Volksbanken Raiffeisenbanken
cooperative financial network

Regulatory Risk Report of the DZ BANK Banking Group as of December 31, 2016

DZ BANK Group

CONTENTS

1. Basis of regulatory risk reporting

1.1. Legal basis

DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main, (DZ BANK (pre-merger)), and WGZ BANK AG Westdeutsche Genossenschafts-Zentralbank, Düsseldorf, (WGZ BANK) completed their legal merger in the reporting year and started operations as the joint central institution of the local cooperative banks on schedule.

The objectives behind the merger are pooling the strategic expertise and operational strength of the two cooperative central institutions, refining processes, leveraging income and cost synergies, deploying available resources efficiently, and laying the foundations for the further development of the Volksbanken Raiffeisenbanken cooperative financial network.

With this annual regulatory risk report, DZ BANK – the joint central institution created by the merger and the parent institution of the DZ BANK banking group – complies with the requirements of **section 26a of the German Banking Act (KWG) in conjunction with Part 8, articles 431 to 455 of Regulation (EU) No. 575/2013** of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms (Capital Requirements Regulation, CRR) and Directive 2013/36/EU of the European Parliament and of the Council on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms (Capital Requirements Directive, CRD IV) as at December 31, 2016.

In December 2010, the Basel Committee on Banking Supervision (BCBS) adopted a global regulatory framework for solvency, leverage, and liquidity (Basel III). This has resulted in higher requirements for pillar 3 publications. These requirements were implemented in the European Union by means of the CRR, which has to be applied by member states directly, and the CRD IV, which first had to be transposed into national law.

This regulatory risk report is based on the statutory requirements valid as at December 31, 2016, taking account of the disclosure requirements (Part 8) and the transitional provisions (Part 10) of the CRR and the implementation and regulation standards of the European Banking Authority (EBA) that are relevant to disclosure. Circular 05/2015 (BA) also applies in relation to implementation of the EBA's guidelines on the disclosure of material, proprietary, and confidential information and on disclosure frequency.

In addition to information on own funds and capital requirements, this regulatory risk report contains details on the risk types specified by the CRR (credit risk, counterparty default risk, market risk, operational risk, securitizations, and long-term equity investments in the banking book). Information is also included on the countercyclical capital buffer, unencumbered assets, liquidity ratios, the leverage ratio, and remuneration policy.

The **country-by-country reporting** information pursuant to the disclosure requirements defined in section 26a (1) sentence 2 KWG is not contained in this report. This information is disclosed on DZ BANK's website in the Investor Relations section under Reports.

The disclosures required pursuant to section 35 of the German Bank Recovery and Resolution Act (SAG) are presented in section 3.1. of the combined opportunity and risk report in DZ BANK's 2016 Annual Report ('combined opportunity and risk report').

The disclosure of the return on assets required by section 26a (1) sentence 2 KWG can be found in DZ BANK's annual financial statements for 2016, chapter II. (Business report), section 4. (Net assets).

In accordance with the statutory requirements, an audit opinion is not required for this report, so it has not been audited.

In line with article 434 CRR, DZ BANK publishes the regulatory risk report on its website in the Investor Relations section under Reports. Details of the DZ BANK banking group's capital instruments pursuant to article 437 (1) letters b and c CRR can also be found on this website. The significant subsidiaries' disclosures are made on their own websites pursuant to article 13 CRR.

1.2. Developments in relation to transparency rules in banking regulation

On January 28, 2015, the BCBS released its BCBS 309 'Revised Pillar 3 disclosure requirements' (RPF) with the aim of further harmonizing banking supervision disclosure requirements. Then on December 14, 2016, the EBA published its final report regarding the guidelines on disclosure requirements under Part 8 of the CRR (EBA/GL/2016/11). The DZ BANK banking group will apply these guidelines for the first time as at December 31, 2017. To satisfy the requirements of EBA/GL/2016/11, DZ BANK has launched a project to ensure that the banking group implements these requirements with effect from December 31, 2017.

The revised version of the Basel pillar 3 framework contains further rules with regard to both quantitative and qualitative disclosures. The stipulations will be continuously expanded going forward, and the supervisory authorities are increasingly focusing on them. The objective continues to be to provide greater transparency for market participants.

1.3. Implementation in the DZ BANK banking group

This regulatory risk report contains the disclosures required by the CRR, provided the necessary information has not already been published in the combined opportunity and risk report. Where this is the case, the regulatory risk report makes reference to the combined opportunity and risk report.

The **frequency** and **scope** (article 433 CRR) of the regulatory risk report are assessed using the criteria for the frequency of disclosure pursuant to circular 05/2015 (BA) of the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) [Federal Financial Supervisory Authority]. These criteria include the DZ BANK Group's total assets and the consolidated risk exposures (pursuant to article 429 CRR). This assessment reveals that, in 2017, the DZ BANK banking group is still obliged to disclose some of the information required in this risk report on a quarterly and half-year basis.

Disclosure pursuant to article 431 CRR is carried out by DZ BANK as the parent undertaking (as defined by article 4 (1) no. 15 CRR) of the banking group for regulatory purposes.
Subsidiaries classified as significant and those of material significance for their local market must publish the required information on an individual or sub-consolidated basis in accordance with article 13 (1) CRR. DZ BANK adheres to the materiality criteria that are used for internal management. The subsidiaries listed in section 4.4. of this report are included in the subsidiaries classified as significant in the risk inventory. Notes relating to additional disclosure requirements for significant subsidiaries pursuant to article 13 (1) CRR are also presented in that section.

To calculate the **regulatory capital requirements** pursuant to the CRR, the DZ BANK banking group mainly applies the foundation internal ratings-based approach (IRB approach or IRBA) for credit risk.

The regulatory credit risk measurement methods used by DVB Bank SE, Frankfurt am Main, (DVB Bank; subgroup abbreviated to DVB) are based on the advanced IRB approach.

The IRB approach is used to calculate the credit risk of the retail businesses of Bausparkasse Schwäbisch Hall AG, Schwäbisch Hall, (Bausparkasse Schwäbisch Hall; subgroup abbreviated to BSH), Deutsche Genossenschafts-Hypothekenbank AG, Hamburg, (DG HYP), TeamBank AG Nürnberg, Nuremberg, (TeamBank), and WL BANK AG Westfälische Landschaft Bodenkreditbank, Münster, (WL BANK), although the probability of default (PD) and the loss given default (LGD) are based on accounting estimates.

Capital requirements for market risk are predominantly measured using internal calculation models and, to a minor extent, the regulatory Standardized Approaches. The Standardized Approach is used at the DZ BANK banking group level to determine operational risk in accordance with regulatory requirements. The Basic Indicator Approach is also used, but only for certain entities of the former WGZ BANK.

The basis for external risk reporting is the **disclosure policy** approved by the Board of Managing Directors. This policy sets out the principles and fundamental decisions for the methods, organizational structure, and IT systems to be used in risk disclosure at DZ BANK and in the DZ BANK Group. The disclosure policy also governs the integration of risk disclosure into general financial disclosure and provides the link to internal risk reporting. By adopting this policy, the Board of Managing Directors also established the key elements of the risk-related disclosure procedures and communicated them throughout the DZ BANK Group. The instructions and rules are audited regularly to assess whether they remain appropriate and are amended in line with internal and external requirements, thereby complying with the requirements of article 431 (3) CRR.

Significant components of the **qualitative regulatory risk reporting requirements** are covered in the combined opportunity and risk report. In this report, the DZ BANK banking group therefore utilizes the option available under article 434 (1) CRR to make reference to the combined opportunity and risk report for the qualitative disclosures. The section references for each topic are included in this report.

Fundamental information on the principles and objectives and the strategies and methods of internal risk management are also disclosed in the combined opportunity and risk report in accordance with article 435 (1) CRR. Detailed information relating to article 435 (2) CRR can be found in section 3. of this report. These disclosures supplement those in the combined opportunity and risk report. Disclosures of relevance for regulatory purposes, by contrast, are only published in the regulatory risk report. This also applies to information that is fundamentally integral to the internal risk management system but, because of the detailed level of disclosure required, is not included in the combined opportunity and risk report so as not to impair the report's usefulness in the decision-making process. In particular, this concerns the detailed information on the internal rating systems and the disclosures about the risk models approved by the European Central Bank (ECB) for calculating the regulatory capital requirements for general and specific market risk. The same applies to the accounting-related disclosures on long-term equity investments and securitizations, which are also included in this regulatory risk report.

As in the procedure adopted for qualitative disclosures, the quantitative disclosures required in regulatory risk reporting, which are derived from the internal risk management system, are included in the combined opportunity and risk report rather than in the regulatory risk report.

In its pillar 3 reporting, DZ BANK aims to ensure the **consistency and comparability of disclosures** over time at the level of the DZ BANK banking group and to contribute to consistency and comparability across the industry. Numerical disclosures are therefore based on the table formats (referred to as 'use cases') recommended by the specialist disclosure subcommittee (as at September 2012) and, where necessary, have been adjusted to adequately reflect the disclosure requirements of Part 8 CRR in conjunction with the (EU) implementing regulations.

Numerical disclosures relate to the year under review. Comparative figures as at a previous reporting date or relating to a previous period are disclosed on a voluntary basis. The comparative figures provided relate to the DZ BANK banking group (pre-merger) as at December 31, 2015. Because of the integration of the former WGZ BANK Group into the DZ BANK banking group, many of the quantitative disclosures in this regulatory risk report as at December 31, 2016 are not directly comparable with the corresponding prior-year disclosures as at December 31, 2015. Verbal information on material discrepancies is provided in the explanation in the text.

The numerical disclosures in this risk report are rounded to the nearest whole million euros. This may give rise to small discrepancies between the totals shown in the tables and diagrams and the totals calculated from the individual values shown. Table cells with a gray background are not relevant for disclosure purposes.

The following quantitative requirements are currently **not relevant** to DZ BANK and the corresponding data has not therefore been included in this regulatory risk report:

- Alpha factor as defined in article 284 (6) CRR (article 439 sentence 1 letter i CRR)
- Securitizations under the early amortization approach (article 449 sentence 1 letter n (iv) CRR)
- Risk in connection with fair value changes in the correlation trading portfolio as defined in article 377 CRR (article 455 sentence 1 letter a (ii) CRR).

Disclosure of the alpha factor is not necessary since no internal DZ BANK banking group models approved by the regulatory authorities were used in 2016 to calculate capital requirements for derivative counterparty risk exposure. The same applies to securitizations under the early amortization approach. Such securitizations were not carried out by entities in the DZ BANK banking group during the reporting year, nor are they part of any existing business. In the case of risk in connection with fair value changes in the correlation trading portfolio, no internal model approved by the regulatory authorities is currently available, so the capital requirements for these exposures are calculated using the standardized method.

The requirements for **adequacy declarations** by the Board of Managing Directors pursuant to article 435 (1) letter e CRR are met in the combined opportunity and risk report, section 2.1. (Statements from the Board of Managing Directors). The whole of section 2. of the combined opportunity and risk report forms the **risk statement** by the Board of Managing Directors specified in article 435 (1) letter f CRR. These declarations and statements are approved in the DZ BANK 2016 Annual Report by means of the signatures of the Board of Managing Directors in the 'Responsibility statement' section.

Section 3. relating to the management of the DZ BANK Group in the 'DZ BANK Group fundamentals' chapter of the group management report, in conjunction with section 3.3. of the combined opportunity and risk report, describes the **information flow** within the DZ BANK banking group to the management body pursuant to article 435 (2) letters d and e CRR and section 26a KWG.

1.4. Risks covered in the regulatory risk report

The regulatory risk report includes the **subsidiaries** that must be consolidated as part of the DZ BANK banking group for regulatory purposes in accordance with article 4 (1) no. 16 CRR and the KWG. Further risks arising at subsidiaries that are not consolidated for regulatory purposes are disclosed in the combined opportunity and risk report at the DZ BANK Group level. This especially relates to the risks to which R+V Versicherung AG, Wiesbaden, (R+V Versicherung; subgroup abbreviated to R+V) is exposed.

Regulatory capital requirements relate to the following **risk types**: credit risk (including equity investment risk), market risk, and operational risk. In addition to these risk types, the technical risk of a home savings and loan company, actuarial risk, and business risk are also backed by economic risk capital as part of the internal economic capital management process (pillar 2 of Basel III). Liquidity risk is also taken into account in a separate liquidity-related analysis of risk-bearing capacity.

There are also **differences in risk coverage between the economic and regulatory perspectives**, in particular:

- When the regulatory capital requirements and the related disclosures are being determined, risk-bearing exposures are treated differently in terms of quantification of their risk depending on whether they are allocated to the trading book or banking book. For example, on-balance-sheet and off-balance-sheet exposures in the banking book and counterparty risk arising from derivatives exposure in the banking book and trading book are classified under credit risk. The issuer-related exposures in the trading book are treated as market risk exposures and are therefore backed with regulatory own funds, whereas they are treated as issuer risks and classified under credit risk for internal management purposes.
- As a result of this approach, the credit risk exposures presented in this risk report are based on regulatory bases for assessment and therefore differ from the lending volume presented in the combined opportunity and risk report, which is based on figures in the internal management accounts.
- Furthermore, equity investment risk is recognized as a separate type of risk in the internal management accounts. Credit risk and equity investment risk are determined in the internal management accounts using their own portfolio models.
- The **market risk** disclosed using the methods in pillar 1 essentially corresponds to the market risk managed on the basis of the rules of pillar 2. In the context of the economic management of market risk, interest-rate risk also includes interest-rate risk in the banking book for which no backing with own funds is required for regulatory purposes under pillar 1.
- In the DZ BANK banking group, two different approaches were used as at December 31, 2016 to calculate regulatory capital (as described in section 1.3. above). DZ BANK predominantly calculates the risk exposure amounts for operational risk using the Standardized Approach in accordance with article 317 CRR. In respect of the economic capital requirements, a statistical model is used for the management units that satisfies the criteria for an Advanced Measurement Approach (AMA). The results from this portfolio model, combined with the materiality limits for collation of loss data, scenario-based risk self-assessments, and risk indicators, are used to manage operational risk.

2. Scope of application

The terms DZ BANK Group and DZ BANK financial conglomerate are synonymous and refer to all the management units together. The context dictates the choice of term. For example, in the case of disclosures relating to economic management, the focus is on the DZ BANK Group, whereas in the case of regulatory issues relating to all the management units in the DZ BANK Group, the appropriate term is DZ BANK financial conglomerate.

The DZ BANK financial conglomerate largely comprises the DZ BANK banking group and R+V. DZ BANK acts as the financial conglomerate's parent company.

As part of the DZ BANK financial conglomerate, the DZ BANK banking group and R+V are subject to the provisions of the German Supervision of Financial Conglomerates Act (FKAG). In this regard, it has to meet the relevant requirements with respect to **financial conglomerates' solvency** and the establishment of an overarching risk management structure.

The FKAG forms the legal basis for the supervision of the DZ BANK financial conglomerate. In conjunction with article 49 (1) CRR on the requirements for waiving capital deductions for long-term equity investments in insurance companies and the regulatory technical standards for the application of the calculation methods of capital adequacy requirements for financial conglomerates (Delegated Regulation (EU) 342/2014) published in April 2014, the FKAG governs the capital adequacy requirements for the DZ BANK financial conglomerate. The additional regulation of financial conglomerates applies to groups of financial institutions that operate to a large degree across both the banking and the insurance sectors and includes requirements for capital adequacy, for recording and monitoring material risk concentrations and transactions within the conglomerate, and for cross-sectoral risk management.

All entities in the financial conglomerate are integrated into the central risk management system, subject to the principle of materiality pursuant to article 432 (1) CRR. Materiality is determined on the basis of a concept that is also relevant to combined opportunity and risk reporting pursuant to commercial law. The concept takes into account the usefulness of disclosures in the decision-making process and the economic viability of preparing reports. It is based on risk management procedures that meet the requirement for a groupwide risk monitoring system as specified in section 91 (2) of the German Stock Corporation Act (AktG) and pursuant to section 25a (1) KWG.

The disclosures in this risk report relate to significant entities in the DZ BANK banking group pursuant to article 432 (1) CRR. The materiality concept does not cover the disclosures on the structure of own funds, capital requirements, capital ratios, leverage, (un)encumbered assets, countercyclical capital buffers, and liquidity ratios. All relevant entities consolidated for regulatory purposes are included in these disclosures to ensure that the key regulatory figures are consistent with the figures reported.

Pursuant to article 436 sentence 1 letter b CRR, the entities that are significant for internal risk management purposes are classified in Fig. 1 according to the nature of their business, the nature of their treatment for regulatory purposes, and the nature of their consolidation for commercial-law purposes. These companies are classified on the basis of the definitions contained in article 4 (1) CRR.

Fig. 1 – CONSOLIDATION MATRIX – DIFFERENCES BETWEEN ENTITIES CONSOLIDATED FOR REGULATORY PURPOSES AND THOSE CONSOLIDATED FOR THE PURPOSES OF COMMERCIAL LAW

Classification under CRR	Name (abbreviation)	Treatment for regulatory purposes				Treatment for commercial-law purposes	
		Consolidation					
		Full	Pro-rata	Deduction method	Risk-weighted equity investment	Full	Equity-accounted
Significant entities							
Credit institutions	DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main, (DZ BANK)	●				●	
	Bausparkasse Schwäbisch Hall AG, Schwäbisch Hall, (BSH)	●				●	
	Deutsche Genossenschafts-Hypothekenbank AG, Hamburg, (DG HYP)	●				●	
	DVB Bank SE, Frankfurt am Main, (DVB)	●				●	
	DZ PRIVATBANK S.A., Luxembourg-Strassen, (DZ PRIVATBANK)	●				●	
	TeamBank AG Nürnberg, Nuremberg, (TeamBank)	●				●	
	WL BANK AG Westfälische Landschaft Bodenkreditbank, Münster, (WL BANK)	●				●	
Financial institutions	Union Asset Management Holding AG, Frankfurt am Main, (UMH)	●				●	
	VR-LEASING Aktiengesellschaft, Eschborn, (VR LEASING)	●				●	
Insurance companies	R+V Versicherung AG, Wiesbaden, (R+V)				●	●	

The significant entities are consolidated for both regulatory and commercial-law purposes. Insurance companies and companies not in the financial sector are not required to be consolidated in the banking group for regulatory purposes. In this context, R+V is fully consolidated for commercial-law purposes but is not directly subject to banking regulation. Instead, it is factored into the procedure used to determine the DZ BANK banking group's capital requirements and disclosures using the risk-weighted carrying amount of DZ BANK's investment in R+V. Furthermore, R+V is included in the cross-sectoral surveillance by the banking supervisory authority of the DZ BANK financial conglomerate at consolidated level in the legal framework applicable to financial conglomerates.

The following entities were **fully consolidated for regulatory purposes** pursuant to article 11 CRR on December 31, 2016, including the entities listed in Fig. 1: a total of 17 (December 31, 2015: 17) banks, 9 (December 31, 2015: 9) financial services institutions, 10 (December 31, 2015: 10) investment management companies, 398 (December 31, 2015: 474) finance companies, of which 360 (December 31, 2015: 432) were project companies belonging to VR-IMMOBILIEN-LEASING GmbH, Eschborn, and 8 (December 31, 2015: 8) providers of related services. In addition, 4 banks (December 31, 2015: 4), 2 finance companies (December 31, 2015: 2), and 1 asset management company (December 31, 2015: 1), were consolidated on a pro-rata basis.

DZ BANK is either directly or indirectly the major shareholder in the long-term equity investments consolidated for regulatory purposes. Most of the companies are based either in Germany or elsewhere in the European Union. On the reporting date there were no **restrictions on the transfer of cash or own funds** as defined in article 436 sentence 1 letter c CRR within the DZ BANK banking group imposed by third-party individuals, private or public-sector companies, supranational organizations, or sovereign states.

The **waiver** available under article 7 CRR, which states that – provided certain conditions are met – the regulatory supervision of individual Germany-based institutions within a banking group may be replaced by supervision of the entire banking group, was used in the DZ BANK banking group for DG HYP and WL BANK (group waiver pursuant to article 7 (1) CRR).

The group waiver can only be used if the subordinate entity is closely integrated into the group structure. This is particularly assumed to be the case if the parent company is able to exercise control over the subordinated entity because it holds the majority of its voting rights and it has issued an unrestricted letter of comfort in relation to the subordinated entity. Furthermore, the regulatory management of the subordinated institution by the parent company must meet ECB requirements and the entity that is the subject of the waiver must be included in the strategy, risk-bearing capacity, and risk management processes of the parent institution. The parent company must also be able to issue direct instructions within the group in order to ensure the integration of the subordinated entity. DG HYP and WL BANK are fully integrated into the internal processes and risk management of DZ BANK as the parent company of the banking group. In addition to legal, organizational, and structural integration, this particularly applies to the structure of its decision-making bodies, integrated risk and capital management, the strategic planning process, business and risk strategies, and the reporting and disclosure system. There are no current or foreseeable legal or actual material obstacles to the immediate transfer of own funds from DZ BANK to DG HYP or WL BANK or to the repayment of liabilities to DG HYP or WL BANK by DZ BANK.

In November 2012, DG HYP reported this to the banking supervisory authority together with evidence that the application criteria had been met (article 436 sentence 1 letter e CRR). WL BANK did the same in December 2013. In the context of the merger of the former WGZ BANK with DZ BANK, the ECB was notified that the waiver would continue to be used for WL BANK.

As was already the case at the end of 2015, there were no subsidiaries in the DZ BANK banking group that had a **capital deficiency** as at December 31, 2016. Consequently, no disclosure pursuant to article 436 sentence 1 letter d CRR has been made.

Fig. 2 shows how the entities in the DZ BANK banking group are integrated into the quantitative regulatory disclosures of the DZ BANK banking group. The entities identified as significant are also directly incorporated into the DZ BANK Group's risk management system as management units. The disclosures take into account the effects of intragroup consolidation.

The disclosures for the management units on gross lending volume, allowances for losses on loans and advances, and interest-rate risk in the banking book are based on economic risk management criteria, whereas other disclosures are based on the entities consolidated for regulatory purposes.

Fig. 2 – INCLUSION OF ENTITIES IN THE DZ BANK BANKING GROUP IN QUANTITATIVE REGULATORY DISCLOSURES

Entity	Structure of own funds	Capital requirements	Capital ratios	Global systemic importance	Gross lending volume & allowances for losses on loans and advances	Standardized Approach exposure	IRBA exposure	Collateralized lending volume	Derivative counterparty risk exposures	Asset Encumbrance	Long-term equity investments in banking book	Interest-rate risk in banking book	Value-at-risk in trading book	Securitization exposure and capital requirements	Leverage ratio	Liquidity ratios	Countercyclical capital buffer
DZ BANK	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
BSH	●	●	●		●	●	●	●		●	●	●			●	●	●
DG HYP	●	●	●		●	●	●	●	●	●	●	●		●	●	●	●
DVB	●	●	●		●	●	●	●	●	●	●	●			●	●	●
DZ PRIVATBANK	●	●	●		●	●	●	●	●	●	●	●			●	●	●
TeamBank	●	●	●		●	●	●	●	●	●	●	●			●	●	●
UMH	●	●	●		●	●				●	●	● [1]			●		●
VR LEASING	●	●	●		●	●			●	●	●				●	●	●
WL BANK	●	●	●		●	●	●	●	●	●	●	●			●	●	●
Other companies of relevance for regulatory purposes	●	●	●		●	●	●			●					●	●	●

[1] Interest-rate risk results from reviewing the funds held in own-account investments.

3. Risk management objectives and policies

The principles and objectives of risk management and the methods used to manage risk are covered in the qualitative reporting, which – as stated in section 1.3. of this report – forms part of the combined opportunity and risk report. In addition, the governance structure of risk management in the DZ BANK Group is presented in fig. 8 in the combined opportunity and risk report. Further disclosures relating to the DZ BANK Group and its management are described in chapter I. (DZ BANK Group fundamentals) of the group management report. The disclosures required according to article 435 (2) CRR that are not presented in the DZ BANK Group Annual Report are set out below.

3.1. Number of executive or supervisory directorships held by members of the management body

(Article 435 (2) letter a CRR)

Fig. 3 – NUMBER OF EXECUTIVE OR SUPERVISORY DIRECTORSHIPS HELD BY MEMBERS OF THE BOARD OF MANAGING DIRECTORS AND SUPERVISORY BOARD

Number of executive or supervisory directorships held by members of the Board of Managing Directors				
	Number of executive directorships		**Number of supervisory directorships**	
	as at Dec. 31, 2016[1]	as at Dec. 31, 2015[1]	**as at Dec. 31, 2016[1]**	as at Dec. 31, 2015[1]
Wolfgang Kirsch, Chief Executive Officer	**1**	1	**5**	5
Hans-Bernd Wolberg, Deputy Chief Executive Officer (since July 29, 2016)	**1**	-	**1**	-
Uwe Berghaus (since July 29, 2016)	**1**	-	**3**	-
Dr. Christian Brauckmann (since July 29, 2016)	**1**	-	**4**	-
Lars Hille	**1**	1	**6**	6
Wolfgang Köhler	**1**	1	**3**	3
Karl-Heinz Moll (since July 29, 2016)	**1**	-	**7**	-
Dr. Cornelius Riese	**1**	1	**5**	4
Michael Speth (since July 29, 2016)	**1**	-	**5**	-
Thomas Ullrich	**1**	1	**2**	3
Frank Westhoff	**1**	1	**6**	7
Stefan Zeidler	**1**	1	**6**	6
Number of executive or supervisory directorships held by members of the Supervisory Board				
	Number of executive directorships		**Number of supervisory directorships**	
	as at Dec. 31, 2016[1]	as at Dec. 31, 2015[1]	**as at Dec. 31, 2016[1]**	as at Dec. 31, 2015[1]
Helmut Gottschalk	**1**	1	**1**	1
Heiner Beckmann	**-**	-	**1**	1
Werner Böhnke	**-**	-	**3**	-
Ulrich Birkenstock	**-**	-	**2**	2
Hermann Buerstedde	**-**	2	**2**	2
Henning Deneke-Jöhrens	**1**	1	**2**	2
Martin Eul	**1**	-	**3**	-
Uwe Fröhlich	**-**	-	**7**	7
Uwe Goldstein	**1**	-	**1**	-
Dr. Peter Hanker	**1**	-	**2**	-
Andrea Hartmann	**-**	-	**2**	2
Pilar Herrero Lerma	**-**	-	**1**	1
Dr. Dierk Hirschel	**-**	-	**2**	2
Renate Mack	**-**	-	**1**	1
Rainer Mangels	**-**	-	**1**	1
Stephan Schack	**1**	1	**1**	1
Gregor Scheller	**1**	1	**2**	2
Uwe Spitzbarth	**-**	-	**2**	2
Sigrid Stenzel	**-**	-	**2**	2
Dr. Wolfgang Thomasberger	**1**	1	**1**	1

[1] In accordance with article 91 (5) CRD IV in conjunction with sections 25c and 25d KWG, executive or supervisory directorships at organizations that do not pursue predominantly commercial objectives are not included. Nor have the options for aggregating directorships applicable pursuant to sections 25c and 25d KWG been used.

3.2. Recruitment policy for the selection of members of the management body and their actual knowledge, skills and expertise

(Article 435 (2) letter b CRR)

Supervisory Board

The Articles of Association of DZ BANK state that the Supervisory Board consists of 20 members, 9 of whom are elected by the Annual General Meeting and 10 of whom are elected by employees pursuant to the provisions of the 1976 German Codetermination Act (MitbestG). The Bundesverband der Deutschen Volksbanken und Raiffeisenbanken e.V., Berlin, (BVR) [National Association of German Cooperative Banks], has the right to delegate one member of its Board of Managing Directors to the Supervisory Board. Only members of the managing body of a cooperative enterprise that is a shareholder of DZ BANK may be elected as shareholder representatives on the Supervisory Board. The term of appointment of a Supervisory Board member is terminated prematurely:

a) at the end of the next ordinary Annual General Meeting if the member no longer meets the aforementioned requirement, or
b) at the end of the ordinary Annual General Meeting in the calendar year in which the member reaches the age of 67.

In accordance with section 25d (11) sentence 2 no. 1 KWG, the Supervisory Board has adopted a process for preparing nominations for the election of members of the DZ BANK Supervisory Board that includes job descriptions and candidate profiles. This process is regularly put into practice when new Supervisory Board members are nominated.

In accordance with section 25d (11) sentence 2 nos. 3 and 4 KWG, a process has also been implemented for regularly evaluating the Supervisory Board and its members. The self-evaluation conducted by the Supervisory Board in February 2016 found that the structure, size, composition, and performance of the Supervisory Board and the knowledge, skills, and experience of the individual Supervisory Board members and the Supervisory Board as a whole fulfilled the requirements laid down by law and in the Articles of Association.
Regardless of the period of time that they have been board members, DZ BANK also offers members of the Supervisory Board various training courses. These include an inhouse course on reporting and management processes at DZ BANK and a modular training program that is run by an external provider and tailored specifically to the needs of members of supervisory boards. The modular concept enables each member of the Supervisory Board to construct a program based on his or her own training needs that consists of various basic or specialist seminars relating to the work of a supervisory board. DZ BANK provides the necessary financial resources.

Board of Managing Directors

The Articles of Association of DZ BANK state that the Board of Managing Directors Board consists of at least 3 members. The number of members is determined by the Supervisory Board, which also appoints and removes members. The Supervisory Board can appoint one Chief Executive Officer and up to two Deputy Chief Executive Officers. As at the reporting date, the Board of Managing Directors of DZ BANK consisted of 12 full members of the Board of Managing Directors including one Chief Executive Officer and one Deputy Chief Executive Officer. Detailed career histories of the members of the Board of Managing Directors are presented on the DZ BANK website.

Only persons who have the professional qualifications specified in section 25c KWG and comply with other regulatory and stock corporation law requirements can be appointed to the Board of Managing Directors. In accordance with the rules of procedure for the Supervisory Board, the Nominations Committee assists the Supervisory Board in determining suitable candidates for appointment to the Board of Managing Directors. For this purpose, the Supervisory Board has approved principles for the selection and appointment of managing directors, including job descriptions and candidate profiles as required by section 25d (11) nos. 1 and 2 KWG. When selecting suitable candidates, the Nominations Committee takes into account the balance and diversity of the knowledge, skills, and experience of all the members of the Board of Managing Directors.

In accordance with section 25d (11) sentence 2 nos. 3 and 4 KWG, a process has also been implemented for regularly evaluating the Board of Managing Directors as a whole. The evaluation conducted by the Supervisory Board in February 2016 found that the structure, size, composition, and performance of the Board of Managing Directors, and the knowledge, skills, and experience of the individual members and the Board of Managing Directors as a whole fulfilled the requirements laid down by law and in the Articles of Association. The same evaluation in respect of the members of the Board of Managing Directors of the former WGZ BANK, which was last conducted for the 2015 financial year, did not reveal any shortcomings either.

Regardless of the period of time that they have been board members, DZ BANK also offers members of the Board of Managing Directors various training courses. One of the sources of information made available by DZ BANK to the Board of Managing Directors is the Corporate Campus for Management & Strategy. This is an interactive platform with the objective of facilitating the development of new perspectives and ideas at top-management level, thereby reinforcing the sustainability of the DZ BANK Group and the Volksbanken Raiffeisenbanken cooperative financial network.

3.3. Diversity policy for selecting members of the management body, its objectives, relevant targets and achievement of targets

(Article 435 (2) letter c CRR)

Supervisory Board

In accordance with section 25d (11) sentence 2 no. 2 KWG, the Supervisory Board has adopted a strategy aimed at promoting the nomination of women, who are currently under-represented on the DZ BANK Supervisory Board. Under this strategy, the Supervisory Board's target is for 15 to 20 percent of Supervisory Board members to be female. This quota has been met.

Board of Managing Directors

According to the German Act on the Equal Participation of Women and Men in Managerial Positions in the Private and Public Sectors (FührposGleichberG) passed by the German Bundestag on March 6, 2015, the Supervisory Board has to set target quotas for the Board of Managing Directors now that the law has come into force. Based on the terms of office of the members of the Board of Managing Directors and given that the first deadline to be set for fulfilling the target quota pursuant to section 25 (1) sentence 2 of the Introductory Act to the Stock Corporation Act (EGAktG) must be no later than June 30, 2017, the Supervisory Board defined a target quota of 'zero' on September 17, 2015 for the proportion of women on the DZ BANK Board of Managing Directors as at June 30, 2017.

3.4. Disclosures regarding the formation of a risk committee and the number of times it has met to date

(Article 435 (2) letter d CRR)

The Supervisory Board was assisted in discharging its responsibilities through various committees, including a Risk Committee – consisting of 9 Supervisory Board members – that met 5 times in 2016.

3.5. Information flow to the Supervisory Board

(Article 435 (2) letter e CRR)

In 2016, the Board of Managing Directors provided the Supervisory Board with regular, timely, and comprehensive written and oral reports on the position and performance of the bank and the banking group as well as on general business developments. The Board of Managing Directors also informed the Supervisory Board about the ongoing implementation of the strategy as a network-oriented central institution and financial conglomerate, the capital situation, and the strategic and operational planning of both the bank and the banking group. Once a year, the Board of Managing Directors informs the Supervisory Board of the DZ BANK Group's strategic plan, including any adjustments, and they hold joint in-depth discussions about it. In addition to future corporate strategy, the strategic plan includes financial and capital planning as well as key strategic issues. During the reporting period, the Supervisory Board was also constantly updated about the profitability of the bank and the banking group. Furthermore, the Board of Managing Directors provided the Supervisory Board with regular reports about significant loan and investment exposures. The Supervisory Board discussed these issues with the Board of Managing Directors, advised it, and monitored its management activities.

The Supervisory Board's Risk Committee also thoroughly examined the risk position of the bank and the banking group, the development of systems and procedures used to manage market, counterparty, and operational risks, and other material banking-specific risks. The risk strategies were discussed in detail with the Risk Committee. The chairman of the Risk Committee provided the Supervisory Board with regular and timely reports on material changes. The Supervisory Board was always involved in decisions of fundamental importance. In the quarterly written information about the risk situation in the banking group, the Board of Managing Directors provides the members of the Risk Committee and the other members of the Supervisory Board with the quarterly aggregate risk report. The Risk Committee also receives the credit risk report, the report on the economic stress tests, and the report on the indicators in accordance with the German Minimum Requirements for the Design of Recovery Plans (MaSan indicators) on a quarterly basis. The chairman of the Risk Committee informs the Supervisory Board about these matters no later than at its next meeting. The minutes of Risk Committee meetings are sent to all members of the Supervisory Board on a regular basis.

4. Risk capital management

4.1. Economic risk capital management

(Article 438 sentence 1 letter a CRR)

Information on capital adequacy and the management of economic capital is disclosed in section 7.2. (Economic capital adequacy) of the combined opportunity and risk report. The components of the DZ BANK Group's available internal economic capital are based on IFRS and include hidden reserves as well as equity. The components of R+V's equity are also included in determining available economic capital.

As part of **risk-bearing-capacity analysis**, the risk capital requirement is compared with the available internal capital (reduced by a capital buffer) in order to determine the economic capital adequacy. The Board of Managing Directors determines the upper loss limits for a particular year on the basis of the available internal capital and bearing in mind the necessary capital buffer. These limits then restrict the risk capital requirement. If necessary, the upper loss limits can be adjusted during the year, e.g. if economic conditions change.

4.2. Own funds

(Article 437 CRR)

The DZ BANK banking group's total **regulatory own funds** as at December 31, 2016 amounted to €22,066 million (December 31, 2015: €18,429 million). The regulatory own funds of the DZ BANK banking group are derived from the provisions of the CRR/CRD IV. Pursuant to the provisions of the CRR (article 72 in conjunction with article 25), regulatory eligible own funds consist of common equity Tier 1 capital, additional Tier 1 capital, and Tier 2 capital. They are based on the carrying amounts recognized under IFRS and essentially comprise the equity reported on the balance sheet, hybrid capital instruments, and subordinated liabilities.

Fig. 4 (Structure of own funds during transition period) shows the DZ BANK banking group's aggregate own funds as defined by article 437 CRR in conjunction with Commission Implementing Regulation (EU) No. 1423/2013 dated December 20, 2013. These disclosures relate to all the entities consolidated for regulatory purposes in the DZ BANK banking group as at December 31, 2016.

Fig. 4 – STRUCTURE OF OWN FUNDS DURING TRANSITION PERIOD AS AT DECEMBER 31, 2016 (ARTICLE 437 (1) IN CONJUNCTION WITH ANNEX VI OF IMPLEMENTING REGULATION (EU) NO. 1423/2013)

The dots in the table below indicate cells that the EBA specifies must be left empty. The dashes (-) indicate that DZ BANK has no value to disclose.

		(A)	(C)	(A)	(C)
	€ million	Amount on disclosure reporting date	Amounts subject to pre-CRR treatment, or prescribed CRR residual amounts	Amount on disclosure reporting date	Amounts subject to pre-CRR treatment, or prescribed CRR residual amounts
		Dec. 31, 2016		Dec. 31, 2015	
Common equity Tier 1: instruments and reserves					
1	Capital instruments and related share premium accounts	9,562	-	5,748	-
1a	of which: financial instrument type 1	-	●	-	●
1b	of which: financial instrument type 2	-	●	-	●
1c	of which: financial instrument type 3	-	●	-	●
2	Retained earnings	5,503	●	5,132	●
3	Accumulated other comprehensive income (and other reserves, to include unrealized gains and losses under the applicable accounting standards)	1,828	See row 26a	1,241	See row 26a
3a	Fund for general banking risks	-	●	-	●
4	Amount of qualifying items referred to in article 484 (3) CRR and the related share premium accounts subject to phase out from CET1	-	●	-	●
4a	Public-sector capital injections grandfathered until January 1, 2018	-	●	-	●
5	Non-controlling interests (amount allowed in consolidated CET1)	319	126	1,252	873
5a	Independently reviewed interim profits net of any foreseeable charge or dividend	1,144	●	1,191	●
6	**Common equity Tier 1 (CET1) before regulatory adjustments**	**18,356**	●	**14,564**	●
7	Additional value adjustments (negative amount)	-329	●	-250	●
8	Intangible assets (net of related tax liability) (negative amount)	-385	-257	-239	-358
9	Empty set in the EU	●	●	●	●
10	Deferred tax assets that rely on future profitability, excluding those arising from temporary differences (net of related tax liability where the conditions in article 38 (3) CRR are met) (negative amount)	-25	-16	-4	-6
11	Fair value reserves related to gains and losses on cash flow hedges	10	●	7	●
12	Negative amounts resulting from the calculation of expected loss amounts	-4	-2	-15	-23
13	Any increase in equity arising from securitized assets (negative amount)	-	●	-	●
14	Gains or losses on liabilities recognized at fair value resulting from changes in own credit standing	23	-5	-26	-5
15	Defined benefit pension fund assets (negative amount)	-	-	-	-
16	Direct and indirect holdings by an institution of own CET1 instruments (negative amount)	-	-	-	-
17	Holdings of the CET1 instruments of financial-sector entities where those entities have reciprocal cross-holdings with the institution designed to artificially inflate the institution's own funds (negative amount)	-2	-1	-1	-2
18	Direct and indirect holdings by the institution of CET1 capital instruments of financial-sector entities where the institution does not have a significant investment in those entities (above 10 percent and net of eligible short positions) (negative amount)	-	-	-	-
19	Direct, indirect and synthetic holdings by the institution of CET1 instruments of financial-sector entities where the institution has a significant investment in those entities (above 10 percent and net of eligible short positions) (negative amount)	-	-	-	-
20	Empty set in the EU	●	●	●	●
20a	Exposure arising from the following items qualifying for a risk weighting of 1,250 percent, where the institution opts for the deduction alternative	-	●	-	●
20b	of which: qualifying holdings outside the financial sector (negative amount)	-	●	-	●
20c	of which: securitization exposures (negative amount)	-	●	-	●
20d	of which: free deliveries (negative amount)	-	●	-	●
21	Deferred tax assets that rely on future profitability, arising from temporary differences (amount above 10 percent threshold, net of related tax liability where the conditions in article 38 (3) CRR are met) (negative amount)	-	-	-	-

	€ million	(A) Amount on disclosure reporting date	(C) Amounts subject to pre-CRR treatment, or prescribed CRR residual amounts	(A) Amount on disclosure reporting date	(C) Amounts subject to pre-CRR treatment, or prescribed CRR residual amounts
		Dec. 31, 2016		Dec. 31, 2015	
22	Amount exceeding the 15 percent threshold (negative amount)	-	-	-	-
23	of which: direct and indirect holdings by the institution of CET1 instruments of financial-sector entities where the institution has a significant investment in those entities	-	-	-	-
24	Empty set in the EU	●	●	●	●
25	of which: deferred tax assets that rely on future profitability, arising from temporary differences	-	-	-	-
25a	Losses for the current financial year (negative amount)	-	-	-	-
25b	Foreseeable tax charges relating to CET1 items (negative amount)	-	-	-	-
26	Regulatory adjustments applied to CET1 in respect of amounts subject to pre-CRR treatment	-	●	-	●
26a	Regulatory adjustments relating to unrealized gains and losses pursuant to articles 467 and 468 CRR	-443	●	-482	●
26a.1	of which: filter for unrealized loss 1	-	●	-	●
26a.2	of which: filter for unrealized loss 2	-	●	-	●
26b	Amount to be deducted from or added to CET1 capital with regard to additional filters and deductions required pre CRR	-	●	-	●
27	Qualifying AT1 deductions that exceed the AT1 capital of the institution (negative amount)	-	●	-	●
27a	Other capital elements or deductions from common equity Tier 1	-47	●	-	●
28	**Total regulatory adjustments to common equity Tier 1 (CET1)**	**-1,202**	●	**-1,010**	●
29	**Common equity Tier 1 (CET1)**	**17,154**	●	**13,554**	●
Additional Tier 1 capital (AT1): instruments					
30	Capital instruments and related share premium accounts	750	●	750	●
31	of which: classified as equity under applicable accounting standards	750	●	-	●
32	of which: classified as liabilities under applicable accounting standards	-	●	-	●
33	Amount of qualifying items referred to in article 484 (4) CRR and the related share premium accounts subject to phase out from AT1	1,410	●	1,410	●
33a	Non-controlling interests in subsidiaries	-	●	55	●
34	Qualifying Tier 1 capital instruments included in consolidated AT1 capital (including non-controlling interests not included in row 5) issued by subsidiaries and held by third parties	-2	-2	-32	-32
35	of which: instruments issued by subsidiaries subject to phase out	-2	●	-32	●
36	**Additional Tier 1 capital (AT1) before regulatory adjustments**	**2,158**	●	**2,183**	●
Additional Tier 1 capital (AT1): regulatory adjustments					
37	Direct and indirect holdings by an institution of its own AT1 instruments (negative amount)	-65	-	-65	-
38	Holdings of AT1 instruments of financial-sector entities where those entities have reciprocal cross-holdings with the institution designed to artificially inflate the institution's own funds (negative amount)	-	-	-	-
39	Direct and indirect holdings by the institution of AT1 capital instruments of financial-sector entities where the institution does not have a significant investment in those entities (above 10 percent and net of eligible short positions) (negative amount)	-	-	-	-
40	Direct and indirect holdings by the institution of AT1 capital instruments of financial-sector entities where the institution has a significant investment in those entities (above 10 percent and net of eligible short positions) (negative amount)	-	-	-	-
41	Regulatory adjustments to additional Tier 1 capital in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase out pursuant to the CRR (CRR residual amounts)	-258	●	-370	●
41a	Residual amounts deducted from additional Tier 1 capital with regard to deduction from common equity Tier 1 during the transition period pursuant to article 472 CRR	-258	●	-370	●
41a.1	of which: losses for the current financial year (net)	-	●	-	●
41a.2	of which: intangible assets	-257	●	-358	●
41a.3	of which: shortfall in provisions for expected losses	-1	●	-12	●
41a.4	of which: direct holdings by the institution of its own CET1 instruments	-	●	-	●
41a.5	of which: reciprocal cross-holdings	-	●	-	●

€ million		(A) Amount on disclosure reporting date	(C) Amounts subject to pre-CRR treatment, or prescribed CRR residual amounts	(A) Amount on disclosure reporting date	(C) Amounts subject to pre-CRR treatment, or prescribed CRR residual amounts
		Dec. 31, 2016		Dec. 31, 2015	
41a.6	of which: own funds instruments of financial-sector entities where the institution does not have a significant investment in those entities	-	●	-	●
41a.7	of which: own funds instruments of financial-sector entities where the institution has a significant investment in those entities	-	●	-	●
41b	Residual amounts deducted from additional Tier 1 capital with regard to deduction from Tier 2 capital during the transition period pursuant to article 475 CRR	-	●	-	●
41b.1	of which: direct holdings of non-significant investments in the capital of other financial-sector entities	-	●	-	●
41b.2	of which: direct holdings of significant investments in the capital of other financial-sector entities	-	●	-	●
41c	Amount to be deducted from or added to additional Tier 1 capital with regard to additional filters and deductions required pre CRR	-	●	-	●
41c.1	of which: possible filters for unrealized losses	-	●	-	●
41c.2	of which: possible filters for unrealized gains	-	●	-	●
41c.3	of which: other	-	●	-	●
42	Qualifying T2 deductions that exceed the T2 capital of the institution (negative amount)	-	●	-	●
43	**Total regulatory adjustments to additional Tier 1 capital (AT1)**	**-323**	●	**-435**	●
44	**Additional Tier 1 capital (AT1)**	**1,835**	●	**1,748**	●
45	**Tier 1 capital (T1 = CET1 + AT1)**	**18,989**	●	**15,302**	●
Tier 2 capital (T2): instruments and reserves					
46	Capital instruments and related share premium accounts	3,843	●	2,474	●
47	Amount of qualifying items referred to in article 484 (5) CRR and the related share premium accounts subject to phase out from T2	22	●	2	●
47a	Public-sector capital injections grandfathered until January 1, 2018	-	●	-	●
48	Qualifying own funds instruments in consolidated T2 capital (including non-controlling interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties	251	43	352	178
49	of which: instruments issued by subsidiaries subject to phase out	43	●	55	●
50	Credit risk adjustments	406	●	302	●
51	**Tier 2 capital (T2) before regulatory adjustments**	**4,522**	●	**3,130**	●
Tier 2 capital (T2): regulatory adjustments					
52	Direct and indirect holdings by an institution of its own T2 instruments and subordinated loans (negative amount)	-51	-	-51	-
53	Holdings of T2 instruments and subordinated loans of financial-sector entities where those entities have reciprocal cross-holdings with the institution designed to artificially inflate the institution's own funds (negative amount)	-	-	-	-
54	Direct and indirect holdings by the institution of T2 instruments and subordinated loans of financial-sector entities where the institution does not have a significant investment in those entities (above 10 percent and net of eligible short positions) (negative amount)	-	-	-	-
54a	of which: new holdings not subject to transitional arrangements	-	-	-	-
54b	of which: holdings existing before January 1, 2013 and subject to transitional arrangements	-	-	-	-
55	Direct and indirect holdings by the institution of T2 instruments and subordinated loans of financial-sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	-	-	-	-
56	Regulatory adjustments to Tier 2 capital in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase out pursuant to Regulation (EU) No. 575/2013 (CRR residual amounts)	-1	●	48	●
56a	Residual amounts deducted from Tier 2 capital with regard to deduction from common equity Tier 1 capital during the transition period pursuant to article 472 CRR	-1	●	48	●
56a.1	of which: shortfall in provisions for expected losses	-1	●	-12	●
56a.2	of which: common equity Tier 1 instruments of financial-sector entities where the institution does not have a significant investment in those entities	-	●	-	●

€ million	(A) Amount on disclosure reporting date	(C) Amounts subject to pre-CRR treatment, or prescribed CRR residual amounts	(A) Amount on disclosure reporting date	(C) Amounts subject to pre-CRR treatment, or prescribed CRR residual amounts
	Dec. 31, 2016		Dec. 31, 2015	
56a.3 of which: common equity Tier 1 instruments of financial-sector entities where the institution has a significant investment in those entities	-	●	-	●
56b Residual amounts deducted from Tier 2 capital with regard to deduction from additional Tier 1 capital during the transition period pursuant to article 475 CRR	-	●	-	●
56b.1 of which: additional Tier 1 capital instruments of financial-sector entities where the institution does not have a significant investment in those entities	-	●	-	●
56b.2 of which: additional Tier 1 capital instruments of financial-sector entities where the institution has a significant investment in those entities	-	●	-	●
56c Amount to be deducted from or added to Tier 2 capital with regard to additional filters and deductions required pre CRR	-	●	-	●
56c.1 of which: possible filters for unrealized losses	-	●	-	●
56c.2 of which: possible filters for unrealized gains	-	●	-	●
56d Other capital elements or deductions from Tier 2 capital	-1,393	●	60	●
57 Total regulatory adjustments to Tier 2 capital (T2)	**-1,445**	●	-3	●
58 Tier 2 capital (T2)	**3,077**	●	3,127	●
59 Total capital (TC = T1 + T2)	**22,066**	●	18,429	●
59a Risk-weighted assets relating to amounts subject to pre-CRR treatment and transitional treatments subject to phase out pursuant to the CRR (i.e. CRR residual amounts)	-	●	1	●
59a.1 of which: items not deducted from common equity Tier 1 capital (CRR, residual amounts)	-	●	-	●
59a.1.1 of which: deferred tax assets that rely on future profitability, net of related tax liabilities	-	●	-	●
59a.1.2 of which: indirect holdings by the institution of its own CET1 instruments	-	●	-	●
59a.1.3 of which: items not deducted from common equity Tier 1 (CRR, residual amounts)	-	●	-	●
59a.1.4 of which: reciprocal cross-holdings in common equity Tier 1 instruments, direct holdings of non-significant investments in the capital of other financial-sector entities	-	●	-	●
59a.2 of which: items not deducted from additional Tier 1 capital (CRR, residual amounts)	-	●	-	●
59a.2.1 of which: indirect holdings by the institution of its own additional Tier 1 capital instruments	-	●	-	●
59a.2.2 of which: indirect holdings of non-significant investments in the AT1 capital of other financial-sector entities	-	●	-	●
59a.2.3 of which: indirect holdings of significant investments in the AT1 capital of other financial-sector entities	-	●	-	●
59a.3 of which: items not deducted from Tier 2 capital (CRR, residual amounts)	-	●	-	●
59a.3.1 of which: indirect holdings by the institution of its own Tier 2 capital instruments	-	●	-	●
59a.3.2 of which: indirect holdings of non-significant investments in the capital of other financial-sector entities	-	●	-	●
59a.3.3 of which: indirect holdings of significant investments in the capital of other financial-sector entities	-	●	-	●
60 Total risk weighted assets	118,462	●	97,856	●
Capital ratios and buffers				
61 Common equity Tier 1 capital ratio (as a percentage of total exposure)	14.5	●	13.9	●
62 Tier 1 capital ratio (as a percentage of total exposure)	16.0	●	15.6	●
63 Total capital ratio (as a percentage of total exposure)	18.6	●	18.8	●
64 Institution-specific capital buffer requirement (minimum CET1 requirement pursuant to article 92 (1) letter a CRR, plus capital conservation and countercyclical capital buffer requirements, systemic risk buffer and systemically important institution buffer (G-SII or O-SII buffer))	9.5[1]	●	8.0	●

€ million		(A) Amount on disclosure reporting date	(C) Amounts subject to pre-CRR treatment, or prescribed CRR residual amounts	(A) Amount on disclosure reporting date	(C) Amounts subject to pre-CRR treatment, or prescribed CRR residual amounts
		Dec. 31, 2016		Dec. 31, 2015	
	(as a percentage of total exposure)				
65	of which: capital conservation buffer	0.6	●	-	●
66	of which: countercyclical capital buffer	0.0	●	-	●
67	of which: systemic risk buffer	-	●	-	●
67a	of which: buffer for global systemically important institutions (G-SII) or other systemically important institutions (O-SII)	-	●	-	●
68	Common equity Tier 1 available to meet buffers (as a percentage of total exposure)	5.0	●	5.9	●
69	[not relevant in EU regulation]	●	●	●	●
70	[not relevant in EU regulation]	●	●	●	●
71	[not relevant in EU regulation]	●	●	●	●
Amounts below threshold for deductions (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 (less than 10 percent and net of eligible short positions)	1,177	●	971	●
73	Direct and indirect holdings by the institution of CET1 instruments of financial-sector entities where the institution holds a significant investment in those entities (less than 10 percent and net of eligible short positions)	401	●	138	●
74	Empty set in the EU	●	●	●	●
75	Deferred tax assets that rely on future profitability, arising from temporary differences (amount below 10 percent threshold, net of related tax liability where the conditions in article 38 (3) CRR are met)	802	●	681	●
Applicable caps on the inclusion of provisions in Tier 2 capital					
76	Credit risk adjustments included in Tier 2 capital in respect of exposures subject to the standardized approach (prior to application of cap)	-	●	-	●
77	Cap on inclusion of credit risk adjustments in Tier 2 capital under standardized approach	373	●	306	●
78	Credit risk adjustments included in Tier 2 capital in respect of exposures subject to internal ratings-based approach (prior to application of cap)	486	●	376	●
79	Cap on inclusion of credit risk adjustments in Tier 2 capital under internal ratings based approach	406	●	302	●
Capital instruments subject to phase-out arrangements (only applicable between January 1, 2013 and January 1, 2022)					
80	Current cap on CET1 instruments subject to phase-out arrangements	-	●	-	●
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	-	●	-	●
82	Current cap on AT1 instruments subject to phase-out arrangements	1,478	●	1,725	●
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	-	●	-	●
84	Current cap on T2 instruments subject to phase-out arrangements	41	●	4	●
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	-	●	-	●

[1] Supervisory Review and Evaluation Process (SREP) – minimum capital ratio for 2016.

Common equity Tier 1 capital (CET1) at December 31, 2016 amounted to €17,154 million (December 31, 2015: €13,554 million) and largely consisted of paid-in capital, the capital reserve, and retained earnings, minus various capital deductions.

The significant rise in own funds was mainly attributable to a total increase of €3,600 million in **common equity Tier 1 capital**. Positive merger effects and net profits eligible for retention led to an increase in share capital, capital reserves, and retained earnings of €4,415 million. Another positive factor was the increase in the revaluation reserve of €355 million, which was eligible for inclusion in accordance with the CRR. On the other hand, the decline in non-controlling interests reduced common equity Tier 1 capital by €933 million. Other adverse effects on common equity Tier 1 capital arose from the rise in capital deductions, which were attributable, among other things, to CRR phase-in stipulations.

There were no changes in the year under review in the portfolio of issued additional Tier 1 bonds (AT1 bonds). The increase of €87 million in this class of capital from €1,748 million as at December 31, 2015 to €1,835 million as at December 31, 2016 was largely explained by lower capital deductions. Under the CRR transitional guidance, the capital deductions, particularly those in connection with intangible assets and goodwill, are being moved from additional Tier 1 capital to common equity Tier 1 capital in five annual stages.

Additional Tier 1 capital (AT1) predominantly comprises open-ended own funds instruments without redemption incentives with a value of €2,160 million (December 31, 2015: €2,160 million). Of the instruments listed in Fig. 5, an amount of €1,410 million is subject to phase-out arrangements pursuant to articles 484 and 486 CRR. Consequently, the total eligibility cap for these instruments is €1,478 million (December 31, 2015: €1,725 million).

Fig. 5 shows the **features and terms and conditions** of the additional Tier 1 capital instruments classified as **additional Tier 1 capital** (AT1) before consolidation.

Fig. 5 – ADDITIONAL TIER 1 CAPITAL INSTRUMENTS (PURSUANT TO ANNEX II OF IMPLEMENTING REGULATION (EU) NO. 1423/2013)

Issuer	Volume € million	Interest rate (%)[1]	Start date	Maturity	Next cancelable as at
DZ BANK Capital Funding LLC, Wilmington[2]	300	3m EURIBOR + 250bp	Nov. 7, 2003	Perpetual	Feb. 7, 2017
DZ BANK Capital Funding LLC II, Wilmington[2]	500	3m EURIBOR + 160bp	Nov. 22, 2004	Perpetual	Feb. 22, 2017
DZ BANK Capital Funding LLC III, Wilmington[2]	350	3m EURIBOR + 150bp	Jun. 6, 2005	Perpetual	Mar. 6, 2017
DZ BANK Perpetual Funding (Jersey) Limited, St. Helier[2]	45	3m EURIBOR + 110bp	Jan. 9, 2006	Perpetual	Jan. 9, 2017
DZ BANK Perpetual Funding (Jersey) Limited, St. Helier[2]	84	3m EURIBOR + 80bp	Feb. 13, 2006	Perpetual	Feb. 13, 2017
DZ BANK Perpetual Funding (Jersey) Limited, St. Helier[2]	4	3m EURIBOR + 100bp	Mar. 17, 2006	Perpetual	Mar. 17, 2017
DZ BANK Perpetual Funding (Jersey) Limited, St. Helier[2]	87	3m EURIBOR + 80bp	Sep. 4, 2006	Perpetual	Mar. 6, 2017
DZ BANK Perpetual Funding (Jersey) Limited, St. Helier[2]	40	3m EURIBOR + 50bp	Apr. 16, 2007	Perpetual	Jan. 16, 2017
Subtotal	**1,410[2]**				
DZ BANK	221	12m EURIBOR + 420bp	Nov. 11, 2015	Perpetual	Aug. 1, 2021
DZ BANK	221	12m EURIBOR + 420bp	Nov. 11, 2015	Perpetual	Aug. 1, 2021
DZ BANK	74	4.85%, from Aug. 1, 2021 12m EURIBOR + 420bp	Nov. 11, 2015	Perpetual	Aug. 1, 2021
DZ BANK	134	5.5%, from Aug. 1, 2026 12m EURIBOR + 420bp	Nov. 11, 2015	Perpetual	Aug. 1, 2026
DZ BANK	100	4.85%, from Aug. 1, 2021 fixed rate based on 5-year euro mid-swap rate + 440bp	Nov. 11, 2015	Perpetual	Aug. 1, 2021
Total	**2,160**				

[1]bp = basis points.
[2]Instruments subject to phase-out arrangements pursuant to articles 484 and 486 CRR.

Tier 2 capital (T2) declined marginally by €50 million year on year. The additional Tier 2 capital instruments resulting from the merger were more than offset by the decreases resulting from the reduced level of eligibility under the CRR in the last five years before the maturity date.

As at December 31, 2016, **Tier 2 capital** (T2) pursuant to article 62 CRR before capital deductions was significantly higher year on year at €4,522 million (December 31, 2015: €3,130 million). The main reason for this increase was a change to the disclosure methodology. The instruments in an amount of €,410 million qualifying as additional Tier 1 capital in the grandfathering provision pursuant to article 484 (4) CRR are deemed CRR-compliant Tier 2 capital when the CRR is applied in full. These instruments have therefore already been recognized as subordinated capital and, in the amount in which they qualify as AT1, have been deducted again in the Other transitional provisions for Tier 2 capital deduction. The decreases resulting from the reduced level of eligibility for subordinated capital under the CRR in the last 5 years before the maturity date were largely offset by the additional T2 instruments resulting from the merger. A significant component of the Tier 2 capital was the subordinated capital pursuant to article 63 CRR amounting to a total of €4,602 million (December 31, 2015: €4,054 million).

Fig. 6 provides an overview of the items, features, and terms and conditions related to this subordinated capital.

Fig. 6 – SUBORDINATED CAPITAL (PURSUANT TO ANNEX II OF IMPLEMENTING REGULATION (EU) NO. 1423/2013)

Issuer	Volume		Interest rate (%)[1]	Start date	Maturity
	€ million	Currency million			
DZ BANK	211	EUR 211	7,400/EURIBOR + 350bp	1997 to 1999	2018
DZ BANK	63	EUR 63	7.1000	2008	2020
DZ BANK	606	EUR 606	3.250 to 6.000	2003 to 2012	2017
DZ BANK	116	CHF 125	EURIBOR + 240bp	2012	2017
DZ BANK	681	EUR 681	3.600 to 7.500/EURIBOR + 350 bp	2003 to 2008	2018
DZ BANK	26	EUR 26	1.900 to 3.175/EURIBOR + 1.650	2013	2018
DZ BANK	340	EUR 340	2.433 to 7.410	1999 to 2009	2019
DZ BANK	285	EUR 285	2.200 to 3.00	2013	2019
DZ BANK	8	USD 8	4.000	2013	2019
DZ BANK	371	EUR 371	3.574 to 7.150	2004 to 2010	2020
DZ BANK	20	EUR 20	3.100 to 3.200	2013	2020
DZ BANK	15	EUR 15	7.000 to 7.070	2009	2021
DZ BANK	224	EUR 224	3.640 to 5.000	2013	2021
DZ BANK	156	EUR 156	3.300 to 6.350	2009 to 2013	2022
DZ BANK	30	EUR 30	4.039 to 7.250	2003	2023
DZ BANK	281	EUR 281	3.230 to 4.370	2013	2023
DZ BANK	112	CHF 120	3.240	2013	2023
DZ BANK	7	USD 7	2.600	2015	2021
DZ BANK	38	EUR 38	1.7500	2015	2023
DZ BANK	72	EUR 72	6.500	2009	2024
DZ BANK	3	EUR 3	5.700	2010	2025
DZ BANK	278	EUR 278	2.25 to 2.89/EURIBOR + 1.25 to 1.75	2015	2025
DZ BANK	2	EUR 2	3.080	2015	2027
DZ BANK	64	EUR 64	3.085 to 3.300	2015	2030
DZ BANK	50	EUR 50	3.5 fixed, then 6m EURIBOR + 1.3 variable	2015	2030
DZ BANK	95	USD 100	4.800 to 4.900	2015	2030
DZ PRIVATBANK	15	EUR 15	6.100	1999	2019
DVB	10	EUR 10	6.000 to 6.110	2003	2018
DVB	79	EUR 79	3.950 to 4.000	2013	2018
DVB	40	EUR 40	2.640 to 2.750	2014	2019
DVB	75	EUR 75	2.200	2014	2019
DVB	100	EUR 100	2.000	2015	2021
DVB	77	EUR 77	2.300 to 2.560	2015	2022
DVB	50	EUR 50	2.000	2015	2023

[1] bp = basis points.

Another component of own funds derives from the **comparison of loan loss allowances** pursuant to article 159 CRR, which DZ BANK carries out at both institution level and banking group level. In this comparison, the expected losses computed on the IRBA exposure classes of central governments and central banks, institutions, corporates, and retail business are compared with the amounts that can effectively be recognized in the annual or interim financial statements for actual or potential impairment losses (split into receivables that are past due and not past due).

The bank classifies the **write-down surplus** computed both for DZ BANK and at banking group level **for receivables that are past due and not past due** as Tier 2 capital in accordance with article 62 sentence 1 letter d CRR. This classification is capped at 0.6 percent of the risk-weighted IRBA exposure.

As at the reporting date, there was a **write-down deficit** totaling €6 million (December 31, 2015: €38 million) for **long-term equity investments** that was deducted from common equity Tier 1 capital pursuant to article 36 (1) letter d CRR.

With very few exceptions, the CRR requires all capital deductions to be made from common equity Tier 1 capital. According to the CRR transitional guidance, 60 percent of the deduction from CET1 had to be recognized in 2016 and it will continue to be phased in going forward, rising in increments of 20 percent per year.

The **write-down deficit** for long-term equity investments resulted in a deduction of €4 million from common equity Tier 1 capital pursuant to article 36 (1) letter h CRR as at December 31, 2016 (December 31, 2015: €15 million). During the transition period, the residual amount of €2 million (December 31, 2015: €23 million) is treated in accordance with CRD III rules and therefore half is deducted from Tier 1 capital and half from Tier 2 capital.

By contrast, the comparison of loan loss allowances for **receivables that are past due and not past due** pursuant to article 62 sentence 1 letter d CRR produced a **write-down surplus**. In the DZ BANK banking group, this resulted in a total amount eligible as Tier 2 capital of €406 million as at December 31, 2016 (December 31, 2015: €302 million). Consequently, the allowances for losses on loans and advances recognized for the IRBA exposures in the central governments and central banks, institutions, corporates, and retail business exposure classes exceeded the expected losses for these exposures.

The deductions largely result from prudent valuation, intangible assets including goodwill, deferred income tax assets, and reciprocal cross-holdings.

Pursuant to article 437 (1) letter b CRR, DZ BANK is obliged to disclose a description of the **main features of the common equity Tier 1, additional Tier 1, and Tier 2 capital instruments issued** in accordance with Implementing Regulation (EU) No. 1423/2013.

This description is published in a separate annex on DZ BANK's website in the Investor Relations section under Bondholder Information, subsection Capital Instruments, together with the **full terms and conditions connected with these capital instruments**, whose publication is required pursuant to article 437 (1) letter c CRR.

BaFin has classified the DZ BANK Group as a financial conglomerate. **Financial conglomerate solvency** is the amount equating to the difference between the total of eligible own funds and the total of solvency requirements for the financial conglomerate. The coverage ratio is calculated by dividing own funds by the solvency requirement. This ratio must be at least 100 percent.

The additional capital requirements for the financial conglomerate were calculated in accordance with the provisions of sections 17 and 18 FKAG and Commission Delegated Regulation (EU) No. 342/2014 dated January 21, 2014 to set technical standards for the calculation methods of capital adequacy requirements for financial conglomerates.

On the basis of a provisional calculation, the DZ BANK financial conglomerate's eligible own funds as at December 31, 2016 amounted to €25,637 million (December 31, 2015: confirmed final eligible own funds of €20,760 million). On the other side of the ratio, the provisional solvency requirement was €14,358 million (December 31, 2015: confirmed final solvency requirements of €11,213 million). This gives a provisional coverage ratio of 178.6 percent (December 31, 2015: confirmed final coverage ratio of 185.1 percent), which is significantly in excess of the regulatory minimum requirement of 100 percent.

Reconciliation of equity reported on the balance sheet with regulatory own funds of the DZ BANK banking group

(Article 437 (1) letter a CRR)

The reconciliation of equity reported under IFRS with equity reported for companies consolidated for regulatory purposes (Financial Reporting, FINREP) and regulatory own funds (Common Reporting, COREP) as at December 31, 2016 is shown in Fig. 7 below:

Fig. 7 – RECONCILIATION OF EQUITY REPORTED ON THE BALANCE SHEET WITH REGULATORY OWN FUNDS (ARTICLE 437 (1) LETTER C CRR IN CONJUNCTION WITH ANNEX I OF IMPLEMENTING REGULATION (EU) NO. 1423/2013)

€ million	Consolidated balance sheet in accordance with financial reporting (IFRS)	Consolidation/ deconsolidation of entities	Balance sheet according to scope of consolidation for regulatory purposes (FINREP)	Regulatory law (COREP)	Reference to fig. 4 Structure of own funds during transition period
	Dec. 31, 2016				
Assets					
Cash and cash equivalents	8,515	377	8,892	-	-
Loans and advances to banks	107,253	320	107,573	-	-
Loans and advances to customers	176,532	4,694	181,226	-	-
Allowances for losses on loans and advances	-2,394	-129	-2,523	-	-
Derivatives used for hedging (positive fair values)	1,549	-2	1,547	-	-
Financial assets held for trading	49,279	-338	48,941	-	-
Investments	70,180	5,593	75,773	0	-
Investments held by insurance companies	90,373	-90,373	0	-	-
Property, plant and equipment, and investment property	1,752	-293	1,459	-	-
Tax assets	1,280	-84	1,196	843	-
Other assets	4,970	-3,290	1,680	402	-
Non-current assets and disposal groups classified as held for sale	182	-12	170	-	-
Fair value changes of the hedged items in portfolio hedges of interest-rate risk	-24	0	-24	-	-
Total assets	**509,447**	**-83,537**	**425,910**	**-**	**-**
Equity and liabilities					
Deposits from banks	129,280	667	129,947	-	-
Deposits from customers	124,425	5,752	130,177	-	-
Debt certificates issued including bonds	78,238	236	78,474	-	-
Derivatives used for hedging (negative fair values)	3,874	0	3,874	-	-
Financial liabilities held for trading	50,204	8	50,212	-	-
Provisions	4,041	64	4,105	-	-
Insurance liabilities	84,125	-84,125	0	-	-
Income tax liabilities	780	-425	355	17	-
Other liabilities	6,662	-4,159	2,503	-	-
Subordinated capital	4,723	86	4,809	-	-
Liabilities included in disposal groups classified as held for sale	25	-12	13	-	-
Fair value changes of the hedged items in portfolio hedges of interest-rate risk	180	0	180	-	-
Common equity Tier 1 (CET1) before regulatory adjustments					
Subscribed capital	4,657	0	4,657	4,657	*1*
Capital reserve	4,904	0	4,904	4,904	*1*
Retained earnings	7,822	-2,188	5,634	5,503	*2*
Revaluation reserve	1,488	206	1,654	1,785	*3*
Cash flow hedge reserve	-11	1	-10	-10	*3*
Currency translation reserve	70	-16	54	54	*3*
Non-controlling interests	2,826	-1,004	1,822	319	*5*
Unappropriated earnings	326	1,372	1,698	1,144	*6*
Total common equity Tier 1 (CET1) before regulatory adjustments	**-**	**-**	**-**	**18,356**	***6***
Common equity Tier 1 (CET1): regulatory adjustments					
Capital deductions					
Intangible assets (negative amount)	-661	-9	-670	-402	*8*
Deferred taxes related to other intangible assets (negative amount)	24	4	28	17	*8*
Deferred tax assets that rely on future profitability, not arising from temporary differences (negative amount)	-59	18	-41	-25	*10*

€ million	Consolidated balance sheet in accordance with financial reporting (IFRS)	Consolidation/ deconsolidation of entities	Balance sheet according to scope of consolidation for regulatory purposes (FINREP)	Regulatory law (COREP)	Reference to fig. 4 Structure of own funds during transition period
			Dec. 31, 2016		
Deductible deferred tax assets that rely on future profitability, arising from temporary differences (negative amount)	-789	-13	-802	-	*21*
Hedge reserve (cash flow hedge reserve)	-	-	10	10	*11*
Loan loss allowances resulting from prudent valuation requirements (negative amount)	-	-	-	-329	*7*
Negative amounts resulting from the calculation of expected loss amounts	-	-	-	-4	*12*
Effects resulting from measurement of own liabilities	-	-	-	23	*14*
Holdings of the CET1 instruments of financial-sector entities where those entities have reciprocal cross-holdings with the institution	-	-	-	-2	*17*
Other capital elements or deductions from common equity Tier 1	-	-	-	-47	*27a*
Adjustments (transitional guidance)	-	-	-	-443	*26a*
Total regulatory adjustments to common equity Tier 1 (CET1)	**0**	**0**	**0**	**-1,202**	28
Common equity Tier 1 (CET1) after regulatory adjustments:	**-**	**-**	**-**	**17,154**	***29***
Additional Tier 1 capital (AT1) before regulatory adjustments: instruments					
Capital instruments and related share premium accounts	848	0	848	750	*30*
Amount of qualifying items referred to in article 484 (4) and the related share premium accounts subject to phase out from AT1	1,410	0	1,410	1,410	*33*
Non-controlling interests in subsidiaries	-	-	-	-	*33a*
Qualifying Tier 1 capital instruments included in consolidated AT1 capital (including non-controlling interests not included in row 5) issued by subsidiaries and held by third parties	-	-	-	-2	*34 and 35*
Additional Tier 1 capital (AT1) before regulatory adjustments	**-**	**-**	**-**	**2,158**	*36*
Additional Tier 1 capital (AT1): regulatory adjustments:					
Direct and indirect holdings by an institution of its own AT1 instruments (negative amount)	25	-20	5	-65	*37*
Holdings of AT1 instruments of financial-sector entities where those entities have reciprocal cross-holdings with the institution designed to artificially inflate the institution's own funds (negative amount)	-	-	-	-	*38*
Direct and indirect holdings by the institution of AT1 capital instruments of financial-sector entities where the institution does not have a significant investment in those entities (above 10 percent and net of eligible short positions) (negative amount)	-	-	-	-	*39*
Direct and indirect holdings by the institution of AT1 capital instruments of financial-sector entities where the institution has a significant investment in those entities (above 10 percent and net of eligible short positions) (negative amount)	-	-	-	--	*40*
Regulatory adjustments to additional Tier 1 capital in respect of amounts subject to pre-CRR treatment and transitional	-	-	-	-258	*41*

€ million	Consolidated balance sheet in accordance with financial reporting (IFRS)	Consolidation/ deconsolidation of entities	Balance sheet according to scope of consolidation for regulatory purposes (FINREP)	Regulatory law (COREP)	Reference to fig. 4 Structure of own funds during transition period
			Dec. 31, 2016		
treatments subject to phase out pursuant to Regulation (EU) No. 575/2013 (i.e. CRR residual amounts)					
Qualifying T2 deductions that exceed the T2 capital of the institution (negative amount)	-	-	-	-	*42*
Total regulatory adjustments to additional Tier 1 capital (AT1)	**-**	**-**	**-**	**-323**	*43*
Additional Tier 1 capital (AT1) after regulatory adjustments:	**-**	**-**	**-**	**1,835**	***44***
Tier 2 capital (T2): instruments and reserves					
Capital instruments and related share premium accounts	4,724	85	4,809	3,843	*46*
Amount of qualifying items referred to in article 484 (5) and the related share premium accounts subject to phase out from T2	-	-	-	22	*47*
Qualifying own funds instruments in consolidated T2 capital (including non-controlling interests and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties	-	-	-	251	*48*
of which: instruments issued by subsidiaries subject to phase out	-	-	-	43	*49*
Credit risk adjustments	-	-	-	406	*50*
Tier 2 capital (T2) before regulatory adjustments	-	-	-	**4,522**	51
Tier 2 capital (T2): regulatory adjustments					
Direct and indirect holdings by an institution of its own T2 instruments and subordinated loans (negative amount)	-	-	-	-51	*52*
Holdings of T2 instruments and subordinated loans of financial-sector entities where those entities have reciprocal cross-holdings with the institution designed to artificially inflate the institution's own funds (negative amount)	-	-	-	-	*53*
Direct and indirect holdings by the institution of Tier 2 capital instruments and subordinated loans of financial-sector entities where the institution does not have a significant investment in those entities (above 10 percent and net of eligible short positions) (negative amount)	-	-	-	-	*54*
of which: New holdings not subject to transitional arrangements	-	-	-	-	*54a*
of which: Holdings existing before January 1, 2013 and subject to transitional arrangements	-	-	-	-	*54b*
Direct and indirect holdings by the institution of T2 instruments and subordinated loans of financial-sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	-	-	-	-	*55*
Regulatory adjustments to Tier 2 capital in respect of amounts subject to pre-CRR treatment and transitional treatments subject to phase out pursuant to Regulation (EU) No. 575/2013 (i.e. CRR residual amounts)	-	-	-	-1	*56*
Other transitional provisions for Tier 2 capital	-	-	-	-1,393	*56d*
Total regulatory adjustments to Tier 2	**-**	**-**	**-**	**-1,445**	*57*

€ million	Consolidated balance sheet in accordance with financial reporting (IFRS)	Consolidation/ deconsolidation of entities	Balance sheet according to scope of consolidation for regulatory purposes (FINREP)	Regulatory law (COREP)	Reference to fig. 4 Structure of own funds during transition period
			Dec. 31, 2016		
capital (T2)					
Tier 2 capital (T2) after regulatory adjustments	-	-	-	3,077	58
Own funds	22,890	-1,629	21,261	22,066	59
Total equity and liabilities	**509,447**	**-83,537**	**425,910**	**-**	**-**

The differences between the assets and the equity and liabilities reported in the IFRS consolidated financial statements and the DZ BANK banking group's assets and equity and liabilities under FINREP largely arose from different entities being included in each scope of consolidation and from different consolidation methods.

The differences in the consolidation methods essentially related to R+V, which was consolidated using the equity method in the DZ BANK banking group's financial statements under FINREP but was fully consolidated in the consolidated financial statements. As a result, the figure for non-controlling interests was €1,015 million lower (December 31, 2015: €1,704 million lower).

Differences in the scope of consolidation also arose at the level of the consolidated subgroups DVB, UMH, and VR LEASING. In addition, BSH's fund for home savings risk was not recognized as equity in the DZ BANK banking group's financial statements and was consequently reclassified to liabilities, as a result of which the figure reported for retained earnings was lower by €469 million (December 31, 2015: lower by €594 million) and that for non-controlling interests was lower by €15 million (December 31, 2015: lower by €131 million).

The differences between the equity under FINREP and the common equity Tier 1 capital under CRR/COREP arise mainly from the regulatory requirements in the CRR. The main reconciliation effects are explained below.
The **retained earnings** according to FINREP includes the losses arising from revaluation of defined benefit pension plans in an amount of €546 million, whereas these losses were included in the revaluation reserve under COREP. Furthermore, this line item included the reserves or cumulative losses arising on investments in subsidiaries, joint ventures, and associates in an amount of €677 million that, under COREP, were included in accumulated other comprehensive income.

Under the CRR transitional provisions as at December 31, 2016, the **revaluation reserve** may only be recognized at 60 percent of the total volume. As a result, an amount of €443 million does not count as common equity Tier 1 capital. Under COREP, this effect is shown in the adjustments (transitional guidance).

Under the CRR, the **cash flow hedge reserve** cannot be recognized as equity, as a result of which the negative amount of €10 million has not been deducted from common equity Tier 1 capital.

Under FINREP, the **non-controlling interests** contain additional Tier 1 capital (AT1) instruments of €1,410 million.

Under the CRR, the planned dividend distribution of €324 million (December 31, 2015: €224 million) has to be deducted from **unappropriated earnings** pursuant to FINREP. The profit attributable to non-controlling interests is also included under FINREP. Furthermore, there are differences in how the contributions to profits from subgroups are recognized.

The **regulatory capital deductions** are mainly the result of deducting capitalized goodwill and other intangible assets that, under the CRR transitional guidance, are deducted from common equity Tier 1 capital (CET1) at 60 percent (€385 million) and from other Tier 1 capital (AT1) at 40 percent (€257 million). Furthermore, the deductions for the regulatory prudent valuation under the CRR reduce common equity Tier 1 capital by €329 million. The total of all other deductions affecting common equity Tier 1 capital reduce it by a total of €55 million. The regulatory capital deductions from AT1 thus consist, in particular, of the aforementioned capitalized goodwill and other intangible assets of €257 million and of the maximum amount of €65 million that the CRR permits as a deduction for market making.

The **additional Tier 1 capital (AT1)** largely comprises additional equity components of €750 million and the qualifying items referred to in article 484 (4) plus the related share premium accounts subject to phase out from AT1 in an amount of €1,410 million.

The **Tier 2 capital (T2)** mainly consists of subordinated capital instruments. The eligibility of these instruments is limited if their term to maturity is less than 5 years. This effect is the main reason for the significant reduction in eligibility for regulatory purposes.

Furthermore, the non-CRR-compliant AT1 instruments were recognized in full as T2 instruments in an amount of €1,410 million for the first time under COREP as at the reporting date. The portion still eligible as AT1 under the CRR transitional guidance is deducted in the line item Other transitional provisions for Tier 2 capital.

The **regulatory capital deductions** affecting T2 capital result from the maximum amount of €51 million that the CRR permits as a deduction for market making.

4.3. Capital requirements

(Article 438 CRR)

The calculation of the DZ BANK banking group's solvency ratios is based on the CRR. The main basis for calculating regulatory own funds is therefore the equity reported in the IFRS consolidated financial statements.

As at December 31, 2016, regulatory **capital requirements** were calculated at €9,477 million (December 31, 2015: €7,828 million). This sharp increase was due to the first-time recognition of the WGZ BANK Group.

Fig. 8 and Fig. 9 show the capital requirements in relation to the risk types of relevance for regulatory purposes (credit risk, market risk, and operational risk). These disclosures cover all the entities consolidated for regulatory purposes in the DZ BANK banking group.

Fig. 8 – CAPITAL REQUIREMENTS (PART 1)

€ million	Dec. 31, 2016 Capital requirements	Dec. 31, 2016 Risk-weighted assets	Dec. 31, 2015 Capital requirements	Dec. 31, 2015 Risk-weighted assets
1 Credit risk				
1.1 Standardized Approach to credit risk				
Central governments and central banks	158	1,980	139	1,732
Regional or local authorities	20	255	21	265
Other public-sector entities	7	89	4	51
Multilateral development banks	-	-	-	-
International organizations	-	-	-	-
Institutions	34	420	34	430
Covered bonds	5	63	5	64
Corporates	732	9,156	588	7,352
Retail business	198	2,470	186	2,326
Institutions and entities with short-term credit ratings	0	1	7	90
Exposures collateralized by real estate	89	1,110	67	838
Units or shares in collective investment undertakings ('CIUs')	122	1,525	76	944
Particularly high-risk exposures	34	420	20	252
Other exposures	124	1,553	71	886
Exposures in default	22	278	23	291
Total credit risk under the Standardized Approach	**1,545**	**19,318**	**1,242**	**15,520**
1.2 IRB approaches				
Central governments and central banks	87	1,084	58	723
Institutions	708	8,848	578	7,224
Corporates	3,298	41,229	2,138	26,730
of which: SMEs	235	2,939	72	899
Retail business	983	12,291	905	11,315
of which: mortgage-backed	574	7,177	503	6,287
qualified revolving	-	-	-	-
other retail business	409	5,114	402	5,028
Other non-credit-obligation assets	191	2,385	172	2,149
Total under IRB approaches	**5,267**	**65,836**	**3,851**	**48,141**
1.3 Securitizations				
Securitizations under the Standardized Approach to credit risk	349	4,365	374	4,681
of which: re-securitizations	0	2	2	31
Securitizations under IRB approaches	260	3,250	149	1,863
of which: re-securitizations	32	405	29	362
Total securitizations	**609**	**7,615**	**524**	**6,544**
1.4 Long-term equity investments				
Long-term equity investments under IRB approaches	88	1,100	135	1,693
of which: internal modeling approach	-	-	-	-
PD/LGD approaches	2	28	3	42
simple risk-weighting approach	70	879	117	1,466
of which: exchange-traded equity investments	0	0	-	-
equity investments not exchange-traded, but part of a diversified portfolio	-	-	-	-
other equity investments	70	879	117	1,466
Equity investments exempted from IRB approaches and included in Standardized Approach to credit risk	494	6,173	341	4,263
of which: grandfathering	416	5,194	314	3,925
Total long-term equity investments	**582**	**7,273**	**477**	**5,957**
1.5 Exposure amount for contributions to default fund of a central counterparty (CCP)	18	228	22	276
1.6 Credit valuation adjustments (CVA charge)	131	1,641	128	1,600
1.7 Exposure amount for counterparty and settlement risk	0	2	0	0
1.8 Large exposure excess amounts in the trading book	-	-	-	-
Total credit risk	**8,153**	**101,913**	**6,243**	**78,038**

Fig. 9 – CAPITAL REQUIREMENTS (PART 2)

€ million	Dec. 31, 2016		Dec. 31, 2015	
	Capital requirements	Risk-weighted assets	Capital requirements	Risk-weighted assets
2 Market risk				
Standardized approach	128	1,601	90	1,129
of which: trading book risk exposures	25	310	9	116
of which: interest-rate risk	25	310	9	116
of which: general and specific price risk (net interest-rate exposure)	25	310	9	116
of which: specific price risk for securitization exposures in trading book	10	122	6	69
specific price risk in correlation trading portfolio	1	16	2	24
equity risk	0	1	0	1
Special approach for position risk in CIUs	4	54	-	-
currency risk	98	1,222	80	998
commodity risk	1	15	1	15
Internal modeling approach	382	4,780	782	9,771
Total market risk	**510**	**6,381**	**872**	**10,900**
3 Operational risk				
Operational risk under Basic Indicator Approach	102	1,270	-	-
Operational risk under Standardized Approach	712	8,900	713	8,918
Operational risk under AMA	-	-	-	-
Total operational risk	**814**	**10,169**	**713**	**8,918**
Sum total	**9,477**	**118,462**	**7,828**	**97,856**

As at December 31, 2016, the **economic capital adequacy ratio** for the DZ BANK Group was calculated at 163.5 percent (December 31, 2015: 173.5 percent; original figure: 173.3 percent). Fig. 16 in the combined opportunity and risk report provides an overview of the DZ BANK Group's economic capital adequacy.

The DZ BANK Group's **available internal capital** as at December 31, 2016 was measured at €26,408 million (December 31, 2015: €22,518 million; original figure: €22,616 million). As at December 31, 2016, the **capital buffer** amounted to €1,929 million (December 31, 2015: €1,526 million). The higher values were largely attributable to the impact from the merger. However, the increase in available internal capital also arose because of the positive financial performance in the year under review.

Derived from the available internal capital minus the capital buffer, the **total upper loss limit** for the DZ BANK Group amounted to €22,299 million as at December 31, 2016 (December 31, 2015: €16,866 million). As at December 31, 2016, the **risk capital requirement** was calculated at €14,975 million (December 31, 2015: €12,098 million; original figure: €12,167 million). The rise in the upper loss limit was mainly caused by the merger, model changes at R+V resulting from the implementation of Solvency II, and the refinement of risk models at DZ BANK. The increase in the risk capital requirement also resulted from the aforementioned effects and from the fall in the general level of interest rates.

4.4. Capital ratios

The regulatory capital ratios of the banking group's significant subsidiaries and of DZ BANK as its parent institution are shown in Fig. 10. These ratios illustrate the relationship between risk-weighted exposures and the regulatory capital components in the DZ BANK banking group. The figures disclosed for the entities in the DZ BANK banking group are in accordance with the country-specific legislation and do not include the effects of intragroup consolidation. Consequently, the capital ratios for the DZ BANK banking group and the entities belonging to it were well above the corresponding minimum ratios prescribed for regulatory purposes as at December 31, 2016, as they had been a year earlier.

Because the waiver pursuant to article 7 CRR has been applied to DG HYP and WL BANK, capital ratios and other ratios are no longer calculated for these entities at individual-institution level. No disclosures are made at individual-institution level for DG HYP and WL BANK as significant subsidiaries.
The **total capital ratio** of the **DZ BANK banking group** declined from 18.8 percent as at December 31,

2015 to 18.6 percent as at the balance sheet date. As at December 31, 2016, the **Tier 1 capital ratio** was 16.0 percent, an increase on the ratio of 15.6 percent as at December 31, 2015. The **common equity Tier 1 capital ratio** was 14.5 percent as at December 31, 2016 and thus also significantly higher than the ratio of 13.9 percent as at the end of 2015. Under SREP in connection with Basel III Pillar 2 (article 16 of Regulation (EU) No. 1024/2013), the ECB decided that the DZ BANK banking group had to maintain a common equity Tier 1 capital ratio of at least 9.5 percent in the reporting year. The **countercyclical capital buffer**, which has to be determined individually for each bank at every reporting date, is added to the common equity Tier 1 capital ratio. As at December 31, 2016, this countercyclical capital buffer amounted to 0.023 percent, producing a total **SREP minimum capital ratio** of 9.523 percent (December 31, 2015: 8.0 percent). This requirement, which is specific to the banking group, was met at all times during the year under review.
The ratios at DZ BANK banking group level and at DZ BANK level were well above the regulatory minimum CRR capital ratios at all times during 2016.

Fig. 10 – REGULATORY CAPITAL RATIOS OF THE DZ BANK BANKING GROUP IN ACCORDANCE WITH THE CRR

Entity	Total capital ratio		Tier 1 capital ratio		Common equity Tier 1 capital ratio	
%	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
DZ BANK banking group	18.6	18.8	16.0	15.6	14.5	13.9
DZ BANK	24.4	26.6	19.1	20.2	18.1	19.1
BSH	27.7	29.6	27.7	29.6	27.7	29.6
DVB (banking group)	20.5	22.9	12.9	16.8	12.9	16.8
DZ PRIVATBANK	20.1	21.6	19.9	21.3	19.9	21.3
TeamBank	12.0	12.7	9.6	10.3	8.5	9.0

The management units named in section 2.3. of the combined opportunity and risk report are the material subsidiaries of the DZ BANK banking group. They are deemed to be material in terms of their contribution to the DZ BANK banking group's aggregate risk and are therefore directly incorporated into the group's risk management system.

Article 13 (1) CRR requires the significant subsidiaries of the DZ BANK banking group and those of material significance for their local market to disclose the information specified in articles 437 CRR (own funds), 438 CRR (capital requirements), 440 CRR (capital buffers), 442 CRR (credit risk adjustments and allowances for losses on loans and advances), 450 CRR (remuneration), 451 CRR (leverage ratio), and 453 CRR (risk mitigation) on an individual or subconsolidated basis to the extent necessary.

Based on the above categorization of management units, the disclosure requirements set out in article 13 CRR apply to the following entities:

– BSH
– DVB
– DZ PRIVATBANK
– TeamBank.

The disclosures required by article 13 CRR can be found in the regulatory risk reports on the websites of the group's significant subsidiaries in the form of partial disclosure reports.

Pursuant to article 7 CRR in conjunction with article 6 (1) CRR, this disclosure requirement is waived for DG HYP and WL BANK on an individual basis. Meanwhile, this disclosure requirement is waived for UMH and VR LEASING on an individual basis in accordance with section 2 (7a) KWG.

5. Indicators of global systemic importance

(Article 441 CRR)

The DZ BANK banking group's total exposure for the purposes of the leverage ratio exceeds €200 billion. This means it is of **potential** global systemic importance according to the technical standard EBA/ITS/2016/01 in conjunction with section 10f KWG, and it must calculate and disclose the indicators required in this technical standard on an annual basis using specified key figures. Fig. 11 below shows the key figures for determining global systemic importance. This information is disclosed on DZ BANK's website in the Investor Relations section under Reports.

DZ BANK is not currently considered to be a global systemically important institution. BaFin has classified DZ BANK as an 'other systemically important institution' within the meaning of section 10g (2) KWG.

Fig. 11 – KEY FIGURES FOR GLOBAL SYSTEMIC IMPORTANCE

Indicator	Key figure
Size	Aggregate risk exposure
Interconnectedness	Intra-financial system assets
	Intra-financial system liabilities
	Securities outstanding
Substitutability/ financial institution infrastructure	Payments activity (financial year)
	Assets under custody
	Underwritten transactions (financial year)
Complexity	Notional amount of OTC derivatives
	Trading and available-for-sale securities
	Level 3 assets
Cross-jurisdictional activity	Cross-jurisdictional claims
	Cross-jurisdictional liabilities

6. Credit risk

6.1. Principles and objectives of credit risk management

The principles and objectives as well as the methods and control of credit risk management are presented in section 8. of the combined opportunity and risk report in accordance with article 435 (1) CRR.

6.1.1. Rating systems in general: Characteristics of the rating systems

The generation of internal credit ratings for the business partners of entities in the DZ BANK banking group helps, in particular, to provide a solid basis for lending decisions as part of the management of individual transactions. The **VR rating system** used as standard throughout the cooperative financial network ensures that all the entities in the network apply a sophisticated uniform methodology and that the ratings produced are comparable.

Numerous rating systems were developed jointly by DZ BANK (pre-merger) and the former WGZ BANK and were already in use as standard in both banks prior to the merger. Given the standardized use, together with the representativity and comparability of the rating systems, the merged central institution received approval from the supervisory authority also to apply the jointly developed rating systems in the version used by DZ BANK (pre-merger) to determine the regulatory capital requirement for the portfolio of the former WGZ BANK.

DZ BANK primarily uses VR rating systems as part of its credit risk management system to assess large and medium-sized companies, major corporate customers, banks, and countries, as well as project finance, asset finance, acquisition financing, and investment funds. The internal assessment approach is also used to evaluate the liquidity lines and credit enhancements made available by DZ BANK to programs for the issuance of asset-backed commercial paper (ABCP). These rating systems have been approved by BaFin for the purposes of calculating regulatory capital using the foundation IRB approach.

For internal management purposes, DZ BANK uses further rating systems to assess SMEs (German Mittelstand), agricultural businesses, public-sector entities, not-for-profit organizations, foreign SMEs, and insurance companies. Although these systems satisfy the requirements for the foundation IRB approach in the opinion of DZ BANK, they are deemed to be of less significance and have not yet been reviewed by the supervisory authority. The rating systems for open-ended real estate funds and for commercial real estate used by the former WGZ BANK Group are also used for internal management purposes.

Most of the other entities in the Bank sector also use the DZ BANK rating systems for banks, sovereigns, and major corporate customers. Rating systems for specific business segments are also used by individual subsidiaries.

Development of rating systems

The overhaul of the rating system used by DZ BANK for project finance continued in the year under review and is expected to be completed in 2017. Work also began on the development of the supervisory slotting approach for project finance, which is scheduled to be used from 2020 onward to calculate the regulatory capital requirement. In addition, the development of the rating system for insurers was completed in 2016 and the system has now been introduced. The enhancement of the rating system for banks was also completed in 2016. A supervisory assessment of the IRB approach followed by approval from the banking supervisor is still required before the enhanced rating system can be introduced.

6.1.2. Rating systems for exposure classes under the Standardized Approach to credit risk

Nominated rating agencies

(Article 444 letters a and b CRR)

The rating agencies Standard & Poor's Ratings Services (Standard & Poor's), Moody's Investors Service (Moody's), and Fitch Ratings, Ltd. (Fitch) are used to help determine the capital requirements for all exposure classes under the Standardized Approach to credit risk where credit ratings are used for exposures. Competing external ratings are included in the calculation of risk-weighted exposures in accordance with articles 138 and 139 CRR.

Transfer of credit ratings for bond issues to receivables

(Article 444 letter c CRR)

External credit ratings awarded by recognized rating agencies or export credit agencies are transferred to assets of the DZ BANK banking group in accordance with the requirements of articles 137 to 141 CRR. In cases where an issue-specific credit rating is not available for an exposure, but an issuer-specific credit rating or a credit rating for another of the issuer's issues is available, DZ BANK transfers this credit rating to the unrated exposure in accordance with the criteria of article 139 CRR. The available credit rating is transferred if it (1) produces a higher risk weighting than for the unrated exposure and the unrated exposure's ranking is equal to or lower than that of the rated exposure, or (2) produces a lower risk weighting than for the unrated exposure and the unrated exposure's ranking is equal to or higher than that of the rated exposure. If these conditions are not met, the exposure is treated as unrated. The process in the DZ BANK banking group used to implement this as described is automated and draws on all of the main external rating sources that are available in the ABACUS/DaVinci reporting software. No bond issue credit ratings were transferred to comparable exposures of equal or higher ranking. This applies to all exposure classes under the Standardized Approach to credit risk.

6.1.3. Rating systems for IRBA exposure classes

Summary of internal rating systems

(Article 452 sentence 1 letter a CRR)

In 2007, the DZ BANK banking group received official approval from BaFin to calculate its own funds using the foundation IRB approach and the IRB approach for retail business. Fig. 12, Fig. 13, and Fig. 14 show the approved internal rating systems used by the DZ BANK banking group to determine the parameters for calculating its regulatory capital requirements based on the IRB approaches. The overviews cover the rating systems developed and applied by DZ BANK that are also made available to BSH, DG HYP, DVB, and WL BANK, as well as those specially customized to the respective business models of BSH and DG HYP.

Fig. 12 – RATING SYSTEMS DEVELOPED BY DZ BANK AND THEIR USE BY OTHER ENTITIES IN THE DZ BANK BANKING GROUP

						Exposure class										
										Corporates				Retail business		
Rating systems	DZ BANK	BSH	DG HYP	DVB	WL BANK	**Central governments and central banks**	**Institutions**	**Long-term equity investments**	**Securitizations**	Corporates (narrow sense)	SMEs	Specialized lending	Receivables purchased	Mortgage-backed	Qualified revolving	Other
VR rating for large and medium-sized companies	•		•							•	•					
VR rating for major corporate customers	•									•						
VR rating for banks	•	•	•	•	•	•	•	•								
VR rating for countries	•	•	•	•	•	•										
Project finance	•											•				
Asset finance	•											•				
Acquisition finance	•									•						
Internal Assessment Approach	•								•							
Investment fund rating	•									•						

Fig. 13 – PROPRIETARY RATING SYSTEMS DEVELOPED BY BSH

	Exposure class										
					Corporates				Retail business		
Rating systems	**Central governments and central banks**	**Institutions**	**Long-term equity investments**	**Securitizations**	Corporates (narrow sense)	SMEs	Specialized lending	Receivables purchased	Mortgage-backed	Qualified revolving	Other
Retail business secured by mortgage											
Application scoring									•		
Behavioral scoring									•		
LGD scoring									•		
EAD									•		
Retail business not secured by mortgage											
Application scoring											•
Behavioral scoring											•
LGD scoring											•
EAD											•

Fig. 14 – PROPRIETARY RATING SYSTEMS DEVELOPED BY DG HYP

	Exposure class										
					Corporates				Retail business		
Rating systems	Central governments and central banks	Institutions	Long-term equity investments	Securitizations	Corporates (narrow sense)	SMEs	Specialized lending	Receivables purchased	Mortgage-backed	Qualified revolving	Other
VR rating systems											
VR rating for developers							•				
VR rating for closed-end inv. funds							•				
VR rating for investors					•						
VR rating for real-estate companies							•				
VR rating for project developers							•				
VR rating for housing companies					•						
VR rating for open-ended real estate funds					•						
Rating systems for retail business with non-self-employed customers											
Application scoring (retail)/behavioral scoring (retail)									•		
Estimated LGD (retail IRB)									•		
Rating systems for retail business with self-employed customers											
Application scoring (retail)/behavioral scoring (retail)									•		
Estimated LGD (retail IRB)									•		
Other rating systems											
Specialized real estate lending (outside Germany)							•				

WL BANK also uses the following proprietary rating systems in the retail business exposure class (secured by mortgage):

- VR rating for retail-customer building loans
- Rating for business customers, freelancers, and investors (WL GFI rating)
- LGD grading
- CCF.

In addition, the rating for local and regional government (LRG) is used in the central governments and central banks exposure class while the VR rating for investors and the VR rating for housing companies are used in the exposure class of corporates (in the narrow sense of the term).In addition to the rating systems developed by DZ BANK, DVB uses separate rating systems for the following segments in order to classify the risks for the exposure class of corporates (in the narrow sense of the term):

- Aviation (aircraft)
- Aviation (aircraft engines)
- Land transport
- Shipping (containers)
- Shipping (vessels).

When using DZ BANK's VR rating system for banks, DVB applies its own LGD estimates.
TeamBank uses its consumer-finance rating system to determine the credit ratings for loan exposures in its retail business exposure class. The credit card limit and associated easyCredit loan facilities related to credit cards, binding loan commitments to selected existing customers ('Exklusivangebot'), easyCredit loans to self-employed individuals, receivables purchased in connection with the integrated e-commerce finance solution ('Ratenkauf by easyCredit'), and consumer loans marketed in Austria, which also form part of the retail business exposure class, are included in the Standardized Approach to credit risk.

Description of internal rating systems

(Article 452 sentence 1 letters b (ii) and c CRR)

Application of the IRB approaches requires the use of internal rating systems to classify the risks of the exposures measured using the IRB approaches and to classify guarantors. Internal rating systems are considered suitable if they meet the minimum requirements for use of the IRB approaches pursuant to article 143 CRR. Apart from meeting the requirements relating to methodology and process organization, the rating systems must have demonstrated their suitability for classifying existing and new business. Rating systems are defined by article 142 (1) no. 1 CRR as all of the methods, processes, controls, and data collection and IT systems that support the assessment of credit risk, the assignment of exposures to rating grades or pools, and the quantification of default and loss estimates that have been developed for a certain type of exposure.

Most of the internal rating systems have been developed as the standard for the entire cooperative financial network by DZ BANK as part of VR Control, a project carried out by the BVR that also incorporates the former WGZ BANK, the network's regional banking associations, computing centers, and primary banks. ParcIT GmbH took over the competence center for counterparty risk methods from the BVR on July 1, 2015. This uniform approach for the entire cooperative network brings substantial efficiency gains for DZ BANK as the cooperative central institution and for the local cooperative banks. If DZ BANK requires rating systems for specialist segments that go beyond the scope of the rating systems developed for the cooperative network, DZ BANK will develop any such rating systems itself.

The internal rating systems used by the entities in the DZ BANK banking group feature a modular construction; they generally consist of a quantitative module and a qualitative module. When rating systems are developed, various factors affecting credit ratings are identified and initially developed in isolation. The next stage is to take account of interdependencies between individual modules at the level of the overall model. The advantage of this approach is that individual modules of a particular rating system can be revised, for example, in the light of new methodical-conceptual or empirical findings, without any other module being affected by this. This reduces the cost of developing and refining rating systems.

Provided article 495 (1) CRR does not apply (grandfathering), the PD/LGD approach pursuant to article 155 (3) CRR is used for equity exposures if the equity exposure falls within the scope of a rating system approved for the IRBA and for which approval has been given. Otherwise, the simple risk weighting approach pursuant to article 155 (2) CRR is used.

The **VR rating system** standardizes rating methods and ensures comparability of rating results within the cooperative financial network. The VR rating system is differentiated by customer segment and is gradually being extended to cover all relevant customer groups.

The section below presents the main rating systems used by the DZ BANK banking group. These rating systems have been approved by BaFin for the purposes of calculating regulatory own funds using the foundation IRB approach. Each of these rating systems differentiates between a total of 25 rating categories; 20 of these categories are for non-defaulting counterparties and 5 are for defaulted counterparties.

The **VR rating for large and medium-sized companies** is applied to the exposure class of corporates (in the narrow sense of the term) and small and medium-sized enterprises. This rating system covers the central institution's typical corporate customers that generate revenue of up to €1.0 billion. It is applied, among other things, to loans jointly extended by entities in the DZ BANK banking group to local cooperative banks or their customers and, in addition, is used by all local cooperative banks in Germany throughout the cooperative network. A characteristic of the VR rating system devised for large and medium-sized companies is the large number of historical data records of defaulted and non-defaulted customers that were collected throughout the cooperative financial network. Given this ideal data scenario, a good/bad analysis was selected as the development method.

The **VR rating for major corporate customers** is used for large domestic and international customers that generate revenue in excess of €1.0 billion and belong to the exposure class of corporates (in the narrow sense of the term). A characteristic of the VR rating system devised for major corporate customers is the small number of defaulting customers. Given this data scenario, the external rating method was selected as the development method. Under this approach, data was collected from many financial years for a large number of externally rated international companies from various sectors.

The **VR rating for banks** is used for the exposure class of central governments and central banks, institutions, and equity exposures. This rating system is applied to German and international banks (including central banks), irrespective of legal structure or size. The external rating method was again chosen as the development method. Under this approach, data was collected from externally rated banks worldwide.

The **VR rating for countries** is used for the exposure class of central governments and central banks. Given the international orientation of the DZ BANK banking group, the country rating is very important for risk-based management of the business conducted by the entities in the DZ BANK banking group. The country rating segment is concerned exclusively with credit ratings for central governments and not with credit ratings for central banks, other foreign public-sector entities, or international institutions. Under this rating system design, which is also based on the external rating method, countries are broken down into industrialized and developing nations. The reasons for this breakdown are the different risk factors and the need for a different interpretation of the factors relevant to credit quality when analyzing industrialized and developing nations' ability and willingness to pay.

The internal rating systems specified below are used exclusively by DZ BANK within the banking group to calculate capital requirements:

– The **project finance rating system** is used to assess complex transport and infrastructure projects. As there are only a small number of external ratings available for project finance and an insufficient number of internal data sets, a combination of ratings by experts, cash flow simulations, and the external rating method were selected to develop the rating model.

– The **asset finance rating system** is used to assess investment projects in the transportation sector (currently exclusively shipping) that are financed on the basis of the cash flows generated by the asset. This system is based on ratings by experts.

– The **acquisition finance rating system** is used in the provision of funding for acquisitions of companies or parts of companies and majority and minority stakes, irrespective of the legal structure of the transaction. As there is also an insufficient number of external ratings available for acquisition financing and, similarly, an insufficient quantity of internal data on defaults, a rating method based on the assessments of internal experts was chosen to develop this rating system.

– The **Internal Assessment Approach (IAA)** is used to rate liquidity lines and credit enhancements that are made available to programs for the purpose of issuing asset-backed commercial paper (ABCP).

– The **investment fund rating system** is used for funds in Germany and Luxembourg that mainly invest in liquid fixed assets. Because neither default data for funds in this scope of application nor external credit ratings for investment funds are available, a simulation-based approach using time series of fund returns combined with a qualitative sub-module were selected to develop this rating system.

A reconciliation of external and internal ratings, which illustrates the relationship between internal allocations to rating categories and external credit ratings, is presented in fig. 23 in section 8.4.1. of the combined opportunity and risk report.

Approved transitional rules for IRB approaches (partial use)

(Article 452 sentence 1 letter a CRR)

Capital requirements for credit risk in the entities within the DZ BANK banking group are always calculated using the IRB approaches as well as the Standardized Approach to credit risk (partial use). From a regulatory perspective, use of the Standardized Approach to credit risk by institutions that use the IRB approach is limited, and threshold values must be complied with. In order to monitor compliance, the cover ratio as defined by article 143 CRR in conjunction with section 11 of the Solvency Regulation (SolvV) is calculated on an ongoing basis. Because DVB has been using the advanced IRB approach to report its capital requirements for credit risk since January 1, 2008, it is exempted under section 13 (2) no. 6 SolvV from the calculation of the DZ BANK banking group's coverage ratio.

The individual IRBA institutions use internal rating systems to cover their main business lines. Only segments that are immaterial in terms of their level of credit risk will continue to use the Standardized Approach to credit risk indefinitely. The other entities use the Standardized Approach to credit risk.

In the foundation IRB approach, the probability of default (PD) is estimated by the institutions themselves, while the loss given default (LGD) is specified by law. LGD values in the IRB approach for retail business and the advanced IRB approach are also based on the institutions' own estimates. By contrast, the Standardized Approach to credit risk is based exclusively on regulatory risk weightings that are set on the basis of external ratings.

Validation activities are carried out depending on the method chosen for a rating system (see 'Description of internal rating systems' in this section). For example, the Gini coefficient is calculated in order to assess the discriminant power of the rating systems with a good/bad analysis, whereas the hit rate is used with the external rating method. The minimum data history of five years as required by article 180 et seq. CRR is maintained for both the estimates and the validation of risk parameters.

For each institution that uses the IRB approach there is an implementation plan that ensures compliance with the thresholds prescribed by the CRR or approved by the supervisory authority. Compliance with these thresholds is one of the preconditions for using the IRB approaches.

Use of internal estimates for purposes other than calculating risk-weighted exposures under the IRB approach

(Article 452 sentence 1 letter b (i) CRR)

Internal rating systems are at the heart of credit risk management for the entities in the DZ BANK banking group. The credit ratings used for internal management purposes and regulatory reporting purposes are identical. Internal rating systems are used in the following areas:

- The **exposure limits** for lending or trading transactions for which there is a risk of default are partly determined by internal ratings.

- The profit-contribution-based **pre-analysis of loans** carried out by relationship managers in the course of acquiring new business is based on key cost determinants, i.e. the standard risk costs and economic capital costs involved in covering expected and unexpected losses. Both cost components are based on internal ratings.

- The **level of authority** for decision-makers in both front-office and back-office divisions to approve loan applications is also determined by internal ratings.

- When **loans are analyzed ex-post** after a transaction has been closed, the profit contributed by individual transactions, customers, and profit centers is primarily determined (similarly to the pre-analysis of loans) by the standard risk costs and economic capital costs based on internal ratings.

- During the term of the loan, internal ratings determine the extent to which **credit ratings are monitored**.

- **Specific and portfolio loan loss allowances are planned** on the basis of standard risk costs/expected loss, which are determined by internal ratings. The overall economic situation is also taken into account.

- The risk of unexpected losses is measured using **credit value-at-risk systems** that are based on internal credit ratings and the corresponding default probabilities as well as further risk parameters.

- And finally, internal ratings play a key role in internal **credit risk reporting**.

Control mechanisms for the rating systems

(Article 452 sentence 1 letter b (iv) CRR)

The internal rating systems used are validated once a year on the basis of internal and external data. **Validation** consists partly of quantitative analysis aimed at measuring the rating systems' discriminant power and stability and at calibrating them. Validation also includes qualitative analysis that tests the use of these rating systems for internal management purposes with respect to their model design and data quality. In addition, pool validation is carried out on the standard rating systems used throughout the cooperative financial network. When pool validation is conducted, the rating-related data of all banks that use the rating system concerned is collected and analyzed in the same way as in the internal bank validation process. If validations reveal any room for improvement, improvements are made when the rating systems are refined.

The monitoring function also includes checking that the rating systems are being properly used, regularly estimating the risk parameters derived from them, and reviewing these estimates. The findings of these monitoring activities are integrated into the internal reporting system.

The rating systems used by DZ BANK have been approved by its Board of Managing Directors.

At DZ BANK, a dedicated organizational unit in the Group Risk Controlling division is responsible for regularly reviewing the adequacy and integrity of the rating systems used to manage credit risk. In addition, this unit is responsible for ensuring compliance with regulatory requirements in respect of rating systems, for developing and implementing new rating models, and for adapting existing models.

The Internal Audit function is independent of this process and regularly reviews the adequacy of internal rating systems, including compliance with the minimum requirements for using these systems.

Similar arrangements are in place at all relevant entities in the DZ BANK banking group.

Process of assigning exposures and borrowers to rating categories and risk pools

(Article 452 sentence 1 letter c CRR)

Every borrower clearly falls into a defined area of a rating system based on industrial sector codes, revenue characteristics, and business specifics. As a rule, it is not possible to conduct business that bears a default risk with borrowers who do not have an internal rating. All rating systems are assigned – without any overlaps – to one regulatory exposure class. The relevant rating models are used as part of the credit application and approval process to classify the applicant or the guarantor. The classification of every borrower or guarantor must be reviewed at least once a year. All relevant input factors and ratings conducted are saved in the data processing systems so that there is a complete rating history for every customer and every transaction.

6.2. Collateral management

(Article 452 sentence 1 letter b (iii) and article 453 sentence 1 letters a to e CRR)

The methods used by the DZ BANK banking group to mitigate credit risk are described in section 8.4.6. of the combined opportunity and risk report.
This section includes disclosures relating to the following:

- Collateral strategy and secured transactions
- Types of collateral
- Management of traditional loan collateral
- Collateral management
- Central counterparties (CCP).

6.3. Managing derivative counterparty risk exposure in the banking book and trading book

(Article 439 sentence 1 letters a to d CRR)

The following information on the management of derivative counterparty risk exposure in the banking book and trading book of the DZ BANK banking group can be found in the opportunity and risk report (the relevant section of the opportunity and risk report is shown in parentheses in each case):
- Internal procedure for allocating capital to cover derivative counterparty risk exposures (section 8.4.6.) and procedure for determining the upper limits for individual counterparties (section 8.4.8.)
- Procedure for obtaining collateral (section 8.4.6. and section 8.5.4.)
- Handling of correlations of market risk and counterparty risk (section 8.4.5.)
- Impact from the amount of collateral that a credit institution would have to provide in the event of a credit rating downgrade (section 8.4.5.).

6.4. Recognition of allowances for losses on loans and advances

The **policies and procedures governing the recognition of allowances for losses on loans and advances** applicable to the entities in the DZ BANK banking group (article 442 sentence 1 letter b CRR) and other **accounting-related details on credit risk** (article 442 sentence 1 letter a CRR) are described in section 8.8.1. of the opportunity and risk report.

6.5. Lending volume, allowances for losses on loans and advances, and losses incurred in lending business

6.5.1. Notes on quantitative disclosures

Disclosures relating to lending volume, allowances for losses on loans and advances, and losses incurred in lending business are broken down as follows in this risk report:

- Section 6.5. presents information on the total lending volume and allowances for losses on loans and advances based on the DZ BANK Group's internal risk reports submitted to the Board of Managing Directors of DZ BANK.

- Sections 6.5.3. to 6.5.5. disclose portions of the total lending volume based on criteria prescribed for regulatory purposes, such as exposure classes and risk-weighting ranges. These disclosures also include losses in the IRBA credit portfolio.

- Section 6.5.6. and section 6.5.7. include further specific regulatory disclosures relating to the volume of collateralized lending and derivative credit risk exposures.

- The lending volume in connection with securitizations and the losses from such exposures are described in section 12.5. of this risk report. These disclosures are separate from the other disclosures relating to credit risk because securitizations also involve market risk, liquidity risk, and operational risk.

The disclosures on lending volume in the regulatory risk report and the combined opportunity and risk report pursuant to commercial law differ in terms of the methodology they use. In the internal reporting, which forms the basis for combined opportunity and risk reporting and for the disclosures in section 0. of this regulatory risk report, asset values are measured before collateral and after deduction of the allowances recognized for losses on loans and advances. However, in sections 6.5.3. to 6.5.7. of this regulatory risk report, the relevant regulatory exposures are reported as the expected exposure at the time of potential default. In addition, the quantitative disclosures vary between the two risk reports owing to differences in the recognition of conversion factors for granted but undrawn credit lines.

The aggregate lending portfolio presented in section 8.5.8. of the combined opportunity and risk report is comparable with the aggregated regulatory subportfolios in section 0. of this report. However, the sum totals cannot be fully reconciled to one another because of differences in the definitions of key figures and the methods used to offset collateral. Further discrepancies arise from differences in the entities included in the consolidation and differences in the treatment of long-term strategic equity investments.

6.5.2. Gross lending volume & allowances for losses on loans and advances

(Article 442 CRR)

The amount and structure of the lending volume are key factors in determining credit risk. For external risk reporting in the DZ BANK banking group, the lending volume is broken down pursuant to article 442 sentence 1 letters d to f CRR by the exposure classes used for the Standardized Approach to credit risk and the internal ratings-based approach.

The credit-risk-bearing instruments are also sorted by sector, country group, credit rating, and term to maturity so that volume concentrations can be identified. Particularly in the case of an accumulation of exposures that have longer terms to maturity and a non-investment-grade rating, there is a danger that the credit risk will materialize, causing losses with a negative impact on the financial performance and financial position of the DZ BANK Group.

Basing quantitative disclosures on the management approach is consistent with article 442 sentence 1 letters c to i CRR in conjunction with the explanatory memorandum on the SolvV, under which the lending volume and the entities included may be defined according to the criteria applied internally.

Changes in the exposure classes

(Article 442 CRR)

As a result of the merger with the former WGZ BANK Group and the related first-time recognition of WL BANK, the DZ BANK banking group's total lending volume rose by a substantial 33.5 percent to €440,334 million as at December 31, 2016 (December 31, 2015: €329,935 million). Unless stated otherwise, the following increases in exposure and risk are attributable to effects from the merger and to the steady rise in customer lending at BSH and DVB.

Exposure classes by sector

(Article 442 sentence 1 letter e CRR)

Fig. 15 shows the breakdown of exposures by sector, in which the exposures are classified according to the industry codes used by Deutsche Bundesbank. This also applies to the other sector breakdowns related to risk in this report.

As at December 31, 2016, the same high proportion of the DZ BANK banking group's lending volume was concentrated in the financial sector as at December 31, 2015 (43 percent). In addition to the local cooperative banks, the borrowers in this customer segment comprised banks from other parts of the banking industry and other financial institutions. The volume attributable to public-sector entities increased to €57,501 million as at December 31, 2016 (December 31, 2015: €42,482 million); the volume of lending to private individuals and companies grew to €189,197 million as at December 31, 2016 (December 31, 2015: €142,048 million).

Fig. 15 – LENDING VOLUME BY SECTOR

€ million		Financial sector	Public-sector entities	Private individuals and companies	Not allocated to a sector	Total	
Approach	**Exposure class**	**Dec. 31, 2016**	**Dec. 31, 2016**	**Dec. 31, 2016**	**Dec. 31, 2016**	**Dec. 31, 2016**	Dec. 31, 2015
CRSA	Central governments and central banks	20,798	8,879	775	14	30,465	11,551
	Regional or local authorities	-	43,860	2,418	13	46,292	31,620
	Other public-sector entities	12,752	601	312	-	13,665	12,565
	Multilateral development banks	413	135	-	-	548	207
	International organizations	307	826	10	-	1,143	938
	Institutions	93,090	-	1	-	93,090	76,813
	Covered bonds	374	-	-	-	374	322
	Corporates	6,890	272	8,330	-	15,492	13,176
	of which: SMEs	229	17	1,874	-	2,120	1,831
	Retail business	26	4	5,999	-	6,030	3,828
	of which: SMEs	15	1	1,268	-	1,284	1,244
	Institutions and entities with short-term credit ratings	1	-	-	-	1	458
	Exposures collateralized by real estate	45	4	1,991	-	2,040	1,455
	of which: SMEs	5	-	169	-	174	117
	Units or shares in collective investment undertakings ('CIUs')	0	-	969	1,339	2,308	1,649
	Exposures associated with particularly high-risk	61	0	298	-	359	185
	Other exposures	2	1	25	285	312	344
	Exposures in default	1	18	219	-	238	255
	Total	**134,760**	**54,600**	**21,346**	**1,651**	**212,357**	**155,366**
IRBA	Central governments and central banks	4,118	2,311	770	-	7,199	5,202
	Institutions	39,838	-	2	-	39,841	35,659
	Retail subcategory: : IRBA exposures secured by mortgages on immovable property	640	566	50,283	-	51,489	36,600
	of which: SMEs	4	-	1,456	-	1,459	-
	Retail subcategory: other IRBA retail exposures	22	7	14,314	-	14,343	14,089
	of which: SMEs	-	-	3	-	3	1
	Retail subcategory: qualified revolving IRBA exposures	-	-	-	-	-	-
	Corporates	11,425	18	101,278	5	112,726	80,821
	of which: SMEs	1,809	-	7,987	5	9,801	2,018
	Other non-credit-obligation items	25	-	1,204	1,156	2,385	2,198
	Total	**56,068**	**2,901**	**167,851**	**1,161**	**227,982**	**174,569**
Sum total		**190,828**	**57,501**	**189,197**	**2,812**	**440,339**	
Sum total as at Dec. 31, 2015		142,804	42,482	142,048	2,601		329,935

In its role as central institution for the Volksbanken Raiffeisenbanken cooperative financial network, DZ BANK provides funding for the entities in the DZ BANK Group and for the cooperative banks. For this reason, the cooperative banks account for one of the largest receivables items in the DZ BANK Group's credit portfolio. DZ BANK also supports the cooperative banks in the provision of larger-scale funding to corporate customers.

The resulting syndicated business, DZ BANK, DG HYP and DVB's direct business with corporate customers in Germany and abroad, the retail real-estate business under the umbrella of BSH, TeamBank's consumer finance business, and WL BANK's real-estate lending and local authority loans businesses determine the sectoral breakdown of the remainder of the portfolio.

Geographical structure of the exposure classes

(Article 442 sentence 1 letter d CRR)

Fig. 16 shows the geographical distribution of the credit portfolio by country group. The lending volume is assigned to the individual country groups using the breakdown of the International Monetary Fund (IMF), which is updated annually. This also applies to the other country-group breakdowns related to credit risk in this risk report.

As at December 31, 2016, the DZ BANK banking group's total lending exposure was concentrated in Germany with a total of €334,126 million (December 31, 2015: €241,654 million); other industrialized countries accounted for €83,079 million (December 31, 2015: €64,135 million).

Fig. 16 – LENDING VOLUME BY COUNTRY GROUP

€ million		Germany	Other industrialized countries	Advanced economies	Emerging markets	Supranational institutions	Not allocated to a geographical area	Total	
Approach	**Exposure class**	**Dec. 31, 2016**	**Dec. 31, 2016**	**Dec. 31, 2016**	**Dec. 31, 2016**	**Dec. 31, 2016**	**Dec. 31, 2016**	**Dec. 31, 2016**	Dec. 31, 2015
CRSA	Central governments and central banks	19,809	10,002	170	402	67	14	30,465	11,551
	Regional or local authorities	43,181	3,077	19	3	-	13	46,292	31,620
	Other public-sector entities	12,973	692	0	-	-	-	13,665	12,565
	Multilateral development banks	-	413	-	-	135	-	548	207
	International organizations	-	60	-	-	1,083	-	1,143	938
	Institutions	91,932	1,083	49	26	-	-	93,090	76,813
	Covered bonds	20	354	-	-	-	-	374	322
	Corporates	10,028	4,721	152	591	0	-	15,492	13,176
	of which: SMEs	2,068	7	33	12	-	-	2,120	1,831
	Retail business	4,671	1,350	7	1	-	-	6,030	3,828
	of which: SMEs	1,274	3	7	-	-	-	1,284	1,244
	Institutions and entities with short-term credit ratings	-	1	0	0	-	-	1	458
	Exposures secured by mortgages on immovable property	656	1,383	1	-	-	-	2,040	1,455
	of which: SMEs	173	0	-	-	-	-	174	117
	Units or shares in collective investment undertakings ('CIUs')	267	1,946	13	82	0	-	2,308	1,649
	Exposures associated with particularly high-risk exposures	290	69	-	0	-	-	359	185
	Other exposures	152	86	-	-	-	74	312	344
	Exposures in default	120	60	2	57	-	-	238	255
	Total	**184,100**	**25,297**	**412**	**1,161**	**1,286**	**101**	**212,357**	**155,366**
IRBA	Central governments and central banks	1,277	4,296	175	579	872	-	7,199	5,202
	Institutions	14,316	23,519	521	1,485	0	-	39,841	35,659
	Retail subcategory: mortgage-backed IRBA exposures	49,675	1,798	9	7	-	-	51,489	36,600
	of which: SMEs	1,449	8	3	-	-	-	1,459	-
	Retail subcategory: other IRBA retail exposures	13,823	514	2	2	-	-	14,343	14,089
	of which: SMEs	3	-	-	-	-	-	3	1
	Retail subcategory: qualified revolving IRBA exposures	-	-	-	-	-	-	-	-
	Corporates	69,896	27,372	4,019	11,439	-	-	112,726	80,821
	of which: SMEs	9,568	178	6	49	-	-	9,801	2,018
	Other non-credit-obligation items	1,039	284	4	295	-	762	2,385	2,198
	Total	**150,026**	**57,782**	**4,731**	**13,808**	**872**	**762**	**227,982**	**174,569**
Sum total		**334,126**	**83,079**	**5,143**	**14,969**	**2,158**	**863**	**440,339**	
Sum total as at Dec. 31, 2015		241,654	64,135	6,328	15,115	1,778	833		329,935

Lending volume by maturity band and exposure class

(Article 442 sentence 1 letter f CRR)

The breakdown of the credit portfolio by residual maturity in Fig. 17 shows €110,172 million for the DZ BANK banking group in the short-term maturity band as at December 31, 2016, which represents a year-on-year increase (December 31, 2015: €87,573 million). The largest rise was in the medium-term maturity band, in which the exposure stood at €138,846 million as at December 31, 2016 (December 31, 2015: €90,693 million). In the longer-term maturity band, the exposure was €191,321 million (December 31, 2015: €151,674 million).

Fig. 17 – LENDING VOLUME BY MATURITY BAND

€ million		< 1 year	> 1 year to ≤ 5 years	> 5 years	Total	
Approach	**Exposure class**	**Dec. 31, 2016**	**Dec. 31, 2016**	**Dec. 31, 2016**	**Dec. 31, 2016**	Dec. 31, 2015
CRSA	Central governments and central banks	22,653	1,016	6,796	30,465	11,552
	Regional or local authorities	4,197	15,739	26,356	46,292	31,618
	Other public-sector entities	1,401	6,929	5,334	13,665	12,564
	Multilateral development banks	33	182	333	548	207
	International organizations	51	497	595	1,143	939
	Institutions	21,501	30,401	41,188	93,090	76,810
	Covered bonds	129	166	79	374	322
	Corporates	5,212	4,995	5,284	15,492	13,176
	of which: SMEs	421	892	806	2,120	1,831
	Retail business	877	3,751	1,401	6,030	3,828
	of which: SMEs	112	928	244	1,284	1,244
	Institutions and entities with short-term credit ratings	1	-	0	1	458
	Exposures secured by mortgages on immovable property	207	443	1,389	2,040	1,456
	of which: SMEs	10	25	139	174	117
	Units or shares in collective investment undertakings ('CIUs')	54	50	2,204	2,308	1,649
	Exposures associated with particularly high-risk	32	220	107	359	187
	Other items	179	65	68	312	344
	Exposures in default	97	58	83	241	256
	Total	**56,625**	**64,514**	**91,219**	**212,357**	**155,366**
IRBA	Central governments and central banks	3,833	2,521	845	7,199	5,202
	Institutions	17,651	12,300	9,889	39,841	35,658
	Retail subcategory: mortgage-backed IRBA exposures secured by mortgages on immovable property	5,615	6,324	39,550	51,489	36,601
	of which: SMEs	90	22	1,347	1,459	-
	Retail subcategory: other IRBA retail exposures	4,213	2,115	8,015	14,343	14,088
	of which: SMEs	-	-	3	3	-
	Retail subcategory: qualified revolving IRBA exposures	-	-	-	-	-
	Corporates	20,323	50,967	41,436	112,726	80,821
	of which: SMEs	1,420	2,054	6,326	9,801	2,019
	Other non-credit-obligation items	1,910	106	368	2,385	2,197
	Total	**53,547**	**74,332**	**100,102**	**227,982**	**174,569**
Sum total		**110,172**	**138,846**	**191,321**	**440,339**	
Sum total as at Dec. 31, 2015		87,573	90,693	151,674		329,935

Average exposure by exposure class

(Article 442 sentence 1 letter c CRR)

The table below shows exposures before credit risk mitigation techniques and average exposures by type of exposure class and risk approach. The average exposure was calculated for each exposure class using the average on the 4 quarterly reporting dates in 2016.

Fig. 18 – LENDING VOLUME BY EXPOSURE CLASS

€ million

Approach	Exposure class	Exposure Dec. 31, 2016	Average exposure in 2016	Exposure Dec. 31, 2015	Average exposure in 2015
CRSA	Central governments and central banks	30,465	31,010	11,552	13,118
	Regional or local authorities	46,292	47,781	31,620	32,941
	Other public-sector entities	13,665	14,220	12,564	11,464
	Multilateral development banks	548	619	207	208
	International organizations	1,143	1,183	938	954
	Institutions	93,090	90,516	76,812	77,123
	Covered bonds	374	322	322	347
	Corporates	15,492	14,275	13,176	13,524
	Retail business	6,030	5,896	3,827	5,168
	Institutions and entities with short-term credit ratings	1	183	458	445
	Exposures secured by mortgages on immovable property	2,040	1,819	1,456	1,362
	Units or shares in collective investment undertakings ('CIUs')	2,308	1,960	1,649	1,244
	Exposures associated with particularly high-risk exposures	359	323	186	163
	Other items	312	299	344	534
	Exposures in default	238	273	256	340
	Total	**212,357**	**210,680**	**155,367**	**158,935**
IRBA	Central governments and central banks	7,199	9,602	5,202	6,132
	Institutions	39,841	41,054	35,658	38,941
	Retail subcategory: IRBA exposures secured by mortgages on immovable property	51,489	49,473	36,600	35,710
	Retail subcategory: other IRBA retail exposures	14,343	11,422	14,091	14,650
	Retail subcategory: qualified revolving IRBA exposures	-	-	-	-
	Corporates	112,726	105,341	80,821	78,935
	Other non-credit-obligation items	2,385	1,983	2,197	1,849
	Total	**227,982**	**218,875**	**174,569**	**176,217**
Sum total		**440,339**	**429,555**	**329,935**	**335,152**

Past due and non-performing exposures by sector

(Article 442 sentence 1 letter g CRR)

The details of **non-performing and past due exposures broken down by main sector** required by article 442 sentence 1 letter g CRR are disclosed in Fig. 19.

Fig. 19 – PAST DUE AND NON-PERFORMING EXPOSURES BY SECTOR

€ million		Total non-performing and past due lending exposure	Specific loan loss allowances	Portfolio loan loss allowances	Provisions	Net addition/ reversal of specific loan loss allowances/ provisions	Direct impairment	Recoveries on loans and advances previously impaired	Total past due lending exposure
Financial sector	Dec. 31, 2016	152	41		2	-5	0	-1	51
	Dec. 31, 2015	272	46		2	-60	2	-4	73
Public-sector entities	Dec. 31, 2016	18	0		0	0	0	-	18
	Dec. 31, 2015	37	-		0	0	-	-	37
Private individuals and companies	Dec. 31, 2016	6,059	1,779		193	257	48	-109	1,856
	Dec. 31, 2015	5,030	1,522		93	-219	65	-109	1,439
Not allocated to a sector	Dec. 31, 2016	-	0		61	-27	0	-5	-
	Dec. 31, 2015	-	27		53	-30	1	-8	-
Total	**Dec. 31, 2016**	**6,230**	**1,820**	**567**	**255**	**225**	**48**	**-115**	**1,925**
Total	Dec. 31, 2015	5,339	1,596	466	148	-310	68	-121	1,549

Past due and non-performing exposures by country group

(Article 442 sentence 1 letter h CRR)

Details of **non-performing and past due exposures broken down by main geographic area** (article 442 sentence 1 letter h CRR) are disclosed in Fig. 20.

Fig. 20 – PAST DUE AND NON-PERFORMING EXPOSURES BY COUNTRY GROUP

€ million		Total non-performing and past due exposure	Specific loan loss allowances	Portfolio loan loss allowances	Provisions	Total past due exposure
Germany	Dec. 31, 2016	3,364	1,208		219	642
	Dec. 31, 2015	3,118	1,172		139	834
Other industrialized countries	Dec. 31, 2016	1,184	363		30	526
	Dec. 31, 2015	897	239		3	339
Advanced economies	Dec. 31, 2016	556	132		0	377
	Dec. 31, 2015	494	94		0	207
Emerging markets	Dec. 31, 2016	1,126	117		6	381
	Dec. 31, 2015	830	90		6	169
Supranational institutions	Dec. 31, 2016	-	-		-	-
	Dec. 31, 2015	-	-		-	-
Not allocated to a geographical area	Dec. 31, 2016	-	-		-	-
	Dec. 31, 2015	-	-		-	-
Total	**Dec. 31, 2016**	**6,230**	**1,820**	**567**	**255**	**1,925**
Total	Dec. 31, 2015	5,339	1,596	466	148	1,549

Pursuant to Delegated Regulation (EU) No. 183/2014 dated December 20, 2013 specifying the calculation of specific and general credit risk adjustments, specific credit risk adjustments (SCRA) and general credit risk adjustments (GCRA) must be classified as types of provision in accordance with IFRS. The DZ BANK Group prepares its consolidated financial statements in accordance with IFRS. All impairment losses recognized under IFRS have to be classified as specific credit risk adjustments.

Changes in allowances for losses on loans and advances

(Article 442 sentence 1 letter i CRR)

The quantitative and qualitative disclosures on **changes in allowances for losses on loans and advances** (article 442 sentence 1 letter i CRR) are presented in section 8.8.1. (fig. 39) of the combined opportunity and risk report and similarly in Fig. 21 of this report.

Fig. 21 – ALLOWANCES FOR LOSSES ON LOANS AND ADVANCES IN THE TOTAL PORTFOLIO

	Specific loan loss allowances[1]		Portfolio loan loss allowances		Total loan loss allowances		Provisions for loan commitments[2] and liabilities under financial guarantee contracts	
€ million	2016	2015	2016	2015	2016	2015	2016	2015
Balance as at Jan. 1	**1,607**	1,908	**466**	480	**2,073**	2,388	**148**	167
Additions	908	666	218	95	1,126	761	117	48
Utilizations	-244	-377	-	-	-244	-377	-	-
Reversals	-416	-437	-139	-113	-555	-550	-71	-69
Interest income	-31	-45	-	-	-31	-45	2	2
Other changes	12	-108	13	4	25	-104	58	-
Balance as at Dec. 31	**1,836**	1,607	**558**	466	**2,394**	2,073	**254**	148
Directly recognized impairment losses	48	68	-	-	48	68		
Recoveries on directly impaired loans and advances	-116	-121	-	-	-116	-121		

1 Including specific loan loss allowances evaluated on a group basis.
2 Excluding other provisions for loans and advances.

6.5.3. Exposures under the Standardized Approach to credit risk

(Article 444 letter e and
article 452 sentence 1 letter d CRR)

Fig. 22 shows the exposures assigned to the exposure classes under the Standardized Approach to credit risk before and after credit risk mitigation (CRM). A separate table (Fig. 24) shows the exposure amounts under IRBA for long-term equity investments and exposrues secured by mortgages on immovable property, which are calculated in the IRB approach using the simple risk-weighting method, after credit risks have been mitigated. The classification of transactions in the regulatory risk-weighting categories depends on how the transactions are classified in the regulatory exposure classes, on the credit ratings of borrowers and transactions, and on the collateral provided. The sum total of exposures after credit risks have been mitigated under the Standardized Approach to credit risk arises from the provision of personal collateral for IRBA transactions by protection providers treated according to the Standardized Approach to credit risk.

In some cases, the exposures reported after CRM are larger than exposures before CRM. This is because exposures after credit risks have been mitigated include exposures reported under the IRB approach that are backed by protection providers, in particular guarantors, treated according to the Standardized Approach to credit risk.

Fig. 22 – CRSA EXPOSURES BEFORE AND AFTER CREDIT RISK MITIGATION BY RATING CATEGORY

	Risk weighting (%)														
€ million	**Dec. 31, 2016**														
Exposure class	**0**	**2**	**4**	**10**	**20**	**35**	**50**	**70**	**75**	**100**	**150**	**250**	**1,250**	**Capital deduction**	**Other**
Exposure before credit risk mitigation															
Central governments and central banks	29,164	-	-	-	57	-	-	-	-	469	-	774	-	-	0
Regional or local authorities	45,271	-	-	-	659	-	246	-	-	3	-	-	-	-	0
Other public-sector entities	13,339	-	-	-	229	-	50	-	-	44	-	-	-	-	-
Multilateral development banks	548	-	-	-	-	-	-	-	-	-	-	-	-	-	-
International organizations	1,143	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	76,732	-	-	-	2,591	-	38	-	-	3	-	-	-	-	0
Covered bonds	-	-	-	120	253	-	-	-	-	-	-	-	-	-	1
Corporates	-	-	-	-	904	-	907	-	-	11,072	30	-	-	-	2
Retail business	-	-	-	-	-	-	-	-	6,081	-	-	-	-	-	-
Institutions and entities with short-term credit ratings	-	-	-	-	-	-	-	-	-	1	0	-	-	-	-
Exposures secured by mortgages on immovable property	-	-	-	-	-	1,473	353	-	-	120	-	-	-	-	-
Long-term equity investments	-	-	-	-	-	-	-	-	-	5,218	-	-	-	-	-
Units or shares in collective investment undertakings ('CIUs')	-	-	-	-	-	-	-	-	-	35	-	-	1	-	2,272
Exposures associated with particularly high-risk	-	-	-	-	-	-	-	-	-	-	336	-	-	-	-
Other items	8,193	-	-	-	1	-	-	-	-	138	-	-	86	-	-
Exposures in default	-	-	-	-	-	-	-	-	-	125	110	79	-	-	-
Total as at Dec. 31, 2016	**166,205**	**-**	**-**	**120**	**4,694**	**1,473**	**1,594**	**-**	**6,081**	**17,228**	**475**	**854**	**87**	**-**	**2,275**
Total as at Dec. 31, 2015	117,370	-	-	-	3,434	1,072	1,587	-	3,817	13,698	272	680	44	-	1,613

	Risk weighting (%)														
€ million	Dec. 31, 2016														
Exposure class	**0**	**2**	**4**	**10**	**20**	**35**	**50**	**70**	**75**	**100**	**150**	**250**	**1,250**	**Capital deduction**	**Other**
Exposure after credit risk mitigation															
Central governments and central banks	31,452	-	-	-	57	-	57	-	-	5	-	774	-	-	0
Regional or local authorities	45,678	-	-	-	656	-	246	-	-	1	-	-	-	-	0
Other public-sector entities	13,424	-	-	-	110	-	10	-	-	62	-	-	-	-	-
Multilateral development banks	582	-	-	-	-	-	-	-	-	-	-	-	-	-	-
International organizations	1,184	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	75,473	-	-	-	1,860	-	86	-	-	5	-	-	-	-	0
Covered bonds	-	-	-	120	253	-	-	-	-	-	-	-	-	-	1
Corporates	33	-	-	-	931	-	866	5	-	8,509	30	-	-	-	2
Retail business	190	-	-	-	-	-	-	-	3,592	0	-	-	-	-	-
Institutions and entities with short-term credit ratings	6	-	-	-	-	-	-	-	-	1	0	-	-	-	-
Exposures secured by mortgages on immovable property	-	-	-	-	-	1,484	358	-	-	416	-	-	-	-	-
Long-term equity investments	-	-	-	-	-	-		-	-	5,358	-	326	-	-	-
Units or shares in collective investment undertakings ('CIUs')	30	-	-	-	-	-	-	-	-	35	-	-	1	-	2,243
Exposures associated with particularly high-risk exposures	-	-	-	-	-	-	-	-	-	-	280	-	-	-	-
Other items	78	-	-	-	4	-	-	-	-	271	-	79	86	-	50
Exposures in default	-	-	-	-	-	-	-	-	-	115	108	-	-	-	-
Total as at Dec. 31, 2016	**168,131**	**-**	**-**	**120**	**3,873**	**1,484**	**1,624**	**5**	**3,592**	**14,777**	**418**	**1,180**	**87**	**-**	**2,296**
Total as at Dec. 31, 2015	118,968	-	-	-	4,035	1,072	1,387	5	3,342	11,915	270	745	44	-	1,659

Fig. 23 and Fig. 24 show the exposures for specialized lending by risk weighting.

Fig. 23 – EXPOSURES FOR SPECIALIZED LENDING SUBJECT TO THE SIMPLE RISK-WEIGHTING METHOD (ARTICLE 438 SENTENCE 2 CRR).

€ million	Exposures	
Risk weighting (%)	**Dec. 31, 2016**	**Dec. 31, 2015**
0	50	-
50	137	-
70	617	-
of which with a residual maturity of less than 2.5 years	553	-
90	1,162	-
115	200	-
250	14	-
Total	**2,180**	-

Fig. 24 – EXPOSURES FOR LONG-TERM EQUITY INVESTMENTS UNDER THE IRB APPROACH USING THE SIMPLE RISK-WEIGHTING METHOD (ARTICLE 438 SENTENCE 2 CRR)

€ million	Exposures	
Risk weighting (%)	**Dec. 31, 2016**	**Dec. 31, 2015**
190	-	-
290	0	-
370	238	396
Other risk weightings	-	-
Total	**238**	396

Because of the inclusion of the former WGZ BANK Group as at December 31, 2016, Fig. 23 contains exposures for specialized lending using the simple risk-weighting method (article 438 sentence 2 CRR). Exposures for specialized lending based on the PD/LGD approach are also recognized; they are presented in Fig. 24.

6.5.4. Exposure under the IRB approach

Fig. 27 shows the IRBA lending volumes for borrowers and transactions that are classified on the basis of internal credit ratings. The rating systems used internally are unambiguously assigned to one regulatory exposure class. The borrowers/transactions are assigned to a credit rating category based on their individual rating in the form of their specific default probability or the expected loss for a rating category. Classification as 'investment grade', 'non-investment grade', or 'default' is based on the corresponding default probabilities for each rating category on the standardized groupwide DZ BANK master scale. This rating scale is described in fig. 23 in section 8.4.1. of the combined opportunity and risk report.

Lending volume broken down by PD category (excluding retail) under the foundation IRB approach

(Article 452 sentence 1 letter d CRR)

Fig. 25 shows the following key figures:

- The total exposures and, in particular, the exposures relating to unutilized loan commitments
- The average risk weightings weighted according to their exposures.

The disclosures are based on the IRBA exposure classes (central governments and central banks, institutions, corporates, and long-term equity investments) and are also broken down by risk category. The exposure for undrawn credit lines is calculated by applying the credit conversion factors to the carrying amount. The average risk weightings reveal borrowers' credit ratings and the extent to which transactions are collateralized.

Fig. 25 – LENDING VOLUME BROKEN DOWN BY PD CATEGORY (EXCLUDING RETAIL) UNDER THE FOUNDATION IRB APPROACH

€ million	Investment grade (PD ≤ 0.5%)			Non-investment grade (0.5% < PD ≤ 30%)			Default (PD = 100%)			Total		
	Exposures		Average risk weighting (%)	Exposures		Average risk weighting (%)	Exposures		Average risk weighting (%)	Exposures		Average risk weighting (%)
Exposure class	Total	of which: undrawn loan commitments		Total	of which: undrawn loan commitments		Total	of which: undrawn loan commitments		Total	of which: undrawn loan commitments	
Central governments and central banks	7,179	71	10.48	342	18	90.69	-	-	-	7,521	90	14.12
Institutions	33,885	111	20.61	1,373	21	83.33	110	0	-	35,368	131	22.98
Corporates	58,528	9,963	38.44	11,250	2,591	100.61	1,870	51	-	71,648	12,606	47.20
of which: SMEs	7,654	755	26.62	1,097	148	86.46	89	2	-	8,840	905	33.78
Specialized lending	17,979	2,405	40.79	3,106	352	101.17	717	3	-	21,802	2,761	48.02
Receivables purchased	82	-	49.95	28	-	92.94	-	-	-	110	-	61.01
Long-term equity investments	22		103.45	1		388.96	0		-	23		121.03
Total as at Dec. 31, 2016	**99,614**	**10,146**		**12,966**	**2,630**		**1,980**	**51**		**114,560**	**12,827**	
Total as at Dec. 31, 2015	68,079	7,460		11,074	1,711		1,668	42		80,822	9,147	

Exposure broken down by PD category (excluding retail) under the advanced IRB approach

(Article 452 sentence 1 letter e CRR)

Fig. 26 comprises the following disclosures:

– The sum total of unutilized loan commitments, which is presented as the carrying amount of undrawn loan commitments shown on the balance sheet
– The total exposures and, in particular, the exposures relating to unutilized loan commitments
– The average exposure for undrawn loan commitments
– The average risk weightings weighted according to their exposures
– The average LGD.

The disclosures are again broken down according to the above IRBA exposure classes and by risk category.

Fig. 26 – LENDING VOLUME BROKEN DOWN BY PD CATEGORY (EXCLUDING RETAIL) UNDER THE ADVANCED IRB APPROACH

Exposure class	Investment grade (PD ≤ 0.5%)						Non-investment grade (0.5% < PD ≤ 30%)					
	Exposures					Average risk weight-ing (%)	Total undrawn loan commit-ments	Exposures				Average risk weight-ing (%)
€ million	Total undrawn loan commit-ments	Total	of which: undrawn loan commit-ments	Average exposure (%)	Average LGD (%)			Total	of which: undrawn loan commit-ments	Average exposure (%)	Average LGD (%)	
Central governments and central banks	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	-	1,417	-	-	81.00	27.39	-	-	-	-	-	-
Corporates	382	7,413	382	100.00	6.14	5.64	937	16,778	937	100.00	5.86	24.21
Long-term equity investments		-			-	-		-			-	-
Total as at Dec. 31, 2016	**382**	**8,829**	**382**				**937**	**16,778**	**937**			
Total as at Dec. 31, 2015	289	8,167	289				1,213	17,408	1,213			

Exposure class	Default (PD = 100%)						Total					
	Exposures					Average risk weight-ing (%)	Total undrawn loan commit-ments	Exposures				Average risk weight-ing (%)
€ million	Total undrawn loan commitments	Total	of which: undrawn loan commit-ments	Average exposure (%)	Average LGD (%)			Total	of which: undrawn loan commit-ments	Average exposure (%)	Average LGD (%)	
Central governments and central banks	-	-	-	-	-	-	-	-	-	-	-	-
Institutions	-	-	-	-	-	-	-	1,417	-	-	81.00	27.39
Corporates	14	2,195	14	100.00	34.08	-	1,334	26,386	1,334	100.00	8.29	16.98
Long-term equity investments		-			-	-		-			-	-
Total as at Dec. 31, 2016	**14**	**2,195**	**14**				**1,334**	**27,802**	**1,334**			
Total as at Dec. 31, 2015	8	1,531	8				1,509	27,106	1,509			

Loan utilizations and loan commitments for retail portfolios – retail IRB approach based on expected loss

(Article 452 sentence 1 letters e and f CRR)

Fig. 27 shows the total exposures for the IRBA retail business exposure class broken down in each case by risk category. The expected loss (EL) categories reflect the range of the expected loss in basis points.

Fig. 27 – LOAN UTILIZATIONS AND LOAN COMMITMENTS FOR RETAIL PORTFOLIOS – EXPECTED LOSS-BASED RETAIL IRB APPROACH

€ million	Exposure for EL category 1 (EL = 0 to 30bp)		Exposure for EL category 2 (EL = 31 to 70bp)		Exposure for EL category 3 (EL > 70bp)		Total	
Exposure class	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
Mortgage-backed retail IRBA receivables	45,112	30,497	3,227	3,096	2,755	3,145	51,094	36,739
Qualified revolving retail IRBA receivables	-	-	-	-	-	-	-	.
Other retail IRBA receivables	8,400	7,975	3,090	3,183	3,214	3,354	14,704	14,511
Total	**53,512**	**38,472**	**6,317**	**6,279**	**5,969**	**6,499**	**65,798**	**51,250**

EL = expected loss.
bp = basis points.

Average risk parameter by country of domicile of borrowing entity and exposure class

(Article 452 sentence 1 letter j CRR)

The information in Fig. 28 relates to the following exposure classes: central governments and central banks, institutions, corporates (including small and medium-sized enterprises (SMEs), specialized lending, and purchased receivables that are treated as corporate loans), and long-term equity investments that are backed by own funds based on individual probabilities of default (PD/LGD approach). Using the foundation IRB approach, the average exposure-weighted PD per country in which loans and advances are granted (country of asset) is disclosed as a percentage.

Fig. 28 – AVERAGE PD UNDER THE FOUNDATION IRB APPROACH BY COUNTRY AND EXPOSURE CLASS

Country	Exposure class								
	Central governments and central banks	**Institutions**	**Corporates, of which:**				**Long-term equity investments**	**Total**	Total as at Dec. 31, 2015
			SMEs	Specialized lending	Receivables purchased	Other			
Average PD (%)	**Dec. 31, 2016**								
Germany	0.01	0.24	1.43	3.63	0.62	3.56	0.12	2.64	2.93
Egypt	13.50	13.54	-	84.78	-	-	-	58.47	23.53
Algeria	-	0.48	-	-	-	-	-	0.48	21.36
Angola	-	100.00	-	-	-	-	-	100.00	4.00
Argentina	6.00	-	-	-	-	-	-	6.00	99.96
Armenia	-	-	-	-	-	4.00	-	4.00	-
Azerbaijan	1.10	-	-	-	-	-	-	1.10	0.97
Australia	-	0.03	-	1.48	-	0.17	-	0.45	0.34
Bahamas	-	-	-	1.70	-	-	-	1.70	-
Bahrain	1.10	-	-	2.60	-	-	-	2.60	2.60
Barbados	-	-	-	9.00	-	-	-	9.00	6.00
Belgium	0.03	0.09	-	0.87	-	0.19	-	0.14	0.15
Bermuda	-	-	-	-	-	3.72	-	3.72	5.00
Bosnia and Herzegovina	9.00	0.35	-	-	-	-	-	0.65	0.70
Brazil	1.10	1.10	-	-	-	1.10	-	1.10	0.68
British Virgin Islands	-	-	-	0.07	-	5.99	-	0.44	0.36
Bulgaria	-	-	-	6.00	-	-	-	6.00	100.00
Cayman Islands	9.00	4.00	-	-	-	0.75	-	6.68	4.05
Chile	0.05	0.07	-	-	-	-	-	0.05	0.05
China	-	0.08	-	-	0.55	-	-	0.08	0.11
Cook Islands	0.01	-	-	-	-	-	-	0.01	0.01
Costa Rica	0.75	-	-	-	-	-	-	0.75	-
Curaçao	-	-	-	-	-	0.23	-	0.23	-
Denmark	-	0.49	0.35	21.41	-	0.58	-	2.95	3.37
Ecuador	13.50	-	-	-	-	-	-	13.50	-
Côte d'Ivoire	-	2.60	-	-	-	-	-	2.60	-
Eritrea	-	-	-	-	-	-	-	-	30.00
Estonia	-	0.07	-	-	-	-	-	0.07	0.10
Finland	0.01	0.06	-	-	-	0.13	-	0.06	0.06
France	0.01	0.09	-	1.35	-	0.20	-	0.19	0.92
Ghana	9.00	-	-	-	-	2.60	-	8.66	6.01
Greece	-	9.00	-	-	-	-	-	9.00	90.23
UK	0.01	0.08	0.35	2.08	0.35	0.42	-	0.22	1.27
Guatemala	1.70	-	-	-	-	-	-	1.70	-
Guernsey	-	0.15	-	0.20	-	-	-	0.17	0.24
Hong Kong	0.03	0.04	-	-	-	0.35	-	0.28	0.27
India	0.50	0.55	0.23	-	1.10	3.60	-	1.98	2.59
Indonesia	0.75	0.75	-	-	-	-	-	0.75	0.92
Iran	-	-	-	-	-	100.00	-	100.00	86.21
Ireland	0.15	0.38	-	0.27	-	0.53	-	0.39	0.16
Iceland	-	93.52	-	-	-	-	-	93.52	93.84
Isle of Man	-	-	0.15	0.07	-	-	-	0.08	0.07
Israel	0.07	0.07	-	-	-	0.50	-	0.15	0.89
Italy	0.24	1.53	-	-	-	0.23	0.35	0.85	1.59
Jamaica	6.00	-	-	-	-	-	-	6.00	9.00
Japan	-	0.07	-	-	-	-	-	0.07	0.06
Jersey	-	-	-	16.46	-	0.15	-	16.17	27.34
Jordan	4.00	4.00	-	-	-	-	-	4.00	4.00
Cameroon	6.00	-	-	-	-	-	-	6.00	6.00
Canada	0.01	0.03	-	0.73	-	0.20	-	0.20	0.21
Kazakhstan	0.75	30.00	-	-	-	1.10	-	1.10	84.85
Qatar	0.05	0.10	-	0.49	0.10	0.05	-	0.47	0.47
Kenya	-	13.50	-	-	-	-	-	13.50	4.00
Colombia	0.35	-	-	-	-	-	-	0.35	0.35
Croatia	1.10	1.10	-	-	-	0.50	-	1.01	1.06

Country	Central governments and central banks	Institutions	Corporates, of which: SMEs	Specialized lending	Receivables purchased	Other	Long-term equity investments	Total	Total as at Dec. 31, 2015
Average PD (%)				Dec. 31, 2016					
Cuba	-	30.00	-	-	30.00	-	-	30.00	30.00
Kuwait	-	-	-	-	-	-	-		0.19
Lebanon	13.50	-	-	-	-	9.00	-	9.00	-
Liberia	-	-	-	-	-	-	-	-	30.00
Liechtenstein	-	-	-	-	-	0.15	-	0.15	0.15
Lithuania	-	0.23	-	-	-	-	-	0.23	0.23
Luxembourg	0.01	0.19	0.31	0.20	-	0.61	-	0.23	0.23
Malaysia	-	0.10	-	-	-	0.23	-	0.14	0.26
Mali	-	13.50	-	-	-	-	-	13.50	-
Malta	-	0.23	-	1.10	-	-	-	0.23	0.27
Morocco	0.75	0.77	-	-	-	0.75	-	0.77	1.10
Marshall Islands	-	-	-	1.76	-	2.60	-	1.83	0.96
Mauritius	-	0.07	-	-	-	-	-	0.07	-
Mexico	0.23	0.24	0.50	-	-	0.23	0.23	0.23	0.23
Mongolia	-	-	-	-	-	6.00	-	6.00	-
Moldova	-	30.00	-	-	-	-	-	30.00	30.00
Montenegro	4.00	-	-	-	-	-	-	4.00	-
Mozambique	-	30.00	-	-	-	-	-	30.00	-
Namibia	0.75	0.50	-	-	-	-	-	0.50	0.35
New Zealand	-	0.03	-	0.35	-	0.03	-	0.15	0.03
Netherlands	0.02	0.10	0.39	7.79	-	0.43	0.35	1.47	2.62
Nigeria	9.00	9.00	-	-	-	-	-	9.00	6.00
Norway	-	0.07	-	-	-	0.14	-	0.08	0.05
Oman	-	0.15	-	0.96	-	-	-	0.96	0.95
Austria	0.01	0.44	0.39	0.25	-	0.82	-	0.48	0.38
Pakistan	-	13.50	-	-	-	-	-	13.50	100.00
Panama	0.35	-	-	-	-	0.37	-	0.37	29.62
Peru	0.23	0.35	-	-	-	1.70	-	1.29	0.75
Philippines	0.50	-	-	2.60	-	-	-	2.59	2.60
Poland	0.10	0.29	1.10	0.24	-	32.94	5.57	5.86	2.89
Portugal	6.00	95.89	-	1.62	4.00	-	-	29.88	2.01
Rwanda	-	30.00	-	-	-	-	-	30.00	30.00
Romania	-	0.75	0.50	-	-	0.10	-	0.14	0.94
Russia	0.75	0.84	-	-	0.77	5.20	-	1.20	1.73
Saudi Arabia	-	0.12	-	0.75	0.75	0.50	-	0.73	0.66
Sweden	-	0.06	-	0.15	-	0.18	-	0.08	0.06
Switzerland	0.01	2.54	0.45	0.35	-	0.37	-	1.08	1.53
Senegal	4.00	4.00	-	-	-	-	-	4.00	4.00
Serbia and Kosovo	2.60	4.00	-	-	-	-	-	2.61	4.00
Singapore	0.01	0.03	-	9.28	-	0.46	-	2.27	2.35
Slovenia	-	1.70	-	-	-	0.47	-	0.49	0.74
Spain	-	0.77	-	0.11	-	0.35	-	0.69	0.66
Sri Lanka	6.00	6.00	-	-	-	-	-	6.00	4.00
South Africa	0.50	0.50	-	-	-	-	-	0.50	0.36
Sudan	-	30.00	-	-	-	-	-	30.00	30.00
South Korea	0.07	0.09	-	-	-	9.24	-	0.21	0.33
Taiwan	-	0.08	-	-	-	-	-	0.08	0.09
Tanzania	-	13.50	-	-	-	-	-	13.50	19.65
Thailand	0.50	0.50	-	0.75	-	-	-	0.56	1.70
Togo	-	30.00	-	-	-	-	-	30.00	30.00
Czech Republic	0.03	0.21	-	-	-	0.54	-	0.10	0.08
Tunisia	-	2.74	-	-	-	3.08	-	2.84	2.19
Turkey	1.10	1.26	-	11.06	1.03	0.10	-	1.55	0.66
Turkmenistan	-	6.00	-	-	-	-	-	6.00	6.00
Ukraine	-	-	-	-	-	30.00	-	30.00	-
Hungary	-	2.53	-	1.51	-	1.10	-	1.69	2.35
Uruguay	0.35	-	-	-	-	-	-	0.35	-

Country	Exposure class								
	Central governments and central banks	Institutions	Corporates, of which:				Long-term equity investments	Total	Total as at Dec. 31, 2015
			SMEs	Specialized lending	Receivables purchased	Other			
Average PD (%)	**Dec. 31, 2016**								
USA	0.01	0.14	1.10	9.37	-	0.20	-	1.72	2.34
Uzbekistan	-	-	-	-	-	-	-	-	9.00
United Arab Emirates	-	0.07	-	0.65	-	0.09	-	0.64	0.66
Vietnam	4.00	4.00	-	63.16	-	-	-	60.75	62.13
Belarus	30.00	30.00	-	-	30.00	30.00	-	30.00	30.00
Cyprus	-	9.00	-	27.17	-	1.10	-	5.14	5.05
Total average PD as at Dec. 31, 2016	**0.21**	**0.50**	**1.41**	**3.69**	**0.86**	**2.92**	**0.45**	**2.01**	
Total average PD as at Dec. 31, 2015	4.95	0.87	10.82	4.21	14.25	0.65	7.78		2.44

The information given in Fig. 29 relates to the following exposure classes: central governments and central banks, institutions, corporates (including SMEs, specialized lending, and purchased receivables that are treated as corporate loans), long-term equity investments that are backed by own funds based on individual probabilities of default (PD/LGD approach), and retail business (broken down into mortgage-backed IRBA exposures, qualified revolving IRBA exposures, and other IRBA exposures). Using the advanced IRB approach, the average exposure-weighted PD and LGD per country in which loans and advances are granted (country of asset) is disclosed as a percentage.

Fig. 29 – AVERAGE PD AND LGD UNDER THE ADVANCED IRB APPROACH BY COUNTRY AND EXPOSURE CLASS

Country	Risk parameter	Exposure class											
		Central governments and central banks	**Institutions**	**Corporates, of which:**				**Retail subcategory: mortgage-backed IRBA exposures**	**Retail subcategory: qualified revolving IRBA exposures**	**Retail subcategory: other IRBA retail exposures**	**Long-term equity investments**	**Total**	Total as at Dec. 31, 2015
%				SMEs	Specialized lending	Receivables purchased	Other						
Germany	Average PD	-	0.48	-	-	-	21.37	2.67	-	4.33	-	3.30	4.47
	Average LGD	-	81.00	-	-	-	10.46	10.08	-	35.52	-	16.46	18.19
Egypt	Average PD	-		-	-	-	-	-	-	6.00	-	6.00	3.22
	Average LGD	-	-	-	-	-	-	-	-	55.04	-	55.04	10.15
Algeria	Average PD	-	-	-	-	-	-	-	-	-	-	-	0.23
	Average LGD	-	-	-	-	-	-	-	-	-	-	-	16.50
Andorra	Average PD	-	-	-	-	-	-	-	-	0.15	-	0.15	0.15
	Average LGD	-	-	-	-	-	-	-	-	29.64	-	29.64	28.91
Argentina	Average PD	-	-	-	-	-	-	2.02	-	0.75	-	2.02	1.28
	Average LGD	-	-	-	-	-	-	33.52	-	21.29	-	33.45	23.29
Australia	Average PD	-	-	-	-	-	10.90	0.84	-	4.89	-	10.53	7.11
	Average LGD	-	-	-	-	-	3.96	21.45	-	31.15	-	4.71	7.71
Bahamas	Average PD	-	-	-	-	-	26.49	-	-	0.15	-	26.42	9.05
	Average LGD	-	-	-	-	-	1.95	-	-	29.64	-	2.03	2.09
Bahrain	Average PD	-	-	-	-	-	-	-	-	-	-	-	6.00
	Average LGD	-	-	-	-	-	-	-	-	-	-	-	14.66
Belgium	Average PD	-	-	-	-	-	4.41	2.54	-	3.63	-	4.18	6.51
	Average LGD	-	-	-	-	-	1.50	15.07	-	24.03	-	3.40	3.38
Bermuda	Average PD	-	-	-	-	-	12.99	-	-	-	-	12.99	4.79
	Average LGD	-	-	-	-	-	8.75	-	-	-	-	8.75	3.10
Bolivia	Average PD	-	-	-	-	-	-	-	-	1.10	-	1.10	1.10
	Average LGD	-	-	-	-	-	-	-	-	18.03	-	18.03	19.12
Bosnia and Herzegovina	Average PD	-	-	-	-	-	-	-	-	76.35	-	76.35	88.39
	Average LGD	-	-	-	-	-	-	-	-	49.77	-	49.77	47.69
Botswana	Average PD	-	-	-	-	-	-	-	-	-	-	-	0.75
	Average LGD	-	-	-	-	-	-	-	-	-	-	-	44.30
Brazil	Average PD	-	-	-	-	-	6.61	0.36	-	89.52	-	6.64	2.30
	Average LGD	-	-	-	-	-	14.54	5.96	-	42.62	-	14.53	9.48
British Virgin Islands	Average PD	-	-	-	-	-	28.29	-	-	-	-	28.29	15.99

Country	Risk parameter	Exposure class: Central governments and central banks	Institutions	Corporates, of which: SMEs	Specialized lending	Receivables purchased	Other	Retail subcategory: mortgage-backed IRBA exposures	Retail subcategory: qualified revolving IRBA exposures	Retail subcategory: other IRBA retail exposures	Long-term equity investments	Total	Total as at Dec. 31, 2015
%													
	Average LGD	-	-	-	-	-	13.75	-	-	-	-	13.75	4.11
Bulgaria	Average PD	-	-	-	-	-	-	-	-	97.65	-	97.65	0.50
	Average LGD	-	-	-	-	-	-	-	-	40.64	-	40.64	55.35
Cayman Islands	Average PD	-	-	-	-	-	14.58	-	-	-	-	14.58	13.19
	Average LGD	-	-	-	-	-	10.17	-	-	-	-	10.17	7.93
Chile	Average PD	-	-	-	-	-	0.79	0.35	-	100.00	-	0.81	0.41
	Average LGD	-	-	-	-	-	1.93	4.17	-	51.59	-	1.94	2.94
China	Average PD	-	-	-	-	-	1.41	0.46	-	12.73	-	1.40	2.08
	Average LGD	-	-	-	-	-	3.64	14.31	-	35.94	-	3.72	3.80
Denmark	Average PD	-	0.35	-	-	-	50.14	0.99	-	14.03	-	13.37	7.11
	Average LGD	-	81.00	-	-	-	7.64	15.67	-	35.59	-	61.26	57.40
Ecuador	Average PD	-	-	-	-	-	-	0.75	-	0.15	-	0.73	0.54
	Average LGD	-	-	-	-	-	-	28.77	-	17.44	-	28.42	18.15
Côte d'Ivoire	Average PD	-	-	-	-	-	-	-	-	27.45	-	27.45	27.77
	Average LGD	-	-	-	-	-	-	-	-	55.04	-	55.04	55.35
Estonia	Average PD	-		-	-	-	-	0.75	-	4.00	-	0.89	9.00
	Average LGD	-		-	-	-	-	10.29	-	55.04	-	12.17	1.82
Faroe Islands	Average PD	-	-	-	-	-	30.00	-	-	-	-	30.00	30.00
	Average LGD	-	-	-	-	-	1.50	-	-	-	-	1.50	1.80
Finland	Average PD	-	-	-	-	-	9.00	7.08	-	25.24	-	8.98	8.76
	Average LGD	-	-	-	-	-	1.50	19.45	-	35.61	-	1.88	2.54
France	Average PD	-	0.35	-	-	-	8.30	7.19	-	2.77	-	5.21	2.43
	Average LGD	-	81.00	-	-	-	2.53	11.35	-	27.53	-	32.53	35.87
Greece	Average PD	-	-	-	-	-	4.49	3.85	-	82.98	-	4.51	2.29
	Average LGD	-	-	-	-	-	1.92	24.43	-	42.51	-	2.03	1.93
UK	Average PD	-	0.12	-	-	-	6.24	3.56	-	9.24	-	5.42	4.51
	Average LGD	-	81.00	-	-	-	17.80	12.16	-	31.08	-	25.79	25.45
Guatemala	Average PD	-	-	-	-	-	-	100.00	-	-	-	100.00	100.00
	Average LGD	-	-	-	-	-	-	28.36	-	-	-	28.36	12.85
Guernsey	Average PD	-	-	-	-	-	13.50	-	-	-	-	13.50	13.50

Country	Risk parameter	Exposure class: Central governments and central banks	Institutions	Corporates, of which: SMEs	Specialized lending	Receivables purchased	Other	Retail subcategory: mortgage-backed IRBA exposures	Retail subcategory: qualified revolving IRBA exposures	Retail subcategory: other IRBA retail exposures	Long-term equity investments	Total	Total as at Dec. 31, 2015
%													
	Average LGD	-	-	-	-	-	2.97	-	-	-	-	2.97	2.96
Hong Kong	Average PD	-	-	-	-	-	41.23	0.60	-	0.21	-	41.15	32.41
	Average LGD	-	-	-	-	-	13.90	15.60	-	28.38	-	13.91	9.95
India	Average PD	-	-	-	-	-	37.06	0.07	-	-	-	37.02	42.68
	Average LGD	-	-	-	-	-	3.93	3.90	-	-	-	3.93	1.92
Indonesia	Average PD	-	-	-	-	-	9.00	0.35	-	0.15	-	8.97	9.92
	Average LGD	-	-	-	-	-	2.97	6.58	-	3.72	-	2.98	2.99
Iran	Average PD	-	-	-	-	-	-	4.00	-	-	-	4.00	9.00
	Average LGD	-	-	-	-	-	-	8.48	-	-	-	8.48	8.72
Ireland	Average PD	-	-	-	-	-	7.57	2.40	-	27.46	-	7.56	8.83
	Average LGD	-	-	-	-	-	6.03	10.11	-	43.34	-	6.04	3.24
Iceland	Average PD	-	-	-	-	-	-	1.70	-	-	-	1.70	1.10
	Average LGD	-	-	-	-	-	-	5.99	-	-	-	5.99	16.18
Isle of Man	Average PD	-	-	-	-	-	15.25	0.15	-	-	-	15.10	14.05
	Average LGD	-	-	-	-	-	6.67	9.65	-	-	-	6.70	4.79
Israel	Average PD	-	-	-	-	-	9.00	3.47	-	0.15	-	3.70	9.05
	Average LGD	-	-	-	-	-	22.26	6.28	-	29.64	-	12.64	2.34
Italy	Average PD	-	-	-	-	-	9.00	4.94	-	14.34	-	8.84	12.49
	Average LGD	-	-	-	-	-	3.21	13.19	-	34.92	-	4.08	5.44
Jamaica	Average PD	-	-	-	-	-	-	1.10	-	-	-	1.10	1.10
	Average LGD	-	-	-	-	-	-	17.95	-	-	-	17.95	20.02
Japan	Average PD	-	-	-	-	-	6.07	0.53	-	-	-	6.07	4.38
	Average LGD	-	-	-	-	-	3.58	12.70	-	-	-	3.58	3.57
Jersey	Average PD	-	-	-	-	-	6.87	-	-	-	-	6.87	2.60
	Average LGD	-	-	-	-	-	2.07	-	-	-	-	2.07	1.80
Jordan	Average PD	-	-	-	-	-	13.50	-	-	0.75	-	13.50	-
	Average LGD	-	-	-	-	-	2.97	-	-	0.00	-	2.97	-
Canada	Average PD	-	-	-	-	-	13.39	5.11	-	0.42	-	13.13	11.08
	Average LGD	-	-	-	-	-	7.70	7.38	-	29.94	-	7.90	5.92
Kazakhstan	Average PD	-	-	-	-	-	-	-	-	-	-	-	0.15

Country	Risk parameter	Exposure class: Central governments and central banks	Institutions	Corporates, of which: SMEs	Specialized lending	Receivables purchased	Other	Retail subcategory: mortgage-backed IRBA exposures	Retail subcategory: qualified revolving IRBA exposures	Retail subcategory: other IRBA retail exposures	Long-term equity investments	Total	Total as at Dec. 31, 2015
%													
	Average LGD	-	-	-	-	-	-	-	-	-	-	-	28.91
Qatar	Average PD	-	-	-	-	-	-	0.75	-	-	-	0.75	0.50
	Average LGD	-	-	-	-	-	-	13.53	-	-	-	13.53	3.12
Kenya	Average PD	-	-	-	-	-	-	0.75	-	-	-	0.75	1.74
	Average LGD	-	-	-	-	-	-	16.72	-	-	-	16.72	18.03
Kyrgyzstan	Average PD	-	-	-	-	-	-	-	-	1.10	-	1.10	1.42
	Average LGD	-	-	-	-	-	-	-	-	47.97	-	47.97	47.59
Colombia	Average PD	-	-	-	-	-	3.93	-	-	-	-	3.93	0.50
	Average LGD	-	-	-	-	-	2.97	-	-	-	-	2.97	2.96
Democratic Republic of the Congo	Average PD	-	-	-	-	-	-	-	-	-	-	-	1.10
	Average LGD	-	-	-	-	-	-	-	-	-	-	-	55.35
Croatia	Average PD	-	-	-	-	-	13.50	70.68	-	44.14	-	14.33	14.13
	Average LGD	-	-	-	-	-	10.05	29.94	-	47.06	-	10.70	2.68
Cuba	Average PD	-	-	-	-	-	-	-	-	-	0.50	0.50	-
	Average LGD	-	-	-	-	-	-	-	-	-	17.77	17.77	-
Kuwait	Average PD	-	-	-	-	-	9.00	0.77	-	-	-	8.86	8.95
	Average LGD	-	-	-	-	-	1.50	6.73	-	-	-	1.59	1.91
Latvia	Average PD	-	-	-	-	-	-	-	-	0.43	-	0.43	0.50
	Average LGD	-	-	-	-	-	-	-	-	19.31	-	19.31	24.44
Lebanon	Average PD	-	-	-	-	-	-	1.70	-	-	-	1.70	1.70
	Average LGD	-	-	-	-	-	-	9.84	-	-	-	9.84	11.21
Liberia	Average PD	-	-	-	-	-	11.58	-	-	-	-	11.58	10.54
	Average LGD	-	-	-	-	-	5.83	-	-	-	-	5.83	5.06
Liechtenstein	Average PD	-	-	-	-	-	-	0.68	-	0.15	-	0.59	0.27
	Average LGD	-	-	-	-	-	-	8.67	-	29.64	-	12.32	26.06
Lithuania	Average PD	-	-	-	-	-	-	-	-	6.00	-	6.00	0.15
	Average LGD	-	-	-	-	-	-	-	-	55.04	-	55.04	55.35
Luxembourg	Average PD	-	-	-	-	-	33.34	10.87	-	12.43	-	25.95	9.15
	Average LGD	-	-	-	-	-	12.14	10.02	-	14.97	-	11.69	4.71
Malaysia	Average PD	-	-	-	-	-	36.43	0.64	-	-	-	36.38	28.89

Country	Risk parameter	Exposure class: Central govern ments and central banks	Institu- tions	Corporates, of which: SMEs	Specia- lized lending	Recei- vables purchas ed	Other	Retail subcate- gory: mortgage- backed IRBA exposures	Retail subcate- gory: qualified revolving IRBA exposures	Retail subcate- gory: other IRBA retail exposures	Long- term equity investm ents	Total	Total as at Dec. 31, 2015
%													
	Average LGD	-	-	-	-	-	12.56	17.83	-	-	-	12.57	5.71
Malta	Average PD	-	-	-	-	-	20.94	1.70	-	0.35	-	20.93	24.53
	Average LGD	-	-	-	-	-	6.11	27.83	-	18.04	-	6.12	3.90
Morocco	Average PD	-	-	-	-	-	-	6.00	-	100.00	-	67.34	100.00
	Average LGD	-	-	-	-	-	-	10.04	-	51.59	-	37.15	51.94
Marshall Islands	Average PD	-	-	-	-	-	26.77	-	-	-	-	26.77	25.45
	Average LGD	-	-	-	-	-	10.63	-	-	-	-	10.63	8.40
Mauritius	Average PD	-	-	-	-	-	-	13.50	-	-	-	13.50	100.00
	Average LGD	-	-	-	-	-	-	44.36	-	-	-	44.36	28.23
Mexico	Average PD	-	-	-	-	-	8.19	0.15	-	1.27	-	8.16	8.41
	Average LGD	-	-	-	-	-	10.13	16.30	-	28.93	-	10.18	2.07
Mongolia	Average PD	-	-	-	-	-	-	100.00	-	-	-	100.00	100.00
	Average LGD	-	-	-	-	-	-	44.16	-	-	-	44.16	44.17
Montenegro	Average PD	-	-	-	-	-	-	1.70	-	-	-	1.70	6.00
	Average LGD	-	-	-	-	-	-	12.77	-	-	-	12.77	14.10
Namibia	Average PD	-	-	-	-	-	-	0.35	-	-	-	0.35	-
	Average LGD	-	-	-	-	-	-	0.00	-	-	-	0.00	-
New Zealand	Average PD	-	-	-	-	-	-	0.35	-	3.71	-	0.62	1.03
	Average LGD	-	-	-	-	-	-	12.53	-	32.37	-	14.12	16.54
Netherlands	Average PD	-	-	-	-	-	28.01	5.81	-	7.89	-	26.43	22.23
	Average LGD	-	-	-	-	-	16.53	10.67	-	30.71	-	16.26	3.74
Nigeria	Average PD	-	-	-	-	-	9.00	2.60	-	-	-	8.98	8.98
	Average LGD	-	-	-	-	-	28.89	10.86	-	-	-	28.82	24.53
Norway	Average PD	-	-	-	-	-	20.63	2.77	-	12.16	-	20.59	19.01
	Average LGD	-	-	-	-	-	17.18	7.65	-	31.43	-	17.16	7.14
Austria	Average PD	-	-	-	-	-	9.00	3.42	-	5.31	-	7.99	23.07
	Average LGD	-	-	-	-	-	2.00	10.66	-	29.46	-	4.31	4.54
Panama	Average PD	-	-	-	-	-	17.67	-	-	0.15	-	17.66	13.43
	Average LGD	-	-	-	-	-	6.51	-	-	29.64	-	6.52	2.32
Philippines	Average PD	-	-	-	-	-	9.14	100.00	-	27.78	-	9.41	14.14

Country	Risk parameter	Exposure class: Central governments and central banks	Institutions	Corporates, of which: SMEs	Specialized lending	Receivables purchased	Other	Retail subcategory: mortgage-backed IRBA exposures	Retail subcategory: qualified revolving IRBA exposures	Retail subcategory: other IRBA retail exposures	Long-term equity investments	Total	Total as at Dec. 31, 2015
%													
	Average LGD	-	-	-	-	-	2.97	22.78	-	26.65	-	3.03	3.00
Poland	Average PD	-	-	-	-	-	-	7.46	-	18.89	-	9.48	8.87
	Average LGD	-	-	-	-	-	-	11.00	-	43.50	-	16.75	18.68
Portugal	Average PD	-	-	-	-	-	-	5.30	-	31.88	-	13.73	5.87
	Average LGD	-	-	-	-	-	-	5.40	-	34.59	-	14.66	16.87
Romania	Average PD	-	-	-	-	-	-	-	-	60.06	-	60.06	41.81
	Average LGD	-	-	-	-	-	-	-	-	44.05	-	44.05	49.48
Russia	Average PD	-	-	-	-	-	-	6.36	-	0.17	-	6.14	11.00
	Average LGD	-	-	-	-	-	-	22.48	-	28.20	-	22.68	27.38
Saudi Arabia	Average PD	-	-	-	-	-	-	-	-	0.15	-	0.15	0.15
	Average LGD	-	-	-	-	-	-	-	-	29.64	-	29.64	28.91
Saint Helena	Average PD	-	-	-	-	-	-	-	-	-	-	-	0.15
	Average LGD	-	-	-	-	-	-	-	-	-	-	-	44.30
Sweden	Average PD	-	-	-	-	-	9.00	4.89	-	43.47	-	9.01	14.89
	Average LGD	-	-	-	-	-	6.99	15.23	-	41.75	-	7.11	7.13
Switzerland	Average PD	-	-	-	-	-	1.64	3.79	-	1.67	-	2.11	2.31
	Average LGD	-	-	-	-	-	3.13	13.25	-	30.08	-	13.60	17.08
Serbia and Kosovo	Average PD	-	-	-	-	-	-	-	-	71.88	-	71.88	63.18
	Average LGD	-	-	-	-	-	-	-	-	46.38	-	46.38	44.28
Singapore	Average PD	-	-	-	-	-	14.36	0.53	-	0.28	-	14.34	6.64
	Average LGD	-	-	-	-	-	6.22	20.37	-	29.52	-	6.24	2.49
Slovakia	Average PD	-	-	-	-	-	9.00	-	-	33.71	-	9.06	9.00
	Average LGD	-	-	-	-	-	1.49	-	-	36.04	-	1.58	1.61
Slovenia	Average PD	-	-	-	-	-	-	0.10	-	10.59	-	4.11	8.34
	Average LGD	-	-	-	-	-	-	0.00	-	45.14	-	17.25	44.72
Somalia	Average PD	-	-	-	-	-	-	-	-	-	-	-	0.75
	Average LGD	-	-	-	-	-	-	-	-	-	-	-	17.21
Spain	Average PD	-	-	-	-	-	3.06	2.89	-	5.15	-	3.25	10.96
	Average LGD	-	-	-	-	-	2.97	10.17	-	29.96	-	6.17	10.78
Sri Lanka	Average PD	-	-	-	-	-	-	8.27	-	-	-	8.27	26.97

Country	Risk parameter	Exposure class											
		Central governments and central banks	Institutions	Corporates, of which: SMEs	Specialized lending	Receivables purchased	Other	Retail subcategory: mortgage-backed IRBA exposures	Retail subcategory: qualified revolving IRBA exposures	Retail subcategory: other IRBA retail exposures	Long-term equity investments	Total	Total as at Dec. 31, 2015
%													
	Average LGD	-	-	-	-	-	-	7.03	-	-	-	7.03	6.88
South Africa	Average PD	-	-	-	-	-	-	0.62	-	33.31	-	0.83	2.84
	Average LGD	-	-	-	-	-	-	10.57	-	43.29	-	10.78	13.13
South Korea	Average PD	-	-	-	-	-	9.85	-	-	-	-	9.85	9.33
	Average LGD	-	-	-	-	-	3.48	-	-	-	-	3.48	4.16
Taiwan	Average PD	-	-	-	-	-	-	0.19	-	-	-	0.19	9.00
	Average LGD	-	-	-	-	-	-	5.35	-	-	-	5.35	2.96
Thailand	Average PD	-	-	-	-	-	2.60	2.41	-	10.55	-	2.61	2.61
	Average LGD	-	-	-	-	-	14.63	18.71	-	37.08	-	14.66	5.89
Czech Republic	Average PD	-	-	-	-	-	-	4.68	-	6.69	-	5.11	5.41
	Average LGD	-	-	-	-	-	-	15.76	-	16.90	-	16.00	13.22
Tunisia	Average PD	-	-	-	-	-	-	0.35	-	-	-	0.35	0.35
	Average LGD	-	-	-	-	-	-	0.00	-	-	-	0.00	18.77
Turkey	Average PD	-	-	-	-	-	4.24	0.42	-	7.41	-	4.24	4.12
	Average LGD	-	-	-	-	-	2.57	5.92	-	32.46	-	2.64	2.55
Hungary	Average PD	-	-	-	-	-	-	0.95	-	18.53	-	9.87	10.99
	Average LGD	-	-	-	-	-	-	7.71	-	43.70	-	25.97	21.37
Ukraine	Average PD	-	-	-	-	-	-	0.35	-	-	-	0.35	-
	Average LGD	-	-	-	-	-	-	0.00	-	-	-	0.00	-
Uruguay	Average PD	-	-	-	-	-	-	-	-	0.50	-	0.50	0.50
	Average LGD	-	-	-	-	-	-	-	-	16.36	-	16.36	16.97
USA	Average PD	-	-	-	-	-	6.55	4.40	-	2.91	-	6.54	6.32
	Average LGD	-	-	-	-	-	3.68	10.78	-	30.76	-	3.72	4.23
Venezuela	Average PD	-	-	-	-	-	-	26.08	-	-	-	26.08	0.75
	Average LGD	-	-	-	-	-	-	5.38	-	-	-	5.38	9.37
United Arab Emirates	Average PD	-	-	-	-	-	3.64	0.84	-	1.37	-	3.56	7.01
	Average LGD	-	-	-	-	-	1.91	14.14	-	34.68	-	2.25	2.29
Vietnam	Average PD	-	-	-	-	-	13.50	-	-	0.50	-	13.50	8.22
	Average LGD	-	-	-	-	-	2.97	-	-	55.04	-	2.97	6.78
Wallis and Futuna	Average PD	-	-	-	-	-	-	-	-	2.60	-	2.60	-

Country %	Risk parameter	Exposure class Central governments and central banks	Institutions	Corporates, of which: SMEs	Specialized lending	Receivables purchased	Other	Retail subcategory: mortgage-backed IRBA exposures	Retail subcategory: qualified revolving IRBA exposures	Retail subcategory: other IRBA retail exposures	Long-term equity investments	Total	Total as at Dec. 31, 2015
	Average LGD	-	-	-	-	-	-	-	-	44.62	-	44.62	-
Cyprus	Average PD	-	-	-	-	-	17.60	1.39	-	-	-	17.56	15.64
	Average LGD	-	-	-	-	-	13.15	21.88	-	-	-	13.17	9.51
Total average PD as at Dec. 31, 2016		-	**0.40**	-	-	-	**15.85**	**2.75**	-	**4.39**	-	**6.66**	
Total average LGD as at Dec. 31, 2016		-	**81.00**	-	-	-	**8.29**	**10.26**	-	**34.94**	-	**14.65**	
Total average PD as at Dec. 31, 2015		-	10.41	-	-	-	24.96	25.80	-	4.38	-		7.42
Total average LGD as at Dec. 31, 2015		-	81.00	-	-	-	5.82	10.30	-	34.60	-		14.63

6.5.5. Losses incurred in lending business

Actual losses incurred in lending business

(Article 452 sentence 1 letters g and h CRR)

The information given in Fig. 30 relates to the following exposure classes: central governments and central banks, institutions, corporates (including SMEs, specialized lending, and purchased receivables that are treated as corporate loans), long-term equity investments that are backed by own funds based on individual probabilities of default (PD/LGD approach), and retail business (broken down into mortgage-backed IRBA exposures, qualified revolving IRBA exposures, and other IRBA exposures).

The calculations of losses presented in Fig. 30 are based on the carrying amounts recognized under IFRS. Market-price-related write-downs on securities portfolios and long-term equity investments managed according to their default probabilities are not shown.

An actual loss of €419 million (2015: €178 million) for the reporting period was calculated for the IRBA subportfolios shown in Fig. 30. The loss on the IRBA subportfolios was therefore €90 million lower higher than the corresponding value for the aggregate portfolio whereas, in the previous year, the actual loss on the IRBA subportfolios had been €176 million higher than the actual loss on the aggregate portfolio.

The information disclosed in the regulatory risk report includes the changes in allowances for losses on loans and advances, provisions for loan commitments, and liabilities from financial guarantee contracts reported in section 8.8. of the combined opportunity and risk report, as described below:

– Additions of €908 million in 2016 (2015: €666 million) to specific loan loss allowances (including specific loan loss allowances evaluated on a group basis) are offset against reversals of such losses (2016: €416 million; 2015: €437 million) and interest income (2016: €31 million; 2015: €45 million).
– The difference between directly recognized impairment losses of €48 million in 2016 (2015: €68 million) and recoveries on loans and advances previously impaired amounting to €116 million for the year under review (2015: €121 million) is also recognized.
– Finally, additions to provisions for loan commitments and liabilities under financial guarantee contracts (2016: €117 million; 2015: €48 million) are offset against reversals of these items (2016: €71 million; 2015: €69 million).

The sum total of the aforementioned components represents the actual loss incurred by the aggregate portfolio, measured at €509 million for the year under review (2015: €2 million).

Over the course of the reporting period, the **volume of specific loan loss allowances** rose by €229 million compared with December 31, 2015. This increase was primarily attributable to DVB's shipping and offshore businesses. Some of the increase was offset by decreases at DG HYP, TeamBank, and DZ BANK (€39 million). As at December 31, 2015, there had been a year-on-year contraction in the volume of specific loan loss allowances of €301 million and €133 million at DZ BANK.

In the year under review, a net addition was made to the specific loan loss allowances in the DZ BANK banking group, taking into account the effects from the merger. The specific loan loss allowances recognized – mainly in corporate banking – were offset by reversals resulting from the continued success of efforts to aid the recovery of non-performing loans and recoveries from loans and advances previously depreciated. Overall, the change in specific loan loss allowances – which also benefited from stable economic conditions – reflects the stability of the credit portfolio and the sustainable risk policy adopted by the DZ BANK banking group.

There was a net addition to **portfolio loan loss allowances** in the reporting year. The net addition totaled €92 million (December 31, 2015: net reversal of €14 million).
The volume of **provisions for loan commitments and liabilities under financial guarantee contracts** likewise rose in 2016, by €106 million (December 31, 2015: fall of €19 million).

Additions of €207 million and €5 million were recognized for specific loan loss allowances and portfolio loan loss allowances respectively in relation to DVB's **shipping finance portfolio** in 2016 in view of the deterioration in international shipping markets, especially in the second half of the year. In contrast, the level of specific and portfolio loan loss allowances for the shipping finance portfolio at DZ BANK was reduced slightly.

Fig. 30 – YEAR-ON-YEAR CHANGE IN THE ACTUAL LOSSES IN THE TOTAL CREDIT PORTFOLIO UNDER THE IRB APPROACH BY EXPOSURE CLASS

€ million	**Losses during the period**					
Exposure class	**Jan. 1, 2016 to Dec. 31, 2016**	Jan. 1, 2015 to Dec. 31, 2015	Jan. 1, 2014 to Dec. 31, 2014	Jan. 1, 2013 to Dec. 31, 2013	Jan. 1, 2012 to Dec. 31, 2012	Jan. 1, 2011 to Dec. 31, 2011
Central governments and central banks	-	-	-	-	-	5
Institutions	5	-5	-8	38	1	9
Corporates	356	72	113	195	207	29
Equity exposures	-	-	-	-	-	-
Mortgage-backed retail IRBA receivables	9	45	22	22	23	23
Qualified revolving retail IRBA receivables	-	-	-	-	-	-
Other retail IRBA receivables	48	65	68	92	73	-2
Total	**419**	178	194	350	303	64

Loss estimates and actual losses in the non-defaulting credit portfolio under the IRB approach

(Article 452 sentence 1 letter i CRR)

Fig. 31 compares the expected losses with the losses actually incurred during the period January 1 to December 31, 2012 to 2016 for the following IRBA exposure classes:

– Central governments and central banks
– Institutions
– Corporates (including SMEs, specialized lending, and purchased receivables that are treated as corporate loans)
– Long-term equity investments recognized under the PD/LGD approach
– Retail business.

The estimate of the expected losses for 2016 relates to the non-defaulting risk-weighted assets in the traditional lending business. The losses shown that have actually been incurred also relate to the exposures that had not yet defaulted at the beginning of the year under review. The definition of 'loss' corresponds to the definition used for Fig. 30. The supervisory authority intends this comparison to be the basis for measuring the efficiency of the process for allocating exposures or borrowers to rating categories as required by article 452 sentence 1 letter i CRR. In this respect, the table can be seen as a supplement to the description of the internal validation processes in section 6.1.3. ("Control mechanisms for the rating systems").
However, the comparison of expected and actual losses in the form described above should be viewed with the reservation that the comparability of the

figures is limited. Furthermore, the expected losses relate to a static portfolio of risk-weighted assets, whereas the losses incurred are the result of a dynamic credit portfolio that is subject to change over the course of the year.

Fig. 31 – COMPARISON OF LOSS ESTIMATES AND ACTUAL LOSSES IN NON-DEFAULTING EXPOSURE CLASSES UNDER THE IRB APPROACH

€ million	Losses during the period									
Exposure class	Expected Dec. 31, 2015	Actual 2016	Expected Dec. 31, 2014	Actual 2015	Expected Dec. 31, 2013	Actual 2014	Expected Dec. 31, 2012	Actual 2013	Expected Dec. 31, 2011	Actual 2012
Central governments and central banks	9	-	4	-	4	-	4	-	1	-
Institutions	22	5	29	2	25	17	22	42	85	1
Corporates	298	203	220	166	101	123	337	192	209	141
Equity exposures	6	-	1	-	-		7	-	6	-
Retail IRBA receivables secured by mortgages	201	23	46	32	229	20	73	21	66	23
Qualified revolving retail IRBA receivables	-	-	-	-	-	-	-	-	-	-
Other retail IRBA receivables	198	78	100	86	158	91	104	97	100	67
Total	**652**	**233**	400	286	517	251	547	352	467	232

Fig. 31 shows that the losses of €233 million actually incurred in 2016 (2015: €286 million) across all exposure classes were considerably lower than the expected figure of €652 million (December 31, 2014: €400 million).

6.5.6. Collateralized lending volume

Disclosures regarding the collateralized lending volume

The volume of collateralized transactions is shown in Fig. 32 to 34 of this risk report broken down into the IRB approaches and the Standardized Approach to credit risk.

Fig. 32 covers the volume of assets secured by collateral that is risk-weighted for regulatory purposes. The collateralization effect of the guarantees provided by counterparties under the Standardized Approach to credit risk is illustrated in Fig. 22, which shows a partial shift in the lending volume from higher to lower risk weightings between the table rows that present the total exposure before and after the credit risk had been mitigated under the Standardized Approach. Under the IRB approaches, most of the collateral shown in the table – especially mortgages – is included in the calculation of capital requirements as LGD.

Collateralized lending volume under the Standardized Approach to credit risk (excluding securitizations)

(Article 453 sentence 1 letter f CRR)

Fig. 32 shows the exposures broken down by exposure class under the Standardized Approach to credit risk where such exposures are secured by financial collateral, life insurance, or guarantees. The figures for credit risk mitigation in each case are values applicable for regulatory purposes. The sharp rise in financial collateral is attributable to the WGZ BANK Group being included for the first time.

Fig. 32 – COLLATERALIZED LENDING VOLUME UNDER THE STANDARDIZED APPROACH TO CREDIT RISK (EXCLUDING SECURITIZATIONS)

€ million	Financial collateral		Life insurance		Guarantees		Total	
Exposure class	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
Central governments and central banks	1	40	-	-	465	-	465	40
Regional or local authorities	313	282	-	-	5	7	318	289
Other public-sector entities	394	251	-	-	223	124	617	375
Multilateral development banks	-	-	-	-	-	-	-	-
International organizations	-	-	-	-	-	-	-	-
Institutions	2,847	1,589	-	-	444	-	3,291	1.589
Covered bonds	-	-	-	-		-	-	-
Corporates	1,796	1,304	2	5	1,532	2,223	3,331	3,532
Retail business	102	81	1	1	1,420	2	104	84
Institutions and entities with short-term credit ratings	-	73	-	-	-	-	-	73
Exposures secured by mortgages on immovable property	95	76	-	-	-	-	95	76
Units or shares in collective investment undertakings ('CIUs')	-	-	-	-	-	-	-	-
Exposures associated with particularly high-risk	4	4	-	-	1	-	4	4
Long-term equity investments	-	-	-	-	-	-	-	-
Other items	-	-	-	-	-	-	-	-
Exposures in default	2	3	2	2	9	10	13	15
Total	**5,551**	3,703	**6**	8	**2,680**	2,366	**8,238**	6,077

Collateralized lending volume under the IRB approaches (excluding securitizations)

(Article 453 sentence 1 letter g CRR)

Fig. 33 shows the exposures, broken down by IRBA exposure class, that are backed by financial collateral, life insurance policies, other IRBA collateral (such as physical collateral), or guarantees. The figures shown for credit risk mitigation in each case are the values applicable for regulatory purposes. For certain IRBA assets held by BSH, DG HYP, and DVB, the mortgage-related or real-estate collateral recognized for credit risk mitigation purposes is included in the calculation of capital requirements as LGD. The table shows the collateralized exposure for these transactions. The sharp rise in other collateral is attributable to the WGZ BANK Group being included for the first time.

Fig. 33 – COLLATERALIZED LENDING VOLUME UNDER THE IRB APPROACH (EXCLUDING SECURITIZATIONS)

€ million	Financial collateral		Life insurance		Other collateral		Guarantees		Total	
Exposure class	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
Central governments and central banks	158	566	-	-	-	-	240	92	398	658
Institutions	9,435	8,359		-	-	34	407	459	9,841	8,852
Corporates	669	462	1	1	50,334	36,274	3,171	2,885	54,175	39,622
Retail business	4,465	4,355	21	20	29,129	27,660	67	69	33,682	32,104
Long-term equity investments	-	-	-	-	-	-	-	-	-	-
Other non-credit-obligation assets	-	-	-	-	-	-	-	-	-	-
Total	**14,727**	13,742	**22**	21	**79,463**	63,968	**3,884**	3,505	**98,097**	81,236

6.5.7. Derivative counterparty risk exposures

(Article 439 CRR)

Fig. 34 shows the aggregate derivative counterparty risk exposure in the banking book and trading book in the form of positive fair values before and after the offsetting of net derivatives exposures and collateral. The derivative counterparty risk is also broken down into the various types of contract.

The exposures that are processed directly via a central counterparty (clearing entity) are not shown in Fig. 34, which therefore only shows over-the-counter (OTC) derivatives and listed derivatives that are traded via an intermediary, such as a broker. Derivative positions arising from securitizations are disclosed solely in Fig. 57.

Fig. 34 – DERIVATIVE COUNTERPARTY RISK EXPOSURE, BEFORE AND AFTER NETTING AGREEMENTS AND COLLATERAL

€ million	Positive replacement values before netting and collateral		Netting arrangements	Eligible collateral	Positive replacement values after netting and collateral
Type of contract	**Dec. 31, 2016**	Dec. 31, 2015			
Interest-rate related contracts	30,647	28,309			
Currency-related contracts	2,837	1,790			
Equity/index-related contracts	1,102	829			
Credit derivatives	200	222			
Commodity-related contracts	9	9			
Other contracts	70	56			
Total as at Dec. 31, 2016	**34,866**		**23,872**	**4,379**	**6,614**
Total as at Dec. 31, 2015		31,215	22,454	3,787	4,974

The DZ BANK banking group primarily uses the regulatory mark-to-market method and, to a lesser extent, the standardized method, to calculate the counterparty risk to be disclosed under section 439 sentence 1 letter f CRR. As at December 31, 2016, **counterparty risk exposure** was measured at €16,378 million (December 31, 2015: €13,436 million) under the mark-to-market method and at €170 million under the standardized method (December 31, 2015: €0 million). This figure relates to the derivative counterparty risk exposure shown in Fig. 34 and serves as exposure measure under the Standardized Approach to credit risk and the IRB approaches.

The **notional value of the credit derivatives risk-weighted for regulatory purposes used to mitigate counterparty risk exposure** required to be disclosed under article 439 sentence 1 letter g CRR was €416 million as at December 31, 2016 (December 31, 2015: €39 million). This sharp increase was due to the first-time inclusion of the WGZ BANK Group.

Fig. 35 shows the notional amounts of credit derivatives bought and sold, broken down by type of derivative. As had been the case at the end of the previous year, no credit derivatives from the intermediary operations of DZ BANK banking group entities were held as at December 31, 2016.

Fig. 35 – NOTIONAL AMOUNTS OF CREDIT DERIVATIVES BROKEN DOWN BY TYPE OF USE

	Notional amount arising from use for own portfolio			
€ million	Protection buyer		Protection seller	
Credit derivatives	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
Credit default swaps	9,547	12,202	18,989	17,808
Total return swaps	150	163	86	105
Credit-linked notes	7,746	6,003	515	505
Other	-	-	-	-
Total	**17,442**	**18,368**	**19,590**	**18,418**

7. Countercyclical capital buffer

(Article 440 CRR)

The institution-specific countercyclical capital buffer provides an additional capital buffer consisting of common equity Tier 1 capital that is used to contain excessive growth in lending. It can be drawn on in times of crises and is designed to stop banks limiting their lending too much. The capital buffer must be determined at the end of each quarter for each banking group individually (calculated for the first time as at March 31, 2016). The banking-group-specific buffer rate is the weighted average of the ratios for the countercyclical capital buffers that apply in the member state, other countries in the European Economic Area, and in non-EEA countries as well as European and non-European countries, territories, and legal jurisdictions belonging to them in which the banking group's significant exposures are located. Fig. 36 shows the geographical distribution of the relevant credit risk exposures. Fig. 37 constitutes the level of the banking-group-specific countercyclical capital buffer and the requirement under the transitional guidance.

For the calculation of the institution-specific countercyclical capital buffer as at December 31, 2016, a country-specific buffer rate of more than 0 percent was stipulated for the following three countries by their supervisory authority: Hong Kong (2.5 percent), Sweden (1.5 percent), and Norway (1.5 percent). The calculation for all other countries was based on a country-specific buffer rate of 0 percent. As at December 31, 2016, the institution-specific buffer rate, taking account of the transitional provision, amounted to 0.023 percent. The capital requirement for the countercyclical capital buffer, calculated as the product of the institution-specific buffer rate and the total relevant exposures, came to approximately €27 million.

Fig. 36 – GEOGRAPHICAL DISTRIBUTION OF THE CREDIT EXPOSURES RELEVANT TO THE CALCULATION OF THE COUNTERCYCLICAL CAPITAL BUFFER

In column 120 of this table, the dash ' - ' means either 'no figure available' or 'capital buffer rate of 0 percent'.

		General credit risk exposures		Exposures in the trading book		Securitization exposures		Capital requirements					
	€ million	Exposure (SA)	Exposure (IRB)	Total long and short positions in the trading book	Value of the exposure in the trading book (internal models)	Exposure (SA)	Exposure (IRB)	of which: General credit risk exposures	of which: Exposures in the trading book	of which: Securitization exposures	Total	Weighting of capital requirements	Rate of the countercyclical capital buffer
		010	020	030	040	050	060	070	080	090	100	110	120
010	Breakdown by country												
	Germany	15,954	125,607	79	2,491	52	173	4,564	203	11	4,884	0.69	-
	Egypt	3	17	-	-	-	-	1	-	-	1	0.00	-
	Ethiopia	-	-	-	-	-	-	-	-	-	-	0.00	-
	Algeria	0	-	-	-	-	-	0	-	-	0	0.00	-
	Andorra	0	0	-	-	-	-	0	-	-	0	0.00	-
	Angola	0	-	-	-	-	-	0	-	-	0	0.00	-
	Argentina	6	1	-	-	-	-	0	-	-	0	0.00	-
	Armenia	4	0	-	-	-	-	0	-	-	0	0.00	-
	Azerbaijan	0	-	-	-	-	-	0	-	-	0	0.00	-
	Australia	85	439	0	-	55	-	23	0	10	33	0.00	-
	Bahamas	0	178	-	-	-	-	1	-	-	1	0.00	-
	Bahrain	0	11	-	-	-	-	1	-	-	1	0.00	-
	Bangladesh	8	-	-	-	-	-	1	-	-	1	0.00	-
	Barbados	-	44	-	-	-	-	7	-	-	7	0.00	-
	Belgium	112	253	1	-	-	-	13	-	-	13	0.00	-
	Belize	0	-	-	-	-	-	0	-	-	0	0.00	-
	Bermuda	5	960	-	-	-	-	10	-	-	10	0.00	-
	Bolivia	0	0	-	-	-	-	0	-	-	0	0.00	-
	Bonaire, Saba and St. Eustatius	0	-	-	-	-	-	0	-	-	0	0.00	-

€ million		General credit risk exposures		Exposures in the trading book		Securitization exposures		Capital requirements				Weighting of capital requirements	Rate of the countercyclical capital buffer
		Exposure (SA)	Exposure (IRB)	Total long and short positions in the trading book	Value of the exposure in the trading book (internal models)	Exposure (SA)	Exposure (IRB)	of which: General credit risk exposures	of which: Exposures in the trading book	of which: Securitization exposures	Total		
		010	020	030	040	050	060	070	080	090	100	110	120
010	Breakdown by country												
	Bosnia and Herzegovina	9	0	-	-	-	-	1	-	-	1	0.00	-
	Botswana	0	-	-	-	-	-	0	-	-	0	0.00	-
	Brazil	16	138	-	-	-	-	8	-	-	8	0.00	-
	British Virgin Islands	9	343	-	-	-	-	13	-	-	13	0.00	-
	Bulgaria	0	6	-	-	-	-	1	-	-	1	0.00	-
	Burkina Faso	-	-	-	-	-	-	-	-	-	-	0.00	-
	Burundi	-	-	-	-	-	-	-	-	-	-	0.00	-
	Cayman Islands	15	1,164	-	-	6	69	38	-	37	75	0.01	-
	Chile	0	63	-	-	-	-	0	-	-	0	0.00	-
	China	793	333	-	-	-	-	34	-	-	34	0.00	-
	Costa Rica	1	-	-	-	-	-	0	-	-	0	0.00	-
	Curaçao	1	12	-	-	-	-	1	-	-	1	0.00	-
	Denmark	24	294	-	-	-	12	10	-	0	10	0.00	-
	Dominican Republic	0	-	-	-	-	-	0	-	-	0	0.00	-
	Ecuador	0	0	-	-	-	-	0	-	-	0	0.00	-
	Côte d'Ivoire	1	0	-	-	-	-	0	-	-	0	0.00	-
	El Salvador	0	-	-	-	-	-	0	-	-	0	0.00	-
	Eritrea	-	-	-	-	-	-	-	-	-	-	0.00	-
	Estonia	0	0	-	-	-	-	0	-	-	0	0.00	-
	Faroe Islands	-	11	-	-	-	-	0	-	-	0	0.00	-
	Finland	144	82	-	-	-	-	4	-	-	4	0.00	-
	France	528	1,658	43	-	13	39	73	0	3	77	0.01	-
	Gabon	0	-	-	-	-	-	0	-	-	0	0.00	-
	Georgia	0	-	-	-	-	-	0	-	-	0	0.00	-
	Ghana	0	4	-	-	-	-	0	-	-	0	0.00	-
	Gibraltar	-	-	-	-	-	-	-	-	-	-	0.00	-
	Greece	1	172	-	-	-	-	1	-	-	1	0.00	-
	United Kingdom	1,704	1,842	87	-	539	105	169	1	23	193	0.03	-
	Guatemala	0	0	-	-	-	-	0	-	-	0	0.00	-
	Guernsey	7	35	-	-	-	9	1	-	0	2	0.00	-
	Hong Kong	43	735	-	4	-	-	12	0	-	12	0.00	0.025
	India	30	249	-	-	-	-	11	-	-	11	0.00	-
	Indonesia	15	27	-	-	-	-	1	-	-	1	0.00	-
	Iran	8	0	-	-	-	-	1	-	-	1	0.00	-
	Ireland	155	2,828	38	-	85	348	44	1	40	84	0.01	-
	Iceland	0	0	-	-	-	-	0	-	-	0	0.00	-
	Isle of Man	32	362	-	-	-	-	5	-	-	5	0.00	-
	Israel	0	12	-	-	-	-	0	-	-	0	0.00	-
	Italy	207	171	111	-	80	9	21	2	3	25	0.00	-
	Jamaica	0	0	-	-	-	-	0	-	-	0	0.00	-
	Japan	13	552	-	-	-	-	5	-	-	5	0.00	-
	Jersey	2	324	-	-	1	1,351	8	-	31	39	0.01	-
	Jordan	0	75	-	-	-	-	1	-	-	1	0.00	-
	Cameroon	0		-	-	-	-	0	-	-	0	0.00	-
	Canada	170	374	-	-	-	-	19	-	-	19	0.00	-
	Cape Verde	-	-	-	-	-	-	-	-	-	-	0.00	-
	Kazakhstan	0	1	-	-	-	-	0	-	-	0	0.00	-

	€ million	General credit risk exposures		Exposures in the trading book		Securitization exposures		Capital requirements				Weighting of capital requirements	Rate of the countercyclical capital buffer
		Exposure (SA)	Exposure (IRB)	Total long and short positions in the trading book	Value of the exposure in the trading book (internal models)	Exposure (SA)	Exposure (IRB)	of which: General credit risk exposures	of which: Exposures in the trading book	of which: Securitization exposures	Total		
		010	020	030	040	050	060	070	080	090	100	110	120
010	Breakdown by country												
	Qatar	17	100	-	-	-	-	7	-	-	7	0.00	-
	Dutch Caribbean	0	-	-	-	-	-	0	-	-	0	0.00	-
	Kenya	0	0	-	-	-	-	0	-	-	0	0.00	-
	Colombia	2	29	-	-	-	-	0	-	-	0	0.00	-
	Croatia	4	43	-	-	-	-	3	-	-	3	0.00	-
	Cuba	-	0	-	-	-	-	0	-	-	0	0.00	-
	Kuwait	-	49	-	-	-	-	0	-	-	0	0.00	-
	Kyrgyzstan	-	0	-	-	-	-	0	-	-	0	0.00	-
	Latvia	-	0	-	-	-	-	0	-	-	0	0.00	-
	Lebanon	0	1	-	-	-	-	0	-	-	0	0.00	-
	Liberia	67	1,708	-	-	-	-	24	-	-	24	0.00	-
	Liechtenstein	3	9	-	-	-	-	0	-	-	0	0.00	-
	Lithuania	0	0	-	-	-	-	0	-	-	0	0.00	-
	Luxembourg	1,065	2,996	111	-	267	-	199	3	6	209	0.03	-
	Macau	4	-	-	-	-	-	0	-	-	0	0.00	-
	Malaysia	4	137	-	-	-	-	3	-	-	3	0.00	-
	Malta	4	635	-	-	-	-	12	-	-	12	0.00	-
	Morocco	0	0	-	-	-	-	0	-	-	0	0.00	-
	Marshall Islands	48	4,790	-	-	-	-	108	-	-	108	0.02	-
	Mauritius	0	0	-	-	-	-	0	-	-	0	0.00	-
	Macedonia	1	-	-	-	-	-	0	-	-	0	0.00	-
	Mexico	39	147	-	-	-	-	8	-	-	8	0.00	-
	Mongolia	-	0	-	-	-	-	0	-	-	0	0.00	-
	Montenegro	0	0	-	-	-	-	0	-	-	0	0.00	-
	Namibia	1	0	-	-	-	-	0	-	-	0	0.00	-
	New Zealand	35	40	-	-	-	-	3	-	-	3	0.00	-
	Netherlands	698	2,911	174	-	143	-	150	3	6	159	0.02	-
	Niger	-	-	-	-	-	-	-	-	-	-	0.00	-
	Nigeria	0	40	-	-	-	-	3	-	-	3	0.00	-
	North Korea	0	-	-	-	-	-	0	-	-	0	0.00	-
	Norway	70	1,615	-	22	-	-	73	2	-	75	0.00	0.015
	Oman	0	39	-	-	-	-	3	-	-	3	0.00	-
	Austria	567	995	2	-	4	-	72	0	0	73	0.01	-
	Pakistan	1	-	-	-	-	-	0	-	-	0	0.00	-
	Panama	1	432	-	-	-	-	7	-	-	7	0.00	-
	Papua New Guinea	0	-	-	-	-	-	0	-	-	0	0.00	-
	Paraguay	3	-	-	-	-	-	0	-	-	0	0.00	-
	Peru	2	26	-	-	-	-	2	-	-	2	0.00	-
	Philippines	1	117	-	-	-	-	1	-	-	1	0.00	-
	Poland	23	65	-	-	-	-	5	-	-	5	0.00	-
	Portugal	78	33	29	-	23	-	9	-	1	10	0.00	-
	Rwanda	0	-	-	-	-	-	0	-	-	0	0.00	-
	Romania	0	52	-	-	-	-	1	-	-	1	0.00	-
	Russia	15	19	-	-	-	-	3	-	-	3	0.00	-
	Zambia	0	-	-	-	-	-	0	-	-	0	0.00	-
	Saint Kitts and Nevis	0	-	-	-	-	-	0	-	-	0	0.00	-
	Saint Lucia	-	-	-	-	-	-	-	-	-	-	0.00	-
	Saudi Arabia	3	43	-	-	-	-	3	-	-	3	0.00	-

€ million		General credit risk exposures		Exposures in the trading book		Securitization exposures		Capital requirements					
		Exposure (SA)	Exposure (IRB)	Total long and short positions in the trading book	Value of the exposure in the trading book (internal models)	Exposure (SA)	Exposure (IRB)	of which: General credit risk exposures	of which: Exposures in the trading book	of which: Securitization exposures	Total	Weighting of capital requirements	Rate of the countercyclical capital buffer
		010	020	030	040	050	060	070	080	090	100	110	120
010	Breakdown by country												
	Sweden	37	391	-	5	-	-	13	0	-	13	0.00	0.015
	Switzerland	197	710	-	-	-	-	38	-	-	38	0.00	-
	Senegal	0	-	-	-	-	-	0	-	-	0	0.00	-
	Serbia and Kosovo	1	0	-	-	-	-	0	-	-	0	0.00	-
	Singapore	20	1,582	-	-	-	-	37	-	-	37	0.01	-
	Slovenia	12	26	-	-	-	-	3	-	-	3	0.00	-
	Slovakia	673	16	-	-	-	-	35	-	-	35	0.00	-
	Spain	288	212	34	-	681	-	23	1	105	129	0.02	-
	Sri Lanka	0	0	-	-	-	-	0	-	-	0	0.00	-
	South Africa	3	2	-	-	-	-	0	-	-	0	0.00	-
	South Korea	6	248	-	-	-	-	3	-	-	3	0.00	-
	Syria	-	-	-	-	-	-	-	-	-	-	0.00	-
	Taiwan	2	1	-	-	-	-	0	-	-	0	0.00	-
	Tanzania	0		-	-	-	-	0	-	-	0	0.00	-
	Thailand	1	149	-	-	-	-	5	-	-	5	0.00	-
	Togo	-	-	-	-	-	-	-	-	-	-	0.00	-
	Czech Republic	12	1,963	-	-	-	-	32	-	-	32	0.00	-
	Tunisia	0	0	-	-	-	-	0	-	-	0	0.00	-
	Turkey	38	316	-	-	-	-	9	-	-	9	0.00	-
	Turkmenistan	0		-	-	-	-	0	-	-	0	0.00	-
	Trinidad and Tobago	0	-	-	-	-	-	0	-	-	0	0.00	-
	Ukraine	0	1	-	-	-	-	0	-	-	0	0.00	-
	Hungary	923	52	-	-	-	-	34	-	-	34	0.00	-
	Uruguay	2	0	-	-	-	-	0	-	-	0	0.00	-
	USA	758	6,267	17	-	712	2,061	179	0	287	466	0.07	-
	Uzbekistan	-	-	-	-	-	-	-	-	-	-	0.00	-
	Venezuela	1	0	-	-	-	-	0	-	-	0	0.00	-
	United Arab Emirates	12	161	-	-	-	-	7	-	-	7	0.00	-
	Vietnam	0	122	-	-	-	-	2	-	-	2	0.00	-
	Wallis and Futuna	-	0	-	-	-	-	0	-	-	0	0.00	-
	Belarus	0	4	-	-	-	-	1	-	-	1	0.00	-
	Cyprus	10	313	-	-	-	-	7	-	-	7	0.00	-
020	**Total**	**25,861**	**168,984**	**726**	**2,522**	**2,660**	**4,177**	**6,340**	**217**	**565**	**7,122**	**1.00**	

Fig. 37 – LEVEL OF THE INSTITUTION-SPECIFIC COUNTERCYCLICAL BUFFER

€ million	**Amount of the institution-specific countercyclical capital buffer**	**Dec. 31, 2016**
010	Total exposure	**118,462**
020	Institution-specific countercyclical capital buffer rate (as a percentage of total exposure)	**0.023**
030	Institution-specific countercyclical capital buffer requirement	**27**

8. Unencumbered assets

(Article 443 CRR)

Pursuant to article 100 CRR and the requirements enshrined in Implementing Regulation (EU) No. 2015/79 dated December 18, 2014, the DZ BANK banking group has been required to report on encumbered and unencumbered assets since December 31, 2014 in conjunction with EBA/GL/2014/03 and BaFin circular 06/2016. Accordingly, assets that have been pledged as collateral or are the subject of any agreement to collateralize or credit enhance any on-balance-sheet or off-balance-sheet transaction must be treated as encumbered. The following disclosures are based on the period January 1 to December 31, 2016 and are median values for past quarters. Encumbrance structures between entities in the same group are consolidated in DZ BANK's asset encumbrance reporting and are therefore not presented here. As at September 30, 2016, an asset encumbrance ratio was calculated for the DZ BANK banking group (as shown below) that incorporates the former WGZ BANK, WL BANK, and other entities.

Fig. 38 – ASSETS

	Carrying amount of encumbered assets		Fair value of encumbered assets		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
€ million	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
Assets of the reporting institution	**149,878**	121,782			**239,437**	209,772		
Equity instruments	**63**	63	**84**	91	**2,425**	2,520	**3,990**	2,702
Debt securities	**20,207**	17,703	**20,304**	17,878	**47,326**	47,116	**47,153**	46,810
Other assets	**21,252**	20,566			**16,362**	12,513		

Fig. 39 – COLLATERAL RECEIVED

	Fair value of encumbered collateral received or own debt securities issued		Fair value of collateral received or own debt securities issued available for encumbrance	
€ million	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
Collateral received by the reporting institution	**8,978**	8,963	**14,049**	19,267
Equity instruments	**49**	88	**1,540**	1,525
Debt securities	**10,660**	9,581	**12,457**	14,887
Other collateral received	**-**	-	**39**	8
Own debt securities issued other than covered bonds or ABSs	**-**	-	**10,399**	11,577

Fig. 40 – ENCUMBERED ASSETS/COLLATERAL RECEIVED, AND ASSOCIATED LIABILITIES

	Matching liabilities, contingent liabilities or securities lent		Assets, collateral received and own debt securities issued other than encumbered covered bonds or ABSs	
€ million	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
Carrying amount of selected liabilities	**133,044**	114,659	**142,749**	124,655

The DZ BANK banking group's asset encumbrance ratio (median for 2016) was 38.49 percent (December 31, 2015: 36.34 percent). This is the ratio of encumbered on-balance-sheet assets of €149,878 million (December 31, 2015: €121,782 million) plus collateral received and re-used of €8,978 million (December 31, 2015: €8,963 million) to total assets plus collateral received of €445,878 million (December 31, 2015: €359,784 million). The asset encumbrance ratio was up by 2.15 percentage points compared with the figure reported as at December 31, 2015. This rise was primarily due to the former WGZ BANK Group's contribution. The asset encumbrance ratio of WL BANK alone, for example, was 91.53 percent as at December 31, 2016.
The cover pools held by DZ BANK, DVB, WL BANK, and DG HYP for the issuance of covered bonds resulted in the encumbrance of assets amounting to €73,468 million, which was higher than the corresponding figure as at December 31, 2015 of €45,989 million owing to the merger. This increase was

mainly attributable to the first-time recognition of own issued covered bonds and holdings of Pfandbriefe of WL BANK amounting to €36,011 million in total. This figure already takes account of the countervailing effects from intra-group bearer and registered instruments held. The overcollateralization ratio for the DZ BANK banking group's cover pools was 31.63 percent as at December 31, 2016 (December 31, 2015: 36 percent).

After the cover pools, development lending business with cooperative banks and end customers represents the second biggest factor in the DZ BANK banking group's encumbrance ratio, with pass-through loan receivables of €51,136 million assigned to the development bank as at December 31, 2016. The volume of encumbered loans in the development lending business rose sharply year on year (December 31, 2015: €39,760 million) because of the merger.

Derivative transactions, securities sale and repurchase agreements (repos), and securities lending transactions are further major sources of encumbrance for the DZ BANK banking group. Both unsecured derivative transactions with netting arrangements of the International Swaps and Derivatives Association (ISDA, a trade organization of participants in the market for over-the-counter derivatives and German Master Agreement for Financial Futures) and derivative transactions backed by collateral agreements (Credit Support Annex to the ISDA Master Agreement and Collateralization Annex to the German Master Agreement for Financial Futures) are considered to be an encumbrance. Assets that are encumbered because they are pledged to entities in the DZ BANK banking group, particularly those arising from repos and derivative transactions, are not included in the consolidated group encumbrance ratio.

The DZ BANK banking group's own securitizations (asset-backed securities, ABSs) are not relevant to the entities consolidated for regulatory purposes as at December 31, 2016 and do not therefore represent a source of encumbrance within asset encumbrance reporting.

Of the total unencumbered other assets, 99 percent are assets that are not encumbered in the normal course of business. These assets include – in order of volume – property, plant and equipment, long-term equity investments and investments in other entities, intangible assets, deferred tax assets, and unencumbered derivatives.

9. Long-term equity investments in the banking book

9.1. Management of risks attaching to long-term equity investments

(Article 435 (1) CRR)

The objectives and principles and the strategies and methods underlying the management of risks attaching to long-term equity investments held in the banking book are described in section 9. of the combined opportunity and risk report. In section 9.1. of the combined opportunity and risk report, equity investment risk is defined as the risk of losses arising from negative changes in the fair value of the portion of the long-term equity investments portfolio for which the risks are not included in other types of risk.

Equity investment risk arises primarily at DZ BANK, BSH, and DVB.

9.2. Accounting policies applied to long-term equity investments

(Article 447 (1) letter a CRR)

Long-term equity investments and shares in affiliated companies are measured at amortized cost or, if expected to be permanently impaired, at the lower of cost and fair value. If the reasons for a previous write-down no longer exist, the write-down is reversed so that the asset is measured at fair value. However, the reversal must not result in a carrying amount higher than the original cost. The merger of the former WGZ BANK into DZ BANK resulted in changes to the line items on the balance sheet and to the disclosures on long-term equity investments and affiliated companies in respect of the classification of the affected entities.

International Accounting Standard (IAS) 39 applies to shareholdings that are neither fully consolidated nor recognized under the equity method at DZ BANK. These investments are classified as available-for-sale financial instruments and recognized at their fair value in accordance with IAS 39.9. Any fluctuations in fair value arising from the fair value measurement subsequent to initial recognition are taken to other comprehensive income and recognized in the revaluation reserve. If an investment is permanently impaired (impairment) as defined in IAS 39.58 et seq., an impairment loss is recognized in income. Reversals of impairment losses previously recognized in income are taken to other comprehensive income and recognized in the revaluation reserve. The fair value of investments is measured at the end of each month.

The relevant closing share price at the reporting date is used to measure the fair value of publicly traded investments held in the banking book.

The enterprise value of long-term equity investments that are not publicly traded is determined by discounting their future financial surpluses at the measurement date. The figure used to determine the discount rate is the return on a risk-free capital market investment. A risk premium is added to this base interest rate to reflect the greater uncertainty about the level of future financial surpluses associated with an investment in shares of the company being measured compared with an investment in a risk-free interest-bearing security. The beta factor (multiplier that expresses company-specific and industry-specific risk in relation to general market risk) is individually determined using an appropriate benchmarking method.

The enterprise values of companies at which a transaction has recently taken place are validated on the basis of the transaction price. If, rather than pursuing any (direct) financial objectives, the company in question focuses on providing services or promoting the public good (for example in the case of guarantee banks), the net asset value of this company as a going concern should be calculated instead. Alternatively, the value of the pro-rata equity available can be used. Real-estate finance companies are subjected to a property-related measurement.

9.3. Long-term equity investment exposures held in the banking book

(Article 447 sentence 1 letters b to e CRR)

The equity investment risk of exposures disclosed in Fig. 41 distinguishes the carrying amounts under commercial law from the current market value of these exposures. The recognition of unrealized gains and losses on long-term equity investments in the DZ BANK banking group's own funds is shown in Fig. 42.

The regulatory report on investments held in the banking book covers conventional investments as well as securities, derivatives on investment exposures, and investment funds. The DZ BANK banking group recognizes the investment funds held in its banking book using the transparency method and breaks them down into the primary exposure classes of the individual investment fund units. These exposures are therefore included in the Standardized Approach to credit risk and IRBA tables rather than the equity investment risk tables. The equity exposures in the investment funds are classified with a risk weighting of 100 percent under the Standardized Approach to credit risk (see Fig. 22) and fall into the long-term equity investments exposure class under the IRB approach (see Fig. 24).

Fig. 41 shows the long-term equity investments in the banking book that are risk-weighted (and consequently not consolidated, either in full or on a pro-rata basis) or are subject to a capital deduction. These are broken down by groups of equity exposures and various carrying amounts. The classification of investments is based on the financial nature of the equity exposure concerned. The carrying amount is the carrying amount determined in accordance with IFRS. The exposures shown as ‘traded equity investments’ are those that are listed on a stock exchange. The market value is defined as the cash settlement price of the investment at the reporting date.

Fig. 41 – MEASUREMENT OF EQUITY EXPOSURES

€ million	**IFRS carrying amount**		**Fair value**		**Market value**	
Category of equity exposure	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
Investments in credit institutions	**29**	81	**29**	81	**0**	-
of which: exchange traded	0	-	0	-	0	-
not exchange-traded but part of a diversified portfolio	25	18	25	19	-	-
Other	4	63	4	63	-	-
Investments in finance companies	**53**	226	**45**	123	**0**	0
of which: exchange traded	0	0	0	0	0	0
not exchange-traded but part of a diversified portfolio	6	90	6	0	-	-
Other	47	136	39	122	-	-
Investments in insurance companies	**5,304**	3,883	**3,031**	2,876	**-**	-
of which: exchange traded	-	-	-	-	-	-
not exchange-traded but part of a diversified portfolio	5,301	3,715	3,028	2,707	-	-
Other	4	168	4	168	-	-
Investment funds held as investments in banking book	**1,600**	5	**1,600**	5	**-**	-
of which: exchange traded	-	-	-	-	-	-
not exchange-traded but part of a diversified portfolio	-	0	-	0	-	-
Other	1,600	5	1,600	5	-	-
Investments in corporates	**400**	222	**401**	87	**0**	-
of which: exchange traded	0	-	0	-	0	-
not exchange-traded but part of a diversified portfolio	33	156	33	19	-	-
Other	367	66	368	67	-	-
Total	**7,387**	4,417	**5,107**	3,170	**0**	0

Fig. 42 shows the realized and unrealized gains and losses arising from the long-term equity investments held in the banking book in accordance with IFRS. The table only includes equity investments that are risk-weighted and, consequently, are not fully or proportionately consolidated or are subject to a capital deduction. The capital requirement related to equity exposures is included in Fig. 8. Consequently, no separate disclosure is provided.

Fig. 42 – REALIZED AND UNREALIZED GAINS AND LOSSES ON EQUITY EXPOSURES IN ACCORDANCE WITH IFRS

	Realized gains and losses on disposals	**Unrealized gains and losses on equity exposures**	
€ million		Total amount	of which: amounts recognized in Tier 1 capital
Dec. 31, 2016	77	-2,281	-
Dec. 31, 2015	77	-1,247	-

10. Market risk

10.1. Management of market risk

(Article 445 and article 448 sentence 1 letter a CRR)

The principles and objectives and the methods and control of market risk management, including the management of interest-rate risk in the banking book, are disclosed in section 10. of the combined opportunity and risk report.

10.2. Regulatory treatment of market risk

10.2.1. Internal market risk model

(Article 455 sentence 1 letters a (i), (iii), (iv), b, and c CRR)

For regulatory purposes, DZ BANK is classified as a trading book institution. It conducts trading activities as part of its role as a central institution in the cooperative financial network and – on this basis – as a corporate bank for customers outside the cooperative financial network.

In line with the requirements in articles 102 to 104 CRR, DZ BANK has defined clear rules on the delimitation and the running and management of the trading book. The trading book is defined using criteria relating to the trading intent and generate returns, maturities, tradability, the ability to mitigate risk, and the characteristics of the financial instruments. A clear decision-making path for the assignment of an exposure to either the trading book or the banking book is also mandatory.

When a transaction is entered into, its purpose must be documented in a verifiable manner by recognizing it in specific portfolios – trading book or banking book – immediately and clearly assigning it to these portfolios. Compliance with the assignment rules is regularly monitored within a defined process. The assignment to the trading book or banking book can only be changed subsequently in accordance with defined rules as part of a reallocation process.

The handling of risk in the trading book is documented in DZ BANK's trading strategy. The rules for running and managing the trading book, the definition of the trading book, and the trading strategy are reviewed and, if necessary, updated at least once a year.

DZ BANK generally manages market risk on a decentralized, portfolio basis. The traders responsible for managing a portfolio bear responsibility for its risk and performance.

Exposures in the trading book are, where available, measured daily using liquid market prices available in active markets (marked-to-market). These exposures are mainly liquid securities (bonds and equities) and exchange-traded derivatives.
If there are no liquid market prices available, the exposures are measured with customary valuation models using predominantly observable market data (marked-to-model). Calibration of the valuation models to observable market data ensures that measurement reflects the market. The extent of unobservable market parameters that influence value is always kept as small as possible in the measurement. Generally, unobservable market parameters are derived from similar instruments or data that is not observable on a daily basis. As a rule, they are included in the calculation of gains and losses with an adjustment to the instrument's measurement that is appropriate to the degree of imprecision in the measurement. A description of the valuation methods and measurement adjustments can be found in the notes in the financial report, part E (Financial instruments and fair value disclosures) in the 'Fair value measurements within Levels 2 and 3' section.

In accordance with articles 34 and 105 CRR, regulatory write-downs must be calculated for all exposures recognized at fair value and deducted from Common Equity Tier 1 capital. The measurement methods are specified in Delegated Regulation (EU) No. 2016/101 of October 26, 2015 with regard to prudent valuation under article 105 (14) CRR. DZ BANK largely implements the methods described therein and makes the necessary adjustments to regulatory Common Equity Tier 1 capital.

Only DZ BANK (pre-merger) and the former WGZ BANK have internal risk models for market risk that have been approved by the supervisory authority. Since the merger of the two banks, their internal risk models have been running in parallel on a temporary basis. The ECB has given its approval for this arrangement up to June 30, 2018. While the model of the former WGZ BANK continues to be used for the portfolios of the organizational units located in Düsseldorf, the model of DZ BANK (pre-merger) is still being used to quantify risk in the Frankfurt-based portfolios that existed before the merger. Over the course of the 2017 financial year, the two banks' portfolios are to be progressively combined and will then be managed using DZ BANK's internal model only. At the same time, the former WGZ BANK's model will be discontinued.

Because the models are being used simultaneously, the following qualitative and quantitative information is presented separately for the two risk measurement methods.

BaFin has approved the model of DZ BANK (pre-merger) for calculating the regulatory capital requirements for general and specific market risk pursuant to the CRR. By contrast, the former WGZ BANK's model has been approved solely for determining the regulatory capital requirements for general market risk and for the specific price risk of the net equity position. The specific price risk of the net interest-rate exposure is quantified using the standardized approach.

Both these models are used to calculate value-at-risk and stressed value-at-risk (crisis risk amount) on a daily basis with a unilateral confidence level of 99.00 percent over a one-year observation period and a holding period of 10 trading days. In addition, value-at-risk key figures are calculated with a holding period of 1 day for the purpose of backtesting. While the model of DZ BANK (pre-merger) uses a historical simulation to generate market data scenarios, the former WGZ BANK's method is based on a variance-covariance approach.

Description of the crisis scenarios used, pursuant to article 455 sentence 1 letter a (iii) CRR

Risks arising from extreme market situations are primarily recorded using stress tests in both models. The crisis scenarios underlying the stress tests include the simulation of significant fluctuations in risk factors and serve to highlight potential losses not generally recognized in the value-at-risk approach. Stress tests are based on extreme market fluctuations that have actually occurred in the past together with crisis scenarios that – regardless of market data history – are considered to be economically relevant. The crisis scenarios used in this case are constantly reviewed and updated to ensure they are appropriate. In these stress tests, the following are deemed to be material risk factors: interest-rate risk, spread risk, equity risk, currency risk, and commodity risk.
Reverse stress tests are also used to identify scenarios that could pose a potential threat to the institution.

A breakdown by subportfolio within the meaning of article 455 CRR is not carried out at DZ BANK.

10.2.2. Additional default and migration risk

(Article 455 sentence 1 letter a (ii) CRR)

Since December 2011, DZ BANK has been using an internal risk model approved by the supervisory authority to determine the capital requirements related to the additional default and migration risk in the trading book. In this model, sudden market changes arising from rating migrations or default by an issuer are specifically factored into the regulatory risk calculation. Potential losses from migrations and defaults are measured on the basis of a one-sided prediction interval with a confidence level of 99.90 percent and a prediction horizon of one year. A factor-based portfolio model is used. Calculations assume a constant risk position over the prediction horizon.

The former WGZ BANK used a standardized approach to quantify the additional default and migration risk in the trading book. This approach continues to be used for the portfolios assigned to the organizational units in Düsseldorf.

10.2.3. Measurement undertaken independently of the trading function, and model validation

(Article 455 sentence 1 letters a (iv) and g CRR)

Independently of the trading function, exposures are measured daily using current market parameters. To this end, the market data is collected by Risk Controlling itself and the measurement methods and models are developed largely independently of the trading units and validated entirely independently.

The market risk model is subject to continuous operational review as part of standard processes. The review is carried out by market risk control using analyses of the value-at-risk and evaluations of the backtesting and stress test results. In addition, the internal model is audited by internal audit at regular intervals. Refinements to the model are reported monthly to the Board of Managing Directors of DZ BANK.

At least once a year, an enhanced review of the model (appropriateness test) is carried out, including a comprehensive analysis of time series, parameterization, stress test scenarios, processes, and a review of the time period for calculating the stressed value-at-risk. This analysis includes technical elements, such as delivery times and the quality of the value-at-risk figure, and statistical figures, for example backtesting anomalies in the value-at-risk and quantile time series at different portfolio levels.

Market risk model validation consists of five key components: daily risk analysis, daily backtesting, monthly validation, risk self-assessment, and the annual appropriateness test.

Validation governance stipulates that the results of the daily risk analysis and backtesting are used to compile a monthly validation report, with additional analysis and validation as required, and communicated to the Board of Managing Directors.

The results of the monthly validations are aggregated in the quarterly appropriateness test, which also includes an analysis of the processes connected with the preparation of key risk indicators, statistical tests on the predictive quality of the risk model, and portfolio-level analysis of anomalies (if they have not already been noted in the monthly reports). The risk self-assessment is carried out once a year, or whenever required, with the aim of creating a standard, structured list of known failings in the market risk model, setting logical validation priorities, and defining and monitoring improvement measures.

An annual appropriateness test is conducted on the model for determining the additional default and migration risk. In particular, this includes analysis of past stress tests and examination of the appropriateness of the stress tests, statistical analysis of the simulation error, analysis of the influence of technical parameters, analysis of the influence of single borrower concentrations and systematic concentrations, examination of the appropriateness of correlation and distribution assumptions and of migration matrices, examination of the quality of processes and of the appropriateness of the documentation and the compliance with the regulatory requirements.

10.3. Market risk exposures

(Article 445, article 445 sentence 1 letters d and g, and article 448 sentence 1 letter b CRR)

The disclosures on the capital requirement for market risk determined under the standardized method in accordance with article 445 CRR are shown in Fig. 43.

The value-at-risk for portfolios in the trading book, for which the capital requirement is determined using the internal modeling approach in accordance with section 363 et seq. CRR, and the potential stressed value-at-risk are disclosed in Fig. 43 and Fig. 44, broken down into the two internal market risk models for DZ BANK (pre-merger) and the former WGZ BANK.

Unlike DZ BANK's model, the former WGZ BANK's model explicitly shows volatility risk as a separate type of risk. In DZ BANK's model, it is an implicit part of the interest-rate, equity, currency, and commodity risk categories.
Fig. 47 and Fig. 48 show the extent of the additional default and migration risk measured in relation to the total trading book and in relation to the relevant subportfolios as specified in articles 372 to 376 CRR. As was the case in the previous year, this calculation is based on the assumption of a constant exposure over a risk horizon of one year. This disclosure is pursuant to article 455 sentence 1 letter f CRR.

Fig. 43 – VALUE-AT-RISK IN THE TRADING BOOK (INCLUDING FX AND COMMODITY RISK IN THE BANKING BOOK) USING THE INTERNAL MODELING APPROACH UNDER NORMAL CONDITIONS (PORTFOLIOS OF THE PRE-MERGER DZ BANK)[1, 2]

Value-at-risk[1] (€ million)	Interest-rate risk	Spread risk	Equity risk[3]	Currency risk	Commodity risk	Total
Dec. 31, 2016	7	17	6	7	1	16
Dec. 31, 2015	13	17	2	8	1	18
Average	11	17	3	8	1	16
Maximum[2]	21	26	10	12	1	27
Minimum[2]	6	12	1	3	0	9

1 Value-at-risk with 99.00% confidence level, 10-day holding period, 1-year observation period, based on the internal market risk model of DZ BANK.
2 The minimum and maximum amounts for the different subcategories of market risk may stem from different points in time during the reporting period.
3 Including funds, if not broken down into constituent parts.

Fig. 44 – VALUE-AT-RISK IN THE TRADING BOOK (INCLUDING FX AND COMMODITY RISK IN THE BANKING BOOK) USING THE INTERNAL MODELING APPROACH UNDER NORMAL CONDITIONS (PORTFOLIOS OF THE FORMER WGZ BANK)[1, 2]

Value-at-risk[1] € million	Interest-rate risk including general spread risk[3]	Volatility risk	Equity risk	Currency risk	Commodity risk	Total
Dec. 31, 2016	1	0	0	0	0	1
Dec. 31, 2015	4	0	0	1	0	5
Average	2	0	0	1	0	2
Maximum[2]	4	1	3	3	0	5
Minimum[2]	0	0	0	0	0	1

1 Value-at-risk with 99.00% confidence level, 10-day holding period, 1-year observation period, based on the internal market risk model of the former WGZ BANK.
2 The minimum and maximum amounts for the different subcategories of market risk may stem from different points in time during the reporting period.
3 Specific price risk of the net interest-rate exposure is quantified using the standardized approach.

Fig. 45 – VALUE-AT-RISK IN THE TRADING BOOK (INCLUDING FX AND COMMODITY RISK IN THE BANKING BOOK) USING THE INTERNAL MODELING APPROACH UNDER STRESS CONDITIONS (PORTFOLIOS OF THE PRE-MERGER DZ BANK)[1,2]

Value-at-risk[1] (€ million)	Interest-rate risk	Spread risk	Equity risk[3]	Currency risk	Commodity risk	Total
Dec. 31, 2016	22	59	14	21	2	50
Dec. 31, 2015	74	60	9	18	2	108
Average	51	54	10	18	2	77
Maximum[2]	95	71	26	28	4	130
Minimum[2]	14	36	3	6	1	30

1 Value-at-risk with 99.00% confidence level, 10-day holding period, 1-year observation period, based on the internal market risk model of DZ BANK.
2 The minimum and maximum amounts for the different subcategories of market risk may stem from different points in time during the reporting period.
3 Including funds, if not broken down into constituent parts.

Fig. 46 – VALUE-AT-RISK IN THE TRADING BOOK (INCLUDING FX AND COMMODITY RISK IN THE BANKING BOOK) USING THE INTERNAL MODELING APPROACH UNDER STRESS CONDITIONS (PORTFOLIOS OF THE FORMER WGZ BANK)[1,2]

Value-at-risk[1] (€ million)	Interest-rate risk	Spread risk	Equity risk[3]	Currency risk	Commodity risk	Total
Dec. 31, 2016	4	0	0	1	0	4
Dec. 31, 2015	2	1	0	1	0	3
Average	3	0	0	1	0	3
Maximum[2]	6	1	4	4	0	7
Minimum[2]	0	0	0	0	0	1

1 Value-at-risk with 99.00% confidence level, 10-day holding period, 1-year observation period, based on the internal market risk model of the former WGZ BANK.
2 The minimum and maximum amounts for the different subcategories of market risk may stem from different points in time during the reporting period.
3 Specific price risk of the net interest-rate exposure is quantified using the standardized approach.

Fig. 47 – ADDITIONAL DEFAULT AND MIGRATION RISK IN THE TRADING BOOK UNDER THE INTERNAL MODELING APPROACH (PORTFOLIOS OF THE PRE-MERGER DZ BANK)

Trading book portfolios under the internal modeling approach	Additional default and migration risk at the end of the reporting period		Additional default and migration risk during the reporting period						Average weighted turnover period in months	
			High		Low		Average			
€ million	Dec. 31, 2016	Dec. 31, 2015	2016	2015	2016	2015	2016	2015	Dec. 31, 2016	Dec. 31, 2015
Capital markets trading	80	118							12	12
Other	6	7							12	12
Total	**86**	**125**	**128**	**179**	**76**	**110**	**96**	**132**	**12**	**12**

Fig. 48 – ADDITIONAL DEFAULT AND MIGRATION RISK IN THE TRADING BOOK UNDER THE INTERNAL MODELING APPROACH (PORTFOLIOS OF THE FORMER WGZ BANK)

Trading book portfolios under the internal modeling approach	Additional default and migration risk at the end of the reporting period		Additional default and migration risk during the reporting period						Average weighted turnover period in months	
			High		Low		Average			
€ million	Dec. 31, 2016	Dec. 31, 2015	2016	2015	2016	2015	2016	2015	Dec. 31, 2016	Dec. 31, 2015
Total	**170**	**1,047**	**1,272**	**1,549**	**170**	**1,047**	**593**	**1,402**	**Standardized Approach**	**Standardized Approach**

The disclosures on backtesting pursuant to article 455 sentence 1 letter g CRR are shown in Fig. 49. The information provided also covers portfolios in the trading book for which the capital requirement is determined using the internal modeling approach in accordance with article 363 CRR.

The value-at-risk under normal and stress conditions reveals a sharp fall in interest-rate risk from €13 million to €7 million and €74 million to €22 million respectively. The main reason for this is the refinement of the methodology for determining changes in the present value of plain-vanilla transactions in the risk calculation. This resulted from a material modification to the model, which had been submitted to the responsible supervisory authorities for approval in October 2015 and was approved at the end of August 2016. The change in the total value-at-risk was also largely the result of this refinement. Due to the method, the change is much more pronounced under stress conditions than under normal conditions.

The disclosures on value-at-risk and hypothetical changes in fair value in the combined opportunity and risk report (see fig. 46 in section 10.6.2. of that report), which are comparable with the disclosures in Fig. 49 and Fig. 50, relate to DZ BANK's trading portfolios and therefore reflect the way in which the portfolios are delineated for internal management purposes. Differences in the scope of application have resulted in discrepancies between the values disclosed in the two risk reports.

Fig. 49 – VALUE-AT-RISK FROM MARKET RISK IN THE TRADING BOOK AND FROM CURRENCY RISK AND COMMODITY RISK IN THE BANKING BOOK UNDER THE INTERNAL MODELING APPROACH AND HYPOTHETICAL CHANGES IN FAIR VALUE AT DZ BANK (PRE-MERGER)

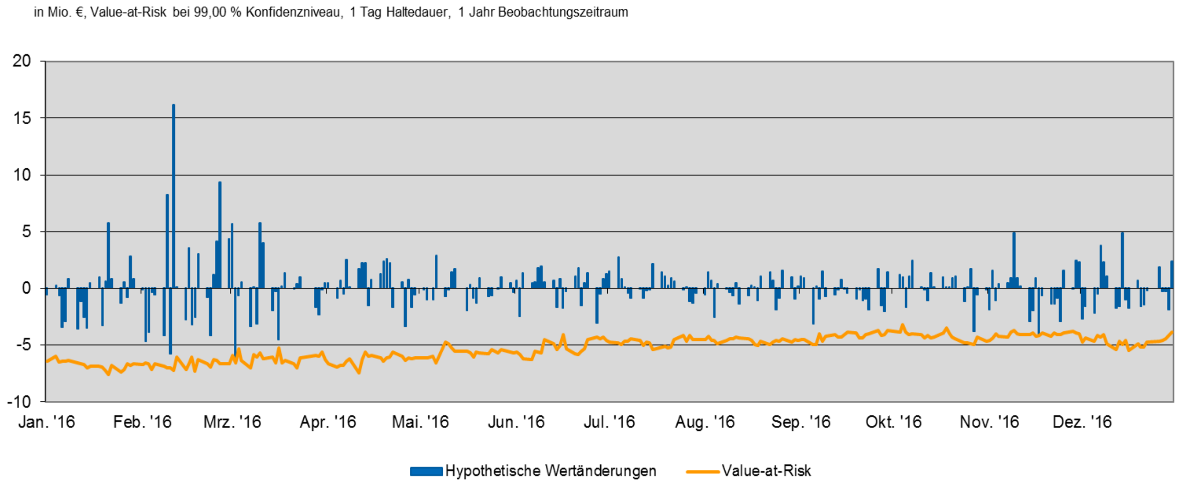
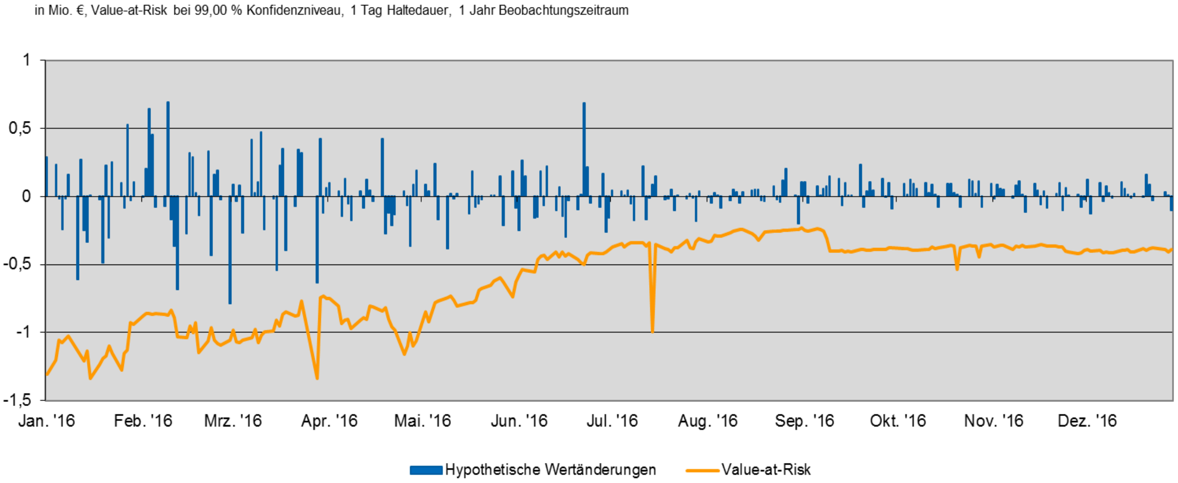


Fig. 50 – VALUE-AT-RISK FROM MARKET RISK IN THE TRADING BOOK AND FROM CURRENCY RISK AND COMMODITY RISK IN THE BANKING BOOK UNDER THE INTERNAL MODELING APPROACH AND HYPOTHETICAL CHANGES IN FAIR VALUE AT THE FORMER WGZ BANK



10.4. Interest-rate risk in the banking book

When calculating interest-rate risk, the DZ BANK banking group distinguishes between trading portfolios and non-trading portfolios. Specific information on the calculation of interest-rate exposure in the trading book and banking book in conjunction with article 448 sentence 1 letter a CRR, including the type of interest-rate risk, key assumptions made, and frequency of risk measurement, is disclosed in section 10.4.6. of the combined opportunity and risk report.

Article 448 sentence 1 letter b CRR requires disclosure of the interest-rate exposure in the banking book. DZ BANK calculates this exposure as a value-at-risk figure at banking group level as part of its internal management of market risk.

The DZ BANK banking group's interest-rate risk in the banking book and trading book as determined using the method specified by senior management is disclosed in the combined opportunity and risk report (see section 10.6.2.).

From a regulatory perspective, the impact of interest rate shocks on the economic value of the banking book is simulated on a monthly basis. The supervisory authority has set the changes in interest rates to be used at plus 200 basis points (rising interest rates) and minus 200 basis points (falling interest rates), both a parallel shift of the interest-rate curve. At the end of 2016, a potential loss of €247 million was calculated for the plus 200 basis points scenario (potential loss of €463 million at the end of 2015) and a potential loss of €250 million was calculated for the minus 200 basis points scenario (potential loss of €180 million at the end of 2015). These figures include the DZ BANK banking group's exposures. Fig. 51 below shows the changes in present values broken down by main currency.

Some of the entities in the DZ BANK banking group use behavior-based models to measure interest-rate risk. They help to accurately reflect the optionalities in traditional lending business and in home savings deposits business. Examples of these include options for drawing down loans or credit lines, termination options, and special repayment options and other options. Behavior-based models are mainly used in the DZ BANK, BSH, and TeamBank management units.

Fig. 51 – INTEREST-RATE RISK IN THE BANKING BOOK

Interest-rate shock on trade date				
Gain and loss (€ million)	Fall in interest rates (- 200bp)		Rise in interest rates (+ 200bp)	
Currency	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
EUR	**-255**	-171	**-270**	-501
USD	**32**	-10	**-16**	24
GBP	**-35**	-8	**54**	26
CHF	**2**	9	**-10**	-14
Other	**6**	0	**-5**	3
Total	**-250**	**-180**	**-247**	**-463**

11. Operational risk

(Article 435 (1) and article 446 CRR)

DZ BANK defines operational risk as the risk of loss from human behavior, technological failure, weaknesses in process or project management, or external events. This closely resembles the banking regulatory definition. Legal risk is included in this definition.

For the purposes of determining the potential loss arising from operational risk regulatory capital requirements for operational risk, was primarily estimated at DZ BANK using the Standardized Approach in accordance with article 317 CRR.

Due to its definition, the 'gross income' indicator used in this approach enables only very limited risk-sensitive management of operational risk. By contrast, the operational risk instruments 'internal and external loss data' and 'scenario-based risk self-assessments' used in the economic capital model show components of historical and future components of operational risk and, in conjunction with a risk-sensitive capital allocation, enable the economic measurement and management of operational risk.

The principles and objectives and the strategies and control of operational risk management are presented in section 14. of the combined opportunity and risk report in accordance with article 435 (1) CRR.

12. Securitizations

12.1. Objectives and scope of securitization

(Article 449 sentence 1 letters a, d, e, and i CRR)

The securitization activities of the DZ BANK Group comprise asset-backed commercial paper (ABCP) programs and residual balances of investor-related exposures dating back to the period prior to the financial crisis. As a main rule, new investments in ABSs do not take place. The only exceptions are selected ABS funding transactions for customers and ABS trading in which selected exposures are passed on within a short period of time.

As a sponsor, DZ BANK uses special-purpose entities, which are funded by issuing money market-linked ABCP. The ABCP programs are made available for DZ BANK customers who then securitize their own assets via these companies. In these programs, the customers sell their assets to a separate special-purpose entity, the consideration normally including a purchase price reduction. The purchase of the assets is funded by issuing money market-linked ABCP and using liquidity lines of DZ BANK. The redemption of the ABCP is covered by the asset pool in the program. The contractual structure of the transactions ensures that the assets do not form part of the asset seller's insolvency proceedings if the asset seller should become insolvent.

The CORAL ABCP program has been set up to provide securitization of assets from mainly European entities. This program is funded by liquidity lines and by the issuance of ABCP.

DZ BANK is also the sponsor of the AUTOBAHN ABCP program, which offers securitization for assets from North American customers and is funded by ABCP issues and liquidity lines.

DZ BANK's investor-related exposures are assigned to the banking book, and to a lesser extent to the trading book, and are actively managed with the aim of scaling back the portfolio and reducing risk. The action taken to achieve this aim includes the disposal of selected exposures to optimize equity.

Fig. 52 provides an overview of DZ BANK's securitization activities as sponsor in accordance with article 449 sentence 1 letter i CRR. DZ BANK banking group has discontinued acting as originator at the moment does not plan to do so in the future.

Fig. 52 – SECURITIZATION EXPOSURES AS ORIGINATOR AND SPONSOR

Entity/ transaction	Type of transaction	Role	Type of assets	Volume		Retained exposures	
€ million				Dec. 31, 2016	Dec. 31, 2015	On balance sheet	Off balance sheet
DZ BANK							
CORAL	ABCP conduit	Sponsor	Loans and advances to predominantly European corporates and retail customers	1,480	1,269	-	1,480
AUTOBAHN	ABCP conduit	Sponsor	Loans and advances to North American customers	2,482	2,093	-	2,482

[1] RMBSs = residential mortgage-backed securities.

In accordance with article 449 sentence 1 letter i CRR, DZ BANK does not manage or advise any other entities that are invested in securitization exposures originated by DZ BANK banking group or by special-purpose entities sponsored by DZ BANK.

12.2. Risk management in respect of securitizations

(Article 449 sentence 1 letters b, c, f, and g CRR)

Exposures to ABSs, which constitute investor-related exposures within the meaning of the CRR, are managed by the relevant group entities and are subject to the groupwide risk management standards. One of the requirements in these standards is that securitization exposures are analyzed individually and have separate limits.

The structure of transactions is analyzed and the external credit ratings awarded by the rating agencies are validated as part of a defined process. Furthermore, all major ABS asset classes at DZ BANK are subjected to an annual portfolio analysis process that assesses the macroeconomic and asset-class-specific risks involved.

At sectoral level, portfolio risk exposures are included each quarter in the credit risk report submitted to the credit risk management function and to DZ BANK's Board of Managing Directors. This reporting process covers the aggregate risk exposure and provides the basis for managing the risks incurred from structured products.

Securitization exposures are monitored independently of whether they are assigned to the banking book or the trading book. Besides continuous monitoring of external credit ratings, exposures are classified on a quarterly basis using stress tests specific to each asset class. A particular feature of the tests is that factors such as payment delays, defaults, and degree of loss are balanced against the existing credit enhancements in each transaction. If an exposure does not pass a stress test, the expected loss is determined using a model particular to the asset class concerned.

The credit risk arising in connection with the transactions in the ABCP programs is monitored using performance reports prepared at least monthly by the asset seller. The purchased assets are generally subject to regular due diligence in the form of random sample tests.

Re-securitization exposures are monitored in much the same way as other asset classes. Expected losses on these exposures are modeled using portfolio models from rating agencies that particularly factor in the range of ratings in the securitized portfolio and the assumptions made by the agencies with regard to the extent of losses and industry correlations.

The economic stress tests encompass both the credit risk and the spread risk arising from the Bank sector's entire securitization exposure.

12.2.1. Managing credit risk arising from securitizations

Credit risk in connection with securitizations in the banking book arises primarily from investments in securitization positions and the provision of liquidity facilities for ABCP.

The liquidity facilities provided as part of the ABCP programs are managed in the banking book. The resulting risk largely depends on the quality of the underlying asset pool.

In the context of the portfolio as a whole, the re-securitization exposures and related risks are of minor significance. Re-securitizations are structures in which the securitized exposure comprises one or more securitization exposures.

12.2.2. Managing market risk arising from securitizations

For the purposes of internal management, market risk associated with securitizations (for example, interest-rate risk, spread risk, or currency risk) is included in DZ BANK and DG HYP's internal market risk models, regardless of whether the securitizations are assigned to the banking book or the trading book. The regulatory capital requirement for general equity risk is also calculated for securitizations in DZ BANK's trading book using the internal model.

At DZ BANK, the risk exposure arising from securitizations in the banking book and the trading book forms an integral part of the daily market risk report and is reflected in the values used for the weekly stress scenario calculations for market risk.

In the case of securitizations, extreme scenarios are also simulated for the weighted average lifetime and recovery assumptions. DG HYP holds all securitizations in its banking book. They are included in the daily measurement of market risk and in the internal reporting framework.

12.2.3. Managing other risk arising from securitizations

In addition to credit risk and market risk, the securitization activities of the DZ BANK banking group also give rise to liquidity risk and operational risk. These risks form an integral part of the group's standard risk management system. Disclosures related to these risks have been included in the relevant sections of the combined opportunity and risk report, as follows:

– Liquidity risk management: section 6. in the combined opportunity and risk report
– Operational risk management: section 14. in the combined opportunity and risk report.

12.2.4. Risk mitigation

In a small number of individual cases, DZ BANK uses credit derivatives to mitigate the risk from individual exposures. The counterparties for these derivatives are investment-grade financial institutions. In ABCP programs managed exclusively in the banking book, the risk arising from some of the purchased asset portfolios is covered by credit insurance in addition to the discount on the purchase price already referred to above.

12.3. Accounting policies applied to securitizations

12.3.1. Recognition methods

(Article 449 sentence 1 letter j (i), (ii), (iv), and (vi) CRR)

The accounting treatment of securitizations does not distinguish between the regulatory categories of banking book and trading book. As required by IAS 39, the DZ BANK banking group's investor-related exposures to securitizations are either classified as financial instruments held-for-trading and thus measured at fair value through profit and loss, classified as available-for-sale financial assets and thus measured at fair value via the revaluation reserve, or classified as loans and receivables at amortized cost.

Drawn liquidity facilities are measured at amortized cost as loans and advances to customers. Undrawn liquidity facilities and loan guarantees are not recognized on the balance sheet; if they give rise to any imminent risks, provisions are recognized in the amount of the estimated loss in accordance with IAS 37 if they are likely to be utilized and their amount can be reliably estimated. Instruments such as swaps that are used to hedge interest-rate or currency risks are classified as derivatives in accordance with IAS 39 in the category 'Financial instruments held-for-trading' and measured at fair value.

The special-purpose entities involved in the ABCP programs are unconsolidated structured entities. According to IFRS 10, an investor controls an entity and must consolidate the entity if the investor directs relevant activities, is exposed to variable returns from its involvement, and has the ability to affect those returns through its power over the investee. As at December 31, 2016, the DZ BANK banking group did not exercise control as defined in IFRS 10 over the special-purpose entities involved in the ABCP programs.

Legal asset sales – which are known as true-sale securitizations – are derecognized from the balance sheet to the extent that the risks and rewards arising from the asset portfolio have been transferred to the buyer. There are currently no true-sale securitizations that have been originated by an entity in the DZ BANK banking group. Consequently, no gains on sale are recognized.

There are no liabilities arising from obligations to support securitized assets.

12.3.2. Measurement methods

(Article 449 sentence 1 letter j (ii) and (v) CRR)

Over the course of the financial year 2016, the positive trend in the securitizations market that had started in 2012 continued. In addition to a stable demand for securitizations in the secondary market, along with a significant narrowing of spreads, the primary market also held steady. The two markets continue to be supported and strengthened by the ECB's ABS purchase program (ABSPP).

Securitizations are measured on the basis of externally available market data. The validity of the measurement method used can be verified by regular comparison with the external market prices offered by other market participants. This ensures that an appropriate measurement method based on level 2 input data in the fair value hierarchy is used to determine the fair value of securitizations. Cash CDOs are measured using a copula model based on the underlying assets, which largely comprise corporate loans.

There are currently no exposures at DZ BANK for which securitization is planned. The valuation methods used for this purpose are therefore not presented in this report.

12.4. Regulatory treatment of securitizations

12.4.1. Procedure for determining risk-weighted exposures

(Article 449 sentence 1 letter h CRR)

When acting as sponsor, the DZ BANK banking group uses the IAA specified in article 259 CRR, which has been both tested and approved by BaFin for calculating the risk-weighted exposure of securitizations in ABCP programs for which there is no external credit rating. To a lesser extent, the Standardized Approach to credit risk as specified in articles 251 to 258 CRR and the IRB approach specified in article 261 CRR are also used to determine the capital requirement for exposures forming part of the group's activities as a sponsor.

Most of the investor-related exposures in the banking book are subject to the Standardized Approach to credit risk in accordance with articles 251 to 258 CRR, in particular the look-through approach as specified in article 253 CRR within the context of the Standardized Approach to credit risk. To a lesser extent, the IRB approach in accordance with article 261 CRR, the Supervisory Formula Method in accordance with article 262 CRR, or the IAA in accordance with article 259 CRR are also used.

The capital requirements for investor-related exposures assigned to the trading book are determined using the internal model that has been approved by BaFin for calculating capital requirements. These exposures are part of the capital requirements for market risk and are therefore not disclosed as credit risk exposures as defined in the CRR.

Since December 31, 2011, it has been a requirement to use the regulatory Standardized Market Risk Approach to assess the specific risk of investor-related securitization positions held in the trading book. The Standardized Approach is based on the securitization risk weightings in the banking book. These exposures are rated for regulatory purposes using the Standardized Approach to credit risk, the IRB approach, the Supervisory Formula Method, or the IAA with the corresponding rating categories and risk weightings. Securitization exposures with an external rating below the defined second-best rating are not risk weighted but deducted from own funds. The minimum thresholds are BB- for Standard & Poor's, Ba3 for Moody's, and BB- for Fitch. Under the regulatory Standardized Approach, the total of long and short positions is backed by own funds.

A modified Standardized Approach is available for the correlation trading portfolio in addition to the Standardized Approach. For regulatory purposes, only securitizations and nth-to-default credit derivatives must be allocated to the correlation trading portfolio. Under the modified Standardized Approach, the capital requirement for the correlation trading portfolio is always calculated on the basis of the higher of the eligible amounts for long positions or short positions.

12.4.2. External ratings

(Article 449 sentence 1 letter k CRR)

During its securitization activities, the DZ BANK banking group uses the classifications prescribed by the rating agencies Standard & Poor's, Moody's, and Fitch for rating the following regulatory asset classes:

- Receivables from real estate loans
- Lease receivables originated or purchased (retail and commercial)
- Other receivables from retail loans
- Receivables from loans on wholly or partially commercial real estate
- Other receivables from corporate loans.

External credit ratings awarded by these recognized rating agencies are transferred to the securitization exposure of the DZ BANK banking group in accordance with the requirements of article 251 et seq. CRR (under the Standardized Approach to credit risk) and article 259 CRR (under the IRB approach). Competing external ratings are included in the calculation of risk-weighted exposures in accordance with articles 138 and 139 CRR. Figure 23 in section 8.4.1. of the combined opportunity and risk report shows a reconciliation of external and internal ratings and Fig. 53 below shows a reconciliation of external and internal ratings for ABSs.

Fig. 53 – RECONCILIATION OF EXTERNAL AND INTERNAL ABS RATINGS

	Assetklasse				
Externes Rating	ABS	US RMBS	Rest RMBS	CMBS & CLOs	CDOs ohne CLOs
AAA	1A	3B	1C	1C	3B
AA+	1A	3C	1E	1E	3B
AA	1B	3C	2B	2A	3C
AA-	1C	3D	2B	2A	3C
A+	1E	3D	2B	2A	3D
A	2A	3E	2C	2B	3D
A-	2C	3E	2C	2C	3E
BBB+	2D	4A	2C	2D	3E
BBB	2E	4A	2D	2E	4A
BBB-	3A	4B	3A	3A	4A
BB+	3B	4B	3B	3B	4B
BB	3C	4C	3D	3C	4B
BB-	3E	4C	4A	3D	4C
B+	4A	4D	4B	3E	4C
B	4B	4E	4C	4A	4C
B-	4C	4E	4D	4C	4D
CCC+ und kleiner	4E	4E	4E	4E	4E

12.4.3. Internal ratings

(Article 449 sentence 1 letter l CRR)

The IAA in accordance with article 259 CRR, which has been tested and approved by the supervisory authority, is used to determine ratings for liquidity facilities provided for ABCP programs if such facilities have not been rated by external agencies. This relates solely to the banking book because the entities in the DZ BANK banking group do not have any such exposures in the trading book.

When used to assess risk in accordance with regulatory requirements, the IAA closely follows the models used by external rating agencies. Depending on the assets securitized in an ABCP transaction, one of a number of submodels within the IAA may be used to ensure that the measurement is appropriate to the risk. Lease receivables, trade receivables, and other items are securitized. In compliance with article 259 CRR, the stress factors used to measure the relevant cushions against potential loss and the resulting rating categories are at least as conservative as those used by external rating agencies. The stress factors used for determining internal ratings are used in a similar way by the rating agencies in their procedures. In addition, the IAA is used for portfolios of individually assessed loans and advances. Likewise, the resulting credit ratings in this case are no less conservative than would be expected from the use of credit portfolio models by external rating agencies. Besides being used for determining capital requirements, the IAA is also used for the purposes of internal risk management and pricing in the lending business.

The IAA is comprehensively validated each year. The employees responsible for this task receive extensive training and are familiar with current developments relating to the area of securitization. Suitable organizational structures are in place to ensure that front office, back office, and model validation are segregated. Credit processes and rating models are also subject to regular review by both internal and external auditors.

12.5. Securitization exposure and capital requirements

12.5.1. Total amount of asset securitizations

(Article 449 sentence 1 letters n (i) and q CRR)

There are no longer any activities with the DZ BANK banking group as originator. The transactions at DG HYP have been scaled back completely. There were no true-sale securitizations in the banking book, neither were there any securitizations of assets associated with market risk exposures in the trading book. Fig. 54 therefore only shows the total amount of sponsorship activities. The securitizations shown here were all synthetic securitizations in the banking book that were not reported on the balance sheet. There were no sponsor exposures for on-balance-sheet assets.

Fig. 54 – TOTAL AMOUNT OF SECURITIZATIONS WITH DZ BANK BANKING GROUP AS ORIGINATOR AND SPONSOR

€ million	Securitizations in banking book			
	Originator		Sponsor	
Exposure class	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Exposure reported on the balance sheet				
Receivables from home loans	-	4	-	-
Receivables from other retail loans	-	-	-	-
Receivables from loans on wholly or partially commercial real estate	-	-	-	-
Receivables from corporate loans	-	-	-	-
Lease receivables originated or purchased	-	-	-	-
Receivables from vehicle finance (excluding leases)	-	-	-	-
Receivables from CDOs and ABSs	-	-	-	-
Re-securitizations	-	-	-	-
Other exposure reported on the balance sheet	-	-	-	-
Total	-	4	-	-
Exposure not reported on the balance sheet				
Liquidity facilities			3,913	3,286
Derivatives (e.g. for hedging purposes)			49	85
Exposure specific to synthetic transactions			-	-
Other exposure not reported on the balance sheet			-	-
Total exposure not reported on the balance sheet	-	-	**3,962**	3,371
Sum total	-	**4**	**3,962**	3,371

12.5.2. Impaired securitizations, securitizations in arrears, and losses realized during the reporting period

(Article 449 sentence 1 letter p CRR)

Referring to the receivables and assets in the banking book presented in Fig. 54, Fig. 55 shows the portions of the group's own asset securitizations that are past due or at risk of default broken down by type of securitization. In addition, Fig. 55 shows the losses realized as a result of these exposures during the year under review. The definition of 'loss' corresponds to the definition used for Fig. 30 (actual losses in the total credit portfolio under the IRB approach).

Fig. 55 – IMPAIRED SECURITIZATIONS, OWN SECURITIZATIONS IN ARREARS, AND LOSSES REALIZED DURING THE REPORTING PERIOD

€ million	Past due or non-performing assets		Losses during the reporting period				
Exposure class	Dec. 31, 2016	Dec. 31, 2015	2016	**2015**	2014	2013	2012
Receivables from home loans	-	-		-	8	-	2
Receivables from other retail loans	-	-		-	4	-	-
Receivables from loans on wholly or partially commercial real estate	-	-		-	-	-	2
Receivables from corporate loans	-	-		-	-	-	-
Lease receivables originated or purchased	-	-		-	-	-	-
Receivables from vehicle finance (excluding leases)	-	-		-	-	-	-
Receivables from CDOs and ABSs	-	-		-	-	-	-
Re-securitizations	-	-		-	-	-	-
Other exposure reported on the balance sheet	-	-		-	-	-	-
Total	-	-		-	12	-	4

12.5.3. Securitizations during the reporting period

(Article 449 sentence 1 letter n (vi) CRR)

No assets were effectively securitized with the DZ BANK banking group as originator during the financial year 2016. There are still no securitization structures with an early amortization feature.

In the reporting period, the DZ BANK banking group did not provide any implicit support within the meaning of article 248 CRR.

12.5.4. Retained, purchased or off-balance-sheet securitization exposures

(Article 449 sentence 1 letter n (ii) CRR)

Fig. 56 shows the securitization exposures retained, purchased, or held off balance sheet by the entities in the DZ BANK banking group in their capacity as originator, sponsor or investor, broken down by the type of securitization. Securitization exposure is recognized at its risk-weighted carrying amount. The underlying receivables are classified according to the categories used for internal management purposes.

Fig. 56 – RETAINED, PURCHASED OR OFF-BALANCE-SHEET SECURITIZATION EXPOSURES

	Banking book				Trading book		Total	
€ million	Standardized Approach to credit risk		IRB approach					
Securitization exposure								
Exposure reported on the balance sheet	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
Receivables from home loans	1,866	2,405	-	-	185	130	2,051	2,535
Receivables from other retail loans	4	27	-	-	45	10	49	37
Receivables from loans on wholly or partially commercial real estate	13	39	178	290	-	-	191	329
Receivables from corporate loans	19	34	-	-	42	40	61	74
Lease receivables originated or purchased	108	173	-	-	18	24	125	197
Receivables from vehicle finance (excluding leases)	117	136	-	-	207	102	324	238
Receivables from CDOs and ABSs	-	-	-	-	-	-	-	-
Re-securitizations	2	66	24	24	33	-	59	90
Other exposure reported on the balance sheet	-	-	-	-	-	-	-	-
Receivables from special-purpose entities and other credit enhancements reported on the balance sheet	40	86	1,214	941	-	-	1,254	1,027
Total exposure reported on the balance sheet	2,169	2,926	1,416	1,255	530	294	4,115	4,475
Exposure not reported on the balance sheet								
Liquidity facilities	456	397	2,421	1,889	-	-	2,877	2,286
Derivatives (e.g. for hedging purposes)	114	125	-	-	-	-	114	125
Exposure specific to synthetic transactions	-	-	-	-	-	-	-	.
Re-securitizations	-	-	152	303	-	-	152	303
Other exposure not reported on the balance sheet	3	12	92	-	3	-	98	12
Total exposure not reported on the balance sheet	574	534	2,665	2,192	3	13	3,242	2,739
Sum total	2,743	3,500	4,080	3,447	533	306	7,356	7,253

12.5.5. Exposures and capital requirements for retained or purchased securitizations broken down by the approach used to calculate the capital requirement

(Article 449 sentence 1 letter o (i) CRR)

Fig. 57 shows the securitization exposures and the respective capital requirements for the banking book and the trading book. This includes a breakdown by the approach used to calculate the capital requirement and by the risk-weighting band for regulatory purposes.

Fig. 57 – EXPOSURES AND CAPITAL REQUIREMENTS FOR RETAINED OR PURCHASED SECURITIZATIONS

	Banking book											
€ million	**Securitizations**				**Re-securitizations**				**Total**			
Regulatory approach	Exposures		Capital requirement		Exposures		Capital requirement		Exposures		Capital requirement	
Risk-weighting band	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Standardized Approach	2,317	3,043	291	342	2	66	0	2	2,320	3,109	291	344
20%	1,085	1,467	17	23	-	-	-	-	1,085	1,467	17	23
40%	-	-	-	-	-	61	-	2	-	61	-	2
50%	627	804	25	32	-	-	-	-	627	804	25	32
100%	280	412	22	33	2	5	0	-	283	417	23	33
225%	-	-	-	-	-	-	-	-	-	-	-	-
350%	137	148	38	42	-	-	-	-	137	148	38	42
650%	-	-	-	-	-	-	-	-	-	-	-	-
1,250%	188	212	188	212	-	-	-	-	188	212	188	212
Standardized Approach, look-through	108	165	7	10	-	-	-	-	108	165	7	10
Rating-based approach	314	316	136	66	24	24	23	21	338	340	159	87
≤ 10%	4	42	0	-	-	-	-	-	4	42	0	-
> 10% ≤ 20%	-	-	-	-	-	-	-	-	-	-	-	-
> 20% ≤ 50%	108	118	3	3	-	-	-	-	108	118	3	3
> 50% ≤ 100%	41	61	3	5	-	-	-	-	41	61	3	5
> 100% ≤ 250%	-	-	-	-	-	-	-	-	-	-	-	-
> 250% ≤ 650%	-	8	-	3	-	-	-	-	-	8	-	3
> 650% ≤ 1,250%	161	87	129	55	24	24	23	21	185	111	152	76
Supervisory Formula Method	194	45	8	5	-	-	-	-	194	45	8	5
Internal Assessment Approach	3,668	2,985	76	66	194	303	10	8	3,862	3288	86	74
Capital deduction	-	-		-	-	-		-	-	-		-
Total	**6,603**	**6,554**	**518**	**489**	**220**	**393**	**33**	**31**	**6,823**	**6,947**	**550**	**520**

	Trading book															
€ million	Securitizations				Re-securitizations				Total				Sum total			
Regulatory approach	Exposures		Capital requirement		Exposures		Capital requirement		Exposures		Capital requirement		Exposures		Capital requirement	
Risk-weighting band	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015	Dec. 31, 2016	Dec. 31, 2015
Standardized Approach	501	307	9	6	33	-	1	-	533	307	10	6	2,853	3,416	301	350
20%	483	286	8	5	-	-	-	-	483	286	8	5	1,568	1,753	25	28
40%	-	-	-	-	33	-	1	-	33	-	1	-	33	61	1	2
50%	11	18	0	1	-	-	-	-	11	18	0	1	639	822	26	33
100%	6	3	0	-	-	-	-	-	6	3	0	-	289	420	23	33
225%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
350%	-	-	-	-	-	-	-	-	-	-	-	-	137	148	38	42
650%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,250%	-	-	-	-	-	-	-	-	-	-	-	-	188	212	188	212
Standardized Approach, look-through	-	-	-	-	-	-	-	-	-	-	-	-	108	165	7	10
Rating-based approach	-	-	-	-	-	-	-	-	-	-	-	-	338	340	159	87
≤ 10%	-	-	-	-	-	-	-	-	-	-	-	-	4	42	0	-
> 10% ≤ 20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
> 20% ≤ 50%	-	-	-	-	-	-	-	-	-	-	-	-	108	118	3	3
> 50% ≤ 100%	-	-	-	-	-	-	-	-	-	-	-	-	41	61	3	5
> 100% ≤ 250%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
> 250% ≤ 650%	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	3
> 650% ≤ 1,250%	-	-	-	-	-	-	-	-	-	-	-	-	185	111	152	76
Supervisory Formula Method	-	-	-	-	-	-	-	-	-	-	-	-	194	45	8	5
Internal Assessment Approach	-	-	-	-	-	-	-	-	-	-	-	-	3,862	3,288	86	74
Capital deduction	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**501**	**307**	**9**	**6**	**33**	**-**	**1**	**-**	**533**	**307**	**10**	**6**	**7,356**	**7,254**	**560**	**526**

12.5.6. Securitization exposures and deductions from own funds

(Article 449 sentence 1 letter n (v) CRR)

Fig. 58 shows the securitization exposures to be deducted from own funds in accordance with article 36 (1) letter k (ii) CRR or to be attributed a securitization risk weighting of 1,250 percent in determining regulatory own funds. The figures shown are the exposure values. Market risk exposures in the trading book are shown in the table as net interest-rate exposures.

Fig. 58 – DEDUCTIONS FROM OWN FUNDS AND SECURITIZATION EXPOSURES WITH A RISK WEIGHTING OF 1,250 PERCENT BY ASSET CLASS

€ million	Banking book		Trading book		Total	
Asset class						
Exposure reported on the balance sheet	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
Receivables from home loans	188	212	-	-	188	212
Receivables from loans on wholly or partially commercial real estate	54	61	-	-	54	-
Receivables from corporate loans	-	-	-	-	-	-
Lease receivables originated or purchased	-	-	-	-	-	-
Receivables from vehicle finance (excluding leases)	-	-	-	-	-	-
Receivables from CDOs and ABSs	-	-	-	-	-	-
Re-securitizations	24	24	-	-	24	24
Other exposure reported on the balance sheet	-	-	-	-	-	-
Receivables from special-purpose entities and other credit enhancements reported on the balance sheet	18	25	-	-	18	25
Total exposure reported on the balance sheet	284	322	-	-	284	322
Exposure not reported on the balance sheet						
Liquidity facilities	90	1	-	-	90	1
Derivatives (e.g. for hedging purposes)	-	-	-	-	-	-
Exposure specific to synthetic transactions	-	-	-	-	-	-
Re-securitizations	-	-	-	-	-	-
Other exposure not reported on the balance sheet	-	-	-	-	-	-
Total exposure not reported on the balance sheet	90	1	-	-	90	1
Sum total	373	323	-	-	373	323

12.5.7. Re-securitization exposures and collateralization amounts

(Article 449 sentence 1 letter o (ii) CRR)

Fig. 59 discloses the retained or purchased re-securitization exposures before and after offsetting of any collateralization or insurance, together with the extent of collateral provided by guarantors, broken down by guarantor credit rating. Again, the figures shown are the exposure carrying amounts. Market risk exposures in the trading book are factored into the table as net interest-rate exposures.

12.5.8. Total amount of planned securitizations

(Article 449 sentence 1 letter n (iii) CRR)

As at December 31, 2016, there were no plans for any securitizations.

Fig. 59 – RE-SECURITIZATION EXPOSURES AND COLLATERALIZATION AMOUNTS

	Banking book		Trading book		Total	
€ million	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015	**Dec. 31, 2016**	Dec. 31, 2015
Re-securitizations before collateralization	220	392	33	-	252	392
Collateralized by guarantee	-	-	-	-	-	-
of which: guarantor rated AAA to A	-	-	-	-	-	-
Guarantor rated below A	-	-	-	-	-	-
Other collateral	-	-	-	-	-	-
Re-securitizations after collateralization	220	392	33	-	252	392

13. Leverage ratio

13.1. Leverage ratio pursuant to the CRR framework

(Article 451 sentence 1 letters a, b, c, d, and e CRR)

The leverage ratio shows the ratio of a banking group's or bank's Tier 1 capital to its total exposure measure and thus represents an additional, non-risk-weighted capital ratio.

In contrast to risk-based capital requirements for which the assumptions are derived from models, the individual exposures in the leverage ratio are not risk weighted but are included in the total exposure measure unweighted. The aim is to limit leverage in the banking industry. A low leverage ratio therefore indicates a high level of debt in relation to Tier 1 capital. The leverage ratio for banks and banking groups is assumed to amount for at least 3 percent from January 1, 2019 on.

Disclosure is based on Delegated Regulation (EU) No. 2015/62 and Implementing Regulation (EU) No. 2016/200 and has been carried out at consolidated level.

The leverage ratios for the DZ BANK banking group – in each case in accordance with the currently applicable CRR transitional requirements as well as assuming full application of the CRR – are presented in the following figure.

Fig. 60 – LEVERAGE RATIO

%	Dec. 31, 2016	Dec. 31, 2015
Leverage ratio according to CRR transitional guidance	4.37	4.54
Leverage ratio with full application of CRR	4.11	4.01

Fig. 61 shows a reconciliation of the total assets of DZ BANK banking group to the leverage ratio total exposure measure of DZ BANK banking group.

Fig. 61 – SUMMARY RECONCILIATION OF BALANCE SHEET LINE ITEMS TO LEVERAGE RATIO EXPOSURES

Summary reconciliation of total assets and total exposure measure		Applicable amounts	
€ million		Dec. 31, 2016	Dec. 31, 2015
1	Total assets as per published financial statements	509,447	408,341
2	Adjustment for entities that are consolidated for accounting purposes but are outside the scope of regulatory consolidation	-83,537	-79,072
3	(Adjustment for trust assets recognized on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio total exposure measure in accordance with article 429 (13) of Regulation (EU) No. 575/2013)	-	-
4	Adjustments for derivatives	-16,170	-17,639
5	Adjustments for securities financing transactions (SFTs)	207	1,071
6	Adjustment for off-balance-sheet items (i.e. conversion to credit equivalent amounts of off-balance-sheet exposures)	27,714	27,758
EU-6a	(Adjustment for intragroup exposures excluded from the leverage ratio total exposure measure in accordance with article 429 (7) of Regulation (EU) No. 575/2013)	-	-
EU-6b	(Adjustment for exposures excluded from the leverage ratio total exposure measure in accordance with article 429 (14) of Regulation (EU) No. 575/2013)	-	-
7	Other adjustments	-2,768	-3,671
8	**Leverage ratio total exposure measure**	**434,893**	**336,789**

Fig. 62 shows individual components of the total exposure measure, Tier 1 capital, and the DZ BANK banking group's resulting leverage ratio as at December 31, 2016, applying the CRR transitional guidance.

Fig. 62 – LEVERAGE RATIO COMMON DISCLOSURE

€ million

	Leverage ratio exposures	Dec. 31, 2016	Dec. 31, 2015
On-balance-sheet exposures (excluding derivatives and SFTs)			
1	On-balance-sheet items (excluding derivatives, SFTs, and trust assets but including collateral)	385,359	288,368
2	(Asset amounts deducted in determining Tier 1 capital)	-1,112	-1,344
3	**Total on-balance-sheet exposures (excluding derivatives, SFTs, and trust assets) (sum of lines 1 and 2)**	**384,247**	**287,024**
Derivative exposures			
4	Replacement cost associated with all derivatives transactions (i.e. net of eligible cash variation margin)	8,682	6,664
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	8,980	6,607
EU-5a	Exposure determined under Original Exposure Method	-	-
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	-	1,491
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-7,675	-7,924
8	(Exempted CCP leg of client-cleared SFT exposure)	-979	-707
9	Adjusted effective notional amount of written credit derivatives	19,578	17,913
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-14,514	-7,250
11	**Total derivatives exposures (sum of lines 4 to 10)**	**14,072**	**16,794**
SFT exposures			
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	13,561	14,560
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	-	-
14	Counterparty credit risk exposure for SFT assets	363	1,316
EU-14a	Derogation for SFTs: Counterparty credit risk exposure in accordance with articles 429b (4) and 222 of Regulation (EU) No. 575/2013	-	-
15	Agent transaction exposures	-	-
EU-15a	(Exempted CCP leg of client-cleared SFT exposure)	-	-
16	**Total securities financing transaction exposures (sum of lines 12 to 15a)**	**13,924**	**15,876**
Other off-balance-sheet exposures			
17	Off-balance-sheet exposures at gross notional amount	60,449	49,492
18	(Adjustments for conversion to credit equivalent amounts)	-37,799	-32,397
19	Other off-balance-sheet exposures (sum of lines 17 and 18)	**22,650**	**17,095**
Exempted exposures in accordance with article 429 (14) of Regulation (EU) No. 575/2013 (on and off balance sheet)			
EU-19a	(Intragroup exposures (solo basis) exempted in accordance with article 429 (7) of Regulation (EU) No. 575/2013 (on and off balance sheet))	-	-
EU-19b	Exempted exposures in accordance with article 429 (14) of Regulation (EU) No. 575/2013 (on and off balance sheet)	-	-
Capital and total exposure measure			
20	Tier 1 capital	18,989	**15,302**
21	Leverage ratio total exposure measure (sum of lines 3, 11, 16, 19, EU-19a, and EU-19b)	**434,893**	**336,789**
Leverage ratio			
22	Leverage ratio according to CRR transitional guidance (%)	**4.37**	**4.54**
Choice of transitional guidance and amount of derecognized trust items			
EU-23	Choice of transitional guidance for the definition of the capital measure	**Transitional guidance**	
EU-24	Amount of derecognized trust assets in accordance with article 429 (13) of Regulation (EU) No. 575/2013	-	-

The merged **DZ BANK banking group's** leverage ratio as at December 31, 2016 calculated by **applying the CRR in full** was 4.11 percent (December 31, 2015 (DZ BANK banking group (pre-merger): 4.01 percent).

Fig. 63 shows the leverage ratio applying the CRR in full.

Fig. 63 – LEVERAGE RATIO AFTER FULL APPLICATION OF THE CRR

	Dec. 31, 2016	Dec. 31, 2015
Regulatory Tier 1 capital (€ million)	17,876	13,508
Total exposure measure (€ million)	435,313	337,245
Leverage ratio as at the balance sheet date (%)	4.11	4.01

Fig. 64 provides an alternative breakdown by regulatory category of the exposures reported on the balance sheet (see Fig. 62, line 1).

Fig. 64 – BREAKDOWN OF ON-BALANCE-SHEET EXPOSURES (EXCLUDING DERIVATIVES, SFTS AND EXEMPTED EXPOSURES)

€ million	Leverage ratio exposures		Dec. 31, 2016	Dec. 31, 2015
EU-1	**Total on-balance-sheet exposures (excluding derivatives, SFTs, and exempted exposures)**		**385,359**	**288,368**
EU-2	of which:	Trading book exposures	11,662	14,581
EU-3		Banking book exposures	373,697	273,787
EU-4	of which:	Covered bonds	8,860	9,591
EU-5		Exposures treated as sovereigns	95,983	29,736
EU-6		Exposures to regional governments, multilateral development banks, international organizations, and public-sector entities not treated as sovereigns	1,280	29,313
EU-7		Institutions	90,533	71,961
EU-8		Secured by mortgages on real estate	59,398	42,136
EU-9		Retail exposures	19,103	19,368
EU-10		Corporates	78,043	53,878
EU-11		Exposures in default	3,549	3,047
EU-12		Other exposures (e.g. long-term equity investments, securitizations, and other non-credit-obligation assets)	16,948	14,757

13.2. Process for managing the risk of excessive leverage

(Article 451 sentence 1 letter d CRR)

As part of the strategic planning process, the Board of Managing Directors sets out the bank's overall strategy and the allocation of resources for the individual management units. Within these guidelines, the Asset Liability Committee/Treasury and Capital Committee operates with the aim of monitoring the optimization of resource efficiency during the year. To do so, it carries out detailed plan-versus-actual analysis for all relevant management units to determine where the actual resource situation has deviated from the original projection and highlights the factors driving these deviations. In its management role, the Asset Liability Committee/Treasury and Capital Committee identifies the action required and instigates mitigation steps or optimization measures. These tasks either are accomplished by means of a direct decision or a recommendation is made and, where necessary, the matter is referred to the Board of Managing Directors.

13.3. Description of the factors influencing the leverage ratio

(Article 451 sentence 1 letter e CRR)

The **post-merger** DZ BANK banking group's leverage ratio as at December 31, 2016 under the CRR transitional guidance was 4.37 percent (December 31, 2015 [DZ BANK banking group (**pre-merger**)]: 4.54 percent). This was based on Tier 1 capital of €18,989 million (December 31, 2015 (pre-merger): €15,302 million) compared with a total exposure measure of €434,893 million (December 31, 2015 (pre-merger): €336,789 million).

The DZ BANK banking group's leverage ratio in accordance with the CRR transitional guidance decreased by 0.17 percentage points between December 31, 2015 and December 31, 2016. This was the result of an increase of €98,104 million in the total exposure measure and a rise of €3,687 million in Tier 1 capital. Details of the main drivers of the change in Tier 1 capital can be found in chapter 4. (Risk capital management), section 4.4. (Capital ratios) of this report.

The increase in the total exposure measure of the DZ BANK banking group during the reporting year was largely due to the merger with the WGZ BANK Group with effect from August 1, 2016. Other major effects (predominantly at DZ BANK) arising in the course of ordinary business activities were a significant rise in the line items recognized on the balance sheet – mainly in connection with the governments and central banks exposure classes and, conversely, a small reduction in derivative and SFT exposures.

The following exposures, which DZ BANK believes should be exempted from the leverage ratio, represent a material proportion of the leverage ratio total risk exposure:

– **Pass-through development loans:**
  As they are passed through several institutions, development loans are weighted more than once in Germany. The involvement of different institutions (including central institutions) is essential in multilevel banking systems, not only for reasons of efficiency but also to ensure that development funds are provided throughout the country. Multiple counting of one transaction obviously conflicts with the government's desire to provide development support, such as for renewable energies. Both trust loans and pass-through loans merely constitute transactions that are redirected to the primary institutions of a financial network, which disburse the development loans to end customers. An exemption, which has already been included in the most recent draft of CRR II (expected to come into force at the end of 2019 at the earliest), would increase the leverage ratio under the transitional guidance by 0.52 percentage points (December 31, 2016 with full application of the CRR: 0.49 percentage points) to 4.89 percent (December 31, 2016 with full application of the CRR: 4.60 percent). According to the most recent draft of CRR II, pass-through development loans are likely to be excluded when the method for calculating the leverage ratio is adjusted.
– **Exposures within the cooperative financial network:**
  Exposures within the cooperative financial network are exempt from inclusion in risk-based capital requirements pursuant to article 113 (7) CRR. In the interest of consistency between risk-based capital requirements and the leverage ratio – with the exception of items that by definition differ between these capital ratios (external credit ratings and internal valuation-model approaches) – these exposures should also be omitted from the leverage ratio. An exception would raise the leverage ratio by a total of 0.96 percentage points to 5.33 percent where the transitional guidance is applied and by 0.90 percentage points to 5.01 percent as at December 31, 2016 where the CRR is applied in full.

Given the significant overlap between the two aforementioned exemptions, the two together would cause the leverage ratio to rise by a total of 0.96 percentage points to 5.33 percent where the transitional guidance is applied and by 0.90 percentage points to 5.01 percent as at December 31, 2016 where the CRR is applied in full.

14. Liquidity ratios

14.1. Risk management in respect of liquidity adequacy

The principles and objectives and the strategies and methods of risk management (article 435 (1) CRR) in respect of liquidity adequacy are presented in section 6. of the combined opportunity and risk report.

14.2. Liquidity coverage ratio (LCR)

In addition to the capital ratios and the leverage ratio, two internationally standardized liquidity ratios (the **liquidity coverage ratio (LCR)**, which focuses on the short term, and the **net stable funding ratio (NSFR)**, which focuses on the long term were introduced under the CRR/CRD IV.

The **liquidity coverage ratio (LCR)** is used to measure whether an institution has an adequate liquidity buffer in the form of high-quality liquid assets that enables it to compensate for a possible imbalance between inflows and outflows of cash in a 30 day stress scenario. The LCR is the ratio of liquid assets held ('liquidity buffer') to net cash outflows for a period of 30 days under stress conditions. This requirement was implemented into European law by Commission Delegated Regulation (EU) No. 2015/61 in October 2014. From January 1, 2016, institutions had to comply with a minimum LCR of 70 percent. In the 2017 financial year, they have to comply with a minimum LCR of 80 percent. From January 1, 2018 onward, they will have to maintain a minimum LCR of 100 percent.

The **LCR** for the **DZ BANK banking group** calculated in accordance with Delegated Regulation (EU) No. 2015/61 as at December 31, 2016 is shown in figure Fig. 65. In the reporting year, the regulatory minimum requirement for the LCR of 70 percent was significantly exceeded on every reporting date at the level of the DZ BANK banking group and, as at December 31, 2016, the group's LCR stood at 151.0 percent (December 31, 2015: 125.8 percent). The calculation was based on high-quality liquid assets of €67,782 million (December 31, 2015: €46,386 million) and net cash outflows of €44,896 million (December 31, 2015: €36,865 million). The DZ BANK banking group's liquidity coverage ratio is thus already higher than the minimum ratio of 100 percent that becomes mandatory from 2018.

Fig. 65 – LIQUIDITY COVERAGE RATIO OF THE BANKING GROUP

€ million		Dec. 31, 2016	Dec. 31, 2015
21	Total liquid assets	67,782	46,386
22	Total net cash outflows	44,896	36,865
23	Liquidity coverage ratio (%)	151.0	125.8

The main reason for the rise in the DZ BANK banking group's liquidity coverage ratio during 2016 was an increased volume of customer deposits. This led to a larger credit balance with the ECB. As a result of different haircuts for these items within the cash outflows and liquid assets, the LCR increased accordingly. Another factor that had a positive impact on the LCR was the first-time consolidation of the former WGZ BANK and of WL BANK with effect from August 31, 2016.

14.3. Net stable funding ratio (NSFR)

The **net stable funding ratio (NSFR)** has a long-term focus and is intended to ensure that institutions restrict mismatches between the maturity structures of their assets-side and liabilities-side business. This ratio is the amount of available stable funding (equity and liabilities) relative to the amount of required stable funding (assets-side business). The funding sources are weighted according to their degree of stability and assets are weighted according to their degree of liquidity based on factors defined by the supervisory authority. Unlike the liquidity coverage ratio, compliance with the NSFR is not expected to become mandatory before the 2019 financial year when CRR II comes into force.

15. Remuneration policy

15.1. Disclosure pursuant to article 450 CRR

Pursuant to section 16 of the Ordinance on the Supervisory Requirements for Institutions' Remuneration Systems (InstitutsVergV) dated December 16, 2013, DZ BANK is required to disclose information about its remuneration policy and practices. As an institution subject to the CRR, DZ BANK is subject to the disclosure requirements specified by article 450 CRR in conjunction with EBA/GL/2015/22 of June 27, 2016 exclusively.

Pursuant to article 450 CRR, the DZ BANK must disclose certain quantitative and qualitative information for staff whose activities have a material impact on the risk profile of the institution (risk takers).

In 2016, DZ BANK and the subordinated management units BSH, DG HYP, DVB, DZ PRIVATBANK, TeamBank, VR-LEASING, and WL BANK identified the employees whose activities have a material impact on the risk profile. Risk takers were identified based on Commission Delegated Regulation (EU) No. 604/2014 of March 4, 2014 supplementing Directive 2013/36/EU of the European Parliament and Council with respect to qualitative and appropriate quantitative criteria to identify categories of staff whose professional activities have a material impact on an institution's risk profile.

Section 15.2. outlines the remuneration systems for risk takers at DZ BANK for 2016 the financial year thus ensuring compliance with the requirements in article 450 (1) letters a to f CRR.

The quantitative information pursuant to article 450 (1) letters g to j CRR is published once all bonus payments are available. The disclosure for 2016 pursuant to article 450 CRR for the DZ BANK Group will therefore be updated in a separate report in the second quarter. The qualitative disclosures for the entities in the DZ BANK banking group are also contained in that report (article 450 letters a to f CRR). This report disclosing the remuneration policy can be found at:
https://www.dzbank.de/content/dzbank_de/de/home/unser_profil/investorrelations/berichte/2016.html.

15.2. Remuneration systems for risk takers

15.2.1. Remuneration systems for members of the Board of Managing Directors and divisional managers

All members of the Board of Managing Directors and DZ BANK divisional managers were classified as risk takers in the 2016 financial year.
Under the remuneration systems for members of the Board of Managing Directors and divisional managers, variable remuneration (a bonus) is paid in addition to fixed remuneration. The maximum bonus for risk takers at divisional management level is 30 percent of total salary and 20 percent of total salary for risk takers at Board of Managing Directors level.

Variable remuneration is measured in terms of a maximum achievable bonus. Quantitative and qualitative targets in the form of group, bank, division, and individual targets derived from the corporate strategy are used to determine the bonus level. For members of the Board of Managing Directors, some of these targets are measured on an assessment basis of several years. The maximum bonus for each individual target is based on full target achievement.

Bonuses are paid in accordance with the provisions of InstitutsVergV, with 20 percent of the bonus achieved being paid immediately in the following year. Payment of the remaining 80 percent of the bonus is spread out over a period of up to 4 years in total, taking into account deferral and retention periods. All amounts earmarked for deferred payment are linked to the long-term performance of DZ BANK because they are pegged to its share price. Negative contributions to return are taken into account when setting bonuses and pro-rata deferrals, which may cause deferred variable remuneration to taper off or cease. Variable remuneration is not vested during the deferral and retention periods.

The Supervisory Board is responsible for determining the remuneration policy for the Board of Managing Directors. The Board of Managing Directors is responsible for determining the remuneration policy for risk takers below the level of the Board of Managing Directors. The Supervisory Board with the support of the Remuneration Control Committee and the remuneration officer ensure that the remuneration systems are appropriate. In 2016, the Remuneration Control Committee held four meetings for this purpose.

15.2.2. Remuneration systems for risk takers below divisional management level

Remuneration system at pre-merger DZ BANK sites

In the remuneration system for risk takers below divisional management level, the fixed remuneration and the measurement of variable remuneration are based on the system for employees who are not subject to collective pay agreements.

The remuneration system for employees who are not subject to collective pay agreements includes a fixed salary paid in 12 monthly installments as well as a performance- and results-based remuneration component (target bonus).

The variable remuneration is based on an individually agreed target bonus, the overall profit of the bank, the profit attributable to the respective division, and individual performance. Individual performance is, in turn, measured against pre-agreed targets. Variable remuneration can not exceed the fixed remuneration.

In line with the requirements of InstitutsVergV, the pament of bonuses exceeding €50,000 is spread out over several years, with 30 percent of the bonus achieved being paid immediately in the following year. Payment of the remaining 70 percent of the bonus is spread out over a period of up to 4 years in total, taking into account deferral and retention periods. Deferral periods can last for up to 3 years and, for half of the deferred amount, are followed by a further one-year retention period. During the retention period, the amounts earmarked for deferred payment are linked to the long-term performance of DZ BANK because they are pegged to its share price development. Negative contributions to profits from an employee or from the organizational unit(s) for which he or she is responsible or an overall loss reported by the bank are taken into account when setting the bonus, the pro-rata deferral, and the deferral at the end of the retention period. Altogether, this may cause deferred variable remuneration to taper off or cease. Variable remuneration is not vested during the deferral and retention periods.

Remuneration system at sites of the former WGZ BANK

The remuneration of the risk takers in the former WGZ BANK comprises 12 monthly salary payments, a results-based salary component, and a discretionary salary component. Employees in trading divisions do not receive a results-based salary component.

The results-based salary component may not exceed 1.5 monthly salary payments and is based on the three-year average company factor of DZ BANK or the predecessor institution as applicable.
The discretionary bonus is set after the end of the financial year at the discretion of the Board of Managing Directors and in accordance with the applicable general remuneration rules.

The remuneration of risk takers is paid in accordance with the deferral and retention periods. Negative contributions to profits are taken into account when the variable remuneration is determined.

As and when required, external consultants and interest groups are involved in the design of the remuneration systems. In 2016, external consultants were called in to provide legal advice, particularly in relation to the assessment of the continued validity of the existing remuneration systems after the merger.

16. Annex 1 Structure of own funds during transition period (column b)

Supplement to Fig. 4

FIG. 66 – FIG. 4 – STRUCTURE OF OWN FUNDS DURING TRANSITION PERIOD AS AT DECEMBER 31, 2016 (ARTICLE 437 (1) IN CONJUNCTION WITH ANNEX VI OF IMPLEMENTING REGULATION (EU) NO. 1423/2013) WITH REFERENCE TO THE CORRESPONDING ARTICLES IN THE CRR (ACCORDING TO ANNEX VI OF IMPLEMENTING REGULATION (EU) NO. 1423/2013) IN COLUMN B

Line	(B) Reference to CRR article
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), 38, 472 (5)
11	33 (a)
12	36 (1) (d), 40, 159, 472 (6)
13	32 (1)
14	33 (1) (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, 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	467, 468
26a.1	467
26a.2	468
26b	481
27	36 (1) (j)
27a	●
28	●
29	●
30	51, 52
31	●
32	●
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34	85, 86, 480
35	486 (3)
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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)
41a.7	472 (11)
41b	477, 477 (3), 477 (4) (a)
41b.1	●
41b.2	●
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)
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49	486 (4)
50	62 (c) and (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)
54a	●
54b	●

Line	(B) Reference to CRR article
55	66 (d), 69, 79, 477 (4)
56	472, 472 (3) (a), 472 (4), 472 (6), 472 (8) (a), 472 (9), 472 (19) (a), 472 (11) a
56a	●
56a.1	●
56a.2	●
56a.3	●
56b	475, 475 (2) (a), 475 (3), 475 (4) (a)
56b.1	●
56b.2	●
56c	467, 468, 481
56c.1	467
56c.2	468
56d	●
57	●
58	●
59	●
59a	●
59a.1	472, 472 (5), 472 (8) (b), 472 (10) (b), 472 (11) (b)
59a.1.1	●
59a.1.2	●
59a.1.3	●
59a.1.4	●
59a.2	472, 475 (2) (b), 475 (2) (c), 475 (4) (b)
59a.2.1	●
59a.2.2	●
59a.2.3	●
59a.3	477, 477 (2) (b), 477 (2) (c), 477 (4) (b)
59a.3.1	●
59a.3.2	●
59a.3.3	●
60	●
61	92 (2) (a), 465
62	92 (2) (b), 465
63	92 (2) (c)

Line	(B) Reference to CRR article
64	CRD 128, 129, 130
65	●
66	●
67	●
67a	CRD IV 131
68	CRD IV 128
69	●
70	●
71	●
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) and (5)
81	484 (3), 486 (2) and (5)
82	484 (4), 486 (3) and (5)
83	484 (4), 486 (3) and (5)
84	484 (5), 486 (4) and (5)
85	484 (5), 486 (4) and (5)

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