactions (original volume €15bn) were repaid on schedule. In the reporting year, due to the structure of the transactions, Commerzbank did not hold any securitisation exposures for which additional capital was required as a result of an investor share to be taken into consideration by the originator under Articles 256 and 265 of the CRR. In addition, during the reporting year Commerzbank provided no non-contractual credit support within the meaning of Art. 248 CRR.

Where Commerzbank cooperated with rating agencies in connection with originator securitisation transactions (both synthetic and true sale), the agencies in question were Standard & Poor's and Moody's. The assets securitised by Commerzbank Aktiengesellschaft belong to the Bank and derive from its lending business with the Mittelstand and from business with large customers. In the case of Hypothekenbank Frankfurt AG's originator securitisation transactions, the underlying securitised assets are commercial real estate loans and private residential mortgages. As part of the overall management of the Bank, the Commerzbank Group is constantly reviewing opportunities to securitise its own assets. This process is primarily influenced by the market conditions prevailing at any one time. The placement of a further synthetic securitisation of corporate loans with a volume of €2bn is planned for the first half of 2016.

› **Sponsor** By securitising their own portfolios of receivables, i.e. selling their receivables on a non-recourse basis, Commerzbank's customers are able to tap alternative sources of funding on the capital markets. Structuring, arranging and securitising these receivables portfolios, particularly those of customers in the Mittelstandsbank and Corporates & Markets segments, is a key component of the structured finance product range. Typically special purpose vehicles (purchasing entities) are established to manage these assets. The purchases of receivables are funded primarily by the issue of short-term commercial papers (CP) under the Bank's asset-backed commercial paper (ABCP) programme Silver Tower (conduit). The commercial papers issued are rated by the rating agencies Standard & Poor's, Moody's and FitchRatings. As sponsor, the Bank is responsible for structuring and, as a rule, purchasing and refinancing the transactions. Commerzbank provides the special purpose entities with liquidity facilities so that they have access to short-term liquidity. These liquidity facilities are counted in full when determining the risk-weighted exposures. The mainly high diversified portfolios of receivables generally derive from customers' working capital, such as trade receivables and car, machinery and equipment leases. The receivables portfolios therefore reflect the differing businesses of those selling the receivables. The volume in the Silver Tower conduit was reduced by €0.2bn to €3.2bn in 2015. The securitisation exposures deriving from the Silver Tower conduit largely consist of liquidity facilities and back-up lines.

› **Investor** The Commerzbank Group invests under its regulatory banking book in securitisation positions. The Bank's internal credit risk strategy provides limited scope for entering into new securitisation positions provided that the risk profile of each securitisation position is subjected to a differentiated analysis and documentation. This allows transaction risk drivers that may impact directly or indirectly on the securitised position's risk content to be taken into account. In the reporting year Commerzbank has invested in senior-ranking securitisation positions, mainly backed by pools of corporate loans, commercial real-estate loans and consumer loans.

Risk Management

The internal processes for monitoring the risk profile of securitisation positions are based on the provisions of Article 406 and 408 of the CRR and on the principles of the Minimum Requirements for Risk Management (MaRisk) as amended. They apply equally to all securitisation exposures, irrespective of whether they are part of the regulatory trading or banking book, or whether Commerzbank acts as the originator, sponsor or investor.

The processes put in place by the Bank take account of the individual risk profile of securitisation exposures on the basis of a wide range of information sources. They ensure that various risks directly and indirectly affecting the probability of default of the securitised positions are monitored in a continuous and timely manner. This also includes carrying out regular stress tests that take account of macroeconomic factors and the individual risk profile of the securitised positions.

› **Originator** The credit process for loans to customers does not distinguish between loans which the Bank will securitise at a later date and those for which it will continue to assume the risk. Transactions which allow reliefs in capital for regulatory purposes are subject to a monitoring process that ensures the continuous compliance with the regulations on significant risk transfer according to Article 243 and 244 CRR. The amount retained in securitisation transactions in accordance with Article 405 of the CRR is reviewed regularly and is published in the Investor Report. A potential placement risk for Commerzbank's transactions is completely accommodated, as the receivables are included in full in the Bank's risk and capital management process up until the actual risk transfer by means of securitisation and placement.

› **Sponsor** The customer transactions funded via conduits are subject to an ongoing credit process. A risk analysis of the transactions is conducted when the transactions are structured and again in regular reviews which are carried out annually and as circumstances require. A rating is assigned using the ABS rating system certified by the banking regulators (internal assessment approach). For this purpose we take into account all significant risk drivers of the securitised receivables portfolio (e.g. type of receivable, default rates, collateral provided, diversification, dilution risks, commingling risks) and of the securitisation structure (e.g. whether the creditor claims have a waterfall structure, credit enhancements). Qualitative risk drivers ascertained from regular on-site visits to the seller of receivables as well as the seller's financial position are also taken into account. For trade receivables, structure-inherent covers through credit insurances are taken into account in the rating model and credit analysis. Credit insurances are used in order to mitigate concentration risk. The main counterparties here are Euler Hermes Kreditversicherungs AG and the German branch of Coface S.A. Before any purchase of customer receivables, the minimum conditions agreed in the contract documentation are reviewed and any non-qualifying receivables are excluded. After the receivables have been bought, their quality is reviewed continuously. If any potential problems come to light another credit analysis of the structure is carried out.

› **Investor** Strict internal guidelines must be followed when acquiring a new securitisation position. Such positions are subject to a specific internal credit process that also ensures that the specific requirements for securitisation positions regarding due diligence and regarding retention under Articles 405-406 of the CRR are met. In the credit process applied to the Bank's securitisation portfolio, the risk profile of the securitisation positions is analysed continuously or as circumstances require. In preparing a credit assessment, at the level of the individual tranche a securitisation-specific rating system is used which has been developed internally within the Bank, while external standard models are also applied. In the case of resecuritisations, the analysis relates not just to the securitisation exposures contained in the pool but also covers the underlying portfolios on a risk basis (look-through principle). As with securitisation exposures, the ranking of the individual tranches contained in the pool within a securitisation structure are taken into account in this analysis, as are the specific features of the asset classes and of the different jurisdictions, in order to generate the expected aggregate cash flow. The results are then used to model the entire waterfall structure at the level of the resecuritisation.
Commerzbank takes into account not only the original default risk of the securitised receivables, but also secondary risks, such as market value risk, liquidity risk, refinancing risk, legal risk and operational risk. These directly or indirectly affect default risk. This process looks, for example, at the performance reports for the securitised receivables, changes in external ratings and movements in the market value of the securitisation exposures.

When determining market risk, changes resulting from interest rates, foreign currency rates or credit spreads, among others, are taken into account for the risk assessment of each tranche. In addition, the combination of various conventional risk measures (for example, VaR, volatilities) ensures the appropriate management of market risk concentrations at Group level.

Liquidity risk refers in this context to the risk that Commerzbank will be unable to meet its payment obligations on a day-to-day basis. Liquidity risks from ABS transactions are modelled conservatively in the internal liquidity risk model. Firstly, a worst case assumption is made that Commerzbank has to take on virtually the entire funding of the purchase facilities provided to the special purpose vehicles under the Silver Tower conduit. Secondly, the Bank's holdings of securitisation transactions only qualify as liquid assets if they are eligible for rediscount at the European Central Bank. These positions are only included in the liquidity risk calculation after applying conservative discounts. With regard to the Silver Tower conduit, it is not only assumed that external refinancing of the conduit will be replaced by Commerzbank on expiry, but also that additional drawdowns on credit lines by clients of the conduit will have to be refinanced by Commerzbank.

Legal risk in the context of securitisation transactions is the risk that the Bank might suffer losses as a result of flaws in legal transaction structures or as a result of missing or flawed legal documentation. Commerzbank's independent Legal Services department is responsible for examining legal structures and all transaction contracts. In terms of content, risks are divided into those arising from the sphere of the originator itself or those directly connected with the portfolio to be securitised. The subsequent refinancing and collateral structure is also a key element of legal structuring and risk assessment.

As well as being associated with legal risk as a risk type under the overall heading of operational risk, securitisation business is subject to the Group-wide management of operational risks. It therefore falls within the framework of the certified advanced measurement approach used by Commerzbank to measure operational risks.

Valuation of securitisations for regulatory purposes

Securitisation positions in the banking book In the reporting period, Commerzbank applied both the regulations of the advanced IRBA and those of the SACR for regulatory purposes.

› **Originator** The ratings-based approach is used for externally rated securitisation exposures that have been retained from the Commerzbank Group's own securitisation transactions. Capital is held against synthetic securitisation tranches that have been placed on the market based on the risk weighting of the party providing the collateral. Counterparties to the hedging instruments used, like e.g. financial guarantees, are institutional investors, whose deposits serve as collateral, as well as multilateral development banks. For the majority of transactions the supervisory formula approach (SFA) is used.

› **Sponsor** The majority of sponsor transactions have to be allocated to the conduit business. Only in a few cases Commerzbank holds other sponsor positions. Under the internal assessment approach (IAA), ABS rating systems certified by the supervisory authority are used for the Silver Tower conduit sponsored by Commerzbank. In the reporting period, we applied our own rating systems to the Silver Tower conduit for the following classes of receivables: Trade receivables, car finance and leasing, equipment leasing and consumer lending. The rating systems are developed in accordance with the stipulations of regulatory requirements, independently of the market side by Commerzbank's risk function. In accordance with the CRR, the methodology follows the guidelines of the rating agencies Standard & Poor's, Moody's and FitchRatings. The systems were certified at the outset by BaFin and the Bundesbank. They are subject to a regular review by the supervisors and internal audit. In addition, the internal assessment approach is subject to an annual validation by Commerzbank's risk function.

The various internal assessments take account of all features of the securitised receivables portfolio identified by the rating agencies as significant risk drivers as well as the specific structuring characteristics of the securitisation exposure. Other quantitative and qualitative risk components that are regarded as material by Commerzbank are also included in the assessment. These include, in particular, seller risks and qualitative risk drivers that are evaluated via structured qualitative questionnaires. The result of the rating process is a tranche-specific rating derived from the quantitative and qualitative results of the assessment approach. Depending on the specific approach used, this rating is based on the probability of default or expected loss (EL) of the securitised tranche. No external ratings from the above-mentioned rating agencies are available for the securitisation exposures subject to the internal assessment approach. The results of the internal assessment approach are used to determine regulatory capital requirements. They are also used within the internal capital model, in portfolio monitoring and in setting limits (ICAAP processes).

The approaches to modelling probability of default or expected loss (EL) for securitisation tranches differ depending on the type of securitised asset class. For the asset classes trade receivables, car finance and leasing, equipment leasing and consumer lending, a range of different stress factors used by the rating agencies are applied, depending on the main risk drivers for the relevant transactions. These are, for example, stress factors on concentration risks, default risks, dilution risks and interest rate risks. Quantitative and qualitative modelling components devised by the Bank are also used. When calculating loss buffers, stress factors are determined individually for different securitised asset types on the basis of the risk profiles of the securitisation transactions. In addition, in two cases the practice of making a capital deduction where no applicable external rating is available is used. Both, the supervisory formula approach (SFA) and the look-through approach (LTA) are only used in one single case each.

› **Investor** For investor positions, external ratings are generally available, which lead to the ratings-based approach (RBA) being applied. Commerzbank takes account of all available external ratings from the three rating agencies Standard & Poor's, Moody's and FitchRatings, nominated by Commerzbank Aktiengesellschaft. It does so irrespective of the type of receivables securitised and the type of securitisation exposure. A smaller part of investor positions is covered by irrevocable guarantees, beside others of the European Investment Fund (EIF). The guarantee is taken into account in the calculation of RWAs by substituting the risk weighting of the guarantor for the risk weighting of the securitisation. To a small extent the look-through approach is used. In only a few cases a capital deduction as a result of the lack of an applicable external rating is used.

Companies which are consolidated within the Commerzbank Group for regulatory purposes may, as part of the Group-wide business and risk strategy, on occasion act as investors in securitisation transactions in which the Bank is acting as sponsor or originator.

Commerzbank Aktiengesellschaft and Hypothekenbank Frankfurt International S.A. currently hold securitisation exposures from securitisation transactions, acting in the role of sponsor or originator. All retentions or repurchases of securitisation exposures from the Bank's own transactions with recognised regulatory risk transfer and securitisation exposures from transactions where Commerzbank has acted as sponsor are subject to the calculation of the regulatory capital requirement. In the case of transactions without recognised regulatory risk transfer, the regulatory capital requirement is determined for the securitised portfolio.

Securitisation exposures in the trading book As of 31 December 2015, the majority of securitisation positions included in the trading book are hedged against performance-induced market risks by means of credit default swaps and total return swaps with counterparties of good credit quality in addition to securitisations allocated to the correlation trading book. The capital adequacy requirements are determined by application of Articles 337 and 338 CRR.

Accounting and measurement policies

In true sale or synthetic securitisation transactions via special purpose vehicles, the IFRS accounting regulations require the Bank to review, whether or not the securitising special purpose entities need to be consolidated in accordance with IFRS 10. This review process is centralised in Commerzbank Group in the accounting department. The central unit is informed of the establishment or restructuring of a special purpose entity. On the basis of the information submitted, it carries out a review to determine whether or not the special purpose entity needs to be consolidated.

› **Originator** If the special purpose vehicle is consolidated as part of the Commerzbank Group, no further derecognition test is carried out under IAS 39 rules. The asset is not derecognised in this case. If the special purpose vehicle does not have to be consolidated, in true sale securitisations the possible derecognition of the securitised asset from the balance sheet is assessed. Following an assessment of the risks and rewards of ownership as the primary derecognition criterion and the control concept as the secondary derecognition criterion (IAS 39.15 ff.), a derecognition or partial derecognition (continuing involvement) is reported where appropriate. In the case of synthetic securitisations, the underlying assets remain on the balance sheet. As with securitised assets in true sale securitisations that are not derecognised, they are reported in their original IFRS category. These assets continue to be accounted for in accordance with the rules for this IFRS category. Where securitised assets are derecognised, any resultant gains or losses are reported in the income statement. In some cases, the derecognition of assets may lead to the first-time recognition of new exposures, for example bonds issued by special purpose vehicles. Under IFRS these exposures are categorised on the basis of the intention with which the securities were acquired and the type of securities in one of the three IAS 39 categories (held for trading, loans and receivables or available for sale). Please refer to Note 5 to the IFRS consolidated financial statements for a detailed explanation of the classification rules and the related valuation procedures. No securitisation transactions leading to derecognition of assets were carried out in the period under review. As a result, no gains or losses were realised from the sale of assets in connection with securitisation transactions during the reporting period.

The securitising special purpose entities for the following transactions are currently consolidated for accounting purposes: CoSMO Finance II-2 Ltd., Coco Finance II-2 Ltd. and SME Commerz SCB GmbH. However, these entities are not consolidated for regulatory purposes. The following special purpose vehicles were deconsolidated in 2015: Cotrax Finance II-1 Ltd., Coco Finance II-1 Ltd., Rügen Eins GmbH and TS Lago One GmbH. The securitising special purpose entities for the following transactions are currently not consolidated either for accounting purposes or for the purposes of regulatory capital adequacy requirements: Provide Gems 2002-1 and Semper Finance 2007-1 GmbH. If assets are earmarked for securitisation, this has no direct impact on their accounting treatment or measurement within the applicable IFRS categories.

› **Sponsor** Under IFRS the funding entities Silver Tower Funding Ltd. and Silver Tower US Funding LLC are not consolidated under Silver Tower, and nor are any purchasing entities. Also, for regulatory purposes, no purchasing or funding entities are consolidated under Silver Tower. If a beneficiary special purpose entity is not consolidated under IFRS, the liquidity line provided to it is recorded in the Notes to the Annual Report as a contingent liability in its full unutilised amount. Any utilised amount is recognised as a claim in the IFRS category loans and receivables.

› **Investor** Under IFRS, investor positions are categorised on the basis of the intention with which the securities were acquired and the type of securities in one of the three IAS 39 categories (held for trading, loans and receivables or available for sale). For a detailed explanation, please refer to Note 5 in the IFRS consolidated financial statements, which also explains the related valuation procedures. If the securitisation exposures are traded on liquid markets with observable pricing, they are valued on the basis of independent market prices. If a direct measurement at market prices is not possible, the value of the securitisation exposure is determined using prices of external providers. In some cases the value of the securitisation exposure is determined with the help of valuation models. This involves the application of a discounted cash flow approach, with the cash flows and the other relevant parameters being based on data observable on the market. Moreover, the approach is calibrated with market data for application to similar securitisation structures. In many cases, the prices estimated by external providers are used. There were no significant changes in the methods used to value securitisation positions in the period under review.

Quantitative information on securitisations

To provide a comprehensive overview of the securitisation positions of Commerzbank, the analyses shown in tables 33 to 41 comprise the complete group of companies consolidated for regulatory purposes.

Securitisation exposures in the banking book The following information relates to transactions for which risk-weighted exposures are determined in accordance with Article 242-270 of the CRR. This also includes Commerzbank Group's own securitisation transactions for which capital relief is available and made use of for regulatory purposes.

The total volume of all retained or acquired securitisation exposures (on- and off-balance-sheet) was €15.9bn on the reporting date. This amount corresponds to the IRBA and SACR exposure after deducting eligible collateral.

In the following a breakdown of retained or acquired securitisation exposures by exposure type and the regulatory role assumed by Commerzbank is given.

Table 33: Retained or acquired securitisation exposures in the banking book by type of exposure

	Originator		Investor		Sponsor	
€m	IRBA	SACR	IRBA	SACR	IRBA	SACR
Receivables[1]	3,749	0	13	0	1,310	0
Securities[2]	13	0	3,067	5,434	179	351
Other positions on-balance	0	0	0	0	0	0
Liquidity facilities	0	1	0	0	1,614	0
Derivatives[3]	0	0	23	101	5	0
Other positions off-balance[4]	0	0	0	0	16	14
Total 2015	**3,762**	**1**	**3,104**	**5,535**	**3,124**	**365**
Total 2014	4,154	0	1,536	4,851	3,295	406

[1] For example, drawdowns on liquidity facilities, cash loans, on-balance positions from synthetic transactions etc.
[2] ABS, RMBS, CMBS etc.
[3] Counterparty risk from market value hedges (interest rate and currency risks).
[4] Guarantees etc.

The table below provides a breakdown of the securitisation exposures shown above by type of underlying assets.

Table 34: Retained or acquired securitisation exposures in the banking book by type of asset

	Originator		Investor		Sponsor	
€m	IRBA	SACR	IRBA	SACR	IRBA	SACR
Loans to companies/SMEs	3,762	1	2,496	143	184	0
Commercial real estate	0	0	0	13	0	0
Residential real estate	0	0	28	779	0	0
Consumer loans	0	0	505	4,292	0	230
Securitised positions	0	0	3	30	0	134
Leasing receivables	0	0	0	11	1,042	0
Trade receivables	0	0	0	0	1,897	0
Other	0	0	72	267	0	1
Total 2015	**3,762**	**1**	**3,104**	**5,535**	**3,124**	**365**
Total 2014	4,154	0	1,536	4,851	3,295	406

Based on the country of the securitised claim, the securitisation exposures originate predominantly from Germany 48% (2014: 69%), the USA 31% (2014: 8%) and the UK/Ireland 6% (2014: 7%).

The next table provides a breakdown of acquired or retained securitisation exposures by risk weighting bands. Risk weightings are ascertained by applying the risk approach applicable to each securitisation exposure as per Article 259 CRR. If a securitisation exposure has an external rating of B+ or worse, the exposure is deducted from CET1 capital. The capital requirements are determined by the exposure and its risk weighting after taking account of any impairments.

Table 35: Retained or acquired securitisation exposures in the banking book by risk weighting band

IRBA	RBA		IAA		SFA	
Risk weighting band | €m	Position value	Capital requirement	Position value	Capital requirement	Position value	Capital requirement
≤ 10%	2,848	17	1,311	9	3,724	21
> 10% ≤ 20%	144	2	1,162	18	175	3
> 20% ≤ 50%	27	1	450	10	0	0
> 50% ≤ 100%	4	0	17	1	0	0
> 100% ≤ 650%	6	2	0	0	0	0
> 650% < 1,250%	0	0	0	0	22	19
Total 2015	**3,029**	**22**	**2,939**	**39**	**3,921**	**42**
Total 2014	1,227	31	3,250	38	4,294	55

SACR	RBA		IAA		LTA	
Risk weighting band | €m	Position value	Capital requirement	Position value	Capital requirement	Position value	Capital requirement
≤ 10%	0	0	0	0	0	0
> 10% ≤ 20%	4,809	77	0	0	0	0
> 20% ≤ 50%	59	2	230	9	0	0
> 50% ≤ 100%	115	9	0	0	383	25
> 100% ≤ 650%	16	4	0	0	64	7
> 650% < 1,250%	0	0	0	0	0	0
Total 2015	**4,999**	**93**	**230**	**9**	**447**	**32**
Total 2014	4,604	97	260	10	122	11

As at 31 December 2015 the value of the securitisation exposures (including resecuritisations) deducted from equity capital was €259m (2014: €351m). After taking account of impairments, the capital deduction amounted to €236m (2014: €314m).

The next table provides a breakdown of acquired or retained resecuritisation exposures by risk weighting bands. The capital requirement values do not consider hedge positions or insurances.

Table 36: Retained or acquired resecuritisation exposures in the banking book by risk weighting band

	IRBA		SACR	
Risk weighting band | €m	Position value	Capital requirement	Position value	Capital requirement
≤ 10%	0	0	0	0
> 10% ≤ 20%	0	0	0	0
> 20% ≤ 50%	43	1	7	0
> 50% ≤ 100%	0	0	4	0
> 100% ≤ 650%	12	3	0	0
> 650% < 1,250%	0	0	0	0
Total 2015	**55**	**4**	**11**	**1**
Total 2014	108	5	26	2

The table below shows the outstanding volumes of Commerzbank Group's securitisation transactions. These were originator transactions with recognised regulatory risk transfer or primary ABCP-funded sponsor transactions.

Table 37: Securitisation assets outstanding

	Originator Traditional		Originator Synthetic		Sponsor ABCP[1]	
€m	2015	2014	2015	2014	2015	2014
Loans to companies/SMEs	71	71	4,000	4,361	261	284
Commercial real estate	0	0	13	254	0	0
Residential real estate	0	0	65	83	0	0
Consumer loans	0	0	0	0	225	1,055
Securitised positions	0	0	0	0	1	1
Leasing receivables	0	0	0	0	1,040	415
Trade receivables	0	0	0	0	1,419	1,518
Other	0	0	0	0	47	232
Total	**71**	**71**	**4,079**	**4,699**	**2,993**	**3,505**

[1] Mainly ABCP.

On the reporting date, the securitised portfolios included non-performing or past due loans as shown below.

Table 38: Non-performing and past due securitised loans

	Non-performing loans		Past due loans	
€m	2015	2014	2015	2014
Loans to companies/SMEs	0	48	6	10
Commercial real estate	2	5	0	0
Residential real estate	1	16	0	2
Total	**3**	**69**	**6**	**12**

In the period under review the portfolio incurred losses due to originator transactions of Hypothekenbank Frankfurt in the amount of €0.8m in the underlying asset class residential real estate and €0.4m in commercial real estate (previous year total: €10m). Commerzbank AG's portfolio did not incur any losses due to originator transactions. We have taken the information on portfolio losses and on impaired and past due claims from the investor reports for the respective underlying transactions.

Securitisation exposures in the trading book The information in this section relates to securitisation exposures in the trading book (excluding the correlation trading portfolio) for which risk-weighted exposure values are determined in accordance with article 337 CRR. This comprises securitisation exposures where Commerzbank acts as sponsor, originator or investor.

The total net exposure of all retained or acquired securitisation positions was €23m at the reporting date, including credit derivative hedges according to article 337 CRR. There are no further off-balance-sheet hedge positions.

The table below shows the retained or acquired securitisation exposures by type of exposure:

Table 39: Retained or acquired securitisation exposures in the trading book by type of exposure

	Originator		Investor	
€m	IRBA	SACR	IRBA	SACR
Securities	1	0	18	4
Derivatives	0	0	0	0
Total 2015	**1**	**0**	**19**	**4**
Total 2014	1	1	2	30

The table below provides a breakdown of the securitisation exposures shown above by type of underlying assets.

Table 40: Retained or acquired securitisation exposures in the trading book by type of asset

	Originator		Investor	
€m	IRBA	SACR	IRBA	SACR
Securitised positions	0	0	18	3
Residential real estate	0	0	0	0
Commercial real estate	0	0	0	0
Loans to companies/SMEs	1	0	0	1
Car finance	0	0	0	0
Other	0	0	0	0
Total 2015	**1**	**0**	**19**	**4**
Total 2014	1	1	2	30

Based on the country of the securitised claim most of these securitisation exposures originate from the USA.

The next table provides a breakdown of the retained or acquired resecuritisation exposures in the trading book, broken down by risk weighting band. As at 31 December 2015, there were no trading book securitisation exposures that were not deducted from CET1.

Table 41: Retained or acquired resecuritisation exposures in the trading book by risk weighting band

	RBA	
Risk weighting band | €m	**Position value**	**Capital requirement**
≤ 10%	0	0
> 10% ≤ 20%	18	0
> 20% ≤ 50%	0	0
> 50% ≤ 100%	0	0
> 100% ≤ 650%	0	0
> 650% < 1,250%	0	0
Total 2015	**18**	**0**
Total 2014	20	2

As at 31 December 2015, the value of the securitisation exposures to be deducted from equity capital (including resecuritisations) as well as the capital requirement are €5m (2014: €7m).

Market risk

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.

Risk management

Strategy and organisation

Commerzbank's market risk strategy is derived from its overall risk strategy and the business strategies of the individual segments. It sets targets for market risk management in relation to Commerzbank's main business activities. The core market risk management tasks are the identification of all key market risks and drivers of market risk for the Group and the independent measurement and evaluation of these. The results and estimates serve as the basis for Commerzbank Group's risk/return-oriented management.

The Board of Managing Directors of Commerzbank is responsible for ensuring the effective management of market risk throughout the Group. Specific levels of authority and responsibility in relation to market risk management have been assigned to the appropriate market risk committees.

Within the Bank, various market risk committees have been established. In these, segment representatives, along with representatives from the risk function and finance area, discuss current risk positioning issues and decide on appropriate action. Chaired by the risk function, the Group Market Risk Committee, which meets monthly, deals with the Group's market risk position. Discussions centre on the monthly market risk report which is also presented to the Board of Managing Directors for their consideration. The report summarises the latest developments on financial markets, the Bank's positioning and subsequent risk ratios. The Segment Market Risk Committee, which focuses on the trading-intensive Corporates & Markets and Treasury areas, meets once a week. This committee also manages market risks arising from non-core activities (Non-Core Assets).

The risk management process involves the identification, measurement, management, and monitoring of risks and reporting on them. It is the responsibility in functional terms of market risk management, which is independent of trading activities. Central market risk management is complemented by decentralised market risk management units at segment level and for regional units and subsidiaries. The close integration of central and local risk management with the business units means that the risk management process starts in the trading areas themselves. The trading units are responsible in particular for the active management of market risk positions, e.g. reduction measures or hedging.

Functional risk management

Commerzbank uses a wide range of quantitative and qualitative tools to manage and monitor market risk. Quantitative limits for sensitivities, value at risk, stress tests, scenario analyses and ratios on economic capital limit the market risk. Our comprehensive rulebook, in the form of market risk policies and guidelines as well as restrictions on portfolio structure, new products, maturities and minimum ratings, establishes the qualitative framework for market risk management. The market risk strategy lays down the weighting of figures in each segment by reference to their relevance. Thereby allowance is made for the varying impact of the parameters for the management of the segments in line with the business strategy.

Market risk is managed internally at Group level, segment level and in the segment's reporting units. A comprehensive internal limit system broken down to portfolio level is implemented and forms a core part of internal market risk management.

The quantitative and qualitative factors limiting market price risk are determined by the market risk committees by reference to the Group's management of economic capital. The utilisation of these limits, together with the relevant net income figures, is reported daily to the Board of Managing Directors and the responsible heads of the business segments. Based on qualitative analyses and quantitative ratios, the market risk function identifies potential future risks, anticipates, in collaboration with the finance function, potential financial losses, and draws up proposals for further action, which are discussed with the market units. Voting on the proposed measures or risk positions takes place in the above mentioned market risk committees and is subsequently submitted to the Board of Managing Directors for approval.

Risk concentrations are restricted directly with specific limits or are indirectly avoided, for example, using stress test limits. In addition, the combination of various conventional risk measures (e.g. VaR, sensitivities) ensures the appropriate management of concentration risks. Furthermore, risk drivers are analysed on a regular basis in order to identify concentrations. The risk management of existing concentrations is also reviewed using situation-driven analyses and, where necessary, supplemented by targeted measures, such as limits.

In case of any limit breaches they are dealt with in a separate escalation process. After identifying the limit breach, action is taken by the front office and risk entities to bring the relevant portfolio back within limit. If the limit breach cannot be remedied within a few days, it is escalated by the market risk function with the assistance of the next highest hierarchy level.

Regulatory risk parameters not included in the economic risk bearing capacity are limited and managed separately. These include e.g. stressed VaR and IRC.

Market risk model

Value at Risk

A standardised value at risk model incorporating all positions is used for the internal management of market risk. The VaR quantifies the potential loss from financial instruments as a result of changed market conditions over a predefined time horizon and with a specific probability.

Our VaR market risk model is based on an historical simulation with a 1-year interval of historical market data. The historical simulation determines the profit and loss distribution of the current portfolio by means of revaluation using historical changes in market rates, prices and volatility. This is done on the basis of independent market data which is quality-assured on a daily basis and fed into a central market database at a standard defined time. Market data is provided for all relevant positions in our asset classes interest rates, credit spreads, equities, foreign currencies and commodities. This market data takes the form of prices quoted directly on the market or derived market data, such as yield and credit spread curves, derived using internal methods. A proxy concept is used if no market data is available for individual exposures. In this case, prices are derived from those for comparable instruments.

For internal management purposes, a confidence level of 97.5% and a holding period of 1 day are assumed. The value at risk concept makes it possible to compare risks over a variety of business areas, and to aggregate many positions, taking account of correlations between different assets. This ensures a consolidated view of the market risk at all times. A comprehensive internal limit system broken down to portfolio level is implemented and represents an important part of internal market risk management.

The VaR market risk model described above is also used to calculate regulatory required capital. This regulatory capital backing is required for trading book risks and for currency and commodity price risks in the banking book. A confidence level of 99% and a 10-day holding period are used for the regulatory capital adequacy requirement. These assumptions meet the requirements of the Basel Committee and other international standards on the management of market risk. For certain evaluations, such as back-testing and disclosure, the VaR is also calculated on the basis of a 1-day holding period. In order to provide for a consistent presentation of the risk parameters in this report, all figures relating to VaR are based on a confidence level of 99 % and a holding period of 1 day.

Stress test

As the VaR concept gives a prediction of potential losses on the assumption of normal market conditions, it is supplemented by the calculation of stress tests. These stress tests measure the risk to which Commerzbank is exposed, based on unlikely but still plausible events. These events may be simulated using extreme movements on various financial markets. The key scenarios relate to major changes in credit spreads, interest rates and yield curves, exchange rates, share prices and commodities prices. Examples of stress tests include price losses by all equities of 15%, a parallel shift in the yield curve or a change in the steepness of this curve.

Extensive group-wide stress tests and scenario analyses are carried out as part of risk monitoring. The bank-wide stress test calculation is based on a combination of short-term stress test scenarios and scenarios based on macro-economic variables. The stress test framework is completed by portfolio-specific stress tests and ad-hoc scenario analyses.

Stress tests are intended to simulate the impact of crises and extreme market conditions on the Bank's overall market risk position. The impact on the respective components of capital and income statement is also quantified in these tests.

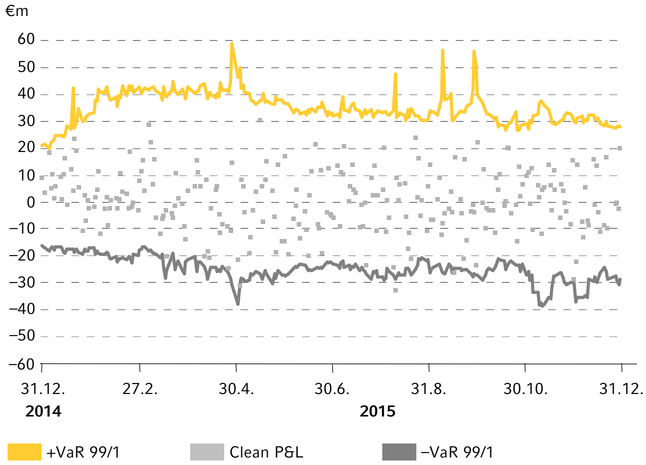
In order to manage and monitor risks, short-term scenarios are calculated daily, compared to fixed limits and reported to the Board of Managing Directors. The longer-term scenarios are calculated on a monthly basis and discussed in the respective committees.

Model validation

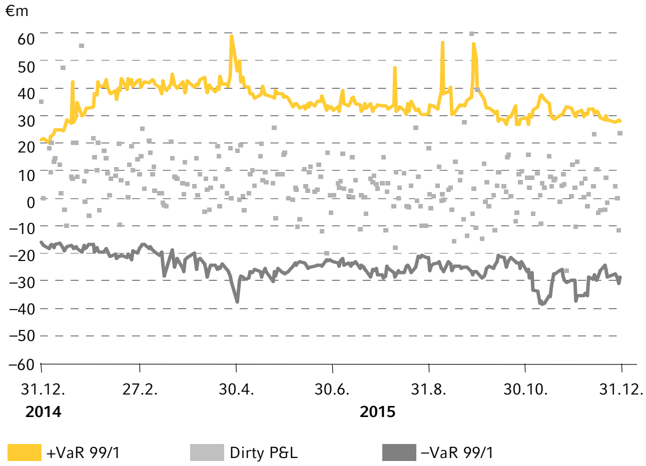
The reliability of the internal model is monitored by back-testing procedures on a daily basis, in which the VaR calculated is set against actually occurring profits and losses. The process draws a distinction between "clean P&L" and "dirty P&L" backtesting. In the former, exactly the same positions in the income statement are used as were used for calculating the VaR, so that the profits and losses result only from the price changes that occurred on the market. In dirty P&L backtesting, by contrast, profits and losses from newly-concluded and expired transactions from the day under consideration are included. If the loss thus arrived at exceeds the VaR, it is described as a negative back-testing outlier.

Analysing the results of backtesting provides guidance for checking parameters and for improving the market risk model. In 2015, we saw three negative clean P&L outliers. There were no dirty P&L outliers during the same period. 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 on Group level (from both clean P&L and dirty P&L) must be reported to the supervisory authorities, citing their extent and cause.

Clean P&L backtesting results



Dirty P&L backtesting results



The individual components of the internal model are regularly validated for their appropriateness for risk measurement. These include the underlying model assumptions and parameters and the proxies used. The validation analyses are carried out using a materiality and risk-oriented prioritisation and planning process established by the central Market Risk Model Validation Panel. In addition to the further development of the validation methodology for key components of the economic capital model for market risk, the focus of the validation activities in 2015 was on market data methodology for CVA risk and on the specific risk analysis for specific product groups.

All of the validations performed are reported on a quarterly basis to the Segment Market Risk Committee and the Board of Managing Directors. The identification and elimination of any model shortcomings are of particular importance. These are classified in terms of their impact on VaR and monitored using specific scenario scales. Too, against this background, model adjustments were implemented in 2015 that further improve the accuracy of risk measurement. This was caused in particular by the changed market environment for interest rates and interest rate volatilities.

Valuation of financial instruments

Valuation models must be consistent with accepted economic methodologies for pricing financial instruments. They must incorporate all factors that market participants would consider appropriate in setting a price. At Commerzbank Group, standards have been established in the form of internal controls and procedures for the independent verification and validation of all fair values. These controls and procedures are managed or coordinated by the Independent Price Verification (IPV) Group within the finance function. The models, inputs and resulting fair values are reviewed regularly by Senior Management and the risk function.

The IPV process is founded on a risk-based approach. This also takes into account internal factors such as changes in business strategy, the expansion or downsizing of business activities and external factors such as developments in markets, products and valuation models. The regular independent price testing mainly consists of analysing prices or input parameters and calculating the associated change in fair value and the P&L. Once a price is directly observable, e.g. the settlement price of a future or the stock market price of a share, the products are valued at the bid or offer side, depending on whether they are a long or a short position. However, if a valuation model for determining fair value is applied, the respective input parameters at mid-market are used, e.g. implied volatilities or dividends to value a share option, plus any possible bid-offer reserves.

The IFRS 13, which is to be applied since the financial year 2013, brings together the rules for measuring fair value. Under IFRS 13, the fair value of an asset is the amount for which it could be sold between knowledgeable, willing, independent parties in an arm's length transaction. The fair value therefore represents an exit price.

The fair value of a liability is defined as the price at which the debt could be transferred to a third party as part of an orderly transaction. The fair value of a liability also reflects the own non-performance risk.

The most suitable measure of fair value is the quoted price for an identical instrument in an active market (fair value hierarchy level I). In cases where no quoted prices are available, valuation is based on quoted prices for similar instruments in active markets. Where quoted prices are not available for identical or similar financial instruments, fair value is derived using an appropriate valuation model where the data inputs are obtained, as far as possible, from observable market sources (fair value hierarchy level II).

Most valuation methods are based on data from observable market sources. However, some valuation models use inputs for which sufficient observable current market data is not available. These valuation methods inherently include a greater level of expert or management judgement. These unobservable inputs may include data that is extrapolated or interpolated, or may be derived by approximation to correlated or historical data. However, such inputs maximise market or third-party inputs and rely as little as possible on expert estimates or company-specific inputs (fair value hierarchy level III).

Quantitative information on market risks

Market risk in the trading book

The development of regulatory market risk ratios in the trading book portfolio is shown below. Commerzbank's trading book positions are mainly in the Corporates & Markets and Treasury business areas.

The VaR rose from €16m to €29m over the year. The average for the year was at €25m also higher than the previous year's figure of €15m. The main reasons for the increase were higher market volatilities.

Table 42: VaR of trading book portfolios (based on regulatory capital requirement)

VaR[1] | €m	2015	2014
Minimum	17	11
Average	25	15
Maximum	39	37
Year-end figure	**29**	**16**

[1] 99% confidence level, holding period 1 day, 254-day history.

The market risk profile is diversified across all asset classes. The dominant asset class is foreign exchange risk, followed by credit spread, interest rate risks and equity risks. To a lesser extent, value at risk is also affected by commodity and inflation risk.

Further risk ratios are being calculated for regulatory capital adequacy. This includes the stressed VaR calculation, which is based on the internal model and in line with the VaR methodology described above. The main difference lies in the market data used to value the assets. In stressed VaR, the risk of the present position in the trading book is evaluated by reference to market movements from a specified crisis period in the past. The crisis observation period used for this is checked regularly through model validation and approval processes and adjusted where necessary. The crisis observation period was not changed in the course of the year.

Table 43: Stressed VaR of trading book portfolios

VaR[1] | €m	2015	2014
Minimum	25	19
Average	34	30
Maximum	49	39
Year-end figure	**27**	**38**

[1] 99% confidence level, holding period 1 day, 254-day history.

In addition, the incremental risk charge and equity event VaR ratios quantify the risk of deterioration in creditworthiness as well as event risks in trading book positions. Equity event VaR is conceptually part of the historical simulation taking into account empirical equity events over long observation periods. It is a component in the regulatory VaR calculation and included in the values of table 42.

The incremental risk charge is based on the credit VaR model with historical data for rating migration and default probabilities and for recovery factors. The model shows current gains and losses on positions in the event of rating changes. In addition, in calculating the incremental risk charge, assumptions are made regarding liquidity (average regrouping/liquidity horizon). These liquidity horizons are set on a portfolio-specific basis, taking into account market structure and activity and concentrations of positions. The incremental risk charge as at 31 December 2015 was as follows:

Table 44: Incremental risk charge

IRC | €m	2015	2014
Minimum	107	132
Average	180	177
Maximum	247	241
Year-end figure	**148**	**158**

Table 45: Incremental risk charge by sub-portfolios

Sub-portfolio	IRC[1] €m	Average regrouping horizon | months
Corporates & Markets	149	5.3
Treasury	19	12.0

[1] Excluding diversification effects between sub-portfolios.

Stressed VaR decreased by €10m year-on-year to €27m, mainly as a result of exposure changes in the business area Treasury. Also, the incremental risk charge decreased by €10m to €148m. This was mainly attributable to exposure changes in the business area Corporates & Markets.

Market liquidity risk

In taking steps to ensure economic capital adequacy, Commerzbank also considers market liquidity risk. It is defined as the risk of the Bank not being able to liquidate or hedge risky positions in a timely manner, to the desired extent and on acceptable terms as a result of insufficient liquidity in the market.

First, a realistic liquidation profile is determined for each portfolio with reference to its product and risk strategy and on the basis of a corresponding market estimate. This enables portfolios to be classified in terms of their convertibility into cash using a so-called market liquidity factor. The market liquidity factor takes into account the higher volatility of the portfolio's value based on an extended holding period for risk positions that corresponds to the portfolio's liquidation profile. The market risk of every portfolio is then evaluated based on a one-year view and weighted with the market liquidity factor.

At the end of 2015, Commerzbank earmarked €0.2bn in economic capital to cover market liquidity risk in the trading and banking book. Asset-backed securities and structured products in particular showed higher market liquidity risk.

Table 46: Market liquidity VaR

Capital requirement | €m	2015	2014
Minimum	151	104
Average	202	124
Maximum	256	151
Year-end figure	**207**	**105**

Interest rate risk in the banking book

The interest rate risk is one of the most significant financial risks posed by banking operations. This includes in particular the risk of value adjustments as a result of interest rate fluctuations over time. The maturity of interest positions and their refinancing structure are fundamental factors in the management of interest rate risks. In commercial business, the model includes assumptions on early repayments and on investor behaviour when deposits are open-ended. The risk of a flattening or steepening in the interest rate curve is also covered. Interest rate risks may also arise if positions are closed as a result of hedging transactions with a different pricing type to the underlying transaction (basis risks). Interest rate risks relate to Commerzbank's banking book and trading book. The combined position of both books results in Commerzbank's overall interest rate risk.

Strategy and organisation

The interest rate risk in the Commerzbank Group's banking book primarily results from the commercial business. Interest rate risks arise here if interest positions in the customer business are not hedged or are only partially hedged. Interest rate risks also arise from the investment models used by the central ALCO (Asset Liability Committee) which comprise in particular the investment and/or refinancing of products without contractually fixed interest rates, e.g. for equity capital, savings and sight deposits.

In Commerzbank Group, the interest rate risk in the banking book lies in the responsibility of Group Treasury within the scope of the business strategy. In addition to the positions of the central Group Treasury, the treasury activities of branches and all subsidiaries are also taken into consideration.

The Treasury's main tasks include the management of the balance sheet structure and of liquidity risks. The aim is to generate a positive interest margin from interest income and refinancing expenses. This gives rise to interest rate risks if positions are not refinanced with matching maturities and matching currencies.

Management

Commerzbank jointly manages the interest rate risk from both the trading and banking book. This is done strategically by means of risk policies and operationally by means of appropriate limit systems. The risks are consolidated in the central risk management. The central risk management is supplemented by a risk management unit for Treasury within the market risk function.

Interest rate risks in the banking book are managed in line with the business strategy by means of maturity- and currency-congruent refinancing and the use of interest rate derivatives. Interest rate swaps that have sufficient market liquidity, for instance, enable a prompt response to management changes. However, some products without fixed maturities, such as sight and savings deposits or equity capital, are available to the Bank in the long term. Here the Bank uses appropriate models to manage interest rate risks and stabilise earnings performance. Our models are regularly monitored.

Quantitative information on interest rate risks in the banking book

The measurement of interest rate risk is completely integrated into the Bank's daily measurement and monitoring of risk. As with the measurement of trading book risks, the risk quantification in the banking book is also calculated using the value at risk method. Stress tests and scenario analyses are also calculated on a daily and monthly basis. For this purpose, the aforementioned stress test calculations are used. This standardised procedure is intended to ensure transparency of the interest rate risks in both the trading and banking book.

A further control variable for interest rate risks in the banking book are interest rate sensitivities. These indicate how the interest income varies following a change of the interest level by, for example, one basis point (bp). Interest rate sensitivities are also monitored on a daily and monthly basis. This monitoring takes place at both a portfolio and segment level as well as for Commerzbank Group. For management purposes, the interest sensitivities are limited to the various maturity bands at both a Group and segment level. The focus is particularly placed on interest sensitivities relating to long maturity periods.

The impact of an interest rate shock on the economic value of the Group's banking books is simulated monthly in compliance with regulatory requirements. In accordance with the Banking Directive, the Federal Financial Supervisory Authority has prescribed two uniform, sudden and unexpected scenarios of changes in interest rates (+/–200 basis points) to be used by all banks. The banks have to report on the results of these stress tests every quarter.

On this basis, the interest rate shift of +200 basis points would give a potential loss of €1,784m, and the shift of –200 basis points would lead to a potential gain of €1,141m as at 31 December 2015. These figures include the exposures of Commerzbank Aktiengesellschaft and significant subsidiaries.

Table 47: Interest rate risk in the banking book by currency

€m	2015		2014	
Interest rate shock	**–200 bp**	**+200 bp**	**–200 bp**	**+200 bp**
EUR	63	–1,417	–140	–1,247
USD	266	–142	41	8
GBP	627	–180	657	–220
JPY	89	6	100	35
CHF	62	–14	69	13
Other	33	–36	25	–30
Total	**1,141**	**–1,784**	**751**	**–1,442**

The potential gains and losses are primarily caused by movements in the euro yield curve. The changes in the GBP result are mainly due to hedging activities in respect of credit valuation adjustments (CVAs). Commerzbank manages its interest rate risk on the basis of total bank positions (including the trading book). This has to be kept in mind when assessing the simulation results.

Liquidity risk

We define liquidity risk in a narrower sense as the risk that Commerzbank will be unable to meet its payment obligations on a day-to-day basis. In a broader sense, liquidity risk describes the risk that future payments cannot be funded to the full amount, in the required currency or at standard market conditions, as and when they are due.

Risk management

Strategy and organisation

The Board of Managing Directors adopts the business strategy and the Bank's risk tolerance, which is associated with it. Liquidity risk tolerance is then operationalised by defining the liquidity reserve period and the limit framework. In order to ensure an appropriate liquidity risk management process, the Board of Managing Directors delegates certain competences and responsibilities in connection with the Group-wide liquidity risk strategy to the risk and Treasury functions.

The central Asset Liability Committee (ALCO) is responsible for limiting, analysing and monitoring liquidity risk and for strategic liquidity positioning. In this, it is supported by the Liquidity Review Forum (LRF) and the risk function.

Functional risk management

Commerzbank uses a wide range of tools to manage and monitor liquidity risks on the basis of its own liquidity risk model. The stress scenario within the Bank that underlies the model and is relevant for management purposes allows for the impact of both a bank-specific stress event and a broader market crisis. Binding regulatory requirements are an integral component of the management mechanism.

Group Treasury is responsible for the Group's liquidity management operations. Group Treasury is represented in all major locations of the Group in Germany and abroad and has reporting lines into all subsidiaries. Liquidity risk is monitored on the basis of the Bank's own liquidity risk model by the independent risk function.

The Bank has established early warning indicators for the purpose of managing liquidity risk. These ensure that appropriate steps can be taken in good time to secure long-term financial solidity.

Risk concentrations can lead to increased outflows of liquidity, particularly in a stress situation, and thus to increased liquidity risk. They can, for example, occur with regard to maturities, large individual creditors or currencies. By means of ongoing monitoring and reporting, emerging risk concentrations in funding can be recognised in a timely manner and mitigated through suitable measures.

In the event of a liquidity crisis, the emergency plan provides for various measures for different types of crisis that can be launched by the central ALCO. The emergency plan forms an integral part of Commerzbank's recovery plan and is updated annually. It enables a clear allocation of responsibility for the processes to be followed in emergency situations as well as the adequate definition of any action that may need to be taken.

The Bank is still looking closely at the central issues arising from regulatory issues, e.g. the requirements resulting from the EBA Supervisory Review and Evaluation Process (SREP). In strategic projects we are constantly monitoring the further development of the management tools. In this connection, the range of analysis options available in liquidity risk reporting is being continually expanded.

Information on the encumbrance of assets pursuant to Article 443 CRR can be found in the Annual Report 2015, pages 340-341.

Liquidity risk model

In 2015, Commerzbank has further extended and improved its liquidity risk framework, considering the current business and regulatory conditions. The combination of modelling and limiting results in the quantitative structuring of our liquidity risk tolerance, which is in line with the overall risk strategy.

The key element of liquidity risk management is the daily calculation of the liquidity gap profile. The objective of the liquidity gap profile is the representation of future expected deterministic or stochastic cash in- and outflows as per reporting date and across all portfolios. On this basis liquidity needs or surplus for each spectrum of maturities are determined. This also comprises the modelling of permanently available parts of customers' deposits, so-called deposit base.

The liquidity gap profile also is used to derive the issue strategy of Commerzbank Group which is implemented by Group Treasury. Group Finance is responsible for the determination and allocation of liquidity costs on the basis for the liquidity gap profile. The liquidity costs will be taken into account in the segments' business management activities.

The liquidity gap profile is shown for the whole of the modelling horizon across the full spectrum of maturities. Thereby the liquidity gap profile follows a multi-level concept. The levels 1 to 5 include deterministic and modelled cash flows of existing business while planned new business is considered in the calculus on levels 6 and 7.

Based on the methodology of the liquidity gap profile, management mechanisms such as recovery and early warning indicators are being limited and monitored accordingly. The liquidity gap profile is limited for all maturity bands up to 30 years, whereat the daily controls focus on the short-term maturity bands up to 1 year. The Group limits are broken down into individual currencies and Group units.

Stress tests

Commerzbank carries out stress tests on an ongoing basis. The parameterisation of the stress scenarios is derived from the risk tolerance that is determined in accordance with the overall risk strategy and updated as required. We draw a distinction between bank-specific, general stress scenarios on the one hand and, on the other, scenario combinations that map all relevant projection periods. The aim is to prevent potential liquidity bottlenecks, even under difficult market conditions.

The main liquidity risk drivers underlying the stress scenario are a markedly increased outflow of short-term customer deposits, above-average drawdown of credit lines, extensions of lending business regarded as commercially necessary, the need to provide additional collateral for secured transactions and the application of higher risk discounts to the liquidation values of assets.

As part of the survival period scenario under MaRisk, an acute collapse of the interbank and capital market in particular is simulated over several days, followed by a further stress phase of up to one month with a moderate recovery in the short-term money market.

These stress scenarios that are relevant for management are supplemented by additional reverse and adverse scenario analyses which as well exceed the defined risk tolerance.

Liquidity coverage ratio (LCR)

The LCR was adopted by the European Union as part of the "delegated act" on 17 January 2015 and became binding on all European banks with effect from 1 October 2015. The LCR is calculated as the ratio of liquid assets to net liquidity outflows under stressed conditions. It is used to measure whether a bank has a large enough liquidity buffer to independently withstand any potential imbalance between inflows and outflows of liquidity under stressed conditions over a period of 30 calendar days. Following an introductory period, a minimum ratio of 100% must be complied with from 1 January 2018 onwards. Until then, the ratio will be 60% from October 2015, 70% in 2016 and 80% in 2017.

Commerzbank significantly exceeded the stipulated minimum ratio on every reporting date in 2015, meaning that its LCR remains comfortably in excess of minimum statutory requirements.

Operational risk

Based on the Capital Requirements Regulation (CRR), Commerzbank defines operational risk (OpRisk) as the risk of loss resulting from the inadequacy or failure of internal processes, people and systems or from external events. This definition includes legal risks; it does not cover strategic risks or reputational risks. Given its heightened economic significance, compliance risk is managed as a separate risk type by Commerzbank's compliance function. In line with the CRR, however, losses from compliance risks are still incorporated into the model for determining regulatory and economic capital for operational risks.

Risk management

Strategy and organisation

Within Commerzbank, OpRisk and governance issues of the Internal Control System (ICS) are closely connected in terms of both organisational structure and methodology and are continuously being enhanced. This is because many OpRisk cases are closely linked with failures in the control mechanisms. A properly functioning ICS thereby helps to reduce or avoid losses from operational risks and thus to lower the amount of capital required to cover operational risks in the medium to long term. Conversely, the operational risk management systems enable the ICS to adapt itself consistently to them. The reinforcement of the ICS structure is an essential aspect of the pro-active reduction or prevention of operational risks.

Chaired by the CRO, the Group OpRisk Committee meets four times a year and deals with the management of operational risks within Commerzbank Group. It also acts as the escalation and decision-making committee for key OpRisk topics that span all areas. The Segment OpRisk Committees deal with the management of operational risk in the relevant units. They conduct structured analyses of all OpRisk issues that affect them, such as loss events, and define subsequent measures or recommend action.

Commerzbank's OpRisk strategy is approved on an annual basis by the Board of Managing Directors after it has been discussed and voted upon in the Group OpRisk Committee. It describes the risk profile, key elements of the desired risk culture, its management framework and measures to be taken by the Bank to manage operational risk.

As such, OpRisk management is based on three consecutive levels (three lines of defence) which, when taken together, are crucial for reaching the given strategic aims.

Functional risk management

Commerzbank takes an active approach to managing operational risk, aiming to systematically identify OpRisk profiles and risk concentrations and to define, prioritise and implement risk mitigation measures.

Operational risks are characterised by asymmetric distribution of losses, so that most of the losses are relatively small, while isolated losses with a very low probability of occurrence have the potential to be large and devastating. This makes it necessary not only to limit the high loss potential but also to pro-actively manage losses that can be expected to occur frequently.

To do this, Commerzbank has set up a multi-stage system that brings together the defined limits on economic capital (risk capacity) and those set for operational risk management during the year (risk appetite/tolerance). It is complemented by rules on the transparent and conscious acceptance and approval of individual risks (risk acceptance).

OpRisk management includes an annual evaluation of the Bank's ICS and a risk scenario assessment. Furthermore, OpRisk loss events are subjected to ongoing analysis and to ICS backtesting on an event-driven basis. Where loss events involve ≥ €1m, lessons learned activities are carried out. External OpRisk events at competitors are also systematically evaluated.

A structured, centralised and decentralised reporting system ensures that the management of the Bank and its segments, members of the OpRisk Committees and the supervisory bodies are informed regularly, promptly and fully about operational risk. OpRisk reports are prepared on a monthly and quarterly basis and form part of the risk reporting process to the Board of Managing Directors and to the Risk Committee of the Supervisory Board. They contain the latest risk assessments of the segments, their main loss events, current risk analyses, changes in the capital requirement and the status of measures implemented.

OpRisk-Model

Commerzbank measures regulatory and economic capital for operational risk using the advanced measurement approach (AMA). The capital charge determined using quantitative methods is supplemented by qualitative components, in line with the requirements of CRR. The AMA is applied throughout the group. The capital of a subsidiary not included in the AMA is calculated using the outside-AMA.

Quantitative components

The AMA model's quantitative components include internal and external OpRisk loss data along with mathematical/statistical modelling.

Group-wide internal OpRisk loss data in line with regulatory requirements is collected from a starting threshold of €10,000 in a Group-wide loss database. As the internally calculated loss data history cannot always reflect extreme OpRisk events adequately, additional external OpRisk events must be factored into the AMA model. For this purpose we use relevant external data from the Operational Riskdata eXchange Association, Zurich (ORX), a data consortium of international banks. For mathematical/statistical modelling, the data is grouped by combinations of business line, event type and region. Loss frequency is modelled on the basis of internal loss data, while distribution is modelled on the basis of internal and external loss data.

A modelling of insurance and alternative OpRisk transfers does not currently take place.

Qualitative components

Qualitative methods (the risk scenario assessment and the business environment and control system) are used to complement the information from the quantitative model components.

The risk scenario assessment represents an ex-ante risk assessment of operational risks. Based on expert opinions and in accordance with the requirements of MaRisk, they serve to identify exceptional but plausibly possible risk events which could jeopardise the Bank's existence or severely affect its results and incorporate these into modelling.

The business environment and control (BEC) system provides incentives to reduce operational risk and to improve risk management. The impact of business environment and internal control factors on regulatory and economic OpRisk capital is shown in the OpRisk model in the form of capital premiums and discounts. The BEC system takes into account the following qualitative OpRisk elements:

- Internal control system (ICS): As part of the annual ICS review, the company-wide ICS control mechanism is evaluated in terms of its functionality. To ensure that the internal control system factors are properly represented, the ICS as a BEC subject area consists of three components: ICS self-assessment (assessment by the units implementing the controls), ICS testing (independent review by internal audit) and ICS documentation (modelling status in the Bank's process model).
- Human resources risk: The human resources risk report prepared by the Group Human Resources division takes into account current areas of human resources activity and presents risk information on the basis of set criteria.
- IT risk: The IT risk report prepared by the Group Services division brings together data relating to IT risk in the areas of IT changes and incidents, IT security and access management. The data cover the four IT security targets: confidentiality, integrity, availability and transparency.
- Key risk indicators (KRIs): KRIs are used to manage operational risk by means of early warning signals.

- OpRisk management: The OpRisk & ICS area evaluates the active OpRisk management of the material units on the basis of a uniform list of criteria. In addition, information on the resolving status of audit findings is included in the BEC system.
- Top-level adjustments (TLAs): TLAs are only used in well-founded exceptional cases in order to establish a risk buffer for extraordinary changes in the OpRisk environment and to include it in the OpRisk capital calculation at short notice. Currently no TLAs are applied.

Stress testing and validation

As an integral part of risk management and the risk-bearing capacity concept, stress tests for operational risk are carried out on a regular basis. As a basis for the stress method, the AMA model is consistently used to determine the capital requirement, with suitable increases in the relevant influencing factors (such as rising losses).

To ensure that the AMA model remains appropriate, the measurement approach is validated on a regular basis. The validation covers both, assessments of the quantitative and qualitative components, as well as their interaction. The validation of all AMA components, which took place in 2015, confirmed the appropriateness of the model. Insignificant changes are planned or already implemented within the framework of the ongoing development of the AMA measurement system. No need for material additions or changes was identified.

Other risks

In addition to those risks explicitly defined in the CRR, further risk types are also systematically and actively managed within Commerzbank Group. For details on other risks please refer to the Risk Report in the Annual Report 2015.

Appendix

Consolidation matrix and material Group entities

While the Commerzbank Group's Annual Report is based on the group of consolidated entities under IFRS definitions, the information in this Disclosure Report relates to the entities consolidated for regulatory purposes.

Subsidiaries or controlled companies for the purposes of IFRS accounting that are not in the financial sector are not consolidated for regulatory purposes. They are, however, consolidated in the Group financial statements under IFRS.

The consolidation matrix (see following table 48) shows the regulatory consolidation categories for the various companies in Commerzbank Group. The material companies included in this Disclosure Report are shown individually in the upper part of the matrix.

The immaterial companies which are of lesser financial significance in accordance with the definition of materiality are shown in the lower part of the matrix.

The classification of the companies is based on section 1 KWG, supplemented by insurance companies and capital investment companies. The Commerzbank Group's investments that are not consolidated for regulatory purposes are not shown.

The Bank's classification includes both universal banks and specialist banks. Financial services institutions include investment companies, holding companies and other financial companies.

The special purpose vehicles that are deemed to be controlled by Commerzbank Aktiengesellschaft under the criteria of IFRS 10 are mainly securitisation vehicles and special funds consolidated under IFRS. 145 special purpose vehicles were consolidated under IFRS at the reporting date; there is currently no requirement to consolidate these vehicles for regulatory purposes.

Material companies of the Commerzbank Group are listed by name in the Company column in the consolidation matrix. The number of subsidiaries as well as investments of material companies which are relevant for regulatory purposes is shown, broken down into segments, by consolidation type in the Consolidation column. There are two types of consolidation for regulatory purposes: full and pro rata. Full consolidation is applied to subsidiaries and pro rata consolidation for qualified minority interests.

To avoid the deduction for investments pursuant to section 10.6 KWG, equity investments in institutions and financial companies may also be voluntarily consolidated on a pro rata basis.

The material entities in the Group – besides Commerzbank Aktiengesellschaft – are the following:

- mBank S.A. is a modern bank operating in the direct banking area. As such, it serves customers in retail, corporate and investment banking in Poland, and in retail banking in the Czech Republic and Slovakia. At the end of 2015, with a market share of 8%, mBank was the fourth-largest bank in Poland. Besides others, the mBank Group includes mBank Hipoteczny S.A., the leading mortgage bank in Poland.
- comdirect bank AG, a comdirect Group company, is a direct bank and the market leader among Germany's online brokers. comdirect bank AG is a full-service bank and offers its private customers all services from one source.
- Commerz Real AG is a provider of leasing and investment solutions. At the end of 2015, the volume of the managed assets amounted to €31bn.
- Effective from 15 February 2016, Erste Europäische Pfandbrief- und Kommunalkreditbank AG in Luxembourg (EEPK) was renamed to Commerzbank Finance & Covered Bond S.A. (CFCB). It is a specialist bank concentrating on public finance.
- Hypothekenbank Frankfurt AG is a specialist bank concentrating on real estate and public finance.

Risk-weighted investments shown in table 49 below are investments that are consolidated under IFRS but not for regulatory purposes. They are allocated to the equity investments asset class under the CRR and are treated like any other investment position in this asset class.

Information on the group consolidation of Commerzbank Aktiengesellschaft is set out in the notes to the Annual Report (online version; Note 104: Ownership interests).

Table 48: Consolidation matrix

Company	Classification according to KWG	No.	Consolidation
Material companies			
Commerzbank AG	Provider of secondary services	17	full
	Financial services institutions	4	full
	Financial companies	41	full
		27	deduction
	Capital investment companies	1	full
	Banks	1	pro rata
		4	full
		8	deduction
	Special purpose vehicles	145	–
comdirect bank AG	Banks	2	full
Commerz Real AG	Financial services institutions	2	deduction
		4	full
	Financial companies	198	deduction
		15	full
	Capital investment companies	3	full
Erste Europäische Pfandbrief- und Kommunalkreditbank AG (from 15.2.2016: Commerzbank Finance & Covered Bond S.A. – CFCB)	Banks	1	full
Hypothekenbank Frankfurt AG	Provider of secondary services	1	full
	Financial companies	9	deduction
		3	full
	Banks	1	full
mBank S.A.	Provider of secondary services	2	full
	Financial services institutions	3	deduction
	Financial companies	6	deduction
		3	full
	Banks	2	full
Immaterial companies			
	Provider of secondary services	9	full
		1	pro rata
	Financial services institutions	1	full
	Financial companies	27	full
		16	deduction
	Capital investment companies	3	full

Table 49: Investments consolidated under IFRS

Classification according to KWG	No.	Consolidation under IFRS
Capital investment companies	1	at equity
Other companies	6	at equity
	35	full

Table 50: Addition to table 1 (Equity structure):
B: Reference to article in EU regulation no. 575/2013

Line	(B) Reference to article in the regulation (EU) Nr. 575/2013
1	26 (1), 27, 28, 29, EBA list 26 (3)
1a	EBA list 26 (3)
1b	EBA list 26 (3)
1c	EBA list 26 (3)
2	26 (1) (c)
3	26 (1)
3a	26 (1) (f)
4	486 (2)
4a	483 (2)
5	84, 479, 480
5a	26 (2)
6	
7	34, 105
8	36 (1) (b), 37, 472 (4)
9	
10	36 (1) (c), 37, 472 (4)
11	33 (a)
12	36 (1) (d), 40, 159, 472 (6)
13	32 (1)
14	33 (b)
15	36 (1) (e), 41, 472 (7)
16	36 (1) (f), 42, 472 (8)
17	36 (1) (g), 44, 472 (9)
18	36 (1) (h), 43, 45, 46, 49 (2) (3), 79, 472 (10)
19	36 (1) (i), 43, 45, 47, 48 (1) (b), 49 (1) to (3), 79, 470, 471 (11)
20	
20a	36 (1) (k)
20b	36 (1) (k) (i), 89 to 91
20c	36 (1) (k) (ii), 243 (1) (b), 244 (1) (b), 258
20d	36 (1) (k) (iii), 379 (3)
21	36 (1) (c), 38, 48 (1) (a), 470, 472 (5)
22	48 (1)
23	36 (1) (i), 48 (1) (b), 470, 472 (11)
24	
25	36 (1) (c), 38, 48 (1) (a), 470, 472 (5)
25a	36 (1) (a), 472 (2)
25b	36 (1) (l)
26	
26a	
26a.1	467
26a.2	468
26b	481
27	36 (1) (j)
28	
29	
30	51, 52
31	
32	
33	486 (3)
33a	486 (3)
34	85, 86, 480
35	486 (3)
36	
37	52 (1) (b), 56 (a), 57, 475 (2)
38	56 (b), 58, 475 (3)
39	56 (c), 59, 60, 79, 475 (4)
40	56 (d), 59, 79, 475 (4)
41	
41a	472, 472 (3)(a), 472 (4), 472 (6), 472 (8) (a), 472 (9), 472 (10) (a), 472 (11) (a)
41a.1	472 (3)(a)
41a.2	472 (4)
41a.3	472 (6)
41a.4	472 (8)(a)
41a.5	472(9)
41a.6	472(10)
41.7	472(11)
41b	477, 477 (3), 477 (4) (a)
41c	467, 468, 481
41c.1	467
41c.2	468
41c.3	481
42	56 (e)
43	
44	
45	
46	62, 63
47	486 (4)
47a	483 (4)
48	87, 87, 480
49	486 (4)
50	62 (c) & (d)
51	
52	63 (b) (i), 66 (a), 67, 477 (2)
53	66 (b), 68, 477 (3)
54	66 (c), 69, 70, 79, 477 (4)
55	66 (d), 69, 79, 477 (4)
56	
56a	472, 472 (3)(a), 472 (4), 472 (6), 472 (8) (a), 472 (9), 472 (10) (a), 472 (11) (a)
56b	475, 475 (2) (a), 475 (3), 475 (4) (a)
56c	467, 468, 481
56c.1	467
56c.2	468
57	
58	

Line	(B) Reference to article in the regulation (EU) Nr. 575/2013
59	
59a	
59a.1	472, 472 (5), 472 (8) (b), 472 (10) (b), 472 (11) (b)
59a.2	472, 475 (2) (b), 475 (2) (c), 475 (4) (b)
59a.3	477, 477 (2) (b), 477 (2) (c), 477 (4) (b)
60	
61	92 (2) (a), 465
62	92 (2) (b), 465
63	92 (2) (c)
64	CRD 128, 129, 130
65	
66	
67	
67a	CRD 131
68	CRD 128
69	
70	
71	

Line	(B) Reference to article in the regulation (EU) Nr. 575/2013
72	36 (1) (h), 45, 46, 472 (10), 56 (c), 59, 60, 475 (4), 66 (c), 69, 70, 477 (4)
73	36 (1) (i), 45, 48, 470, 472 (11)
74	
75	36 (1) (c), 38, 48, 470, 472 (5)
76	62
77	62
78	62
79	62
80	484 (3), 486 (2) & (5)
81	484 (3), 486 (2) & (5)
82	484 (4), 486 (3) & (5)
83	484 (4), 486 (3) & (5)
84	484 (5), 486 (4) & (5)
85	484 (5), 486 (4) & (5)

Table 51: Credit risk parameters by geographical location (incl. default portfolio, i.e. for default positions PD = 1)

	in %	Belgium	China	Germany	France	UK	Hong-kong	Italy	Japan	Luxem-bourg	Nether-lands	Austria
Central governments or central banks	LGD		52.59	10.71	30.00	10.22	76.30	39.85	20.20			
	PD		0.13	0.09	0.19	0.01	0.04	0.62	0.22			
Institutions	LGD	34.89	42.48	38.82	36.30	53.84	32.23	45.20	42.93	39.73	53.21	18.67
	PD	0.10	0.52	0.27	0.16	1.36	0.25	1.38	0.11	0.09	0.10	0.72
Corporates	LGD	41.45	37.17	35.79	39.38	42.21	34.93	37.71	35.02	32.04	40.58	44.51
	PD	0.36	0.49	5.79	1.99	1.32	0.68	9.26	1.08	10.59	5.00	6.07
thereof specialised lending	LGD	29.15	35.26	32.91	32.48	32.09	21.60	32.45		43.06	32.39	30.38
	PD	1.30	5.79	20.92	7.00	4.46	0.74	19.59		34.27	23.79	5.53
thereof SMEs	LGD		43.78	32.03	36.31	50.16	43.78	44.17	46.80	36.80	40.36	40.71
	PD		0.67	5.34	0.56	1.26	1.99	4.86	100.00	0.66	0.17	0.28
Retail	LGD	24.67	34.43	26.34	24.46	23.58	28.86	23.93	34.58	26.30	24.56	26.88
	PD	1.69	0.61	1.56	1.42	1.08	0.54	1.06	2.80	1.97	2.09	1.32
Secured by mortg. on immov. property, SMEs	LGD			14.18							19.77	
	PD			1.59							0.87	
Sec. by mortg.on immov. property, excl. SMEs	LGD	18.52	28.35	19.78	19.97	20.34	19.62	17.61	17.57	23.34	19.22	18.32
	PD	2.00	0.23	1.13	1.36	0.76	0.63	1.27	6.03	1.88	0.70	0.95
Qualifying revolving	LGD	59.61	57.95	59.69	59.66	59.35	58.97	59.55	60.27	59.06	59.58	58.94
	PD	0.73	0.11	0.43	0.30	1.57	0.11	0.25	0.16	0.22	1.81	1.62
Other, SMEs	LGD	38.62	40.68	36.96	43.28	28.84	41.38	35.59	44.63	35.65	33.89	28.81
	PD	1.84	1.23	4.46	0.48	3.39	0.47	1.03	0.19	0.62	8.79	1.24
Other, excluding SMEs	LGD	28.61	32.79	28.99	18.18	24.83	35.94	16.75	27.10	29.60	23.52	29.72
	PD	0.64	0.49	2.50	1.97	1.76	0.20	0.86	1.23	4.26	1.54	1.60
Total	**LGD**	**39.53**	**40.35**	**30.90**	**38.30**	**45.67**	**37.66**	**39.12**	**22.95**	**32.96**	**43.17**	**31.34**
	PD	**0.31**	**0.48**	**3.35**	**1.42**	**1.33**	**0.44**	**4.79**	**0.26**	**9.24**	**3.87**	**3.31**

Table 51 continued: Credit risk parameters by geographical location (incl. default portfolio, i.e. for default positions PD = 1)

	in %	Poland	Russia	Switzer-land	Singa-pore	Slova-kia	Spain	Czech Republic	Hungary	Unit. Arab Emirates	USA
Central governments or central banks	LGD	31.24	98.96	14.05	22.80		45.00	68.46	99.81	89.59	10.00
	PD	0.11	0.74	0.04	0.02		1.09	0.06	0.25	0.16	
Institutions	LGD	24.73	38.14	41.02	57.05	44.56	15.61	42.50	42.48	53.55	30.54
	PD	0.30	4.73	0.10	0.08	0.13	0.90	0.54	2.74	0.31	0.94
Corporates	LGD	45.01	41.71	38.13	38.44	40.42	42.60	39.08	52.30	30.81	40.43
	PD	5.99	8.86	0.38	4.00	0.70	7.78	5.66	0.58	6.41	4.83
thereof specialised lending	LGD	33.34		3.07	16.50	43.56	44.38	47.95	90.80		52.36
	PD	2.94		1.26	45.63	0.43	4.38	2.51	1.61		6.82
thereof SMEs	LGD	45.98	55.82	36.88	32.54	27.43	71.75	51.65	43.77		40.37
	PD	7.10	90.88	0.57	0.73	0.21	42.59	43.48	0.83		0.21
Retail	LGD	35.58	20.08	23.44	30.67	23.99	25.87	37.31	33.84	22.53	26.74
	PD	6.90	0.47	1.62	0.16	15.18	2.15	3.01	3.04	0.55	2.65
Secured by mortg. on immov. property, SMEs	LGD	33.39		2.50				25.78			
	PD	11.75		0.19				1.16			
Sec. by mortg.on immov. property, excl. SMEs	LGD	29.87	18.49	21.93	22.96	12.41	20.22	16.80	22.16	23.94	21.54
	PD	5.16	0.40	1.06	0.13	41.97	2.23	1.66	9.13	0.36	1.25
Qualifying revolving	LGD	60.00	59.39	59.03	57.77	61.15	60.24	60.37	60.32	57.76	59.85
	PD	0.44	0.32	1.01	0.12	0.19	0.26	0.52	0.19	0.24	0.30
Other, SMEs	LGD	38.26	43.54	39.10	43.53	25.65	27.64	38.01	43.86	43.78	43.64
	PD	10.35	0.78	1.63	0.28	5.38	2.54	3.28	0.25	0.32	0.64
Other, excluding SMEs	LGD	51.81	16.17	19.86	30.07	40.04	16.16	31.12	15.50	9.61	25.27
	PD	8.93	0.79	2.83	0.07	0.15	2.94	5.67	1.55	1.27	9.20
Total	**LGD**	**38.40**	**43.80**	**34.35**	**36.57**	**40.28**	**26.23**	**40.86**	**55.02**	**53.68**	**28.24**
	PD	**6.29**	**5.69**	**0.32**	**2.69**	**0.85**	**3.55**	**5.20**	**0.95**	**1.57**	**2.36**

Table 52: Average assessment basis in the period under review by asset class

Asset class | €m	31.03.2015	30.06.2015	30.09.2015	31.12.2015	Average 2015
SACR					
Central governments or central banks	39,062	48,961	38,861	38,676	41,390
Regional or local authorities	29,451	33,148	28,345	28,748	29,923
Public-sector bodies	12,863	9,635	12,797	9,370	11,166
Multilateral development banks	31	282	279	277	217
International organisations	512	391	332	341	394
Institutions	11,920	8,694	7,376	8,961	9,238
Corporates	19,988	17,039	18,964	15,997	17,997
thereof SMEs	530	350	560	1,021	615
Retail	4,456	4,149	4,663	5,271	4,635
thereof SMEs	389	48	81	87	151
Secured by mortgage on immovable property	1,551	1,600	1,662	1,705	1,629
thereof SMEs	39	11	8	10	17
Defaulted positions	1,238	1,188	1,102	781	1,077
Particularly high risk positions	125	150	364	37	169
Covered debt instruments	41	130	128	101	100
Investment funds	10,019	8,762	9,073	749	7,151
Other items	2,566	2,733	2,686	2,776	2,690
Total SACR	**133,823**	**136,863**	**126,630**	**113,789**	**127,776**
IRBA					
Central governments or central banks	57,226	57,801	55,628	22,250	48,226
Institutions	72,884	69,619	72,125	62,632	69,315
Corporates	223,278	218,957	218,030	216,407	219,168
thereof specialised lending	40,924	39,190	34,329	30,971	36,353
thereof SMEs	16,017	16,191	16,072	17,954	16,558
Retail	104,102	107,009	107,796	109,227	107,034
Secured by mortgage on immovable property	62,923	65,135	65,634	66,633	65,081
thereof SMEs	558	1,098	1,033	1,030	930
Qualifying revolving	11,742	11,857	12,037	12,149	11,946
Other	29,437	30,017	30,126	30,445	30,006
thereof SMEs	12,257	12,774	12,858	13,100	12,747
Other loan-independent assets	2,005	1,786	1,735	1,752	1,819
Total IRBA	**459,495**	**455,171**	**455,314**	**412,268**	**445,562**
Total	**593,318**	**592,034**	**581,945**	**526,057**	**573,338**

Risk reporting overview

The risk reporting structure as at 31 December 2015 as implemented in the Annual Report, the Disclosure Report and further publications is illustrated in the following table:

Table 53: Risk reporting overview

Topic	Detail	Disclosure report Page	Annual Report Page	Further publications
Equity capital	Capital structure	5–12	273	
	Equity instruments		237–238	Commerzbank homepage
	Capital requirements and leverage ratio	12–15	271–277	
Risk-oriented overall bank management	Risk statement	16–17		
	Risk management organisation	17	110–111	
	Risk strategy and risk management	17–19	111–113	
	Risk parameters		113	
	Risk-bearing capacity and stress testing	19–20	113–114	
	Regulatory environment		115–116	
Default risk	Strategy and organisation	21	117	
	Risk management	21–22	118–121	
	Credit risk model	22–28		
	Rating architecture	23–24	120	
	Quantitative information on default risks	29–43	121–132	
	Analysis by segment		124–129	
	Analysis by regulatory approach (IRBA/SACR)	29–40		
	Default risks from derivative positions	41–43		
	Loan loss provisions for default risks	43–47	122–129	
	Investments in the banking book	48–49	212–215	
	Securitisations	50–58	127, 131–132, 290–294	
Market risk	Strategy and organisation	59	133	
	Risk management	59–60	133–134	
	Market risk model	60–62		
	Quantitative information on market risks	62–63	134–136	
	Interest rate risk in the banking book	63–64	135–136	
	Market liquidity risk	63	136	
Liquidity risk	Strategy and organisation	64–65	137	
	Risk management	65	137	
	Quantification and stress testing		137–138	
	Liquidity risk model	65–66		
	Encumbrance of assets		340–341	
Operational risk	Strategy and organisation	66	139	
	Risk management	66–67	139–140	
	OpRisk model	67–68		
Other	Legal risk		140–142	
	Reputational risk		142	
	Compliance risk		143	
	IT risk		143–144	
	Human resources risk		144	
	Business strategy risk		144	
	Model risk		145	
	Corporate governance report		29–33	Commerzbank homepage
	Remuneration		34–47	Commerzbank homepage
	Indicators of systemic importance			Commerzbank homepage

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List of abbreviations

ABCP	Asset-backed Commercial Paper
ABS	Asset-backed Securities
AfS	Available for Sale
ALCO	Asset Liability Committee
AMA	Advanced Measurement Approach
AUC	Area under the curve
BaFin	Federal Financial Supervisory Authority
BEC	Business Environment and Control System
CCF	Credit Conversion Factor
CFCB	Commerzbank Finance & Covered Bond S.A.
CMBS	Commercial Mortgage-backed Securities
CP	Commercial Paper
CRM	Credit Risk Mitigation
CEO	Chief Executive Officer
CFO	Chief Financial Officer
COREP	Common solvency ratio reporting
CRD	Capital Requirements Directive
CRO	Chief Risk Officer
CRR	Capital Requirements Regulation
CVA	Credit Valuation Adjustment
CVaR	Credit Value at Risk
EaD	Exposure at Default
EBA	European Banking Authority
ECB	European Central Bank
EDTF	Enhanced Disclosure Task Force
EEPK	Erste Europäische Pfandbrief- und Kommunalkreditbank AG in Luxemburg, Luxemburg
EL	Expected Loss
ErC	Economically required Capital
FINREP	Financial reporting
GLLP	General Loan Loss Provisions
G-SII	Global Systemically Important Institution
HGB	German Commercial Code
IAA	Internal Assessment Approach
IAS	International Accounting Standards
ICAAP	Internal Capital Adequacy Assessment Process
ICS	Internal control system
IFRS	International Financial Reporting Standards
IMM	Internal model method
IPV	Independent Price Verification
IRBA	Internal Ratings Based Approach
IRC	Incremental Risk Charge
ISDA	International Swaps and Derivatives Association
ISIN	International Securities Identification Number
ITS	Implementing Technical Standards
KRI	Key Risk Indicators
KWG	German Banking Act
LaD	Loss at Default
LaR	Loans and Receivables
LGD	Loss Given Default
LIP	Loss Identification Period
LTA	Look-through Approach
MaRisk	Minimum Requirements for Risk Management
NBFI	Non-Bank Financial Institution
NCA	Non-Core Assets
NI	Non-impaired
OpRisk	Operational Risk
ORX	Operational Riskdata eXchange Association, Zurich
O-SII	Other Systemically Important Institution
P&L	Profit & Loss
PD	Probability of Default
PI	Portfolio Impaired
RBA	Ratings Based Approach
RBC ratio	Risk-bearing capacity ratio
RMBS	Residential Mortgage-backed Securities
RTS	Regulatory Technical Standards
RW	Risk weight
RWA	Risk Weighted Assets
SACR	Standardised Approach to Credit Risk
SCRA	Specific Credit Risk Adjustment
SFA	Supervisory Formula Approach
SLLP	Specific Loan Loss Provisions
SMEs	Small and medium-sized enterprises
SolvV	German Solvency Regulation
SPV	Special Purpose Vehicles
SREP	Supervisory Review and Evaluation Process
TLA	Top Level Adjustment
VaR	Value at Risk

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 and internal audit, external auditors 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. In particular, some of the related binding Technical Standards are not yet available in their final version. 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.

This report contains forward-looking statements on Commerzbank's business and earnings performance, which are based upon our current plans, estimates, forecasts and expectations. The statements entail risks and uncertainties, as there is a variety of factors which influence our business and to a great extent lie beyond our sphere of influence. Above all, these include the economic situation, the state of the financial markets worldwide and possible loan losses. Actual results and developments may, therefore, diverge considerably from our current assumptions, which, for this reason, are valid only at the time of publication. We undertake no obligation to revise our forward-looking statements in the light of either new information or unexpected events.

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