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2018

Regulatory Disclosure Report for the 2018 financial year of Aareal Bank Group

Aareal Bank Group

Regulatory Disclosure Report for the 2018 financial year

Preface

In addition to the details contained in the Aareal Bank Group Annual Report, this Regulatory Disclosure Report explains the business policy standards and facts that are relevant for assessing our situation from a regulatory perspective. Besides providing a qualified description of the manner in which our risks are identified, evaluated, weighted and reviewed, the Regulatory Disclosure Report also contains detailed quantitative statements about the sizes of the individual areas.

The Regulatory Disclosure Report implements the requirements according to part 8 of Regulation (EU) 575/2013 (Capital Requirements Regulation – "CRR").

Aareal Bank Group is classified as a significant institution within the scope of the Single Supervisory Mechanism (SSM) and is therefore subject to direct supervision by the European Central Bank (ECB).

The European Banking Authority (EBA) published the final draft guidelines on disclosure requirements under part 8 of the CRR (EBA/GL/2016/11) on 14 December 2016. These substantiate the existing disclosure requirements of the CRR.

Aareal Bank Group is – in principle – not covered by the EBA guidelines and is therefore not formally required to meet the disclosure requirements formulated therein, as it is not classified by the ECB as a Global Systemically Important Institution (G-SII) on the basis of Delegated Regulation (EU) 1222/2014 or as an Other Systemically Important Institution (O-SII) on the basis of Article 131 (3) CRD IV. Nor is it obliged to meet the EBA guidelines. Nonetheless, Aareal Bank Group meets the EBA guidelines in full, on a voluntary basis.

The Regulatory Disclosure Report is prepared in accordance with Bank-internal provisions and procedures stipulated in writing in order to fulfil disclosure requirements.

In line with the requirements of Article 431 (3) of the CRR, Aareal Bank Group has created formal procedures through a disclosure guideline, which ensure that the disclosure requirements are met. The disclosure guideline of Aareal Bank Group contains rules on

- The scope and content of the disclosure requirements,
- The principles of disclosure, in particular on appropriateness, structure of the report, locations, reporting date and frequency,
- Determining the materiality, confidential information and trade secrets,
- Responsibilities and organisational units involved,
- The structure of the disclosure process,
- The data sources and relevant IT systems and
- The review of the disclosure procedure.

The specific structure and implementation of the disclosure requirements is described in detail in the supplementary documents.

Aareal Bank Group has implemented comprehensive control mechanisms as part of its disclosure process, which are used to review the disclosed data for completeness, accuracy and appropriateness. These control activities associated with the disclosure process are an integral component of the Internal Control System (ICS) of Aareal Bank Group. Besides the ongoing control in the course of the creation process, the control activities include an annual, central review of the following aspects:

- Appropriateness of the details
- Content-related design of the disclosures
- Frequency of the disclosures
- New regulatory requirements and adjustments

The Regulatory Disclosure Report and the disclosure guideline are approved by the Management Board of Aareal Bank AG.

In addition, compliance with the disclosure requirements is regularly reviewed by Internal Audit of Aareal Bank Group.

Overall, the Regulatory Disclosure Report is subject to control mechanisms comparable to those used in the management report for financial reporting.

In accordance with the legal requirements, the Regulatory Disclosure Report does not require a qualified audit opinion and is therefore not audited.

The Regulatory Disclosure Report is published pursuant to Article 434 (1) of the CRR on the Aareal Bank AG website under the menu item "Investor Relations". Furthermore, selected details from various disclosure tables which are considered relevant for the Bank are published there.

Aareal Bank AG publishes the Regulatory Disclosure Report on a quarterly basis. The scope is oriented on the guidelines EBA/GL/2016/11 in conjunction with the revised guidelines EBA/GL/2014/14.

Summary

Aareal Bank AG, whose registered office is in Wiesbaden, Germany, is the parent institution of the Group.

Aareal Bank complies with the requirements of parts 2 and 3 of CRR at a Group level, due to the fact that Aareal Bank Group has elected to use the waiver option provided by section 2a (1) sentence 1 of the German Banking Act (Kreditwesengesetz – "KWG") (in conjunction with Article 7 (3) of the CRR), whereby reports for financial holding companies or banking groups may be prepared on a consolidated basis.

Aareal Bank Group successfully closed the acquisition of Düsseldorfer Hypothekenbank AG (Düsselhyp), announced in September 2018. Upon the closing of the transaction on 31 December 2018, Düsselhyp became a legally independent subsidiary within Aareal Bank Group and is now part of the regulatory scope of consolidation.

Pursuant to a decision by the ECB, Düsselhyp has been classified as a significant subsidiary, effective since receipt of the corresponding letter in February 2019. For this reason, Düsselhyp is relieved from disclosure obligations under Article 13 (1) of the CRR as at 31 December 2018.

The details we have published in this Regulatory Disclosure Report are based on both the Credit Risk Standard Approach (CRSA) and the Advanced IRB Approach (Advanced Internal Ratings-Based Approach – AIRBA). We only mention the disclosure requirements explicitly relevant for us.

Minor differences may occur regarding the figures stated, due to rounding.

As at the reporting date, Aareal Bank holds no securitisation exposures in its portfolio, so that the disclosure requirements pursuant to Article 449 of the CRR shall not apply.

The Regulatory Disclosure Report includes the requirements of the CRR, provided the necessary information is not already disclosed elsewhere.

The following outline provides an overview as to where the information on the disclosure requirements pursuant to part 8 of the CRR is published.

Furthermore, if facts are already described in the Annual Report, reference is made specifically to the information included in the corresponding source references.

CRR article	Contents	Chapter in the Regulatory Disclosure Report	Reference to other publications of Aareal Bank
431	Scope of application of disclosure obligations	"Preface"	
435 (1)	Institution risk management approach (EU OVA)	"Risk Management"	Aareal Bank Group Annual Report: – Risk Report: "Aareal Bank Group Risk Management"
435 (1)	General qualitative information about credit risk (EU CRA)	"Credit Risk and General Information on Credit Risk Mitigation"	Aareal Bank Group Annual Report: – Risk Report: "Lending business" – Risk Report: "Loan loss risks"
435 (1)	Qualitative disclosure requirements related to counterparty credit risk (EU CCRA)	"Counterparty Credit Risk"	Aareal Bank Group Annual Report: – Risk Report: "Trading activities" – Risk Report: "Credit risk mitigation of trading activities"
435 (1)	Qualitative disclosure requirements related to market risk (EU MRA)	"Market Risks"	Aareal Bank Group Annual Report: – Risk Report: "Credit spread and migration risks in the banking book" as well as "Other market risks"
435 (1)	Disclosure of liquidity coverage ratio and liquidity risk management	"Liquidity Risks"	Aareal Bank Group Annual Report: – Risk Report: "Liquidity risks" – Report on the Economic Position: "Securities portfolio"
435 (2)	Corporate governance regulations	"Information about Corporate Governance Regulations"	Aareal Bank Group Annual Report: – Risk Report: "Risk Management – Scope of application and areas of responsibility" – Report of the Supervisory Board of Aareal Bank, Wiesbaden Website: www.aareal-bank.com/en/about-us/corporate-governance www.aareal-bank.com/en/about-us/company-profile/the-management-board www.aareal-bank.com/en/about-us/company-profile/supervisory-board
436	Scope of application	"Scope of Application of the Regulatory Framework"	Aareal Bank Group Annual Report: – Consolidated Financial Statements "(3) Consolidation"
437	Regulatory capital	"Regulatory Capital"	Aareal Bank Group Annual Report: – Consolidated Financial Statements "(77) Regulatory capital and capital management" Website: – Main features of capital instruments: www.aareal-bank.com/en/investors-portal/finance-information/regulatory-disclosures/archive/2018 – Full terms and conditions of capital instruments: www.aareal-bank.com/en/investors-portal/finance-information/terms-and-conditions-of-issue-pursuant-to-article-437-1-c-of-the-crr/archive/2018
438	Regulatory capital requirements	"Regulatory Capital Requirements"	Aareal Bank Group Annual Report: – Consolidated Financial Statements "(77) Regulatory capital and capital management"
439	Counterparty credit risk	"Counterparty Credit Risk"	Aareal Bank Group Annual Report: – Risk Report: "Trading activities"" – Risk Report: "Credit risk mitigation of trading activities"
440	Capital buffer	"Countercyclical Capital Buffer"	
441	Indicators of global systemic importance	n/a	
442	Credit risk adjustments	"Credit Risk and General Information on Credit Risk Mitigation"	Aareal Bank Group Annual Report: – Risk Report: "Credit risk mitigation"

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CRR article	Contents	Chapter in the Regulatory Disclosure Report	Reference to other publications of Aareal Bank
443	Unencumbered assets	”Encumbered and Unencumbered Assets“	
444	Utilisation of ECAI	”External rating for CRSA exposures“	
445	Market risk	”Market Risks“	Aareal Bank Group Annual Report: – Risk Report: ”Credit spread and migration risks“ as well as ”Other market risks“
446	Operational risk	”Operational Risks“	
447	Risks from investments not included in the trading book	”Investment Risks“	Aareal Bank Group Annual Report: – Risk Report ”Investment risks” – Consolidated Financial Statements ”(87) List of shareholdings”
448	Interest rate risk from holdings not included in the trading book	”Interest rate risk in the banking book“	Aareal Bank Group Annual Report: – Risk Report: ”Interest rate risks in the banking book“
449	Risk from securitisation exposures	n/a	
450	Remuneration policy	”Remuneration“	Qualitative disclosures: Annual Report: ”Remuneration Report“ Quantitative disclosures: www.aareal-bank.com/en/investors-portal/finance-information/regulatory-disclosures/archive/2018
451	Leverage	"Leverage Ratio"	
452	Application of the IRB approach for credit risks	”Qualitative information on the use of the IRB Approach” ”Quantitative information on the use of the IRB Approach”“	
453	Use of credit risk mitigation techniques	”General qualitative information on credit risk mitigation“	Aareal Bank Group Annual Report: – Risk Report: ”Credit risk mitigation“
454	Use of advanced measurement approaches for operational risks	n/a	
455	Use of internal models for market risk	n/a	

Risk Management

Risk management deals with identifying, assessing, limiting and managing risks. Therefore, risk management is an essential part of corporate governance.

According to section 25a (1) of the KWG in conjunction with the specifications provided in the Minimum Requirements for Risk Management (MaRisk), credit institutions are obliged to implement appropriate and effective risk management to ensure their risk-bearing capacity.

With regard to the disclosure requirements pursuant to Article 435 of the CRR, the Management Board confirms that Aareal Bank Group’s risk management system is appropriate regarding the risk strategies, which were derived from and are consistent with the business strategy, as well as with the risk profile identified as part of the risk inventory.

Please refer to the Annual Report for further information concerning risk management pursuant to Article 435 (1) of the CRR, as presented in the overview of the previous chapter.

Information about Corporate Governance Regulations

The disclosures required pursuant to Article 435 (2) of the CRR are outlined below.

Management and supervisory functions of the Management Board and the Supervisory Board

Please refer to the list of offices held in the Annual Report for an overview of the number and nature of management and supervisory functions held by members of the Management Board and Supervisory Board.[1] This is based on the requirements set out in section 285 of the German Commercial Code (Handelsgesetzbuch – HGB) and Article 435 (2) of the CRR, in conjunction with the EBA Guidelines EBA/GL/2016/11 and the Joint ESMA and EBA Guidelines on the assessment of the suitability of members of the management body and key function holders (EBA/GL/2017/12).

Selecting members of the Management Board and the Supervisory Board

The Supervisory Board of Aareal Bank AG is satisfied that the Management Board and the Supervisory Board are adequately staffed, if all members are in a position to perform their duties (professional qualification), commit the time necessary to perform these and possess the integrity to be guided by the ethical principles of Aareal Bank when performing their duties (with respect to personal reliability, conflicts of interest, and independence). The composition of the respective entire board shall facilitate cooperation and the widest possible diversity of opinions and knowledge (the concept of diversity). The Supervisory Board has defined concrete requirements and processes to incorporate these criteria for the evaluation of Management Board and Supervisory Board members, as well as when selecting candidates for appointment to the Management Board, or for shareholder representatives to the Supervisory Board. When establishing these processes, it has taken into account the legal requirements of the German Public Limited Companies Act (Aktiengesetz – "AktG"), the KWG, and of the German Corporate Governance Code. In addition, the regulatory guidelines of the European Central Bank and the European banking supervision on adequacy and for internal governance are also incorporated, as well as the corporate governance guidelines for the consultants on share voting rights and major shareholders that are relevant to Aareal Bank. Besides the Supervisory Board, the European Central Bank also reviews the suitability of the respective candidates prior to taking up their duties, using the so-called "fit & proper" approach.

In accordance with the internal rules of procedure for the Supervisory Board, it is the duty of the Executive and Nomination Committee to identify suitable candidates for appointment to the Management Board, and to nominate members of the shareholder representatives of the Supervisory Board. Moreover, the Executive and Nomination Committee is responsible for assessing the skills, knowledge and experience of individual members of the Management Board and the Supervisory Board. Additional information concerning the strategy for selecting members of the management bodies and their actual knowledge, abilities and experience is published in the Corporate Governance Statement. The professional careers of the members of the Management Board and the Supervisory Board are detailed on the Aareal Bank AG website.

Diversity strategy for selecting members of the management bodies

The chapter "Concept of diversity" on pages 251 et seqq. of the Corporate Governance Statement contains comprehensive information about the strategies, objectives and the extent to which targets

[1] Aareal Bank Group 2018 Annual Report: chapter "Other Notes", Note (88) in the Notes to the consolidated financial statements, page 227 et seqq.

were achieved with regard to the composition of the Management Board and the Supervisory Board. Any necessary amendments will be communicated in good time through corresponding press releases.

Risk Committee

The Supervisory Board has established six committees, including the Risk Committee, in order to perform its supervisory duties in an efficient manner: The Risk Committee deals with all types of risk Aareal Bank is exposed to in its business activities. The Committee is also responsible for reviewing the contents of the risk strategies, in accordance with the MaRisk. The submission of the credit risk strategies to the plenary meeting of the Supervisory Board remains unaffected by this function, as is intended by the MaRisk. Please refer to the Report of the Supervisory Board provided in the Annual Report (pages 254 et seqq.) for further information on the work of the Risk Committee and the number of committee meetings during the period under review. The report also includes details on the flow of information towards the Supervisory Board.

Flow of information towards the Management Board and the Supervisory Board

Reporting to the Management Board and the Supervisory Board is described in the Risk Report, the Corporate Governance Report as well as in the Report of the Supervisory Board.

Scope of Application of the Regulatory Framework

Aareal Bank AG, whose registered office is in Wiesbaden, Germany, is the parent institution of Aareal Bank Group, and prepares this Regulatory Disclosure Report in accordance with Article 10a (1) of the KWG.

The strategic business segments of Aareal Bank Group are commercial property financing and services, software products and digital solutions for the property sector and related industries.

Our business model comprises two segments:

In the Structured Property Financing business segment, Aareal Bank facilitates property investments for its domestic and international clients, and is active in this respect in Europe, North America and Asia/Pacific. What makes Aareal Bank special are its direct client relationships, which – in very many cases – it has maintained for many years. We finance commercial property, especially office buildings, hotels, retail, logistics and residential properties. Our focus is on financing existing buildings. Our particular strength lies in the success we have in combining local market expertise and sector-specific know-how. This enables us to offer tailor-made financing concepts that meet the special requirements of our national and international clients. Aareal Bank's particular strengths are its structuring expertise, as well as portfolio and cross-border financings.

In the Consulting/Services segment, we offer our customers from the property sector and related industries, such as the energy sector, a combination of specialised banking services, software products and digital solutions. Our subsidiary Aareon AG is the leading consultancy and IT systems house for the property sector in Europe.

Please refer to the Annual Report for further information concerning our business model.[1)]

Comparison of the scopes of consolidation

The entities within the Group are consolidated for accounting and regulatory monitoring purposes. Applicable accounting and regulatory rules differ in some areas in relation to their specifications and objectives.

Hence, the scope of consolidation created on the basis of the legal requirements differs, in terms

[1)] Aareal Bank Group 2018 Annual Report: chapter "Fundamental Information about the Group" in the Group Management Report, page 46 et seqq.

of the number of consolidated entities, as well as regarding the method of consolidation.

The following consolidation matrix lists all subsidiaries, joint arrangements and associates of Aareal Bank Group for each of the two operating segments which are consolidated on the basis of regulatory aspects and are also included in consolidated financial reporting. Moreover, the table shows all companies included in consolidated financial reporting with equity amounting to at least € 1 million.

With regard to the description of the respective company to be disclosed in column f, we follow the definitions listed in Article 4 of the CRR and section 1 of the KWG, whereby companies which are consolidated on the basis of regulatory aspects are classified depending on their principal activity, including as credit institutions, providers of ancillary services, financial institutions or financial services providers. Shareholdings classified as other companies comprise exclusively those included in consolidated financial reporting and for which classification pursuant to CRR does not apply.

EU LI3: Outline of the differences in the scopes of consolidation

Name of the entity	a	b	c	d	e	f
	Method of accounting consolidation	Method of regulatory consolidation				Description of the entity
		Full consolidation	Proportional consolidation	Neither consolidated nor deducted	Deducted	
Structured Property Financing segment						
Aareal Bank Asia Ltd., Singapore	Full consolidation	X				Credit institution
Aareal Beteiligungen AG, Frankfurt/Main	Full consolidation	X				Financial institution
Aareal Capital Corporation, Wilmington	Full consolidation	X				Financial institution
Aareal Estate AG, Wiesbaden	Full consolidation	X				Ancillary services undertaking
Aareal Gesellschaft für Beteiligungen und Grundbesitz Erste mbH & Co. KG, Wiesbaden	Full consolidation	X				Financial institution
Aareal Holding Realty LP, Wilmington	Full consolidation	X				Financial institution
Aareal Immobilien Beteiligungen GmbH, Wiesbaden	Full consolidation	X				Financial institution
BauContact Immobilien GmbH, Wiesbaden	Full consolidation			X		Miscellaneous
BrickVest Ltd., London	[1]			X		Financial institution
BVG – Grundstücks- und Verwertungsgesellschaft mbH, Frankfurt/Main	Full consolidation	X				Financial institution
DBB Inka, Dusseldorf	Full consolidation			[2]		Miscellaneous
Deutsche Structured Finance GmbH, Wiesbaden	Full consolidation	X				Financial institution
Düsseldorfer Hypothekenbank AG, Dusseldorf	Full consolidation	X				Credit institution
GEV Besitzgesellschaft mbH, Wiesbaden	Full consolidation	X				Financial institution
IV Beteiligungsgesellschaft für Immobilieninvestitionen mbH, Wiesbaden	Full consolidation	X				Financial institution
Izalco Spain S.L., Madrid	Full consolidation	X				Ancillary services undertaking
Jomo S.p.r.l., Brussels	Full consolidation	X				Ancillary services undertaking

[1] BrickVest Ltd is carried as an equity instrument, and is assigned to the measurement category "at fair value through other comprehensive income" (fvoci).
[2] The fund reported under the AIRBA is treated using the simple risk weight method pursuant to article 155 (2) of the CRR

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Name of the entity	a	b	c	d	e	f
	Method of accounting consolidation	Method of regulatory consolidation				Description of the entity
		Full con-solidation	Proportional consolidation	Neither consolidated nor deducted	Deducted	
La Sessola Holding GmbH, Wiesbaden	Full consolidation	X				Financial institution
La Sessola S.r.l., Rome	Full consolidation	X				Ancillary services undertaking
La Sessola Service S.r.l., Rome	Full consolidation	X				Ancillary services undertaking
Manager Realty LLC, Wilmington	Full consolidation	X				Ancillary services undertaking
Mercadea S.r.l., Rome	Full consolidation	X				Ancillary services undertaking
Mirante S.r.l., Rome	Full consolidation	X				Ancillary services undertaking
Mount Street Global Limited, London	At Equity		X			Financial institution
Mount Street Group Limited, London	At Equity		X			Financial institution
Mount Street Hellas Holdco Limited, Dublin	At Equity		X			Financial institution
Mount Street Hellas Holdings Limited, London	At Equity		X			Financial institution
Mount Street Hellas Investments Limited, Dublin	At Equity		X			Financial institution
Mount Street Hibernia Holdco Limited, Dublin	At Equity		X			Financial institution
Mount Street Holdings Limited, London	At Equity		X			Financial institution
Mount Street MS Services Limited, London	At Equity		X			Financial institution
Mount Street Portfolio Advisors GmbH, Dusseldorf	At Equity		X			Financial institution
Mount Street Portfolio Advisors LLC, New York	At Equity		X			Financial institution
Mount Street US (Georgia) LLP, Atlanta	At Equity		X			Ancillary services undertaking
Mount Street US Group LLP, Wilmington	At Equity		X			Financial institution
Mount Street US Holdings LLP, Wilmington	At Equity		X			Financial institution
Mount Street US LLP, Wilmington	At Equity		X			Financial institution
MSH TopCo Limited, London	At Equity		X			Financial institution
MSLS Holdco UK Limited, London	At Equity		X			Financial institution
Northpark Realty LP, Wilmington	Full consolidation	X				Ancillary services undertaking
Participation Neunte Beteiligungs GmbH, Wiesbaden	Full consolidation	X				Financial institution
Terrain Beteiligungen GmbH, Wiesbaden	Full consolidation	X				Financial institution
Terrain-Aktiengesellschaft Herzogpark, Wiesbaden	Full consolidation	X				Ancillary services undertaking
Westdeutsche Immobilien Servicing AG, Mainz	Full consolidation			X		Miscellaneous
WP Galleria Realty LP, Wilmington	Full consolidation	X				Ancillary services undertaking
Consulting / Services segment						
1st Touch Ltd., Southampton	Full consolidation			X		Miscellaneous
Aareal First Financial Solutions AG, Mainz	Full consolidation	X				Ancillary services undertaking
Aareon AG, Mainz	Full consolidation	X				Financial institution
Aareon Deutschland GmbH, Mainz	Full consolidation			X		Miscellaneous
Aareon France S.A.S., Meudon-la-Forêt	Full consolidation			X		Miscellaneous
Aareon Nederland B.V., Emmen	Full consolidation			X		Miscellaneous
Aareon Sverige AB, Mölndal	Full consolidation			X		Miscellaneous
Aareon UK Ltd., Coventry	Full consolidation			X		Miscellaneous

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Name of the entity	a Method of accounting consolidation	b	c	d	e	f Description of the entity
		Method of regulatory consolidation				
		Full consolidation	Proportional consolidation	Neither consolidated nor deducted	Deducted	
BauSecura Versicherungsmakler GmbH, Hamburg	Full consolidation			X		Miscellaneous
Deutsche Bau- und Grundstücks-Aktiengesellschaft, Berlin	Full consolidation			X		Miscellaneous
Facilitor B.V., Enschede	Full consolidation			X		Miscellaneous
mse Immobiliensoftware GmbH, Hamburg	Full consolidation			X		Miscellaneous
phi-Consulting GmbH, Bochum	Full consolidation			X		Miscellaneous
Square DMS B.V., Grathem	Full consolidation			X		Miscellaneous

Undercapitalised entities

At present, none of the banks or financial services providers within Aareal Bank Group are undercapitalised, which would require a deduction of the holding from the parent company's liable equity.

Utilisation of the "waiver" regulation

Aareal Bank has opted for the waiver according to section 2a (1) sentence 1 of the KWG in conjunction with Article 7 (3) of the CRR. This so-called parent waiver allows parent companies to fulfil the requirements of parts 2 to 5 and 8 of the CRR on a consolidated basis only.

Aareal Bank AG's participatory interests in its subsidiaries allow it to transfer capital from subordinated subsidiaries to Aareal Bank AG, if necessary. This can be achieved, for example, through distributions to Aareal Bank AG or by capital decreases at the subsidiaries. The Bank can also request its subsidiaries to repay their liabilities.

Accordingly, there are no burdens (neither legal, nor materially factual) as per article 7 (3) lit. a) of the CRR to the immediate transfer of capital or repayment of liabilities by the subsidiaries to Aareal Bank AG.

As the parent institution of the Group, Aareal Bank AG operates a central risk management system for the banking group of which it forms a part. This means that the prerequisites stated in Article 7 (3) lit. b) of the CRR regarding the combined supervision of risk assessment, risk measurement and risk control procedures are fulfilled.

Aareal Bank AG carries out event-driven reviews to ensure it continues to fulfil the prerequisites of Article 7 (3) of the CRR and documents them in writing.

Differences between accounting and regulatory scopes of consolidation and mapping of financial statements categories with regulatory risk categories

For each of the line items (pages 12 et seq.) in Aareal Bank AG's financial statements, the following table shows the differences between the scope of accounting consolidation and the scope of regulatory consolidation. Furthermore, for the line items shown, the table outlines the allocation to relevant risk categories for regulatory capital requirements.

EU LI1: Differences between accounting and regulatory scopes of consolidation and mapping of financial statements categories with regulatory risk categories

€ mn	a	b	c	d	e	f	g
			Carrying values of items				
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Subject to the credit risk framework	Subject to the CCR framework	Subject to the securitisation framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital
Assets							
Financial assets (ac)	**34,702**	**34,703**	**34,702**	**–**	**–**	**12,418**	**1**
Cash funds	1,265	1,265	1,265	–	–	6	–
Loan receivables	26,795	26,792	26,792	–	–	12,200	–
Money market and capital market receivables	6,578	6,546	6,545	–	–	197	1
Receivables from other transactions	64	100	100	–	–	15	–
Loss allowance (ac)	-577	-573	-573	–	–	-76	–
Financial assets (fvoci)	**4,450**	**4,599**	**4,599**	**–**	**–**	**–**	**–**
Money market and capital market receivables	4,443	4,413	4,413	–	–	–	–
Equity instruments	7	186	186	–	–	–	–
Financial assets (fvpl)	**3,183**	**3,284**	**1,350**	**1,934**	**–**	**417**	**0**
Loan receivables	711	711	711	–	–	417	0
Money market and capital market receivables	538	639	639	–	–	–	–
Positive market value of designated hedging derivatives	1,277	1,277	–	1,277	–	–	–
Positive market value of other derivatives	657	657	–	657	–	–	–
Investments accounted for using the equity method	7	0	0	–	–	–	–
Intangible assets	158	23	–	–	–	7	16
Property and equipment	260	229	229	–	–	–	–
Income tax assets	30	30	29	–	–	0	–
Deferred tax assets	141	115	–	–	–	1	114
Other assets	333	303	303	–	–	7	–
Total assets	**42,687**	**42,713**	**40,639**	**1,934**	**–**	**12,774**	**131**
Equity and liabilities							
Financial liabilities (ac)	**37,215**	**37,452**	**0**	**–**	**–**	**1,997**	**35,454**
Money market and capital market liabilities	26,371	26,426	–	–	–	1,943	24,483
Deposits from the housing industry	9,679	9,845	–	–	–	–	9,845
Liabilities from other transactions	121	137	0	–	–	54	82
Subordinated capital	1,044	1,044	–	–	–	–	1,044
Financial liabilities (fvpl)	**1,934**	**1,934**	**–**	**1,934**	**–**	**–**	**–**
Negative market value of designated hedging derivatives	1,461	1,461	–	1,444	–	–	-17
Negative market value of other derivatives	473	473	–	490	–	–	17
Provisions	519	405	0	–	–	10	566
Income tax liabilities	40	18	–	–	–	–	18

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	a	b	c	d	e	f	g
			Carrying values of items				
€ mn	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Subject to the credit risk framework	Subject to the CCR framework	Subject to the securitisation framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital
Deferred tax liabilities	18	11	–	–	–	–	11
Other liabilities	33	12	0	–	–	–	12
Equity	**2,928**	**2,881**	**–**	**–**	**–**	**5,231**	**-2,576**
Subscribed capital	180	180	–	–	–	2,035	-1,855
Capital reserves	721	721	–	–	–	3,196	-2,474
Retained earnings	1,797	1,734	–	–	–	–	1,507
AT1 bond	300	300	–	–	–	–	300
Other reserves	-72	-54	–	–	–	–	-54
Non-controlling interests	2	0	–	–	–	–	0
Total liabilities	**42,687**	**42,713**	**0**	**1,934**	**–**	**7,238**	**33,485**

The carrying values shown in the table EU LI1 are calculated using financial reporting principles in accordance with the IFRSs. Allocation to risk categories is in line with the regulatory scope of consolidation; this also encompasses those line items which are generally exempt from regulatory capital requirements (such as liabilities), or which are deducted when determining regulatory capital requirements.

Differences between the carrying values shown are exclusively due to the different scopes of consolidation and the resulting consolidation postings. In this context, there are overlaps between the corporate entities included in the respective scope of consolidation. For further details, please refer to the comparison of scopes of consolidation in table EU LI3.

Please note that the sum of the amounts shown in the above-mentioned columns c) to g) is not identical to the amounts disclosed in column b); this is due to the fact that several line items are subject to capital requirements for credit or counterparty credit risk, as well as to capital requirements for market risk.

Main sources of differences between regulatory risk exposure amounts and carrying values in financial statements

Whilst the focus of table EU LI1 is on the reconciliation of carrying amounts in the IFRS financial statements to the regulatory scope of consolidation, and on the allocation to regulatory risk categories, table EU LI2 (page 14) reconciles carrying amounts with the regulatory risk exposure (Exposure at Default – "EaD"), in line with the regulatory scope of consolidation.

In this context, table EU LI2 identifies the main sources of differences between the carrying amounts/ values shown, and exposures for regulatory purposes (EaD).

In contrast to table EU LI1, table EU LI2 only incorporates those line items which are subject to regulatory capital requirements. Line items which are deducted when determining regulatory capital requirements, or which are generally exempt from regulatory capital requirements, are not taken into account here.

EU LI2: Main sources of differences between regulatory risk exposure amounts and carrying values in financial statements

		a	b	c	d	e
			Items subject to			
€ mn		Total	Credit risk framework	CCR framework	Securitisation framework	Market risk framework
1	**Assets carrying value under the scope of regulatory consolidation (as per table EU LI1)**	**42,713**	**40,639**	**1,934**	**–**	**12,774**
2	Liabilities carrying value under the scope of regulatory consolidation (as per table EU LI1)	42,713	0	1,934	–	7,238
3	Total net amount under the regulatory scope of consolidation	–	–	–	–	–
4	Off-balance sheet amounts	929	929	–	–	–
5	Differences in valuations	872	492	380	–	–
6	Differences due to different netting rules, other than those already included in row 2	-1,090	–	-1,090	–	–
7	Differences due to consideration of impairments and provisions under the IRBA	559	559	–	–	–
8	Differences due to prudential filters	–	–	–	–	–
9	Differences resulting from the calculation of the exchange position under the market risk standard approach	–	–	–	–	-12,662
10	Not subject to capital requirements or subject to deduction from capital	-130	–	–	–	–
11	**Exposure amounts considered for regulatory purposes**	**43,853**	**42,620**	**1,224**	**–**	**112**

Currently, none of the financial assets and liabilities meet the offsetting requirements for accounting purposes, therefore, no disclosure is made in line 3 of table EU LI2.

The following material causes and drivers are important for Aareal Bank AG regarding differences between carrying values and regulatory risk exposures (EaD):

- Line 4 shows off-balance sheet exposures not carried on the statement of financial position, which must be supplemented for regulatory purposes. Off-balance sheet exposures are shown after application of credit conversion factors (CCFs) and including the application of credit risk mitigation techniques.

- Line 5 shows valuation differences between the carrying amounts under IFRSs and regulatory EaD for on-balance sheet exposures. This is largely attributable to adjustments due to the methodology for determining EaD in the Advanced IRB (AIRBA) approach for credit exposures, as well as to adjustments due to add-ons for potential future replacement values of derivative transactions (regulatory add-on) for counterparty credit risk exposures.

- Line 6 shows differences due to the application of framework netting agreements for counterparty credit risk exposures, which are eligible for regulatory purposes and which Aareal Bank uses for mitigating credit risk.

- Line 7 reflects credit risk adjustments used for the regulatory comparison of Expected Loss (EL) to credit risk adjustments of exposures under the AIRBA as they have already been deducted from the carrying amounts shown in line I.

EaD for IRBA exposures is determined prior to deduction of credit risk adjustments; hence, credit risk adjustments already deducted from the carrying value must be supplemented.

- Line 8 shows no adjustments since existing prudential filters (such as cash flow reserves and adjustments due to the prudent valuation of financial instruments at fair value) are recognised directly in regulatory capital, and hence have no impact upon determination of regulatory exposures.

- Line 9 reflects the difference attributable to the determination of exchange position, for the purpose of regulatory capital requirements for market risk.

- Line 10 shows the balance sheet items deducted from regulatory capital, as reported in column g) of table EU LI1, since these are not included in the risk categories shown above (columns b) and c) of table EU LI2). These items must be deducted in order to reconcile the totals column (a) with the amounts of relevant risk categories (columns b and c).

Regulatory Capital

Aareal Bank Group has to comply with the capital adequacy requirements set out in the Capital Requirements Regulation (CRR), the Capital Requirements Directive (CRD IV), the German Banking Act (Kreditwesengesetz – "KWG") and the German Solvency Regulation (Solvabilitätsverordnung – "SolvV").

Following these regulations, institutions and companies operating in the financial sector must calculate their existing regulatory capital on a regular basis, and present these detailed results thereon to the supervisory authorities on specific dates.

Strict regulatory criteria are applied to the availability and sustainability of the qualifying capital when calculating regulatory capital. These provisions are not consistent with the recognition rules pursuant to the German Commercial Code (Handelsgesetzbuch – "HGB") or IFRSs.

The regulatory capital as well as equity recognised in the financial statements, as disclosed in Aareal Bank Group's Annual Report, are based on the items reported in the statement of financial position according to IFRSs. However, there are differences between items disclosed for regulatory and accounting purposes which are due to different scopes of consolidation on the one hand, as well as adjustments to the Group's regulatory capital on the other hand.

The disclosures in this report are based on the binding provisions for the implementation of disclosure requirements set out in the Commission Implementing Regulation 1423/2013/EU, in the interests of comparability and increased transparency pursuant to Article 437 of the CRR.

Main features of capital instruments

The overview of the main features published on our website is limited to a description of the issued capital instruments. Shares as well as reserves attributable to Common Equity Tier 1 capital are not considered since they are covered in position 1 of the table under section "Disclosure of own funds".

In addition to the overview of the issued capital instruments' main features, Aareal Bank is required, pursuant to Article 437 (1) lit. c) of the CRR, to disclose the full terms and conditions of all Common Equity Tier 1, Additional Tier 1 and Tier 2 instruments. Such terms and conditions of issue have been published in full on Aareal Bank's website under the "Investors" item.

Disclosure of own funds

€ mn		Amount as at 31 Dec 2018	Regulation (EU) No 575/2013 – reference to Article(s)
Common Equity Tier 1 (CET1) capital: instruments and reserves			
1	Capital instruments and the related share premium accounts	900	26 (1), 27, 28, 29
	of which: ordinary shares	180	EBA index pursuant to section 26 (3)
2	Retained earnings	1,507	26 (1) (c)
3	Accumulated other comprehensive income (and other reserves designated to account for unrealised gains and losses according to applicable accounting standards)	-54	26 (1)
3a	Fund for general banking risks	–	26 (1) (f)
4	Amount of qualifying items referred to in Art. 484 (3) and the related share premium accounts subject to phase-out from CET1	–	486 (2)
5	Minority interests (amount allowed in consolidated CET1)	–	84
5a	Independently reviewed interim/annual profits net of any foreseeable charge or dividend	83	26 (2)
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**2,436**	
Common Equity Tier 1 (CET1) capital: regulatory adjustments			
7	Additional value adjustments (negative amount)	-10	34, 105
8	Intangible assets (net of related tax liability) (negative amount)	-23	36 (1) (b), 37
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 of Art. 38 (3) are met) (negative amount)	-9	36 (1) (c), 38
11	Fair value reserves related to gains or losses on cash flow hedges of financial instruments	–	33 (a)
12	Negative amounts resulting from the calculation of expected loss amounts	-8	36 (1) (d), 40, 159
13	Increase in equity resulting from securitised assets (negative amount)	–	32 (1)
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	–	33 (b)
15	Defined-benefit pension fund assets (negative amount)	–	36 (1) (e), 41
16	Direct and indirect holdings of own Common Equity Tier 1 instruments (negative amount)	–	36 (1) (f), 42
17	Direct, indirect and synthetic holdings of Common Equity Tier 1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	–	36 (1) (g), 44
18	Direct, indirect and synthetic holdings by the institution of Common Equity Tier 1 instruments of financial sector entities where the institution does not have a significant investment (amount above 10 % threshold and net of eligible short positions) (negative amount)	–	36 (1) (h), 43, 45, 46, 49 (2) (3), 79
19	Direct, indirect and synthetic holdings by the institution of Common Equity Tier 1 instruments of financial sector entities in which the institution has a significant investment (amount above 10 % threshold and net of eligible short positions) (negative amount)	–	36 (1) (i), 43, 45, 47, 48 (1) (b), 49 (1) bis (3), 79
20	Empty set in the EU	–	
20a	Exposure amount of the following items which qualify for a risk weight of 1,250 %, where the institution opts for the deduction alternative	–	36 (1) (k)
20b	of which: qualifying holdings outside the financial sector (negative amount)	–	36 (1) (k) (i), 89 bis 91
20c	of which: securitisation positions (negative amount)	–	36 (1) (k) (ii), 243 (1) (b), 244 (1) (b), 258
20d	of which: free deliveries (negative amount)	–	36 (1) (k) (iii), 379 (3)
21	Deferred tax assets that rely on future profitability and arise from temporary differences (amount above 10 % threshold, net of related tax liability where the conditions of Article 38 (3) are met) (negative amount)	–	36 (1) (c), 38, 48 (1) (a)

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€ mn		Amount as at 31 Dec 2018	Regulation (EU) No 575/2013 – reference to Article(s)
22	Amount exceeding the 15% threshold (negative amount)	–	48 (1)
23	of which: direct and indirect holdings of CET1 instruments of financial sector entities in which the institution has a significant investment	–	36 (1) (i), 48 (1) (b)
24	Empty set in the EU	–	
25	of which: deferred tax assets that rely on future profitability and arise from temporary differences	–	36 (1) (c), 38, 48 (1) (a)
25a	Losses for the current financial year (negative amount)	–	36 (1) (a)
25b	Foreseeable tax charges relating to Common Equity Tier 1 items (negative amount)	–	36 (1) (l)
27	Qualifying Additional Tier 1 deductions exceeding the Additional Tier 1 capital of the institution (negative amount)	–	36 (1) (j)
	Deductions pursuant to Art. 3 of the CRR[1]	-105	
	Components of, or deductions with respect to, Common Equity Tier 1 capital	-17	
28	**Total regulatory adjustments to Common Equity Tier 1 (CET1) capital**	**-173**	
29	**Common Equity Tier 1 (CET1) capital**	**2,263**	
Additional Tier 1 (AT1) capital: instruments			
30	Capital instruments and related share premium accounts	300	51, 52
31	of which: classified as equity according to applicable accounting standards	300	
32	of which: classified as equity and liabilities according to applicable accounting standards	–	
33	Amount of qualifying items referred to in Art. 484 (4) and the related share premium accounts subject to phase-out from AT1	–	486 (3)
34	Qualifying Tier 1 instruments included in consolidated Additional Tier 1 capital (including minority interests not included in row 5) issued by subsidiaries and held by third parties	–	85, 86
35	of which: instruments issued by subsidiaries subject to phase-out	–	486 (3)
36	**Additional Tier 1 (AT1) capital before regulatory adjustments**	**300**	
Additional Tier 1 (AT1) capital: regulatory adjustments			
37	Direct and indirect holdings of own Additional Tier 1 instruments (negative amount)	–	52 (1) (b), 56 (a), 57
38	Direct, indirect and synthetic holdings of Additional Tier 1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	–	56 (b), 58
39	Direct and indirect holdings of Additional Tier 1 instruments of financial sector entities in which the institution does not have a significant investment (amount above 10 % threshold and net of eligible short positions) (negative amount)	–	56 (c), 59, 60, 79
40	Direct and indirect holdings of Additional Tier 1 instruments of financial sector entities in which the institution has a significant investment (amount above 10 % threshold and net of eligible short positions) (negative amount)	–	56 (d), 59, 79
41	Empty set in the EU	–	
42	Qualifying Tier 2 deductions exceeding the Tier 2 capital of the institution (negative amount)	–	56 (e)
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	**–**	
44	**Additional Tier 1 (AT1) capital**	**300**	
45	**Tier 1 capital (T1 = CET1 + AT1)**	**2,563**	

[1] The deductions made pursuant to Art. 3 of the CRR also take into account the ECB's SREP recommendations regarding the NPL guidelines (NPL stock).

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€ mn		Amount as at 31 Dec 2018	Regulation (EU) No 575/2013 – reference to Article(s)
Tier 2 (T2) capital: instruments and reserves			
46	Capital instruments and related share premium accounts	829	62, 63
47	Amount of qualifying items referred to in Art. 484 (5) and the related share premium accounts subject to phase-out from T2	3	486 (4)
48	Qualifying own funds instruments included in consolidated Tier 2 capital (including minority interests and AT1 instruments not included in row 5 or 34) issued by subsidiaries and held by third parties	–	87, 88
49	of which: instruments issued by subsidiaries subject to phase-out	–	486 (4)
50	Credit risk adjustments	48	62 (c) and (d)
51	**Tier 2 (T2) capital before regulatory adjustments**	**881**	
Tier 2 (T2) capital: regulatory adjustments			
52	Direct and indirect holdings by an institution of own tier 2 instruments and subordinated loans (negative amount)	–	63 (b) (i), 66 (a)
53	Holdings of Tier 2 instruments and subordinated loans of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	–	66 (b), 68
54	Direct and indirect holdings of Tier 2 instruments and subordinated loans of financial sector entities in which the institution does not have a significant investment (amount above 10 % threshold and net of eligible short positions) (negative amount)	–	66 (c), 69, 70, 79
55	Direct and indirect holdings by the institution of Tier 2 instruments and subordinated loans of financial sector entities in which the institution has a significant investment (net of eligible short positions) (negative amount)	–	66 (d), 69, 79
56	Empty set in the EU	–	
	Adjustments due to grandfathering rights regarding Additional Tier 1 instruments or subordinated loans	-2	
57	**Total regulatory adjustments to Tier 2 (T2) capital**	**-2**	
58	**Tier 2 (T2) capital**	**879**	
59	**Own funds (TC = T1 + T2)**	**3,442**	
60	**Total risk-weighted assets**[1)]	**10,778**	
Capital ratios and buffers			
61	Common Equity Tier 1 capital (as a percentage of total risk exposure amount)	21.00 %	92 (2) (a)
62	Tier 1 capital (as a percentage of total risk exposure amount)	23.78 %	92 (2) (b)
63	Total capital (as a percentage of total risk exposure amount)	31.94 %	92 (2) (c)
64	Institution-specific buffer requirement (CET1 requirement in accordance with Article 92 (1) (a) plus capital conservation and countercyclical capital buffer requirements, plus systemic risk buffer, plus systemically important institution (G-SII or O-SII) buffer expressed as a percentage of total risk exposure amount)	6.469 %	CRD 128, 129, 130, 131, 133
65	of which: capital conservation buffer requirement	1.875 %	
66	of which: countercyclical capital buffer requirement	0.094 %	
67	of which: systemic risk buffer requirement	–	

[1)] Unlike the disclosures made in the Annual Report, the RWAs reported to the supervisory authorities as at 31 December 2018 do not take into account the TRIM effects on commercial property financings. In addition, both the effects from the analysis of our fund units treated as equity investments and the RWA effects from the utilisation of the option provided for in Article 354 of the CRR regarding lower own funds requirements against positions in closely correlated currencies are not taken into account.

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€ mn		Amount as at 31 Dec 2018	Regulation (EU) No 575/2013 – reference to Article(s)
67a	of which: buffer for Global Systemically Important Institution (G-SII) or Other Systemically Important Institutions (O-SII)	–	CRD 131
68	Common Equity Tier 1 capital available to meet buffers (as a percentage of total risk exposure amount)	16.50 %	CRD 128
Amounts below thresholds for deductions (before risk weighting)			
72	Direct and indirect holdings of the capital of financial sector entities in which the institution does not have a significant investment (amount below 10 % threshold and net of eligible short positions)	27	36 (1) (h), 45, 46, 56 (c), 59, 60, 66 (c), 69, 70
73	Direct and indirect holdings of Common Equity Tier 1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10 % threshold and net of eligible short positions)	0	36 (1) (i), 45, 48
74	Empty set in the EU	–	
75	Deferred tax assets that rely on future profitability arising from temporary differences (amount below 10 % threshold and net of related tax liability where the conditions of Art. 38 (3) are met)	112	(36) (1) (c), 38, 48
Applicable caps on the inclusion of provisions in Tier 2			
76	Credit risk adjustments included in Tier 2 in respect of exposures subject to standardised approach (prior to the application of the cap)	–	62
77	Cap on inclusion of credit risk adjustments in Tier 2 under standardised approach	–	62
78	Credit risk adjustments included in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to the application of the cap)	80	62
79	Cap on inclusion of credit risk adjustments in Tier 2 under internal ratings-based approach	51	62
Capital instruments subject to phase-out arrangements (only applicable between 1 January 2013 and 1 January 2022)			
80	Current cap on CET1 instruments subject to phase-out arrangements	–	484 (3), 486 (2) and (5)
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	–	484 (3), 486 (2) and (5)
82	Current cap on AT1 instruments subject to phase-out arrangements	–	484 (4), 486 (3) and (5)
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	–	484 (4), 486 (3) and (5)
84	Current cap on T2 instruments subject to phase-out arrangements	1	484 (5), 486 (4) and (5)
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	2	484 (5), 486 (4) and (5)

Compared to the disclosure date of 30 September 2018, the capital ratios (CET1, T1 and TC ratio) only changed marginally: Specifically, the € 157 million increase in regulatory capital was more than offset by the simultaneous increase in risk-weighted assets (RWAs) by € 715 million.

The key drivers for this RWA increase are, above all, the consolidation of Düsseldorfer Hypothekenbank AG and an increased lending volume classified under the AIRBA.

The increase in regulatory capital was largely due to an increase of CET1 capital, which is mainly attributable to the inclusion of annual net income (including negative goodwill from the acquisition of Düsselhyp).

Reconciliation from equity, as disclosed in the Statement of Financial Position to regulatory capital

€ mn	Equity according to reporting scope of consolidation	Equity according to regulatory scope of consolidation	Regulatory capital according to regulatory scope of consolidation
Subscribed capital	**180**	**180**	**180**
Capital reserves	**721**	**721**	**721**
Retained earnings	**1,797**	**1,731**	**1,590**
AT1 bond[1]	**300**	**300**	**-**
Other reserves	**-72**	**-54**	**-54**
Reserve from remeasurements of defined benefit plans	-98	-89	-89
Reserve from the measurement of debt instruments (fvoci)	38	38	38
Reserve from the measurement of equity instruments (fvoci)	0	4	4
Reserve from changes in the value of foreign currency basis spreads	-8	-8	-8
Currency translation reserve	-4	1	1
Non-controlling interests	**2**	**–**	**–**
Common Equity Tier 1 (CET1) capital before regulatory adjustments	**2,928**	**2,878**	**2,436**
Regulatory adjustments	**–**	**–**	**-172**
Amounts to be deducted	**-158**	**-23**	**-40**
Intangible assets	-158	-23	-23
Goodwill	-85	-7	-7
Other intangible assets	-73	-16	-16
Deferred tax assets dependant on future profitability not resulting from temp. differences	–	–	-9
IRB deficit (non-defaulted exposures)	–	–	-8
Qualified investment outside the financial sector (alternative risk weighting 1,250 %)	–	–	–
Deductible deferred tax assets dependant on future profitability and resulting from temp. differences	–	–	–
Prudential filters	**–**	**–**	**-10**
Prudent valuation allowances	–	–	-10
Deductions pursuant to Art. 3 of the CRR	**–**	**–**	**-105**
Components of, or deductions with respect to, Common Equity Tier 1 capital	**–**	**–**	**-17**
Common Equity Tier 1 (CET1) capital	**–**	**–**	**2,263**
AT1 bond	**–**	**–**	**300**
AT1 capital instruments with grandfathering rights	**–**	**–**	**–**
Non-controlling interests	–	–	–
Contributions by silent partners	–	–	–
Amounts to be deducted	**–**	**–**	**–**
Other intangible assets	–	–	–
IRB deficit (non-defaulted exposures)	–	–	–
Additional Tier 1 (AT1) capital	**–**	**–**	**300**
Tier 1 capital (T1)	**–**	**–**	**2,563**

[1] Consideration within Additional Tier 1 (AT1) capital.

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€ mn	Equity according to reporting scope of consolidation	Equity according to regulatory scope of consolidation	Regulatory capital according to regulatory scope of consolidation
Capital instruments and subordinated loans eligible as Tier 2 capital	**992**	**992**	**829**
Subordinated liabilities	992	992	829
Non-controlling interests	–	–	–
Contributions by silent partners	–	–	–
T2 capital instruments with grandfathering rights	**52**	**52**	**1**
Subordinated liabilities	52	52	1
Profit-participation certificates	–	–	–
Amounts to be deducted	**–**	**–**	**–**
IRB deficit (non-defaulted exposures)	–	–	–
IRB surplus (defaulted exposures)	**–**	**–**	**48**
Tier 2 capital (T2)	**–**	**–**	**879**
Total capital (TC)	**–**	**–**	**3,442**

Regulatory capital requirements

In accordance with Article 438 a) of the CRR, a credit institution has to disclose "... a summary of the ... approach to assessing the adequacy of its internal capital to support current and future activities". Information on this are included in our Annual Report.[1)]

The capital requirements for a transaction's counterparty credit risk under the CRSA are essentially based on the following:

1. the regulatory classification (balance sheet, off-balance sheet, or derivatives business);
2. the amount of the loan at the time of default (Exposure at Default – "EaD");

and, under the AIRBA, additionally depends on

3. the Probability of Default (PD); as well as
4. the Loss Given Default (LGD).

The credit conversion factors for off-balance sheet transactions are predefined by the supervisory authorities for capital requirements under the CRSA. The borrowers are subdivided into exposure classes; the exposure amounts are risk-weighted, based on their external ratings.

As at 31 December 2018, risks associated with outstanding delivery as part of counterparty risks amounted to € 4 million and had to be taken into account when determining counterparty usage limits.

Based on the AIRBA or CRSA calculation approach, the following RWAs and capital requirements were determined as at the reporting date for the types of risk that are relevant for regulatory purposes.

Regarding the causes of RWA changes during the fourth quarter of 2018, reference is made to the explanations in the chapter "Disclosure of own funds".

The simple risk weight method is exclusively used to determine the capital requirements of the equity investments reported under the AIRBA.

1) Aareal Bank Group 2018 Annual Report: chapter "Risk-bearing capacity and risk limits" in the Risk Report of the Group Management Report, page 68 et seqq. as well as chapter "Other Notes", Note (77) in the Notes to the consolidated financial statements, page 215 et seqq.

EU OV1: Overview of risk-weighted assets (RWA)

€ mn		Risk-weighted items (RWAs)		Minimum capital requirements
		31 Dec 2018	30 Sep 2018	31 Dec 2018
1	**Credit risk (excluding CCR)**	**8,357**	**7,769**	**669**
2	Credit Risk Standard Approach (CRSA)	638	392	51
3	Foundation IRB Approach (FIRB)	–	–	–
4	Advanced IRB Approach (AIRBA)	6,436	6,327	515
5	Equity IRB under the simple risk-weighted approach or the IMA	1,284	1,051	103
6	**CCR**	**573**	**527**	**46**
7	Mark to market	358	338	29
8	Original exposure	–	–	–
9	Standardised approach	–	–	–
10	Internal model method (IMM)	–	–	–
11	Risk exposure amount for contributions to default fund of a CCP	0	0	0
12	CVA	215	189	17
13	**Settlement risk**	**–**	**–**	**–**
14	**Securitisation exposures in the banking book (after the cap)**	**–**	**–**	**–**
15	IRB approach	–	–	–
16	IRB supervisory formula approach (SFA)	–	–	–
17	Internal assessment approach (IAA)	–	–	–
18	Standardised approach	–	–	–
19	**Market risk**	**112**	**100**	**9**
20	Standardised approach	112	100	9
21	IMA	–	–	–
22	**Large exposures**	**–**	**–**	**–**
23	**Operational risk**	**1,455**	**1,411**	**116**
24	Basic indicator approach	44	–	4
25	Standardised approach	1,411	1,411	113
26	Advanced measurement approach	–	–	–
27	**Amounts below the thresholds for deduction (subject to 250 % risk weight)**	**281**	**257**	**22**
28	**Floor adjustment**	**–**	**–**	**–**
29	**Total**	**10,778**	**10,063**	**862**

In the following table (page 23), the equity investments reported under the AIRBA and previously disclosed on a consolidated level – for which the simple risk weight method is used exclusively pursuant to Article 155 (2) of the CRR – are disclosed separately according to the risk exposures determined in the Regulation.

Aareal Bank holds specialised lending in its portfolio as at the current disclosure date. Given a more differentiated interpretation applied by the ECB, we reviewed and adjusted, if necessary, the classification of IRBA exposures classified as "specialised lending" pursuant to Article 147 (8) of the CRR in the year under review. The specialised lendings held in the portfolio as at the current disclosure date are not assigned any regulatory risk weights prescribed in accordance with Article 153 (5) of the CRR. Therefore, they are not disclosed in table EU CR10.

EU CR10: IRB (specialised lending and equities)

Regulatory categories	Remaining maturity	Specialised lending					
		On-balance-sheet amount	Off-balance-sheet amount	Risk weighting	Exposure at Default	RWAs	Expected losses
€ mn							
Category 1	Less than 2.5 years	–	–	50 %	–	–	–
	Equal to or more than 2.5 years	–	–	70 %	–	–	–
Category 2	Less than 2.5 years	–	–	70 %	–	–	–
	Equal to or more than 2.5 years	–	–	90 %	–	–	–
Category 3	Less than 2.5 years	–	–	115 %	–	–	–
	Equal to or more than 2.5 years	–	–	115 %	–	–	–
Category 4	Less than 2.5 years	–	–	250 %	–	–	–
	Equal to or more than 2.5 years	–	–	250 %	–	–	–
Category 5	Less than 2.5 years	–	–	–	–	–	–
	Equal to or more than 2.5 years	–	–	–	–	–	–
Total	**Less than 2.5 years**	**–**	**–**		**–**	**–**	**–**
	Equal to or more than 2.5 years	**–**	**–**		**–**	**–**	**–**

Regulatory categories	Equities under the simple risk-weighted approach					
	On-balance-sheet amount	Off-balance-sheet amount	Risk weight	Exposure at Default	RWAs	Regulatory capital requirements
€ mn						
Private equity exposures	–	–	190 %	–	–	–
Listed investments	0	–	290 %	0	0	0
Other equity investments	347	–	370 %	347	1.284	103
Total	**347**	**–**		**347**	**1.284**	**103**

Countercyclical Capital Buffer

The countercyclical capital buffer (CCB) is a macro-prudential tool used by banking supervisors to counteract the risk of excessive credit growth in the banking sector and to contribute building up an additional capital buffer to provide for hard times. The purpose of the capital buffer is to increase the loss-absorbing capacity of banks throughout the credit cycle. The value for the CCB usually amounts to between 0 and 2.5 %; it is determined on a quarterly basis by the national supervisory authority of the respective country, based on a variety of economic factors, in particular the ratio of lending volumes to gross domestic product.

The institution-specific countercyclical capital buffer is calculated as the weighted average of the countercyclical capital buffers applicable to the countries where the respective institution is exposed to significant credit risks. The institution is obliged to maintain this weighted average as a percentage of risk-weighted assets (RWAs) in the form of Common Equity Tier 1 capital. Significant credit risk exposures are defined in section 36 of the German Solvency Regulation (Solvabilitätsverordnung – ”SolvV”) and comprise exposures to corporate and private customers.

The countercyclical capital buffer requirements have been applicable since 1 January 2016, when the ramp-up phase was launched: the institution-specific countercyclical capital buffer was/is limited to 0.625 % in 2016, to 1.25 % in 2017, and to 1.875 % in 2018. The regulatory requirements have to be fully complied with as from 1 January 2019.

The two following disclosure tables are based on the requirements set out in the Commission Delegated Regulation (EU) 2015/1555 of 28 May 2015.

Geographical distribution of significant credit risks

		General credit risk exposures		Trading book exposures		Securitisation exposure		Regulatory capital requirements				Weighings of regulatory capital requirements	Countercyclical capital buffer ratio
		CRSA exposure value	IRBA exposure value	Sum of long and short positions in the trading book	Risk exposure in the trading book (internal models)	CRSA exposure value	IRBA exposure value	of which: general credit risk exposures	of which: trading book exposures	of which: securitisation exposure	Total		
		€ mn	€ mn	€ mn	€ mn	€ mn	€ mn	€ mn	€ mn	€ mn	€ mn	%	%
010	Germany	866	4,164	–	–	–	–	193	–	–	193	0.29	0.00
	Belgium	–	496	–	–	–	–	6	–	–	6	0.01	0.00
	Austria	2	330	–	–	–	–	4	–	–	4	0.01	0.00
	Switzerland	–	332	–	–	–	–	3	–	–	3	0.00	0.00
	France	37	2,250	–	–	–	–	17	–	–	17	0.02	0.00
	United Kingdom	62	4,228	–	–	–	–	45	–	–	45	0.07	1.00
	Ireland	–	7	–	–	–	–	2	–	–	2	0.00	0.00
	Luxembourg	0	75	–	–	–	–	5	–	–	5	0.01	0.00
	Netherlands	47	1,296	–	–	–	–	20	–	–	20	0.03	0.00
	Denmark	4	376	–	–	–	–	28	–	–	28	0.04	0.00
	Norway	–	4	–	–	–	–	0	–	–	0	0.00	2.00
	Sweden	–	479	–	–	–	–	8	–	–	8	0.01	2.00
	Finland	–	787	–	–	–	–	7	–	–	7	0.01	0.00
	Italy	5	2,946	–	–	–	–	166	–	–	166	0.25	0.00
	Spain	44	1,173	–	–	–	–	14	–	–	14	0.02	0.00
	Turkey	–	131	–	–	–	–	11	–	–	11	0.02	0.00
	Czech Republic	–	22	–	–	–	–	0	–	–	0	0.00	1.00
	Poland	0	635	–	–	–	–	10	–	–	10	0.02	0.00
	Estonia	–	54	–	–	–	–	1	–	–	1	0.00	0.00
	Russia	–	475	–	–	–	–	23	–	–	23	0.03	0.00
	USA	78	6,879	–	–	–	–	79	–	–	79	0.12	0.00
	Cayman Islands	–	2	–	–	–	–	0	–	–	0	0.00	0.00
	Canada	–	959	–	–	–	–	11	–	–	11	0.02	0.00
	China	–	168	–	–	–	–	8	–	–	8	0.01	0.00
	Maldives	–	192	–	–	–	–	3	–	–	3	0.00	0.00
	Australia	–	65	–	–	–	–	0	–	–	0	0.00	0.00
	Slovakia	–	48	–	–	–	–	0	–	–	0	0.00	1.25
020	**Total**	**1,144**	**28,572**	**–**	**–**	**–**	**–**	**666**	**–**	**–**	**666**	**1.00**	

Amount of institution-specific countercyclical capital buffer

€ mn		31 Dec 2018
010	Aggregate risk exposure	10,778
020	Institution-specific countercyclical capital buffer ratio	0.09 %
030	Institution-specific countercyclical capital buffer requirement	10

Credit Risk and General Information on Credit Risk Mitigation

Aareal Bank defines credit risk – or counterparty credit risk – as the risk of losses being incurred due to (i) a business partner defaulting on contractual obligations; (ii) collateral being impaired; or (iii) a risk arising upon realisation of collateral. Both credit business and trading activities may be subject to counterparty credit risk. Counterparty credit risks from trading activities may refer to risk exposure vis-à-vis counterparties or issuers. Country risk is also defined as a form of counterparty credit risk.

Credit risk strategy

Within the framework of the three-continent strategy pursued in the Structured Property Financing segment, Aareal Bank Group aims to build a balanced business property finance portfolio, in terms of regions, products, types of property and client groups. Dependencies, as well as risk concentrations, are reduced through diversification.

The credit risk strategy sets the material aspects of Aareal Bank's credit risk management and policies. The Bank's credit risk strategy comprises the Group credit risk strategy (as a general guideline) plus individual sub-strategies called Lending Guidelines. Given the hierarchical structure of the credit risk strategy, the Group Credit Risk Strategy overrides individual sub-strategies. These rules serve as a guideline for generating new business. The organisational structure and workflows tailored towards credit risk management as well as the implemented procedures used for measuring, managing and monitoring risk exposure are described in detail in the Annual Report.[1] The Annual Report also includes descriptions of strategies and processes used to monitor the current effectiveness of the measures taken for risk protection and risk mitigation.

Loss allowance

The best way to provide for risks is to carefully review such risks before granting a loan. We embrace this fundamental principle by adopting a multi-level review process, using (amongst others) our well-trained, experienced employees in the credit divisions.

As a property finance specialist, we not only focus on the borrower's credit rating but also carry out an in-depth analysis of the value and profitability of the property pledged as collateral.

Despite all the due care taken, events occasionally occur that can lead to impairment or even default. Our credit management teams are obliged to follow certain rules for these receivables when the first signs emerge that a loan might become impaired.

Our specialised and high-volume business requires us to maintain close contact with clients. Apart from events that can be determined objectively, such as when a loan is in arrears, or when a borrower fails to meet disclosure duties, the first signs of potential problems comprise a series of soft factors.

[1] Aareal Bank Group 2018 Annual Report in the Risk Report, chapter "Loan loss risks", pages 74 et seqq.

The responsible loan manager is informed of such soft factors, for example, by analysing performance reports. If there is evidence of events that could hamper the continuity of payments, the exposure is flagged in line with the risks involved.

The intensity of the attendant measures to be taken depends on the extent of the potential default, the internal assessment of the borrower/property, plus time-related and legal issues. All events are examined on a case-by-case basis.

Definition of terms and allowance process

Aareal Bank has applied IFRS 9 since 1 January 2018. The loss allowance to be recognised in this context is based on the internal staging and expected credit loss (ECL) model. For this purpose, financial instruments of the categories "measured at amortised cost" (ac) and "measured at fair value through other comprehensive income" (fvoci) as well as loan commitments and financial guarantees are allocated to various stages at both initial recognition and subsequent measurement. The related loss allowances are recognised in the amount of the twelve-month or the lifetime expected credit loss. Additional information regarding the recognition of loss allowances and the allocation to stages can be found in the Annual Report.[1)]

Aareal Bank believes that the impairment triggers provided as examples in IFRS 9 and the reasons for default set out in Article 178 of the CRR are identical in substance. Accordingly, all financial instruments within the measurement categories set out above classified as defaulted in accordance with the CRR are allocated to Stage 3 and are deemed non-performing loans. For financial instruments that are not allocated to any measurement category, the default of a borrower does not lead to the recognition of loss allowance in Stage 3, but to a credit-induced fair value adjustment.

Uncollectable (residual) receivables are written off against loss allowance recognised previously.

In the absence of any other reasons for default, all liabilities of a borrower that are more than 90 days past due are deemed overdue, but not defaulted.

Forbearance

"Forbearance" means concessions in the form of contractual amendments vis-à-vis a debtor which is in financial difficulty (or would be in financial difficulty, at the time of the contractual amendments, without the forbearance measure), enabling the debtor to continue or resume to meet its payment obligations.

General quantitative information on credit risks

The information to be disclosed in this chapter pursuant to Article 442 lit. c) to f) of the CRR is based on the solvency data reported to the banking regulators, on the basis of the regulatory scope of consolidation.

The valuation of off-balance sheet items as well as assets carried on the balance sheet included in regulatory reporting is generally made in accordance with the International Financial Reporting Standards (IFRSs).

Considering the net exposures to be disclosed in the following tables with regard to exposures reported under the AIRBA, it needs to be noted that the related loss allowance does not reduce the assessment basis, but is considered in the comparison of value adjustments pursuant to Article 159 of the CRR in the determination of regulatory own funds.

Exposures resulting from counterparty credit risk exposures are not taken into account; these are disclosed separately in this report.

Average amount of exposures during the financial year

The table EU CRB-B (page 27) shows – in accordance with Article 442 lit. c) of the CRR in con-

[1)] Aareal Bank Group 2018 Annual Report: chapter "Accounting policies", Note (7) in the Notes to the consolidated financial statements, pages 151 et seqq.

EU CRB-B: Total and average net amount of exposures

€ mn		a Net value of exposures at the end of the reporting period	b Average net exposures over the reporting period
2	Institutions	1,134	1,193
3	Corporates	26,938	25,509
4	of which: specialised lending	1,074	550
5	of which: SMEs	16,843	16,211
14	Equity	347	306
14a	Other non-credit obligation assets	588	572
15	**Total IRB approach**	**29,006**	**27,579**
16	Central governments or central banks	5,347	5,123
17	Regional governments and similar entities	3,880	3,777
18	Other public-sector entities	1,734	1,830
19	Multilateral development banks	258	259
20	International organisations	438	445
21	Institutions	409	102
22	Corporates	368	370
23	of which: SMEs	55	178
24	Retail	15	147
25	of which: SMEs	–	–
26	Secured by mortgages on immovable property	736	941
27	of which: SMEs	6	223
28	Exposures in default	4	7
29	Items associated with particularly high risk	–	–
30	Covered bonds	104	26
31	Claims on institutions and corporates with a short-term credit assessment	–	–
32	Collective investment undertakings (CIU)	–	–
33	Equity exposures	0	0
34	Other exposures	3	1
35	**Total standardised approach**	**13,297**	**13,028**
36	**Total**	**42,303**	**40,607**

junction with EBA guidelines – the total and average net amount of exposures as per the reporting date, in line with CRSA and IRBA exposure classes.

Breakdown by major geographical segments

The presented breakdown (pages 28/29) of the total exposure amount by major geographical markets to be disclosed is based on our three-continent strategy, which covers Europe, North America and Asia/Pacific, as explained in our Annual Report. The breakdown criterion used is the country the respective property used as collateral is located in.

Moreover, countries in which the exposure amounts to at least € 300 million (before consideration of loan loss provisions) are listed separately for each region (Germany excluded). All remaining countries are listed under item ”Others”.

EU CRB-C – Geographical breakdown of exposures

	a	b			
€ mn	Germany	Western Europe	Austria	Belgium	Switzerland
2 Institutions	**216**	**660**	–	4	–
3 Corporates	**3,990**	**8,329**	252	328	312
5 Equity	**262**	**62**	–	0	–
5a Other non-credit obligation assets	**588**	**–**	–	–	–
6 Total IRB approach	**5,055**	**9,051**	**252**	**332**	**312**
7 Central governments or central banks	**1,750**	**1,415**	994	–	6
8 Regional governments and similar entities	**3,515**	**37**	36	–	–
9 Other public-sector entities	**1,298**	**401**	195	6	–
10 Multilateral development banks	**–**	**–**	–	–	–
11 International organisations	**–**	**–**	–	–	–
12 Institutions	**158**	**218**	76	–	–
13 Corporates	**214**	**72**	2	–	–
14 Retail	**15**	**–**	–	–	–
15 Secured by mortgages on immovable property	**714**	**16**	–	–	–
16 Exposures in default	**4**	**–**	–	–	–
17 Items associated with particularly high risk	**–**	**–**	–	–	–
18 Covered bonds	**–**	**61**	–	–	–
19 Claims on institutions and corporates with a short-term credit assessment	**–**	**–**	–	–	–
20 Collective investment undertakings (CIU)	**–**	**–**	–	–	–
21 Equity exposures	**0**	**–**	–	–	–
22 Other exposures	**3**	**–**	–	–	–
23 Total standardised approach	**7,671**	**2,220**	**1,303**	**6**	**6**
24 Total	**12,727**	**11,270**	**1,555**	**338**	**318**

				e	
€ mn	Spain	Italy	Other	Eastern Europe	Poland
2 Institutions	27	13	–	**2**	2
3 Corporates	1,100	2,578	–	**1,279**	589
5 Equity	–	–	–	**–**	–
5a Other non-credit obligation assets	–	–	–	**–**	–
6 Total IRB approach	**1,127**	**2,591**	**–**	**1,281**	**591**
7 Central governments or central banks	360	1,471	91	**259**	139
8 Regional governments and similar entities	292	5	–	**–**	–
9 Other public-sector entities	–	–	34	**–**	–
10 Multilateral development banks	–	–	–	**–**	–
11 International organisations	–	–	–	**–**	–
12 Institutions	–	–	–	**–**	–
13 Corporates	1	–	–	**–**	–
14 Retail	0	0	–	**–**	–
15 Secured by mortgages on immovable property	–	4	–	**–**	–
16 Exposures in default	–	1	–	**–**	–
17 Items associated with particularly high risk	–	–	–	**–**	–
18 Covered bonds	43	–	–	**–**	–
19 Claims on institutions and corporates with a short-term credit assessment	–	–	–	**–**	–
20 Collective investment undertakings (CIU)	–	–	–	**–**	–
21 Equity exposures	–	–	–	**–**	–
22 Other exposures	–	–	–	**–**	–
23 Total standardised approach	**697**	**1,480**	**124**	**259**	**139**
24 Total	**1,823**	**4,071**	**124**	**1,538**	**730**

Net asset value				c					d
France	United Kingdom	Netherlands	Other	Northern Europe	Denmark	Finland	Sweden	Other	Southern Europe
75	533	48	0	**60**	52	3	4	–	**40**
2,161	4,048	1,155	73	**1,550**	321	777	448	4	**3,678**
18	19	18	7	**24**	–	–	24	–	**–**
–	–	–	–	**–**	–	–	–	–	**–**
2,253	**4,599**	**1,222**	**80**	**1,633**	**374**	**780**	**477**	**4**	**3,718**
29	153	–	233	**1**	–	1	0	–	**1,922**
1	–	–	–	**–**	–	–	–	–	**297**
200	–	–	–	**–**	–	–	–	–	**34**
–	–	–	–	**–**	–	–	–	–	**–**
–	–	–	–	**–**	–	–	–	–	**–**
34	50	58	–	**–**	–	–	–	–	**–**
37	2	31	0	**2**	2	–	–	–	**1**
–	–	–	–	**–**	–	–	–	–	**–**
–	–	16	–	**2**	2	–	–	–	**4**
–	–	–	–	**–**	–	–	–	–	**1**
–	–	–	–	**–**	–	–	–	–	**–**
–	61	–	–	**–**	–	–	–	–	**43**
–	–	–	–	**–**	–	–	–	–	**–**
–	–	–	–	**–**	–	–	–	–	**–**
–	–	–	–	**–**	–	–	–	–	**–**
–	–	–	–	**–**	–	–	–	–	**–**
301	**266**	**105**	**233**	**5**	**4**	**1**	**0**	**–**	**2,301**
2,555	**4,865**	**1,326**	**313**	**1,638**	**378**	**781**	**477**	**4**	**6,019**

Net asset value		f				g	h	f
Russia	Other	North America	Canada	USA	Other	Asia/Pacific	Other	Total
–	0	**89**	4	85	–	**68**	**–**	**1,134**
465	223	**7,697**	949	6,748	–	**416**	**2**	**26,938**
–	–	**–**	–	–	–	**–**	**–**	**347**
–	–	**–**	–	–	–	**–**	**–**	**588**
465	**223**	**7,786**	**952**	**6,833**	**–**	**484**	**2**	**29,006**
–	120	**–**	–	0	–	**–**	**–**	**5,347**
–	–	**–**	–	–	–	**31**	**–**	**3,880**
–	–	**–**	–	–	–	**–**	**–**	**1,734**
–	–	**–**	–	–	–	**–**	**258**	**258**
–	–	**–**	–	–	–	**–**	**438**	**438**
–	–	**34**	–	34	–	**–**	**–**	**409**
–	–	**78**	–	78	–	**–**	**–**	**368**
–	–	**–**	–	–	–	**–**	**–**	**15**
–	–	**–**	–	–	–	**–**	**–**	**736**
–	–	**–**	–	–	–	**–**	**–**	**4**
–	–	**–**	–	–	–	**–**	**–**	**–**
–	–	**–**	–	–	–	**–**	**–**	**104**
–	–	**–**	–	–	–	**–**	**–**	**–**
–	–	**–**	–	–	–	**–**	**–**	**–**
–	–	**–**	–	–	–	**–**	**–**	**0**
–	–	**–**	–	–	–	**–**	**–**	**3**
–	**120**	**112**	**–**	**112**	**–**	**31**	**696**	**13,297**
465	**343**	**7,897**	**952**	**6,945**	**–**	**515**	**697**	**42,303**

Breakdown by borrower group

We monitor the borrower groups by assigning counterparties to four groups, using the industry codes defined by Deutsche Bundesbank. Besides equity investments, the ”Other” borrower group includes all other sectors.

With a share of 28.5 %, hotel properties accounted for the largest share of the ”Corporates” borrower group in terms of property type, followed by office (26.9 %), retail (23.5 %) and logistics properties (7.4 %).

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

		a	b	c	d	e
				Net asset value		
		Institutions	Public-sector entities	Corporates	Other	Total
€ mn						
2	Institutions	1,134	–	–	–	**1,134**
3	Corporates	0	–	26,930	8	**26,938**
3a	of which: SMEs	–	–	16,847	–	**16,847**
5	Equity exposures	–	–	347	–	**347**
5a	Other non-credit obligation assets	65	–	523	–	**588**
6	**Total IRB approach**	**1,199**	**–**	**27,800**	**8**	**29,006**
7	Central governments or central banks	1,267	4,080	–	–	**5,347**
8	Regional governments and similar entities	–	3,880	–	0	**3,880**
9	Other public-sector entities	1,249	483	–	1	**1,734**
10	Multilateral development banks	258	–	–	–	**258**
11	International organisations	–	438	–	–	**438**
12	Institutions	409	–	–	–	**409**
13	Corporates	–	–	308	60	**368**
13a	of which: SMEs	–	–	55	0	**55**
14	Retail	–	–	1	14	**15**
14a	of which: SMEs	–	–	–	–	**–**
15	Exposures secured by mortgages on immovable property	–	–	236	500	**736**
15a	of which: SMEs	–	–	6	0	**6**
16	Exposures in default	–	–	1	3	**4**
17	Items associated with particularly high risk	–	–	–	–	**–**
18	Covered bonds	61	–	43	–	**104**
19	Claims on institutions and corporates with a short-term credit assessment	–	–	–	–	**–**
20	Collective investment undertakings (CIU)	–	–	–	–	**–**
21	Equity exposures	–	–	–	0	**0**
22	Other exposures	–	–	3	–	**3**
23	**Total standardised approach**	**3,245**	**8,881**	**593**	**578**	**13,297**
24	**Total**	**4,444**	**8,881**	**28,393**	**586**	**42,303**

Breakdown by remaining term to maturity

The remaining term to maturity is determined on the basis of the contractually agreed term of all on-balance sheet and off-balance sheet transactions. The column "On demand" comprises exposures due on demand.

EU CRB-E: Maturity of exposures

		a	b	c	d	e	f
		Net exposure value					
		On demand	up to 1 year	> 1 year ≤ 5 years	> 5 years	No stated maturity	Total
€ mn							
2	Institutions	76	760	128	159	11	**1,134**
3	Corporates	437	2,998	15,262	8,241	–	**26,938**
5	Equity	–	–	–	–	347	**347**
5a	Other non-credit obligation assets	113	–	–	–	475	**588**
6	**Total IRB approach**	**626**	**3,757**	**15,390**	**8,399**	**833**	**29,006**
7	Central governments or central banks	1,265	330	671	3,075	6	**5,347**
8	Regional governments and similar entities	112	503	1,417	1,813	35	**3,880**
9	Other public-sector entities	–	780	824	130	–	**1,734**
10	Multilateral development banks	–	64	173	21	–	**258**
11	International organisations	–	16	408	14	–	**438**
12	Institutions	2	257	132	17	–	**409**
13	Corporates	20	32	86	230	–	**368**
14	Retail	1	0	1	13	–	**15**
15	Secured by mortgages on immovable property	0	7	120	608	–	**736**
16	Exposures in default	1	0	1	2	–	**4**
17	Items associated with particularly high risk	–	–	–	–	–	**–**
18	Covered bonds	–	–	104	–	–	**104**
19	Claims on institutions and corporates with a short-term credit assessment	–	–	–	–	–	**–**
20	Collective investment undertakings (CIU)	–	–	–	–	–	**–**
21	Equity exposures	–	–	0	–	–	**0**
22	Other exposures	3	–	–	–	–	**3**
23	**Total standardised approach**	**1,404**	**1,989**	**3,939**	**5,923**	**41**	**13,297**
24	**Total**	**2,029**	**5,746**	**19,330**	**14,323**	**875**	**42,303**

Quantitative information on the credit quality of exposures

In the following tables, the breakdown of past due and impaired exposures and the related allowances required by Article 442 lit. g) and h) of the CRR, as submitted to banking supervisors as part of Solvency reporting, are disclosed with different levels of detail. As part of the implementation of the EBA guidelines, the exposures in tables EU CR1-A to EU CR1-C must be classified as to whether a default under the terms of Article 178 of the CRR exists or not.

Implementation of the EBA Guidelines on disclosure of non-performing and forborne exposures (EBA/GL/2018/10) has replaced the previously disclosed tables EU CR1-D and EU CR1-E.

Pursuant to Article 1 of the Commission Delegated Regulation (EU) No. 183/2014, general and specific credit risk adjustments require the inclusion of all amounts "... by which an institution's Common Equity Tier 1 capital has been reduced in order to reflect losses exclusively related to credit risk according to the applicable accounting framework and recognised as such in the profit or loss account, irrespective of whether they result from impairments, value adjustments or provisions for off-balance sheet items."

Aareal Bank's specific credit risk adjustments at the reporting date comprise existing loss allowance carried. For details concerning the recognition of loss allowance, based on the Bank's internal staging and expected credit loss model, please refer to the chapter "Loss allowance" in this report.

Such utilisations are shown in the "Accumulated write-offs" column of the following tables, for information only.

Credit risk adjustment charges disclosed in column f of tables EU CR1-A to EU CR1-C comprise loss allowance recognised and reversed during the reporting period.

Table EU CR1-A additionally includes the figures for exposures in default listed in line 28 for the original CRSA exposure classes (Corporates, Retail, and exposures secured by mortgages on immovable property). In this way, Aareal Bank has implemented the EBA recommendations, published in January 2018, on disclosure of exposures in default within the scope of this table. Accordingly, line 28 is only for information, since it is not included in the calculation of totals across all CRSA exposure classes.

The tables EU CR1-B and EU CR1-C are based on the same allocation criteria as the tables EU CRB-D and EU CRB-C before, both in terms of borrower groups and regional presentation.

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

		a	b	c	d	e	f	g
		Gross carrying values of						Net values
		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	(a+b-c-d)
€ mn								
2	Institutions	–	1,134	0	–	–	0	**1,134**
3	Corporates	1,656	25,840	559	–	82	1	**26,938**
4	of which: specialised lending	93	998	18	–	–	-53	**1,074**
5	of which: SMEs	1,292	15,946	396	–	68	–	**16,843**
14	Equity	–	347	–	–	–	–	**347**
	Other non-credit obligation assets	–	591	3	–	–	–	**588**
15	**Total IRB approach**	**1,656**	**27,912**	**562**	**–**	**82**	**1**	**29,006**
16	Central governments or central banks	–	5,357	10	–	–	0	**5,347**
17	Regional governments and similar entities	–	3,880	0	–	–	0	**3,880**
18	Other public-sector entities	–	1,734	0	–	–	0	**1,734**

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€ mn		a Gross carrying values of Defaulted exposures	b Non-defaulted exposures	c Specific credit risk adjustment	d General credit risk adjustment	e Accumulated write-offs	f Credit risk adjustment charges of the period	g Net values (a+b-c-d)
19	Multilateral development banks	–	258	–	–	–	–	**258**
20	International organisations	–	438	0	–	–	–	**438**
21	Institutions	–	409	0	–	–	0	**409**
22	Corporates	1	368	1	–	0	-1	**369**
23	of which: SMEs	1	55	0	–	–	0	**55**
24	Retail	4	15	1	–	0	-1	**18**
25	of which: SMEs	–	–	–	–	–	–	**–**
26	Secured by mortgages on immovable property	–	738	2	–	–	-1	**736**
27	of which: SMEs	–	6	0	–	–	0	**6**
28	Exposures in default	6	–	2	–	0	-8	**4**
29	Items associated with particularly high risk	–	–	–	–	–	–	**–**
30	Covered bonds	–	104	–	–	–	–	**104**
31	Claims on institutions and corporates with a short-term credit assessment	–	–	–	–	–	–	**–**
32	Collective investment undertakings	–	–	–	–	–	–	**–**
33	Equity exposures	–	0	–	–	–	–	**0**
34	Other exposures	–	3	–	–	–	–	**3**
35	**Total standardised approach**	**6**	**13,306**	**15**	**–**	**0**	**-11**	**13,297**
36	**Total**	**1,662**	**41,218**	**577**	**–**	**82**	**-10**	**42,303**
37	of which: loans	1,588	30,121	561	–	82	-2	**31,148**
38	of which: debt securities	–	8,729	10	–	–	-1	**8,719**
39	of which: off-balance sheet exposures	74	1,422	2	–	–	-8	**1,495**

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

€ mn		a Gross carrying values of Defaulted exposures	b Non-defaulted exposures	c Specific credit risk adjustment	d General credit risk adjustment	e Accumulated write-offs	f Credit risk adjustment charges of the period	g Net values (a+b-c-d)
1	Institutions	–	4,444	0	–	–	0	**4,443**
2	Public-sector entities	–	8,891	10	–	–	0	**8,881**
3	Corporates	1,658	27,293	563	–	82	10	**28,388**
4	Other	4	589	3	–	0	0	**590**
5	**Total**	**1,662**	**41,218**	**577**	**–**	**82**	**10**	**42,303**

EU CR1-C: Credit quality of exposures by geography

		a	b	c	d	e	f	g
		Gross carrying values of						Net values
€ mn		Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumu-lated write-offs	Credit risk adjustment charges of the period	(a+b-c-d)
1	**Germany**	**23**	**12,717**	**13**	**–**	**0**	**-12**	**12,727**
2	**Western Europe**	**100**	**11,190**	**20**	**–**	**18**	**-19**	**11,270**
	Austria	–	1,555	0	–	–	0	**1,555**
	Belgium	–	338	0	–	4	0	**338**
	Switzerland	–	318	0	–	–	0	**318**
	France	99	2,471	16	–	2	-19	**2,555**
	United Kingdom	–	4,868	3	–	–	15	**4,865**
	Netherlands	1	1,326	1	–	12	-15	**1,326**
	Other	–	313	0	–	–	0	**313**
3	**Northern Europe**	**321**	**1,385**	**67**	**–**	**–**	**5**	**1,639**
	Denmark	309	128	61	–	0	0	**377**
	Finland	12	775	6	–	–	5	**781**
	Sweden	–	477	0	–	–	0	**477**
	Other	–	4	0	–	–	0	**4**
4	**Southern Europe**	**1,150**	**5,302**	**434**	**–**	**61**	**41**	**6,019**
	Spain	40	1,806	23	–	1	-14	**1,823**
	Italy	1,110	3,372	410	–	60	55	**4,071**
	Other	–	125	0	–	–	0	**124**
5	**Eastern Europe**	**67**	**1,503**	**32**	**–**	**3**	**-14**	**1,538**
	Poland	–	731	1	–	–	0	**730**
	Russia	11	458	4	–	–	1	**465**
	Other	57	314	27	–	3	-15	**344**
6	**North America**	**–**	**7,907**	**10**	**–**	**–**	**-11**	**7,897**
	Canada	–	954	1	–	–	1	**952**
	USA	–	6,954	9	–	–	-12	**6,945**
	Other	–	–	–	–	–	–	**–**
7	**Asia/Pacific**	**–**	**516**	**1**	**–**	**–**	**0**	**515**
8	**Other**	**–**	**697**	**0**	**–**	**–**	**0**	**697**
9	**Total**	**1,662**	**41,218**	**577**	**–**	**82**	**-10**	**42,303**

Pursuant to Article 442 lit. i) of the CRR, the Bank must disclose relevant specific credit risk adjustments during the 2018 reporting year. Details are shown in table EU CR2-A on page 35.

With effect from 1 January 2018, accounting standard IFRS 9 Financial Instruments replaced the previous standard IAS 39 Financial Instruments: Recognition and Measurement. As a consequence, the opening balance in the following table is not identical to the closing balance reported as at 31 December 2017.

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

€ mn		a Accumulated specific credit risk adjustment	b Accumulated general credit risk adjustment
1	**Opening balance (1 January)**	**593**	**–**
2	Increases due to amounts set aside for estimated loan losses during the period (additions)	134	–
3	Decreases due to amounts reversed for estimated loan losses during the period (reversals)	56	–
4	Decreases due to amounts taken against accumulated credit risk adjustments (utilisations)	100	–
5	Transfers between credit risk adjustments	–	–
6	Impact of exchange rate differences	1	–
7	Business combinations, including acquisitions and disposals of subsidiaries	0	–
8	Other adjustments	-7	–
9	**Closing balance (31 December)**	**577**	**–**
10	Recoveries on credit risk adjustments recorded directly to the statement of profit or loss (payments on loans and advances previously written off)	3	–
11	Specific credit risk adjustments directly recorded to the statement of profit or loss (direct write-offs)	–	–

Aareal Bank Group's 2018 Annual Report contains a reconciliation of allowance for credit losses in accordance with IAS 39 to loss allowance in accordance with IFRS 9.[1)]

The following table EU CR2-B provides an overview of the changes in the stock of defaulted and impaired loans and debt securities within the second half of 2018.

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

€ mn		a Gross carrying value defaulted exposures
1	**Opening balance (1 July)**	**1,571**
2	Loans and debt securities that have defaulted since the last reporting period	212
3	Returned to non-defaulted status	-18
4	Amounts written off	-99
5	Other changes	-3
6	**Closing balance (31 December)**	**1,662**

[1)] Aareal Bank Group 2018 Annual Report: chapter "First-time application of IFRS 9 Financial Instruments", page 144

Whilst lines 2 and 3 disclose exposures which have newly defaulted or which returned to non-defaulted status during the period under review, respectively, line 4 sets out utilisations of loss allowance recognised in previous periods against uncollectable exposures.

The changes shown in line 5 mainly result from changes in the measurement of the defaulted risk exposures.

Non-performing and forborne exposures

Aareal Bank decided to implement the EBA Guidelines on disclosure of non-performing and forborne exposure (EBA/GL/2018/10) published by the EBA on 17 December 2018) already as at the disclosure date at hand.

Given that the gross NPL ratio exceeded 5 % as at 31 December 2018, we are disclosing all quantitative details, as required by the Guidelines.

The following table 1 provides information on the gross carrying amount of forborne exposures (i. e. exposures with forbearance measures), and on the coverage of existing risks through impairments and collateral received. In this context, the measurement of collateral received differs from the current market value of such collateral, due – on the one hand – to the fact that a different internal realisation rate is being applied, depending on the type of property and the country where the property is located; and – on the other hand – reflecting a cap on any collateral at the carrying amount.

At present, Aareal Bank's portfolio does not include any exposures to borrowers which were forborne more than twice, due to financial difficulties. Furthermore, at the reporting date, the Bank's portfolio contained no borrowers which fail to comply with exit criteria for being classified as non-performing (without default) after a forbearance measure. For this reason, Aareal Bank has decided not to disclose the corresponding details in table 2.

In addition to loan commitments and financial guarantees, the following three tables incorporate financial assets allocated to the three measurement categories at amortised cost (ac), at fair value

Table 1: Credit quality of forborne exposures

		a	b	c	d	e	f	g	h
		Gross carrying amount/ nominal amount of exposures with forbearance measures				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		Collateral received and financial guarantees received on forborne exposures	
		Performing forborne	Non-performing forborne			On performing forborne exposures	On non-performing forborne exposures		of which: collateral and financial guarantees received on non-performing exposures with forbearance measures
				of which: defaulted	of which: impaired				
€ mn									
1	**Loans and advances**	**5**	**1,315**	**1,249**	**1,204**	**0**	**-420**	**762**	**757**
2	Central banks	–	–	–	–	–	–	–	–
3	General governments	–	–	–	–	–	–	–	–
4	Credit institutions	–	–	–	–	–	–	–	–
5	Other financial corporations	–	291	291	291	–	-63	138	138
6	Non-financial corporations	5	1,024	958	913	0	-357	624	619
7	Households	–	–	–	–	–	–	–	–
8	**Debt Securities**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
9	**Loan commitments given**	**–**	**72**	**72**	**72**	**–**	**0**	**–**	**–**
10	**Total**	**5**	**1,387**	**1,321**	**1,276**	**0**	**-419**	**762**	**757**

through other comprehensive income (fvoci) and at fair value through profit or loss (fvpl) into the presentation of credit quality of performing and non-performing exposures. In this context, the fvpl measurement category only relates to financial assets, loan commitments and financial guarantees which must be measured at fair value, due to their contractual specifications (so-called ”SPPI” criteria).[1)]

Past-due exposures shown in table 3 (whether impaired or not) are broken down across specified past-due maturity bands. In contrast to the previously disclosed table EU CR1-D, disclosure of exposures which are deemed to be in default (and hence non-performing), based on qualitative (”unlikely to pay”) criteria is now required in column e).

Table 3: Credit quality of performing and non-performing exposures

		a	b	c	d	e	f	g	h	i	j	k	l
		Gross carrying amount/nominal amount											
		Performing exposures			Non-performing exposures								
			Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days		Unlikely to pay that are not past due or are past due ≤ 90 days	Past due > 90 days ≤ 180 days	Past due > 180 days ≤ 1 year	Past due > 1 year ≤ 2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	of which: defaulted
€ mn													
1	**Loans and advances**	**29,376**	**29,375**	**1**	**1,676**	**1,095**	**1**	**14**	**29**	**346**	**35**	**157**	**1,610**
2	Central banks	1,265	1,265	–	–	–	–	–	–	–	–	–	–
3	General governments	2,226	2,226	–	–	–	–	–	–	–	–	–	–
4	Credit institutions	996	996	–	–	–	–	–	–	–	–	–	–
5	Other financial corporations	1,171	1,171	–	314	299	–	6	–	5	–	3	314
6	Non-financial corporations	23,017	23,017	0	1,358	796	–	8	27	340	35	153	1,292
7	of which: SMEs	14,502	14,502	–	1,053	644	–	8	9	246	34	112	986
8	Households	701	701	1	4	1	1	0	1	1	0	0	4
9	**Debt securities**	**8,480**	**8,480**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
10	Central banks	–	–	–	–	–	–	–	–	–	–	–	–
11	General governments	7,571	7,571	–	–	–	–	–	–	–	–	–	–
12	Credit institutions	782	782	–	–	–	–	–	–	–	–	–	–
13	Other financial corporations	127	127	–	–	–	–	–	–	–	–	–	–
14	Non-financial corporations	–	–	–	–	–	–	–	–	–	–	–	–
15	**Off-balance sheet exposures**	**1,436**			**78**								**78**
16	Central banks	–			–								–
17	General governments	0			–								–
18	Credit institutions	–			–								–
19	Other financial corporations	82			59								59
20	Non-financial corporations	1,350			19								19
21	Households	3			–								–
22	**Total**	**39,292**	**37,856**	**1**	**1,754**	**1,095**	**1**	**14**	**29**	**346**	**35**	**157**	**1,688**

[1)] Aareal Bank Group 2018 Annual Report: chapter “Accounting Policies”, Note (7) in the Notes to the consolidated financial statements, ”Classification“ section on page 152

In line with table 3, table 4 does not include any financial assets held for trading. In addition to disclosures concerning non-performing exposures, impairments and provisions related to performing exposures are also disclosed.

Besides information on accumulated impairment for non-performing exposures, columns j) to l) also require disclosure of negative fair value adjustments due to credit risk. The limitation to negative changes in borrower credit risk is due to such

Table 4: Impairment, provisions and negative changes in the fair value of non-performing exposures

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
	Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions						Accumulated partial write-off	Collateral and financial guarantees received	
	Performing exposures			Non-performing exposures			Performing exposures – accumulated impairment and provisions			Non-performing exposures – accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions				On performing exposures	On non-performing exposures
€ mn		of which: stage 1	of which: stage 2		of which: stage 2	of which: stage 3		of which: stage 1	of which: stage 2		of which: stage 2	of which: stage 3			
1 **Loans and advances**	**29,376**	**28,423**	**953**	**1,676**	**66**	**1,610**	**-43**	**-34**	**-9**	**-547**	**-7**	**-541**	**-82**	**24,033**	**987**
2 Central banks	1,265	1,265	–	–	–	–	–	–	–	–	–	–	–	–	–
3 General governments	2,226	2,225	1	–	–	–	0	0	0	–	–	–	–	–	–
4 Credit institutions	996	996	–	–	–	–	0	0	–	–	–	–	–	–	–
5 Other financial corporations	1,171	1,152	19	314	–	314	-3	-3	0	-68	–	-68	0	1,111	155
6 Non-financial corporations	23,017	22,677	340	1,358	66	1,292	-37	-31	-6	-479	-7	-472	-82	22,281	832
7 of which: SMEs	14,543	14,366	177	1,098	66	1,031	-24	-22	-2	-342	-7	-335	-68	14,383	712
8 Households	701	108	593	4	–	4	-2	0	-2	-1	-	-1	0	641	0
9 **Debt securities**	**8,480**	**7,586**	**894**	**–**	**–**	**–**	**-11**	**-1**	**-10**	**–**	**–**	**–**	**–**	**402**	**–**
10 Central banks	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
11 General governments	7,571	6,677	894	–	–	–	-10	0	-10	–	–	–	–	229	–
12 Credit institutions	782	782	–	–	–	–	0	0	–	–	–	–	–	172	–
13 Other financial corporations	127	127	–	–	–	–	0	0	–	–	–	–	–	–	–
14 Non-financial corporations	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
15 **Off-balance sheet exposures**	**1,436**	**1,429**	**6**	**78**	**–**	**78**	**2**	**2**	**0**	**3**	**–**	**3**		**–**	**–**
16 Central banks	–	–	–	–	–	–	–	–	–	–	–	–		–	–
17 General governments	0	0	0	–	–	–	0	–	0	–	–	–		–	–
18 Credit institutions	–	–	–	–	–	–	–	–	–	–	–	–		–	–
19 Other financial corporations	82	82	–	59	–	59	0	0	–	–	–	–		–	–
20 Non-financial corporations	1,350	1,344	6	19	–	19	1	1	0	3	–	3		–	–
21 Households	3	3	0	–	–	–	–	–	–	–	–	–		–	–
22 **Total**	**39,292**	**37,438**	**1,854**	**1,754**	**66**	**1,688**	**-52**	**-33**	**-19**	**-544**	**-7**	**-538**	**-82**	**24,435**	**987**

negative changes being de facto equivalent to an impairment implied by fair value, whereby no impairment is recognised for assets carried at fair value through profit and loss. Accordingly, the gross carrying amount of these exposures was increased by the fair value change induced by credit quality.

In addition, columns n) and o) specify the collateral (property, financial collateral, deposits held with third-party institutions) and financial guarantees (as defined by the CRR) which Aareal Bank has received for the exposures analysed[1] and which are eligible for regulatory inclusion. However, the respective values are capped at the carrying amount of the exposure.

Table 5 provides a breakdown of the figures disclosed in table 4 by material regional markets, as well as by individual countries within each region, which account for a minimum exposure of €300 million. In line with table EU CRB-C, the country where the property is located serves as a criterion for allocation.

The identical total amounts shown in column f) of table 4 and column c) of table 5 reflect the fact that we assign all financial instruments deemed to be in default in accordance with Art. 178 of the CRR to Stage 3.

Table 5: Credit quality of exposures by geography

		a	b	c	d	e	f	g
		Gross carrying/nominal amount				Accumulated impairment	Provisions on off-balance sheet commitments and financial guarantees given	Accumulated negative changes in fair value due to credit risk on non-performing exposures
			of which non-performing		of which: subject to impairment			
				of which: defaulted				
€ mn								
1	**On-balance sheet exposures**	**39,533**	**1,676**	**1,610**	**39,116**	**-578**		**-23**
	Germany	**11,159**	**23**	**23**	**10,969**	**-14**		**–**
	Western Europe	**10,835**	**99**	**99**	**10,794**	**-21**		**–**
	Belgium	333	–	–	333	0		–
	France	2,409	99	99	2,409	-16		–
	Netherland	1,285	0	0	1,285	-1		–
	Austria	1,543	–	–	1,505	0		–
	Switzerland	318	–	–	318	0		–
	United Kingdom	4,648	–	–	4,645	-4		–
	Other countries	298	–	–	298	0		–
	Northern Europe	**1,540**	**314**	**314**	**1,502**	**-66**		**–**
	Denmark	430	302	302	392	-60		–
	Finland	674	12	12	674	-6		–
	Sweden	432	–	–	432	0		–
	Other countries	4	–	–	4	0		–
	Southern Europe	**6,071**	**1,165**	**1,098**	**5,955**	**-435**		**-15**
	Italy	4,320	1,124	1,058	4,205	-412		-15
	Spain	1,626	40	40	1,626	-23		–
	Other countries	125	–	–	125	0		–

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[1] Additional information on collateral is provided in the chapter "General information on credit risk mitigation" (pages 44 et seqq.) in this Regulatory Disclosure Report.

		a	b	c	d	e	f	g
		Gross carrying/nominal amount				Accumu-lated impairment	Provisions on off-balance sheet commitments and financial guarantees given	Accumulated negative changes in fair value due to credit risk on non-performing exposures
			of which non-performing		of which: subject to impairment			
				of which: defaulted				
€ mn								
	Eastern Europe	**1,435**	**75**	**75**	**1,416**	**-32**		**-8**
	Poland	663	–	–	663	-1		–
	Russia	477	19	19	458	-4		-8
	Other countries	295	57	57	295	-27		–
	North America	**7,283**	**–**	**–**	**7,283**	**-9**		**–**
	Canada	901	–	–	901	-1		–
	USA	6,382	–	–	6,382	-8		–
	Other countries	–	–	–	–	–		–
	Asia/Pacific	**516**	**–**	**–**	**516**	**-1**		**–**
	Other countries	**694**	**–**	**–**	**682**	**0**		**–**
2	**Off-balance sheet exposures**	**1,514**	**78**	**78**			**5**	
	Germany	**635**	**0**	**0**			**3**	
	Western Europe	**217**	**1**	**1**			**–**	
	Belgium	–	–	–			–	
	France	98	–	–			–	
	Netherland	13	1	1			–	
	Austria	–	–	–			–	
	Switzerland	–	–	–			–	
	United Kingdom	105	–	–			–	
	Other countries	2	–	–			–	
	Northern Europe	**46**	**7**	**7**			**0**	
	Denmark	7	7	7			0	
	Finland	18	–	–			0	
	Sweden	21	–	–			0	
	Other countries	–	–	–			–	
	Southern Europe	**212**	**69**	**69**			**1**	
	Italy	172	69	69			0	
	Spain	40	–	–			0	
	Other countries	–	–	–			–	
	Eastern Europe	**56**	**–**	**–**			**0**	
	Poland	56	–	–			0	
	Russia	–	–	–			–	
	Other countries	–	–	–			–	
	North America	**348**	**–**	**–**			**1**	
	Canada	52	–	–			0	
	USA	296	–	–			0	
	Other countries	–	–	–			–	
	Asia/Pacific	**–**	**–**	**–**			**–**	
	Other countries	**–**	**–**	**–**			**–**	
3	**Total**	**41,047**	**1,754**	**1,688**	**39,116**	**-578**	**5**	**-23**

In accordance with EBA Guidelines, the following table 6 only shows exposures to non-financial institutions. In analogy to table EU CRB-D, we have decided to exercise the option of assigning exposures to borrower groups using the industry classification defined by Deutsche Bundesbank.

As outlined in chapter "General information on credit risk mitigation" (pages 44 et seqq.), as an international property lender, Aareal Bank focuses on property in the context of collateralisation.

This is also reflected in table 7, which provides an overview of the quality of collateral received. As the table shows, exposures are almost completely collateralised by property. Given the fixed regulatory ranges for loan-to-value (LtV) ratios of property financings, we would like to point out that the majority of our property financing portfolio has an LtV ratio of below 60 %. Please refer to our Annual Report for a breakdown of average LtV ratios by region and by property type.[1)]

Table 6: Credit quality of exposures by borrower group

		a	b	c	d	e	f
		Gross carrying amount				Accumulated impairment	Accumulated negative changes in fair value due to credit risk on non-performing exposures
			of which: non-performing		of which: loans and advances subject to impairment		
				of which: defaulted			
€ mn							
	Corporates	24,373	1,358	1,292	24,286	-493	-23
	Other	2	–	–	2	0	–
20	**Total**	**24,375**	**1,358**	**1,292**	**24,288**	**-493**	**-23**

Table 7: Valuation of credit collateral

		a	b	c	d	e	f	g	h	i	j	k	l
		Loans and advances											
			Performing		Non-performing								
				of which: past due > 30 days ≤ 90 days		Unlikely to pay that are not past due or are past due ≤ 90 days		of which: past due > 90 days ≤ 180 days	of which: past due > 180 days ≤ 1 year	of which: past due > 1 years ≤ 2 years	of which: past due > 2 years ≤ 5 years	of which: past due > 5 years ≤ 7 years	of which: past due > 7 years
€ mn													
1	Gross carrying amount	31,053	29,376	1	1,676	1,095	581	1	14	29	346	35	157
2	of which: secured	25,650	24,146	1	1,504	1,019	484	–	14	27	281	29	133
3	of which: secured with immovable property	25,484	23,980	1	1,503	1,019	484	–	14	27	281	29	133
4	of which: instruments with LTV higher than 60 % and lower or equal to 80 %	8,268	8,137		132	73	58						

[1)] Aareal Bank Group 2018 Annual Report: chapter "Financial position", pages 62 et seqq., in the Group Management Report

€ mn	a	b	c	d	e	f	g	h	i	j	k	l
	Loans and advances											
		Performing		Non-performing								
			of which: past due > 30 days ≤ 90 days		Unlikely to pay that are not past due or are past due ≤ 90 days		of which: past due > 90 days ≤ 180 days	of which: past due > 180 days ≤ 1 year	of which: past due > 1 years ≤ 2 years	of which: past due > 2 years ≤ 5 years	of which: past due > 5 years ≤ 7 years	of which: past due > 7 years
5 of which: instruments with LTV higher than 80 % and lower or equal to 100 %	1,519	1,236		283	227	57						
6 of which: instruments with LTV higher than 100 %	1,417	330		1,087	719	368						
7 Accumulated impairment for secured assets	590	43	0	547	261	286	0	3	13	197	25	48
8 Collateral												
9 of which: value capped at the value of exposure	24,935	24,106	1	829	546	283	–	11	15	140	9	107
10 of which: immovable property	24,674	23,846	1	828	546	283	–	11	15	140	9	107
11 of which: value above the cap	736	448	0	288	108	180	–	3	11	132	17	17
12 of which: immovable property	710	422	0	288	108	180	–	3	11	132	17	17
13 Financial guarantees received	85	83	–	1	0	1	–	–	–	–	–	1
14 Accumulated partial write-offs	-82	-23	–	-59	-28	-31	–	–	0	-8	0	-23

Table 8: Changes in the non-performing portfolio

€ mn		a Gross carrying amount	b Related net accumulated recoveries
1	**Initial stock of non-performing loans and advances**	**1,659**	
2	Inflows to non-performing portfolios	347	
3	Outflows from non-performing portfolios	329	
4	Outflow to performing portfolio	88	
5	Outflow due to loan repayment, partial or total	43	
6	Outflow due to collateral liquidations	133	90
7	Outflow due to taking possession of collateral	–	–
8	Outflow due to sale of instruments	65	27
9	Outflow due to risk transfers	–	–
10	Outflows due to write-offs	–	
11	Outflow due to other situations	–	
12	Outflow due to reclassification as held for sale	–	
13	**Final stock of non-performing loans and advances**	**1,677**	

Table 8 (page 42) outlines the changes within the portfolio of non-performing exposures during the 2018 financial year. Besides new defaulted loans (shown in line 2), the amounts of exposures removed from the non-performing portfolio (as shown in line 3) are broken down further: in addition to recoveries (line 4), the outflows from the non-performing portfolio are due to partial or full repayments (line 5), liquidation of collateral (either as a result of enforcement against the client, or on the basis of a voluntary bilateral agreement with the borrower; line 6), as well as proceeds from individual sales of loans and advances (line 8). Any losses realised due to the factors shown in lines 6 to 9 are not disclosed again in line 10.

In accordance with EBA Guidelines, in table 9, credit institutions must also disclose negative changes in fair value – in addition to the gross carrying amount at initial recognition of the property when taking possession – in order to secure value. Since this information is also disclosed in columns c) and d) of the following table 10, with the same level of granularity, we do not assign any additional informational value to disclosure of table 9.

Given that Aareal Bank generally pursues the strategy of preventing any further losses from a loan exposure, some of the properties disclosed in table 10 are investments to be held – and which are actually held – over several years. These properties are not acquired as trading assets, but are generally subject to re-positioning and further development – hence, fair value (as well as the carrying amount) can be increased by value-enhancing measures. In contrast to the corresponding presentation in the Annual Report, which is based on the financial statements, the table below does not provide such information. Accumulated impairment and accumulated negative changes in the fair value, as shown in line 1, refer to recognised scheduled depreciation on the property, following completion and re-positioning. Properties shown in line 4 are assigned to current assets. In the absence

Table 10: Collateral obtained by taking possession of property, by type of recognition and time of initial recognition

	a	b	c	d	e	f	g	h	i	j	k	l
			Total collateral obtained by taking possession									
	Debt balance reduction				Foreclosed ≤ 2 years		Foreclosed > 2 years ≤ 5 years		Foreclosed > 5 years		of which: non-current assets held for sale	
€ mn	Gross carrying amount	Accumulated negative changes	Value at initial recognition	Accumulated negative changes	Value at initial recognition	Accumulated negative changes	Value at initial recognition	Accumulated negative changes	Value at initial recognition	Accumulated negative changes	Value at initial recognition	Accumulated negative changes
1 Collateral obtained by taking possession classified as PP&E	59	–	89	11								
2 Collateral obtained by taking possession other than that classified as PP&E	206	16	191	1	–	–	184	–	8	1	–	–
3 Residential immovable property	–	–	–	–	–	–	–	–	–	–	–	–
4 Commercial immovable property	206	16	191	1	–	–	184	–	8	1	–	–
5 Movable property (auto, shipping, etc.)	–	–	–	–	–	–	–	–	–	–	–	–
6 Equity and debt instruments	–	–	–	–	–	–	–	–	–	–	–	–
7 Other	–	–	–	–	–	–	–	–	–	–	–	–
8 Total	**265**	**16**	**280**	**12**	**–**	**–**	**184**	**–**	**8**	**1**	**–**	**–**

of any intention to sell at short term (based on the re-positioning and development strategy, and the classification criteria set out in IFRS 5), no separate values are disclosed in columns k) and l).

General information on credit risk mitigation

The Bank's Credit Manual contains further details regarding collateral to be used within the Bank. The regulatory inclusion of the collateral reflects our conservative hedging strategy. The collateral employed fulfils the extensive impairment checks and enforcement reviews that are part of the credit process.

For the purpose of the internal estimation of the loss ratio in the case of a borrower default, only collateral that can be allocated to the following categories is taken into account:

- property-related collateral,
- warranties, and
- financial collateral.

The legal minimum requirements regarding collateral and the security interest are reviewed by legal counsels of the Credit Management units. The internal estimation of the loss ratio only uses collateral that is included in Bank-internal approved lists. These security interests are always enforceable. A Bank-internal process ensures that the legal enforceability of all CRR-relevant collateral is subjected to permanent legal monitoring in the jurisdictions relevant for us. If this results in changes, corresponding measures are initiated.

Any collateral must be reviewed in the case of new business, loan extensions, material changes to the collateral structure as well as at certain time intervals and upon certain events. The review covers the legal minimum requirements and the value of the collateral.

In addition to the inclusion of real property liens, we developed a methodology in cooperation with external law firms. This methodology is used to assess other property-related security interests for international financings, including pledges of unlisted shares in a property company or special-purpose entity. On this basis, the rights are taken into consideration for the purpose of the internal loss ratio estimation.

In contrast to the AIRBA, only certain types of impersonal collateral, indemnities and guarantees as well as financial collateral may be used under the CRSA. Commercial and residential property collateral is eligible for inclusion in accordance with the CRSA, albeit not for mitigating credit risk. Loans secured by a real property lien are included instead in a separate exposure class with a preferable risk weight. All collateral values in foreign currency are translated into euro on a daily basis, using the official foreign currency rates.

Regulatory haircuts based on mismatches related to term/lifetime or currencies are applied during netting of collateral.

Property-related collateral

As an international property lender, Aareal Bank focuses on property in the context of collateralisation. Real property liens – or any equivalent security interests in terms of quality depending on the location of the property – are the main types of security interests used for the internal loss ratio estimations for property loans.

Market or fair values are set in accordance with the responsibilities for decision-making on lending, and form an integral part of the lending decision.

Valuation reports are used for property-related collateral. The provisions of Article 208 (3) of the CRR are complied with during the valuation. The property's market or fair value is subjected to a defined monitoring and review process:

Step 1: Monitoring

The property values are monitored using statistical methods. The annual monitoring for properties located in Germany is based on a Bank-internal procedure as well as on the market fluctuations concept pursued by the banking associations vdp and VÖB. Properties located abroad are monitored exclusively on the basis of a Bank-internal procedure. In addition to regular monitoring, a review is initiated as soon as there are indications of substantial value fluctuations for the relevant property types.

Step 2: Review

The properties identified in Step 1 are analysed more closely. This review is made by an independent valuer, or a loan manager with applicable expertise. In addition, all properties have to be reviewed every twelve months if the exposures reach a certain threshold. Smaller properties are reviewed every three years if they exceed this minimum exposure. Event-driven reviews are carried out immediately.

Step 3: Revaluation

In Step 3, the properties identified in Step 2 are generally revalued when the assumptions underlying the most recent valuation would lead to a reduction in value, considering the current market situation.

Warranties

Warranties include indemnities and guarantees. The guarantors include rated customers from the segments "Sovereign states", "Regional governments" and "Local authorities" as well as "Institutions" and "Corporates". Credit risk mitigation focuses on the creditworthiness of the guarantor. In the case of large-sized property lending, if a warranty is provided, the guarantor has to be rated using the applicable rating procedure when the lending decision is based (among other things) upon the creditworthiness of the guarantor. The rating process for guarantors is subject to the same requirements applicable to the borrower. Assigned life insurance policies are only included under the AIRBA and are treated – by analogy with assigned balances held at third-party institutions – like warranties.

Financial collateral

Pledged balances held at the Bank are included as financial collateral. Financial collateral in the form of pledged securities play a minor role. Their current market values are included for credit risk mitigation purposes, adjusted for haircuts.

We use the comprehensive method for financial collateral under the CRSA.

Collateralising loans through balances saved under home loan and savings contracts and fund units is insignificant in our business model.

Collateral eligible for inclusion

Collateral in the amount of € 26,965 million was applied within the scope of credit risk mitigation.

EU CR3: Overview of credit risk mitigation techniques

€ mn	a Exposures unsecured – Net amount	b Exposures secured – Net amount	c Exposures secured by collateral	d Exposures secured by financial guarentees	e Exposures secured by credit derivatives
Total IRB approach	**2,130**	**26,876**	**26,552**	**253**	**–**
Institutions	438	696	–	173	–
Corporates	757	26,180	26,552	81	–
of which: specialised lending	2	1,072	1,072	–	–
of which: SMEs	464	16,379	16,677	77	–
Equity exposures	347	–	–	–	–
Other non-credit related assets	588	–	–	–	–

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	€ mn	a Exposures unsecured – Net amount	b Exposures secured – Net amount	c Exposures secured by collateral	d Exposures secured by financial guarentees	e Exposures secured by credit derivatives
	Total standardised approach	**12,044**	**1,252**	**737**	**242**	**–**
	Central governments or central banks	5,347	–	–	–	–
	Regional governments and similar entities	3,880	–	–	–	–
	Other public-sector entities	1,470	264	–	229	–
	Multilateral development banks	258	–	–	–	–
	International organisations	438	–	–	–	–
	Institutions	188	220	–	–	–
	Covered bonds	104	–	–	–	–
	Corporates	338	30	1	12	–
	of which: SMEs	53	1	–	1	–
	Retail	13	1	–	–	–
	of which: SMEs	–	–	–	–	–
	Secured by mortgages on immovable property	–	736	736	–	–
	of which: SMEs	–	6	6	–	–
	Collective investment undertakings (CIU)	–	–	–	–	–
	Equity exposures	0	–	–	–	–
	Other exposures	3	–	–	–	–
	Exposures in default	3	1	0	1	–
1	Total loans	4,358	26,267	25,789	88	–
2	Total debt securities	8,317	402	–	402	–
3	**Total**	**14,175**	**28,129**	**27,289**	**495**	**–**
4	of which: defaulted	96	1,787	1,361	2	–

This figure comprises no financial collateral included for derivatives transactions.

The table above shows collateral for each exposure class considered under AIRBA and CRSA. The real property liens (97 %) relevant for Aareal Bank as an international property specialist are disclosed in column c) along with the financial collateral, whereas warranties are disclosed under column d). Aareal Bank currently does not use credit derivatives as collateralisation.

In addition to credit risk mitigating collateral and secured exposures (column b)), column a) discloses the amount of all generally unsecured exposures.

Risk concentrations

The qualitative and quantitative processes to assess and control risk concentrations are described in the Annual Report.[1)]

Netting framework agreement

Please refer to the Annual Report[2)] for details on netting framework agreements.

[1)] Aareal Bank Group 2018 Annual Report: chapter "Loan loss risks" (here: "Risk measurement and monitoring") in the Risk Report of the Group Management Report, page 74 et seqq.
[2)] Aareal Bank Group 2018 Annual Report: chapter "Credit risk mitigation" (here: "Credit risk mitigation for trading activities") in the Risk Report of the Group Management Report, page 78 et seqq.

Qualitative information on the use of the Credit Risk Standard Approach

Calculation approaches

Article 107 (1) of the CRR allows different approaches to be taken when calculating the risk-weighted exposure amounts in relation to counterparty credit risk.

The Credit Risk Standard Approach (CRSA) continues to be used within the framework of the partial-use method (Article 150 of the CRR). This partial-use method covers the following CRSA exposure classes on a continuous basis:

- central governments or central banks,
- regional governments and similar entities,
- other public-sector entities,
- multilateral development banks,
- international organisations,
- corporates (only non-core business, legacy business),
- retail lending business (discontinued business, legacy business),
- exposures secured by mortgages on immovable property (only non-core business, legacy business), and
- exposures in default (only non-core business, legacy business).

Under the CRSA, parameters defined by the regulatory framework are used to determine risk-weighted exposure amounts. Only specific collateral defined by the regulatory framework may be used to mitigate credit risk.

External rating for CRSA exposures

A key element of the economic and regulatory assessment is the borrower's credit rating. This rating is determined by rating agencies recognised by the regulatory authorities. These agencies' assessments and valuations facilitate a uniform classification of borrowers across all banks. The ratings of governments, banks and exchange-listed companies, as well as investment fund units, are generally assessed externally.

We have retained three agencies: Fitch Ratings, Moody's Investors Service, and Standard & Poor's, to classify borrowers and guarantors in accordance with Article 138 of the CRR. The ratings determined by these three agencies apply for all the aforementioned rating-related exposure classes in relation to the Credit Risk Standard Approach. Assessments by export credit insurance agencies are not used.

Exposures rated by at least one rating agency are deemed as "rated" CRSA exposures pursuant to article 138 of the CRR. The "unrated" items are rated in accordance with Article 139 (2) of the CRR. In line with our business model, most of our exposures are in the "Corporates" exposure class under the AIRBA. Legacy business from Aareal Bank AG's non-core business remains included in the "Corporates" and "Exposures secured by mortgages on immovable property" exposure classes, which are reported as unrated CRSA exposures with the prescribed standard risk weighting.

Likewise, the portfolios of Düsselhyp (acquired as at 31 December 2018) are treated in accordance with the CRSA.

At present, we have neither transactions within the portfolio for which an issue rating has been migrated to receivables nor any for which a comparable rating is determined pursuant to Article 139 (2) of the CRR.

Quantitative information on the use of the Credit Risk Standard Approach

Identical types of collateral respond differently, depending on what transactions they can be offset against.

This is due to the composition of the CRSA exposure amount as well as the exposure categories for undrawn credit facilities and other off-balance sheet transactions (Article 111 of the CRR in conjunction with Annex I of the CRR). The credit conversion factors assigned to each exposure category ensure that lower regulatory capital requirements are calculated for loan commitments and other off-balance sheet transactions rather than on-balance sheet receivables.

Cash deposits as financial collateral and warranties within the meaning of the CRR can be distinguished in terms of how they mitigate credit risk:

- Financial collateral reduces the assessment basis to which the credit conversion factor is applied. The risk weight impacts the exposure amount.
- Warranties do not impact on the assessment basis, but on the risk weighting. A loan collateralised through a warranty is taken into account, with the warranty amount to be included and the risk weight of the guarantor in the guarantor's exposure class.

The following table shows CRSA exposure amounts both before and after mitigating credit risk, shown separately as on- and off-balance sheet exposures. In addition, risk-weighted assets (RWAs) are disclosed for each exposure class.

EU CR4: Credit Risk Standard Approach – credit risk exposure and credit risk mitigation effects

	Exposure classes	a	b	c	d	e	f
		Exposures before CCF and CRM		Exposures post CCF and CRM		RWAs and RWA density	
		On-balance-sheet amount (EAD)	Off-balance-sheet amount (EAD)	On-balance-sheet amount (EAD)	Off-balance-sheet amount (EAD)	RWAs	RWA density
		€ mn	€ mn	€ mn	€ mn	€ mn	%
1	Central governments or central banks	5,347	–	5,751	–	20	0.35
2	Regional governments and similar entities	3,880	0	3,889	–	288	7.41
3	Other public-sector entities	1,732	2	1,471	0	4	0.26
4	Multilateral development banks	258	–	258	–	–	–
5	International organisations	438	–	438	–	–	–
6	Institutions	409	–	218	–	61	28.08
7	Corporates	280	88	265	4	236	87.80
8	Retail	13	2	13	0	10	75.00
9	Secured by mortgages on immovable property	736	–	736	–	276	37.49
10	Exposures in default	4	–	4	–	5	134.89
11	Exposures associated with particularly high risk	–	–	–	–	–	–
12	Covered bonds	104	–	104	–	15	14.12
13	Claims on institutions and corporates with a short-term credit assessment	–	–	–	–	–	–
14	Collective investment undertakings (CIU)	–	–	–	–	–	–
15	Equity exposures	0	–	0	–	0	100.00
16	Other exposures	3	–	3	–	3	99.97
17	**Total**	**13,205**	**92**	**13,150**	**4**	**919**	**6.98**

EU CR5: Standardised approach (after credit risk mitigation)

Exposure classes	Risk weight																	
	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Others	Deducted	Total	of which: unrated
€ mn																		
1 Central governments or central banks	5,520	–	163	–	68	–	–	–	–	–	–	–	–	–	–	–	**5,751**	5,422
2 Regional governments and similar entities	3,740	–	–	–	37	–	–	–	–	–	–	112	–	–	–	–	**3,889**	3,858
3 Other public-sector entities	1,452	–	–	–	19	–	–	–	–	–	–	–	–	–	–	–	**1,471**	1,452
4 Multilateral development banks	258	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**258**	258
5 International organisations	438	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**438**	438
6 Institutions	–	–	–	–	159	–	59	–	–	–	–	–	–	–	–	–	**218**	4
7 Corporates	–	–	–	–	37	–	0	–	–	232	–	–	–	–	–	–	**269**	205
8 Retail	–	–	–	–	–	–	–	–	13	–	–	–	–	–	–	–	**13**	13
9 Secured by mortgages on immovable property	–	–	–	–	–	613	123	–	–	–	–	–	–	–	–	–	**736**	736
10 Exposures in default	–	–	–	–	–	–	–	–	–	1	3	–	–	–	–	–	**4**	4
11 Exposures associated with particularly high risk	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**–**	–
12 Covered bonds	–	–	–	61	43	–	–	–	–	–	–	–	–	–	–	–	**104**	–
13 Institutions and corporates with a short-term credit assessment	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**–**	–
14 Collective investment undertakings (CIU)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**–**	–
15 Equity	–	–	–	–	–	–	–	–	–	0	–	–	–	–	–	–	**0**	0
16 Other items	0	–	–	–	–	–	–	–	–	3	–	–	–	–	–	–	**3**	3
17 Total	**11,407**	**–**	**163**	**61**	**364**	**613**	**182**	**–**	**13**	**236**	**3**	**112**	**–**	**–**	**–**	**–**	**13,155**	**12,393**

The table EU CR5 shows the exposure amount after mitigating credit risk of all exposures to which CRSA is applied, for each exposure class and broken down according to risk weight pursuant to Article 114 et seqq. of the CRR. The exposures disclosed in the column "of which: unrated" are exposures for which no external rating is used to derive the risk weight.

To facilitate comparison with the disclosure record date of 30 June 2018, the following table (page 50) provides an additional disclosure of exposure values under the CRSA, before credit risk mitigation in accordance with Article 444 lit. e) of the CRR. The Bank does not provide additional disclosure of unrated risk exposures since the Article referred to above does not require such disclosure.

EU CR5: Standardised approach (before credit risk mitigation)

	Exposure classes	Risk weight															
		0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1250%	Others	Total
€ mn																	
1	Central governments or central banks	5,184	–	163	–	–	–	–	–	–	–	–	–	–	–	–	**5,347**
2	Regional governments and similar entities	3,731	–	–	–	37	–	–	–	–	–	–	112	–	–	–	**3,880**
3	Other public-sector entities	1,484	–	–	–	216	–	34	–	–	–	–	–	–	–	–	**1,734**
4	Multilateral development banks	258	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**258**
5	International organisations	438	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**438**
6	Institutions	–	–	–	–	350	–	59	–	–	–	–	–	–	–	–	**409**
7	Corporates	–	–	–	–	37	–	2	–	–	326	–	–	–	–	2	**368**
8	Retail	–	–	–	–	–	–	–	–	15	–	–	–	–	–	–	**15**
9	Secured by mortgages on immovable property	–	–	–	–	–	613	123	–	–	–	–	–	–	–	–	**736**
10	Exposures in default	–	–	–	–	–	–	–	–	–	1	3	–	–	–	–	**4**
11	Exposures associated with particularly high risk	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**–**
12	Covered bonds	–	–	–	61	43	–	–	–	–	–	–	–	–	–	–	**104**
13	Institutions and corporates with a short-term credit assessment	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**–**
14	Collective investment undertakings (CIU)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**–**
15	Equity	–	–	–	–	–	–	–	–	–	0	–	–	–	–	–	**0**
16	Other items	0	–	–	–	–	–	–	–	–	3	–	–	–	–	–	**3**
17	**Total**	**11,094**	**–**	**163**	**61**	**684**	**613**	**218**	**–**	**15**	**331**	**3**	**112**	**–**	**–**	**2**	**13,297**

Qualitative information on the use of the IRB Approach

We follow the Advanced Internal Ratings-Based Approach (AIRBA) to determine the risk-weighted exposure amounts in relation to counterparty credit risk for property finance – our main business segment – within the "Corporates" exposure class. This was approved by the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht – "BaFin") in February 2011, with retrospective effect as at 31 December 2010.

Aareal Bank AG employs the internal rating procedure for banks to assess the credit quality of institutions. With effect from 29 November 2013, BaFin authorised the Bank to apply the Advanced IRB Approach to determine the regulatory capital requirements for customers rated using the internal rating procedures for banks.

Internal rating systems

Aareal Bank decided to adopt the Advanced IRB Approach (AIRBA) to determine the regulatory capital requirements for exposures. This requires the Bank to make internal estimates of the probability of default (PD), and to determine the expected Loss Given Default (LGD) as well as credit conversion factors (CCFs); the latter risk parameter is not relevant for loans and advances to institutions. One risk model per risk parameter has been approved for Aareal Bank's exposure classes "Corporates" and "Institutions". Additional approved models do not exist.

The portfolio of exposures to banks (counterparties in the exposure class "Institutions") is a so-called low default portfolio where internal defaults are non-existent or very rare indeed. As a consequence, the Bank had no possibility to develop an internal rating system on the basis of an internal default history. Thus, Aareal Bank decided to build an internal rating system using a so-called shadow rating method, in order to achieve the best possible distinction between counterparties and issuers with strong and weak credit quality.

Likewise, the Bank had no option when developing its LGD procedure to build a process that delivers empirical estimates of LGD values on the basis of a default history. The model was therefore based on expert estimates, which were supplemented or verified using market data and/or external data sources to the greatest extent possible.

In this context, LGD estimates for loans to institutions are essentially based on two components: a quantitative analysis of the Bank's assets and a qualitative assessment of counterparties' strategies, processes and business policy. This analysis is carried out on a case-by-case basis by rating analysts within the Treasury Credit Management unit. The internal rating procedure used by the Bank for borrowers in the large-sized commercial property financing business determines a borrower's probability of default (PD) and LGD as well as the credit conversion factor (CCF).

Within the framework of this rating procedure, a rating is established for large-sized commercial lending business (our core business) with a total exposure of at least € 2.5 million, and for the commercial housing industry with a total exposure of at least € 750,000.

The contractual positions relevant for reporting duties are maintained in the relevant Sales unit systems, while the assignment of IRBA items and borrowers to the IRBA exposure classes "Corporates" and "Institutions" is made fully automatically on the basis of the characteristics of the transaction and the customer.

The internal rating procedure used by the Bank to determine a customer's probability of default consists of two main components: a property rating and a corporate rating. The relative impact of the two components on the rating result is determined by the structure of the exposure concerned. The client's probability of default is determined based on specific financial indicators, together with qualitative aspects and expert knowledge. The result of the rating process is reflected in the classification of the borrower into one of the rating classes. The Bank currently uses 15 rating classes – within the rating procedure for large-sized commercial property financing – for borrowers that are not deemed to have defaulted pursuant to the CRR criteria. Borrowers in default pursuant to the CRR are allocated to a special rating class. Within the framework of the Bank's external reporting, the borrower rating is reconciled to a master scale.

Credit Management is responsible for the determination of the borrower rating; this responsibility is regulated in the Bank's credit manuals. The relevant authorised person makes a decision on the rating which ensures an independent rating allocation from a process view.

The second step involves the calculation of the expected loss given a borrower's default for the internally rated large-sized commercial property financings under the AIRBA approach.

The LGD is determined based on a bottom-up approach, where the components relevant for the LGD level and their driving factors – in the form of recovery rates, waivers of principal and interest as well as direct and indirect costs – are estimated.

The LGD determination is based on the definition of economic loss (Article 5 (2) of the CRR). As the future development of a borrower cannot be anticipated in case of a borrower's default, the alternatives – recovery, restructuring and re-ageing – are included in the LGD calculation using weightings based on the respective probability. The LGD is driven primarily by the expected proceeds from the realisation of collateral and from unsecured portions of loans and advances. The proceeds from property-related collateral are determined based on the recovery rate in the form of a haircut applied to a previously forecast market value. For financings of domestic properties, recovery rates are taken from a pool of data used across the Bank, whilst recovery rates for international properties are derived using an internal approach. An internal projection model based on macro-economic inputs has been developed by the Bank for market value outlooks.

In addition to the nature and extent of the collateralisation of a financing, the estimated exposure at the borrower's default (Exposure at Default, EaD) is the second major parameter for the LGD calculation.

Historical observations are used to determine the credit conversion factor for borrowers in the German housing industry. In development financing, the credit conversion factor is calculated based on the property's stage of completion.

As at 31 December 2018, Aareal Bank Group's IRBA Coverage Ratio for IRBA exposures amounts to 94.2 %, and to 94.1 % for RWAs. The decline of the ratio largely results from the inclusion of the risk exposures of Düsseldorfer Hypothekenbank AG treated using the CRSA.

Reporting

In addition, the risk parameters are a major element of our internal and external reporting. The Bank's reporting comprises various portfolio analyses based on the rating procedures used in the Bank. Accordingly, the MaRisk report (as the central risk report for credit risks) includes comprehensive information on the development of the credit portfolio, e.g. by rating classes and their changes. Compliance with rating updates and property monitoring is reported on a monthly basis.

Additional uses of internal estimates

The internally-estimated risk parameters are central factors for the Bank's lending process, the Treasury processing chain, and its risk management. The market-related credit risk strategies are based – with regard to their specific requirements – on the rating and the parameters underlying the LGD. The basic prerequisite and foundation for the loan approval is a detailed risk evaluation of each lending exposure of a borrower. The risk evaluation includes the borrower's creditworthiness, as well as the risks and collateral underlying the lending exposure. The resulting risk classification is subject to approval powers with regard to approval and prolongation of lending exposures. The extent of monitoring activities depends on the risk classification. The basis for granting a commitment is the preparation of a borrower rating.

The credit documentation includes the collateral influencing the LGD as well as assessments of this collateral.

The relevant authorised person approves the credit application and the determination of the borrower rating.

The rating result is one of the many indicators – within the framework of early risk identification – to classify an exposure as on-watch, risk-prevention, restructuring or recovery exposure.

The Bank uses credit risk models above all to monitor concentration and diversification effects on portfolio level. Both expected and unexpected loss can be derived. The basis for determining the relevant values are the risk parameters PD, LGD and EaD.

During the estimating phase of the acquisition process, risk costs and capital requirements are determined using the risk parameters PD and LGD, and are then included as parameters for risk-adjusted pricing. The individual financings are subjected to an economic assessment for the current profit centre calculation (accounting for individual transactions/final costing). This economic assessment takes into account the parameters PD and LGD via capital and standard risk costs.

Control mechanisms

The Credit Management unit is responsible for the correct and regular determination of the rating results as well as for data quality within the IT and rating systems. The rating is prepared using the principle of dual control. The authorities for determining the rating are based on the authority regulations for lending and monitoring decisions.

The uniformity of the rating for a borrower or a guarantor is ensured through a number of measures. All rating users are trained to become familiar with the procedure, and there is also documentation dealing with interpretation issues in the context of the rating preparation.

In the main business segment property financing, manual adjustments may be made within the scope of overruling, and are documented subsequently in the rating system.

Overrulings are also permitted for institutions, in individual cases.

The internal rating procedure to determine a borrower-specific probability of default for large-sized property financing is validated based on the underlying data pool, once per year. The validation covers all measures required pursuant to the CRR. The further development of the rating procedure is made under the umbrella of CredaRate, on behalf of – and with the participation of – the banks involved.

The procedures used by the Bank for determining LGD and EaD are also validated on an annual basis. As these procedures represent Bank-internal developments, validation is made by the Bank itself. Exceptions to this are the parameters used within the LGD calculation process (recovery rates and settlement periods for properties in Germany). A two-stage process takes effect here. The data gathered for Germany within the scope of pooling under the umbrella of the Association of German Pfandbrief Banks (Verband deutscher Pfandbriefbanken – "vdp") is the basis. The central validation of these parameters for the entire pool is carried out by vdp. Aareal Bank draws on the already centrally validated pool data for its own validation of these parameters.

The loss given default percentage and the EaD for property financings are derived automatically in the system on the basis of the transaction and collateral data stored in the system where data is maintained. The provision of data is subject to strict quality standards for data entries of the system where data is maintained; these quality standards are set out in the Bank's quality manuals. The necessary reviews with regard to information on collateral are the responsibility of the Credit Management division.

Furthermore, internal ratings procedures for banks to determine PD and LGD are validated internally, once a year.

Risk Controlling is responsible for developing rating models, whilst Regulatory Affairs (which is independent from Risk Controlling) is responsible for validating all rating models. The validation results are discussed within the Risk Executive Committee (RiskExCo) and adopted by the Management Board.

The Internal Audit division, as a process-independent unit, reviews the adequacy of the internal rating systems on a regular basis, including compliance with the minimum requirements for using rating systems.

Quantitative information on the use of the IRB Approach

The property lending portfolio and portfolio of exposures to banks (treated under the AIRBA) shall be disclosed in the EU CR6 table (pages 54/55), which considers clearly-defined PD classes. Expected loss (EL) is also reported per PD class, thus also ensuring a statement about the quality of the collateral. Aareal Bank currently holds no purchased corporate receivables treated under the AIRBA in its portfolio.

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

IRBA exposure class	PD scale	a	b	c	d	e
		Original on-balance sheet gross exposure	Off-balance sheet exposures pre-CCF	Average CCF	EaD post CRM and post-CCF	Average PD
	%	€ mn	€ mn	%	€ mn	%
Corporates – SMEs	0.00 to < 0.15	371	–	–	379	0.08
	0.15 to < 0.25	1,741	42	59.44	1,806	0.21
	0.25 to < 0.50	2,725	130	84.46	2,898	0.44
	0.50 to < 0.75	2,670	139	68.90	2,828	0.70
	0.75 to < 2.50	5,748	220	93.42	6,084	1.31
	2.50 to < 10.00	2,115	44	99.90	2,201	4.34
	10.00 to < 100.00	–	–	–	–	–
	100.00 (Default)	1,230	63	–	1,234	100.00
	Subtotal	**16,600**	**638**	**75.76**	**17,429**	**8.30**
Corporates – specialised lending	0.00 to < 0.15	–	–	–	–	–
	0.15 to < 0.25	345	–	–	353	0.18
	0.25 to < 0.50	119	–	–	122	0.40
	0.50 to < 0.75	47	–	–	48	0.70
	0.75 to < 2.50	143	–	–	146	1.16
	2.50 to < 10.00	319	21	100.00	348	2.62
	10.00 to < 100.00	3	–	–	3	30.00
	100.00 (Default)	92	1	–	92	100.00
	Subtotal	**1,069**	**22**	**94.31**	**1,112**	**9.47**
Corporates – Others	0.00 to < 0.15	–	–	–	–	–
	0.15 to < 0.25	490	171	29.96	554	0.22
	0.25 to < 0.50	2,114	114	51.82	2,220	0.44
	0.50 to < 0.75	1,568	111	37.23	1,645	0.70
	0.75 to < 2.50	3,138	277	71.19	3,408	1.32
	2.50 to < 10.00	759	60	84.31	823	3.12
	10.00 to < 100.00	92	–	–	94	30.00
	100.00 (Default)	260	11	–	283	100.00
	Subtotal	**8,422**	**744**	**53.71**	**9,027**	**4.48**
Institutions	0.00 to < 0.15	700	–	–	632	0.07
	0.15 to < 0.25	402	–	–	298	0.17
	0.25 to < 0.50	32	–	–	32	0.45
	0.50 to < 0.75	–	–	–	–	–
	0.75 to < 2.50	–	–	–	–	–
	2.50 to < 10.00	–	–	–	–	–
	10.00 to < 100.00	0	–	–	0	30.00
	100.00 (Default)	–	–	–	–	–
	Subtotal	**1,134**	**–**	**–**	**962**	**0.11**
	Total	**27,226**	**1,405**	**64.36**	**28,530**	**6.86**

f	g	h	i	j	k	l
Number of obligors	Average LGD	Average maturity	Risk-weighted assets (RWAs)	RWA density	Expected Loss (EL)	Value adjustments and provisions
	%		€ mn	%	€ mn	€ mn
19	2.23	911	5	1.22	0	
74	3.82	967	53	2.94	0	
121	3.57	994	143	4.95	0	
85	4.00	1,098	176	6.23	1	
137	9.97	1,103	1,275	20.96	8	
45	19.11	804	1,260	57.26	23	
–	–	–	–	–	–	
33	31.26	875	847	68.65	318	
514	**9.79**	**1,012**	**3,760**	**21.57**	**351**	**396**
–	–	–	–	–	0	
2	0.57	1,800	3	0.81	0	
3	0.68	900	1	0.78	0	
1	0.61	900	0	0.91	0	
2	0.56	1,545	2	1.47	0	
3	6.02	1,326	48	13.89	1	
1	57.81	360	8	262.18	1	
1	29.33	900	122	132.97	17	
13	**4.82**	**1,402**	**185**	**16.65**	**18**	**18**
–	–	–	–	–	–	
41	5.07	1,381	40	7.32	0	
53	6.26	1,488	290	13.06	1	
37	3.54	1,386	144	8.73	0	
61	6.96	1,484	689	20.21	3	
11	18.03	905	421	51.10	5	
4	4.13	1,795	25	26.21	1	
8	30.70	1,249	235	83.10	68	
215	**7.78**	**1,404**	**1,843**	**20.42**	**78**	**145**
13	7.06	248	23	3.70	0	
25	11.29	342	34	11.33	0	
6	6.03	95	3	8.20	0	
–	–	–	–	–	–	
–	–	–	–	–	–	
–	–	–	–	–	–	
3	65.00	360	0	364.42	0	
–	–	–	–	–	–	
47	**8.34**	**272**	**60**	**6.21**	**0**	**0**
789	**8.91**	**1,126**	**5,848**	**20.50**	**447**	**559**

Exposures subject to counterparty credit risk pursuant to Article 92 (3) lit. f of the CRR and treated under the IRBA are not covered by the preceding or the following statements. They are disclosed in the EU CCR4 table in the chapter "Counterparty Credit Risk".

In addition to the distribution of IRBA exposure amounts onto individual PD classes, the average PD and LGD values for each relevant geographical location of credit exposures are disclosed. The disclosure is based on our three-continent strategy, which covers Europe, North America and Asia/Pacific, and features a breakdown of the average values by major geographical markets, as explained in our Annual Report. The average values are allocated based on the location of the property used as collateral. The information provided includes property finance in default according to the CRR.

The table EU CR8 (page 57) provides an overview of the RWA changes and the associated causes to be analysed since 30 September 2018.

The starting and end balances represent the sums of figures disclosed in lines 4 and 5 of table EU OV1 for the respective reporting date.

Besides exposures from new business originated, the changes reported in line 2 also include RWA changes from existing exposures – where we also include investments and other non-credit related assets, except for changes purely related to exchange rate fluctuations, which are presented separately in line 7.

Corporates – SMEs	EaD after credit risk mitigation and credit conversion factor	Average LGD	Average PD
	€ mn	%	%
Germany	2,181	6.30	1.46
Western Europe	5,401	5.48	2.83
Northern Europe	1,357	9.40	16.82
Southern Europe	3,334	20.98	26.77
Eastern Europe	815	17.79	10.13
North America	4,129	6.27	1.35
Asia/Pacific	211	19.56	1.01
Other	2	86.80	0.47
Total	**17,429**	**9.79**	**8.30**

Corporates – specialised lending	EaD after credit risk mitigation and credit conversion factor	Average LGD	Average PD
	€ mn	%	%
Germany	263	0.72	0.22
Western Europe	344	6.56	1.14
Northern Europe	92	100.00	29.33
Southern Europe	–	–	–
Eastern Europe	–	–	–
North America	414	0.53	2.10
Asia/Pacific	–	–	–
Other	–	–	–
Total	**1,112**	**4.82**	**9.47**

Corporates – Other	EaD after credit risk mitigation and credit conversion factor	Average LGD	Average PD
	€ mn	%	%
Germany	1,319	11.33	0.98
Western Europe	2,736	3.75	1.63
Northern Europe	172	1.76	0.38
Southern Europe	772	18.91	37.48
Eastern Europe	519	22.03	2.25
North America	3,295	4.81	1.30
Asia/Pacific	214	13.06	0.98
Other	–	–	–
Total	**9,027**	**7.78**	**4.48**

Institutions	EaD after credit risk mitigation and credit conversion factor	Average LGD	Average PD
	€ mn	%	%
Germany	138	11.67	0.13
Western Europe	660	6.78	0.09
Northern Europe	60	7.60	0.15
Southern Europe	13	41.90	0.21
Eastern Europe	2	37.29	0.24
North America	89	9.51	0.23
Asia/Pacific	0	43.62	0.32
Other	–	–	–
Total	**962**	**8.34**	**0.11**

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

€ mn		a Risk-weighted assets (RWA)	b Minimum capital requirements
1	**Position as at 30 September 2018**	**7,378**	**590**
2	Asset size	269	22
3	Asset quality	-83	-7
4	Model updates	–	–
5	Methodology and policy	–	–
6	Acquisitions and disposals	-40	-3
7	Foreign exchange movements	11	1
	Deconsolidation effects	185	15
8	Other	–	–
9	**Position as at 31 December 2018**	**7,720**	**618**

Line 3 reports changes in risk-weighted exposures resulting from changed borrower probabilities of default (PD) or loss given default (LGD).

At present, line 4 does not show any changes; this is due to the fact that no new models for estimating risk parameters were implemented, nor were any adjustments made to internal models already approved.

Line 5 only requires disclosure of any changes resulting from a changed RWA calculation methodology – for example, where exposures previously subject to the CRSA are being included under the Advanced IRB Approach. No such changes applied during the period under review.

Line 6 discloses the RWA effect of the disposal of one investment previously included in the regulatory scope of consolidation during the fourth quarter. However, the RWA effect is less pronounced due to the investment in BrickVest, a leading European online platform for commercial property investments.

The line "Deconsolidation effects" shows the RWA increase from the regulatory deconsolidation of Westdeutsche Immobilien Servicing AG.

No figures are shown in line 8 since we were able to assign RWA changes within Aareal Bank Group to the aforementioned categories.

Backtesting of default probabilities

The following section compares the PDs used for the IRBA portfolio according to the regulatory scope of consolidation with the effective default rates of borrowers. The average annual default rate, calculated on the basis of the last five years, is used for comparison. In accordance with EBA guidelines, counterparty credit risk exposures are outside the IRBA exposure classes.

Aareal Bank uses the internal master scale – comprised of 21 PD classes (20 rating classes for not defaulted borrowers, one default class) – as basis for the PD band. Aareal Bank allocates exactly one probability of default parameter to each PD class. Thus, the weighted PD average generally corresponds to the arithmetic average of PD as per borrower. The default probabilities allocated to the PD bands are the same for all IRBA exposure classes, thus facilitating internal comparison.

Aareal Bank employs risk classification procedures tailored to the requirements of the respective IRBA exposure class for the initial, regular, or event-driven assessment of counterparty credit risk.

When determining internal credit ratings and default rates, Aareal Bank does not use assessments by external rating agencies. Hence, no external ratings are shown in column c.

In the current year, a total of five borrowers in the Corporates asset class defaulted pursuant to Article 178 of the CRR. All of the borrowers who defaulted had already been financed as at the end of the previous period. There are restrictions to the interpretation of comparing average PD to average annual default rates in table EU CR9; on the one hand, this is due to the master scale deployed. As mentioned before, Aareal Bank employs risk classification procedures tailored to the requirements of the respective IRBA asset class for the initial, regular, or event-driven assessment of counterparty credit risk. For instance, the rating scales have been customised to match the respective methods. The ratings, determined using internal risk classification procedures, are aggregated via the master scale to form a master rating for reporting purposes. On the other hand, the low number of default cases, in only a few rating classes, burdens interpretation of this comparison.

The comparison for the institutions exposure class is generally not meaningful, given absence of any borrower default during the reporting year; moreover, no borrower default occurred during the five-year history used as a basis for calculating the average annual default rate.

In principle, the risk classification procedures employed by the Bank are dynamic methods which are permanently adapted to changing risk structures and market conditions.

EU CR9: IRB Approach – back-testing of the probability of default (PD) per exposure class

a	b	c	d	e	f		g	h	i
					Number of obligors				
Corporates exposure class	PD range	External rating equivalent	Weighted average PD	Arithmetic average PD by obligor	End of previous year	End of the year	Defaulted obligors in the year	of which: new obligors	Average annual default rate
	%		%	%					%
	0 to < 0.00120	–	0.0010	0.0010	–	–	–	–	0.0000
	0.00120 to < 0.00750	–	0.0030	0.0030	–	–	–	–	0.0000
	0.00750 to < 0.01000	–	0.0080	0.0080	–	–	–	–	0.0000
	0.01000 to < 0.02640	–	0.0150	0.0150	–	–	–	–	0.0000
	0.02640 to < 0.03410	–	0.0300	0.0300	–	–	–	–	0.0000
	0.03410 to < 0.05950	–	0.0450	0.0450	2	3	–	–	0.0000
	0.05950 to < 0.07680	–	0.0676	0.0676	3	1	–	–	0.0000
	0.07680 to < 0.13410	–	0.1015	0.1015	6	15	–	–	0.0000
	0.13410 to < 0.17320	–	0.1524	0.1524	40	28	–	–	0.0000
	0.17320 to < 0.30230	–	0.2288	0.2288	85	88	–	–	0.0000
	0.30230 to < 0.39040	–	0.3435	0.3435	42	47	–	–	0.0000
	0.39040 to < 0.56000	–	0.4675	0.4675	101	130	–	–	0.0000
	0.56000 to < 0.88090	–	0.7024	0.7024	112	123	1	–	0.1495
	0.88090 to < 1.53390	–	1.1624	1.1624	160	152	–	–	0.1000
	1.53390 to < 1.98550	–	1.7451	1.7451	42	48	–	–	0.3356
	1.98550 to < 3.45720	–	2.6200	2.6200	42	35	–	–	1.6746
	3.45720 to < 4.98160	–	4.1500	4.1500	17	15	1	–	6.2500
	4.98160 to < 12.92540	–	8.0243	8.0243	11	9	3	–	21.3740
	12.92540 to < 18.62450	–	15.5154	15.5154	–	–	–	–	35.7143
	18.62450 to < 100.00000	–	30.0000	30.0000	–	5	–	–	15.0000
	100,00000	–	100.0000	100.0000	53	42	–	–	0.0000

a Corporates exposure class of which: SMEs	b PD range	c External rating equivalent	d Weighted average PD	e Arithmetic average PD by obligor	f Number of obligors End of previous year	 End of the year	g Defaulted obligors in the year	h of which: new obligors	i Average annual default rate
	%		%	%					%
	0 to < 0.00120	–	0.0010	0.0010	–	–	–	–	0.0000
	0.00120 to < 0.00750	–	0.0030	0.0030	–	–	–	–	0.0000
	0.00750 to < 0.01000	–	0.0080	0.0080	–	–	–	–	0.0000
	0.01000 to < 0.02640	–	0.0150	0.0150	–	–	–	–	0.0000
	0.02640 to < 0.03410	–	0.0300	0.0300	–	–	–	–	0.0000
	0.03410 to < 0.05950	–	0.0450	0.0450	2	3	–	–	0.0000
	0.05950 to < 0.07680	–	0.0676	0.0676	2	1	–	–	0.0000
	0.07680 to < 0.13410	–	0.1015	0.1015	5	15	–	–	0.0000
	0.13410 to < 0.17320	–	0.1524	0.1524	27	23	–	–	0.0000
	0.17320 to < 0.30230	–	0.2288	0.2288	55	52	–	–	0.0000
	0.30230 to < 0.39040	–	0.3435	0.3435	32	35	–	–	0.0000
	0.39040 to < 0.56000	–	0.4675	0.4675	87	89	–	–	0.0000
	0.56000 to < 0.88090	–	0.7024	0.7024	75	86	1	–	0.2342
	0.88090 to < 1.53390	–	1.1624	1.1624	109	108	–	–	0.1520
	1.53390 to < 1.98550	–	1.7451	1.7451	31	31	–	–	0.4608
	1.98550 to < 3.45720	–	2.6200	2.6200	35	26	–	–	2.6820
	3.45720 to < 4.98160	–	4.1500	4.1500	12	13	1	–	8.0808
	4.98160 to < 12.92540	–	8.0243	8.0243	11	8	3	–	19.6581
	12.92540 to < 18.62450	–	15.5154	15.5154	–	–	–	–	41.6667
	18.62450 to < 100.00000	–	30.0000	30.0000	–	1	–	–	23.0769
	100,00000	–	100.0000	100.0000	42	34	–	–	0.0000

a Corporates exposure class of which: specialised lending	b PD range	c External rating equivalent	d Weighted average PD	e Arithmetic average PD by obligor	f Number of obligors End of previous year	 End of the year	g Defaulted obligors in the year	h of which: new obligors	i Average annual default rate
	%		%	%					%
	0 to < 0.00120	–	0.0010	0.0010	–	–	–	–	0.0000
	0.00120 to < 0.00750	–	0.0030	0.0030	–	–	–	–	0.0000
	0.00750 to < 0.01000	–	0.0080	0.0080	–	–	–	–	0.0000
	0.01000 to < 0.02640	–	0.0150	0.0150	–	–	–	–	0.0000
	0.02640 to < 0.03410	–	0.0300	0.0300	–	–	–	–	0.0000
	0.03410 to < 0.05950	–	0.0450	0.0450	–	–	–	–	0.0000
	0.05950 to < 0.07680	–	0.0676	0.0676	–	–	–	–	0.0000
	0.07680 to < 0.13410	–	0.1015	0.1015	–	–	–	–	0.0000
	0.13410 to < 0.17320	–	0.1524	0.1524	–	1	–	–	0.0000
	0.17320 to < 0.30230	–	0.2288	0.2288	–	1	–	–	0.0000
	0.30230 to < 0.39040	–	0.3435	0.3435	–	1	–	–	0.0000

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a	b	c	d	e	f		g	h	i
					Number of obligors				
Corporates exposure class of which: specialised lending	PD range	External rating equivalent	Weighted average PD	Arithmetic average PD by obligor	End of previous year	End of the year	Defaulted obligors in the year	of which: new obligors	Average annual default rate
	%		%	%					%
	0.39040 to < 0.56000	–	0.4675	0.4675	–	2	–	–	0.0000
	0.56000 to < 0.88090	–	0.7024	0.7024	–	1	–	–	0.0000
	0.88090 to < 1.53390	–	1.1624	1.1624	–	2	–	–	0.0000
	1.53390 to < 1.98550	–	1.7451	1.7451	–	–	–	–	0.0000
	1.98550 to < 3.45720	–	2.6200	2.6200	–	3	–	–	0.0000
	3.45720 to < 4.98160	–	4.1500	4.1500	–	–	–	–	0.0000
	4.98160 to < 12.92540	–	8.0243	8.0243	–	–	–	–	0.0000
	12.92540 to < 18.62450	–	15.5154	15.5154	–	–	–	–	0.0000
	18.62450 to < 100.00000	–	30.0000	30.0000	–	1	–	–	0.0000
	100,00000	–	100.0000	100.0000	–	1	–	–	0.0000

a	b	c	d	e	f		g	h	i
					Number of obligors				
Institutions exposure class	PD range	External rating equivalent	Weighted average PD	Arithmetic average PD by obligor	End of previous year	End of the year	Defaulted obligors in the year	of which: new obligors	Average annual default rate
	%		%	%					%
	0 to < 0.00120	–	0.0010	0.0010	–	–	–	–	0.0000
	0.00120 to < 0.00750	–	0.0030	0.0030	–	–	–	–	0.0000
	0.00750 to < 0.01000	–	0.0080	0.0080	–	–	–	–	0.0000
	0.01000 to < 0.02640	–	0.0150	0.0150	–	–	–	–	0.0000
	0.02640 to < 0.03410	–	0.0300	0.0300	4	3	–	–	0.0000
	0.03410 to < 0.05950	–	0.0450	0.0450	3	3	–	–	0.0000
	0.05950 to < 0.07680	–	0.0676	0.0676	2	2	–	–	0.0000
	0.07680 to < 0.13410	–	0.1015	0.1015	4	5	–	–	0.0000
	0.13410 to < 0.17320	–	0.1524	0.1524	18	16	–	–	0.0000
	0.17320 to < 0.30230	–	0.2288	0.2288	9	9	–	–	0.0000
	0.30230 to < 0.39040	–	0.3435	0.3435	5	1	–	–	0.0000
	0.39040 to < 0.56000	–	0.4675	0.4675	7	5	–	–	0.0000
	0.56000 to < 0.88090	–	0.7024	0.7024	–	–	–	–	0.0000
	0.88090 to < 1.53390	–	1.1624	1.1624	–	–	–	–	0.0000
	1.53390 to < 1.98550	–	1.7451	1.7451	–	–	–	–	0.0000
	1.98550 to < 3.45720	–	2.6200	2.6200	–	–	–	–	0.0000
	3.45720 to < 4.98160	–	4.1500	4.1500	–	–	–	–	0.0000
	4.98160 to < 12.92540	–	8.0243	8.0243	–	–	–	–	0.0000
	12.92540 to < 18.62450	–	15.5154	15.5154	–	–	–	–	0.0000
	18.62450 to < 100.00000	–	30.0000	30.0000	11	3	–	–	0.0000
	100,00000	–	100.0000	100.0000	–	–	–	–	0.0000

Expected loss vs. loss actually incurred

The following table compares the expected loss (EL) for the commercial property lending business, which was treated under the AIRBA as at 31 December 2017, and for which actual losses were incurred in 2018, with these actual losses.[1] Aareal Bank defines the loss actually incurred as the sum total of additions and reversals of specific loss allowances and provisions, and less recoveries on loans and advances previously written off.

The comparability of the juxtaposed indicators warrants a thorough assessment, as the methods differ. Within the framework of determining expected loss, the LGD calculation takes into account all losses incurred until final settlement, while the actually incurred loss, by definition, only includes the amounts recognised in one period.

	Actual loss				Expected loss			
	2018	2017	2016	2015	31 Dec 2017	31 Dec 2016	31 Dec 2015	31 Dec 2014
€ mn								
IRBA exposure class								
Institutions	–	–	–	–	–	–	–	–
Corporates	115	164	171	199	319	392	345	327
Total	**115**	**164**	**171**	**199**	**319**	**392**	**345**	**327**

Counterparty Credit Risk

The counterparty credit risk results from derivatives and securities financing transactions, the risk being that the transaction's counterparty defaults. Thus, the transaction could not be settled as intended.

Derivatives are defined for regulatory purposes as "... unconditional forward transactions or option contracts (including financial contracts for differences) that are structured as a purchase, exchange or other acquisition of an underlying instrument, whose value is determined by reference to the underlying instrument and whose value may change in future for at least one counterparty due to future settlement" (section 19 (1a) of the KWG).

Aareal Bank Group's derivatives positions have substantially been entered into in order to hedge interest rate and currency risk exposure, and for refinancing purposes.

Qualitative disclosures on counterparty credit risk

Risk management targets and policies

Please see the Annual Report for information on the risk management of counterparty credit risk.[2]

Internal capital allocation

Within the framework of the economic capital model for credit risks, derivatives are taken into account in the amount of their positive market value plus the regulatory add-on, determined depending on the type and term of the transaction. The netting framework agreements concluded by the Bank to reduce counterparty credit risks within the trading business are taken into account in the calculation. This also applies to additional agreements on the furnishing of collateral.

[1] Whilst the EAD used as a basis for determining EL was determined in accordance with IAS 39, since 1 January 2018, loss allowance has been recognised on the basis of the internal staging and ECL model in accordance with IFRS 9.
[2] Aareal Bank Group 2018 Annual Report: chapters "Trading activities" (pages 73 et seqq.) and "Credit risk mitigation for trading activities" (pages 78 et seqq.) in the Risk Report.

Internal limitation of risks from derivative transactions

To assess counterparty credit risk from derivative transactions, Operations prepares an internal rating for all counterparties on a regular or event-driven basis. The internal rating, along with the external ratings from Fitch Ratings, Moody's and Standard & Poor's, together represent an important indicator for determining counterparty-specific limits for the derivatives business.

Collateral and loss allowance

The procedures for accepting collateral are described in the Group Annual Report.[1] No loss allowance was recognised for hedging derivatives, since these are recognised at fair value through profit or loss pursuant to IFRSs.

Correlation risks

Correlation risks are insignificant for Aareal Bank Group.

Impact of a rating downgrade on collateral to be furnished

In general, the collateral agreements concluded provide for rating-independent minimum transfer amounts. In individual cases, the collateral agreements the Bank has entered into require that a higher amount of collateral be provided in the event of a downgrade of the Bank's external rating. However, the risk is immaterial due to the low volume and in relation to liquidity.

Valuation approach

The equivalent value of derivatives and the related counterparty credit risk are determined using the mark-to-market method (Article 274 of the CRR) for the purpose of regulatory reporting.

Quantitative disclosures on counterparty credit risk

Pursuant to Article 439 of the CRR, Aareal Bank is obliged to disclose details on the calculation of the exposure value, and on the methods to include financial collateral for securities financing transactions (SFTs), as set out in table EU CCR1. However, this excludes trades concluded with a central counterparty (CCP) or CCP-related transactions, as well as capital requirements for credit valuation adjustment (CVA). These transactions are analysed in the following tables.

The Bank held no securities financing transactions on the reporting date under review.

The table EU CCR2 (page 63) gives an overview of the CVA calculations, resulting in additional capital requirements aimed at absorbing the risk of a negative change in the market value of OTC derivatives in the case of a decline in the counterparty's credit quality. Aareal Bank uses the standard method pursuant to Article 384 of the CRR for calculating the CVA charge.

Table EU CCR8 (page 64) discloses the exposure value and risk-weighted exposure (RWA) for exposures to a central counterparty. As at the reporting date, Eurex Clearing AG and LCH.Clearnet Limited (which are both qualified counterparties) acted as central counterparties to Aareal Bank and Düsseldorfer Hypothekenbank. There were no exposures to non-qualified CCPs as at the reporting date of 31 December 2018.

The purpose of table EU CCR3 is the disclosure of the exposure amount after mitigating credit risk of all counterparty credit risk exposures to which CRSA is applied, by analogy with table EU CR5 for each exposure class, and broken down according to risk weight pursuant to Article 114 et seqq. of the CRR. Due to its insignificant share in EaD of all CRSA exposures (0.1 %), we do not believe that disclosing the table would provide any additional information.

[1] Aareal Bank Group 2018 Annual Report in the Risk Report, chapter "Credit risk mitigation for trading activities", pages 78 et seqq.

EU CCR1: Analysis of CCR exposure by approach

€ mn		a Notional	b Replacement cost/current market value	c Potential future replacement value	d EEPE	e Multiplier	f EAD post CRM	g RWAs
1	Mark to market		844	464			1,224	358
2	Original exposure	–					–	–
3	Standardised approach		–			–	–	–
4	IMM (for derivatives and SFTs)				–	–	–	–
5	of which: securities financing transactions				–	–	–	–
6	of which: derivatives and long-term settlement transactions				–	–	–	–
7	of which: from contractual cross-product netting				–	–	–	–
8	Financial collateral simple method (for SFTs)						–	–
9	Financial collateral comprehensive method (for SFTs)						–	–
10	VaR for SFTs						–	–
11	**Total**							**358**

EU CCR2: CVA capital charge

€ mn		a EAD	b RWAs
1	Total portfolios subject to the advanced method	–	–
2	i) VaR component (including the 3x multiplier)		–
3	ii) VaR component under stress conditions (sVaR, including the 3x multiplier)		–
4	All portfolios subject to the standardised method	477	215
EU4	Based on the original exposure method	–	–
5	**Total subject to the CVA capital charge**	**477**	**215**

EU CCR8: Exposures to CCPs

€ mn		a EAD post CRM	b RWAs
1	**Exposures to QCCPs (total)**		**4**
2	Exposures from trades at QCCPs (excluding initial margin and default fund contributions); of which	45	4
3	i) OTC derivatives	45	4
4	ii) Exchange-traded derivatives	–	–
5	iii) SFTs	–	–
6	iv) Netting sets where cross-product netting has been approved	–	–
7	Segregated initial margin	–	
8	Non-segregated initial margin	–	–
9	Prefunded default fund contributions	–	–
10	Alternative calculation of own funds requirements for exposures		–
11	**Exposures to non-QCCPs (total)**		**–**
12	Exposures from trades at non-QCCPs (excluding initial margin and default fund contributions); of which	–	–
13	i) OTC derivatives	–	–
14	ii) Exchange-traded derivatives	–	–
15	iii) SFTs	–	–
16	iv) Netting sets where cross-product netting has been approved	–	–
17	Segregated initial margin	–	
18	Non-segregated initial margin	–	–
19	Prefunded default fund contributions	–	–
20	Unfunded default fund contributions	–	–

The following table EU CCR4 (page 65) shows the derivative exposures treated in AIRBA – by analogy with the table EU CR6 within clearly-defined PD classes. The IRBA exposures classified as specialised lending as at the reporting date do not comprise derivative exposures.

The derivatives held by Aareal Bank Group, and entered into with internally rated property customers whose share in EaD after mitigating the credit risk of the entire AIRBA client portfolio is below one per cent, are mainly used to hedge interest rate and currency risks. As the available collateral is fully considered within the scope of determining the LGD of the respective property financing, a default LGD of 90 % is used for calculating the expected loss.

By analogy with the statement of the credit risk exposures, the average PD and LGD values of the counterparty credit risk exposure treated in AIRBA, split according to major geographical markets, are also disclosed.

EU CCR4: IRB approach – counterparty credit risk exposure by portfolio and PD scale

Exposure class	PD scale	a	b	c	d	e	f	g
		EAD post CRM	Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA density
		€ mn	%		%		€ mn	%
Corporates – SMEs	0.00 to < 0.15	–	–	–	–	–	–	–
	0.15 to < 0.25	13	0.22	7	90.00	900	10	81.74
	0.25 to < 0.50	4	0.46	5	90.00	980	4	116.07
	0.50 to < 0.75	8	0.70	17	90.00	900	12	140.92
	0.75 to < 2.50	21	1.16	9	90.00	1,146	42	197.99
	2.50 to < 10.00	2	2.62	4	90.00	1,153	5	227.71
	10.00 to < 100.00	–	–	–	–	–	–	–
	100.0 (Default)	–	–	–	–	–	–	–
	Subtotal	**48**	**0.86**	**42**	**90.00**	**1,027**	**74**	**153.06**
Corporates – Others	0.00 to < 0.15	–	–	–	–	–	–	–
	0.15 to < 0.25	0	0.23	4	90.00	360	0	69.45
	0.25 to < 0.50	2	0.47	1	90.00	620	3	124.20
	0.50 to < 0.75	12	0.70	2	90.00	1,799	29	235.85
	0.75 to < 2.50	2	1.75	2	90.00	1,711	7	295.30
	2.50 to < 10.00	–	–	–	–	–	–	–
	10.00 to < 100.00	–	–	–	–	–	–	–
	100.0 (Default)	–	–	–	–	–	–	–
	Subtotal	**17**	**0.80**	**9**	**90.00**	**1,602**	**39**	**225.80**
Institutions	0.00 to < 0.15	373	0.09	10	12.49	1,658	61	16.40
	0.15 to < 0.25	757	0.17	20	14.23	1,240	171	22.59
	0.25 to < 0.50	11	0.46	3	18.85	1,687	6	55.98
	0.50 to < 0.75	–	–	–	–	–	–	–
	0.75 to < 2.50	–	–	–	–	–	–	–
	2.50 to < 10.00	–	–	–	–	–	–	–
	10.00 to < 100.00	–	–	–	–	–	–	–
	100.0 (Default)	–	–	–	–	–	–	–
	Subtotal	**1,141**	**0.14**	**33**	**13.70**	**1,381**	**238**	**20.90**
	Total	**1,206**	**0.18**	**84**	**17.84**	**1,370**	**351**	**29.12**

Corporates – SMEs	EAD post CRM	Average LGD	Average PD
	€ mn	%	%
Germany	16	90.00	0.36
Western Europe	28	90.00	1.19
Northern Europe	2	90.00	0.52
Southern Europe	1	90.00	0.70
Eastern Europe	2	90.00	0.39
North America	–	–	–
Asia/Pacific	–	–	–
Total	**48**	**90.00**	**0.86**

Corporates – Others	EAD post CRM	Average LGD	Average PD
	€ mn	%	%
Germany	–	–	–
Western Europe	17	90.00	0.81
Northern Europe	0	90.00	0.23
Southern Europe	–	–	–
Eastern Europe	–	–	–
North America	–	–	–
Asia/Pacific	–	–	–
Total	**17**	**90.00**	**0.80**

Institutions	EAD post CRM	Average LGD	Average PD
	€ mn	%	%
Germany	599	13.05	0.17
Western Europe	472	12.75	0.12
Northern Europe	59	25.06	0.15
Southern Europe	1	39.43	0.23
Eastern Europe	–	–	–
North America	10	29.69	0.16
Asia/Pacific	–	–	–
Total	**1,141**	**13.70**	**0.14**

Pursuant to Article 439 e) of the CRR, Aareal Bank must disclose the effect of netting and of collateral held on derivatives exposures (including those settled via a CCP), in table EU CCR5-A on page 67, broken down by type of contract.

Master agreements with netting clauses provide for the netting of claims and liabilities in the event of insolvency or counterparty default, and thus further reduce counterparty risk.

The aggregate positive replacement value for our derivatives contracts subject to reporting requirements stood at € 1,934 million at year-end 2018. This amount is reduced to € 74 million through netting framework agreements (see chapter "Credit risk mitigation") in the amount of € 1,090 million and the deduction of collateral held in the amount of € 770 million.

At present, Aareal Bank does not use credit derivatives to hedge individual contracts, nor does it act as a broker, seller or buyer of credit derivatives.

Table EU CCR5-B (page 67) supplements the disclosure requirements under Article 439 lit. (e) of the CRR, as well as the disclosures in table EU CCR5-A with additional information on collateral received or posted. For this purpose, collateral received or posted must be broken down by type of financial instrument, and by segregated and non-segregated collateral. Collateral is deemed segregated if client assets are bankruptcy-remote as defined in Article 300 (1) CRR.

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

		a	b	c	d	e
		Gross positive fair value or net carrying amount	Netting benefits	Netted current credit exposure	Collateral held	Net credit exposure
€ mn						
1	Derivatives	1,934	1,090	844	770	74
2	SFTs	–	–	–	–	–
3	Cross-product netting	–	–	–	–	–
4	**Total**	**1,934**	**1,090**	**844**	**770**	**74**

EU CCR5-B: Composition of collateral for exposures subject to counterparty credit risk

	a	b	c	d	e	f
	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
	Segregated	Unsegregated	Segregated	Unsegregated		
€ mn						
Cash collateral	12	760	17	823	–	–
Government bonds	–	–	51	–	–	–
Total	**12**	**760**	**68**	**823**	**–**	**–**

Liquidity Risks

Liquidity risk in the narrower sense is defined as the risk that current or future payment obligations cannot be met in full or on time. Aareal Bank Group's liquidity risk management system is designed to ensure that the Bank has sufficient cash and cash equivalents to honour its payment obligations at any future point in time. The risk management and monitoring processes have been designed to cover refinancing and market liquidity risks, in addition to liquidity risk in the narrower sense.

Treasury is responsible for managing liquidity risks. Risk Controlling is responsible for ongoing monitoring.

Liquidity risk strategy

In general, Aareal Bank Group maintains a low risk tolerance. The Bank's portfolio comprises a broad range of liquid and high-quality securities, ensuring the Bank's ability to generate large volumes of liquidity at short notice, and thus prevent liquidity shortages, even in a tight market environment or a crisis scenario.

Within the framework of the refinancing strategy, various money and capital market instruments are used to achieve a broadly-diversified range of funding vehicles. Regarding money-market instruments, this includes, in particular, client deposits (from institutional investors and the housing industry), repo transactions on the interbank market and on Eurex, open-market transactions with the ECB. Capital markets instruments used include, in particular, covered bonds (Pfandbriefe), uncovered and subordinated bearer bonds issued within the scope of the Debt Issuance Program (DIP), uncovered and subordinated registered bonds and promissory note loans.

Liquidity controlling and management

The Treasury division is responsible for intraday as well as short- and medium-term liquidity management. Operative short- and medium-term liquidity management is based on liquidity balance sheets and cash flow analyses, which are constantly being developed and incorporated in the regular liquidity status report. To analyse both the maturity structure and the quality of the individual money market and capital market products, the cash flows from the various refinancing sources and liquidity reserves are divided into different liquidity classes which are incorporated differently into the assessment of the liquidity status. The various properties, such as rollover probability, collateralisation, or ability to liquidate, are thus accounted for, thereby allowing the possible liquidity risks to be selectively quantified. The overall liquidity situation is broken down into several maturity ranges, taking into account possible stress scenarios. From our point of view, the most significant scenario is the institution-specific "idiosyncratic stress" scenario, which simulates a withdrawal of funds deposited by public-sector entities and banks, as well as a 30 % reduction in current account balances. Even in this stress scenario, liquidity is sufficient to cover the expected liquidity needs under stress conditions.

Managing and monitoring risk concentrations in the area of liquidity risks focuses on liquidity providers, the instruments used to raise liquidity, the liquidity inventory, as well as on any concentrations of liquidity needs which may arise over time.

Risks are communicated by means of daily reporting to Treasury and to the members of the Management Board responsible for Treasury and monitoring. As part of monthly reporting, the entire Management Board is also briefed on the situation as regards liquidity risks. In addition, we notify further units if required.

Liquidity Coverage Ratio

The Liquidity Coverage Ratio (LCR) helps to measure whether the liquidity buffer of an institution is high enough. Pursuant to Article 412 (1) of the CRR, the Liquidity Coverage Ratio is calculated as the ratio of the liquidity buffer relative to net outflows during a stress phase of 30 calendar days. The LCR for the reporting year 2018 amounts to at least 100 %.

The following table is based on the requirements set out in the EBA Guidelines EBA/GL/2017/01 regarding the disclosure of the liquidity coverage ratio. Quantitative information is disclosed on the basis of the weighted and non-weighted average values of the past 12 reporting dates of the respective quarter.

During the period under review the LCR always significantly exceeded 150 % as at the reporting dates. The main reason is the high volume of High Quality Liquid Assets (HQLA). The HQLA predominantly comprise the asset class "public-sector borrowers" and deposits with central banks. Please see the Annual Report[1] for further information on the composition of the HQLA. Customer deposits from the housing industry, which represent a strategically important source of funding, are the main component of cash outflow.

[1] Aareal Bank Group 2018 Annual Report: chapter "Securities portfolio", pages 62 et seqq., in the Report on the Economic Position of the Group Management Report

Instruments

Scope of consolidation		Total unweighted value (average)				Total weighted value (average)			
		Quarter ending on 31 Mar 2018	Quarter ending on 30 Jun 2018	Quarter ending on 30 Sep 2018	Quarter ending on 31 Dec 2018	Quarter ending on 31 Mar 2018	Quarter ending on 30 Jun 2018	Quarter ending on 30 Sep 2018	Quarter ending on 31 Dec 2018
€ mn									
Number of data points used for calculating averages		12	12	12	12	12	12	12	12
High-quality liquid assets									
1	Total high-quality liquid assets (HQLA)					7,345	7,484	7,308	6,988
Cash outflows									
2	**Retail deposits and deposits from small business customers, of which:**	**3,783**	**3,928**	**4,030**	**4,039**	**302**	**307**	**291**	**268**
3	Stable deposits	1,787	1,978	2,443	2,862	89	99	122	143
4	Less stable deposits	1,995	1,950	1,587	1,178	213	208	169	125
5	**Unsecured wholesale funding**	**6,461**	**6,512**	**6,472**	**6,382**	**2,368**	**2,362**	**2,356**	**2,351**
6	Operational deposits (all counterparties) and deposits in networks of cooperative banks	3,434	3,588	3,679	3,678	727	770	821	851
7	Non-operational deposits (all counterparties)	2,980	2,879	2,775	2,686	1,594	1,547	1,517	1,482
8	Unsecured debt	47	45	18	18	47	45	18	18
9	**Secured wholesale funding**					**3**	**–**	**–**	**–**
10	**Additional requirements**	**1,182**	**1,219**	**1,308**	**1,395**	**435**	**420**	**424**	**443**
11	Outflows related to derivative exposures and other collateral requirements	299	278	278	283	279	258	258	265
12	Outflows related to loss of funding on debt products	5	5	6	5	5	5	6	5
13	Credit and liquidity facilities	878	936	1,024	1,107	151	157	160	173
14	**Other contractual funding obligations**	**116**	**117**	**106**	**95**	**66**	**76**	**75**	**73**
15	**Other contingent funding obligations**	**683**	**682**	**869**	**910**	**44**	**45**	**55**	**57**
16	**Total cash outflows**					**3,218**	**3,210**	**3,201**	**3,192**
Cash inflows									
17	Secured lending (e.g. reverse repos)	–	–	–	–	–	–	–	–
18	Inflows from derecognised items	430	519	570	623	222	228	220	209
19	Other cash inflows	52	51	28	63	52	51	28	63
EU-19a	(Difference between total weighted inflows and total weighted outflows arising from transactions in third countries where there are transfer restrictions or which are denominated in non-convertible currencies)					–	–	–	–
EU-19b	(Excess inflows from a related specialised credit institution)					–	–	–	–
20	**Total cash inflows**	**482**	**570**	**598**	**686**	**274**	**279**	**248**	**272**
EU-20a	Fully exempt inflows	–	–	–	–	–	–	–	–
EU-20b	Inflows subject to a 90 % cap	–	–	–	–	–	–	–	–
EU-20c	Inflows subject to a 75 % cap	482	569	598	686	274	279	248	272
						Adjusted total value			
21	**Liquidity buffer**					**7,345**	**7,484**	**7,308**	**6,988**
22	**Total net cash outflows**					**2,946**	**2,932**	**2,953**	**2,920**
23	**Liquidity Coverage Ratio (%)**					**249.32 %**	**255.25 %**	**247.48 %**	**234.32 %**

Currency mismatches in the Liquidity Coverage Ratio

Pursuant to Article 415 (2) of the CRR, Aareal Bank Group has no significant foreign currency exposure in its portfolio. As at the reporting date (31 December 2018), the largest foreign currency portfolio in USD amounts to 3.5 % of total liabilities. The Bank monitors the portfolio as to the existence of significant foreign currency exposures on a regular basis.

Derivatives positions and potential hedging requests

Pursuant to Article 423 (3) of the CRR, an additional liquidity outflow is to be provided for collateral which is required due to the impact of unfavourable market conditions on derivatives and financing transactions as well as on other contracts. The aim is to consider additional outflows from collateral potentially arising in an unfavourable market environment. Aareal Bank Group determines the additional outflow as per the historical look-back approach (HLBA). The LCR calculation includes the largest absolute collateral net flow within a period of 30 days which occurred in the last 24 months. The annual average of additional liquidity requirements for the reporting date 31 December 2018 stood at € 262 million.

Operational Risks

Operational risk is defined as the risk of losses resulting from inadequate or failed internal procedures and systems, from human error or from external events. This definition also includes legal risks. To the extent that they are caused by operational risks, model, strategic and reputational risks are also taken into consideration within this type of risk. Systemic risks (or their impact on operational risks) are not affected by this.

Ultimately, in contrast to other risk types, operational risks always represent the disruption of the production process. If the components of the production process change, the situation as regards operational risks within the company changes as well.

Risk Controlling is responsible for the central coordination of all aspects related to controlling operational risks, including the authority to select methods for identifying and monitoring of risks and loss events. This also includes risk reporting.

Strategy for the treatment of operational risks

The strategy pursued by the Bank which is based on specialised and individualised businesses results in less standardised and mechanised processes and workflows when compared with institutions that focus on standardised businesses. The consequence of this for Aareal Bank is that the operational risk is more strongly characterised by the categories People/Employees and Processes, and less strongly by the categories Systems/Technology and External Events. The structure of the risk environment, as described in this section, is not expected to change materially over the medium term.[1)]

The insights described herein result in a conscious and rigorous risk strategy in connection with the treatment of operational risks. Within the framework of this risk strategy, a decision is made with regard to avoiding (incl. relevant risk mitigation strategies), accepting/entering into or transferring/hedging risk positions. Deciding factors for the related decisions are both the economic reasonableness of the decisions and the Bank's risk appetite. The aim of all these efforts is to generate a balanced risk profile on the basis of a regularly applied risk analysis.

Against the background of this risk environment, we generally avoid a concentration of operational risk exposure. This is achieved, among other

[1)] ICT topics (such as data protection, etc.) and the risks arising therefrom are generally less related to the absence of technical solutions, but are caused by non-functioning or insufficient internal processes and controls. Hence, these risks are not shown in the Systems/Technology category.

things, via adequate long-term measures as well as through the consistent implementation of a precisely defined set of controlling instruments for the identification and monitoring of operational risks and resulting loss events. These instruments are tailored to the Bank and its specific risk profile.

Instruments used to control operational risks

Operational risks and the resulting loss events are systematically identified, assessed, monitored and addressed, if necessary, using controlling measures within Aareal Bank under the framework of a regular cycle. Risk identification is made via the instruments Self-Assessment (early risk identification), risk inventories (risk identification and monitoring), as well as via maintaining and monitoring a loss database.

Stress testing

Suitable and plausible stress tests are conducted at Aareal Bank in the context of operational risks. These are hypothetical scenarios and sensitivity analyses on the risk inventories. The results of the stress tests are reported regularly to the Management Board and serve as an indicator for potential developments within the risk type "Operational risks" that could jeopardise the continued existence of the Group.

Backtesting

Annual back-testing is performed for the risks as part of risk identification and risk monitoring. This involves determining the relation between loss events expected from individual risks and reported incidents of such loss events. Based on the results from backtesting, adjustments are made to the controlling instruments used to manage operational risks.

Regulatory assessment

As a rule, the capital charge for the Group's operational risks is calculated according to the so-called "Standardised Approach" (STA) pursuant to article 317 et seqq. of the CRR. Aareal Bank uses the basic indicator approach in accordance with Article 315 et seqq. for Düsseldorfer Hypothekenbank AG, which was acquired as at 31 December 2018. The Bank intends to follow the procedure provided for in Article 314 (4) of the CRR in subsequent periods.

As an international property specialist, we limit our operations to trading and sales, commercial banking, retail banking, plus payment and settlement provided within the scope of the Standardised Approach.[1)]

Article 317 (2) of the CRR defines regulatory risk weights (so-called "beta factors") for the individual business lines forming the basis of the Standardised Approach. We use these defined weightings rather than exercising the option to apply proprietary beta factors.

The "commercial banking" business line accounts for 90 % of the relevant indicator.

As segment reporting is not in line with the breakdown of business lines pursuant to the CRR, the individual items of the segment report are re-allocated on the basis of factually logical arguments. Statistical values are partially used as further supporting data (such as the ratio of private vs. commercial loans).

For details regarding capital requirements attributable to operational risk, please refer to the overview of capital requirements for all types of risk within the Regulatory Capital Requirements chapter (page 21).

[1)] Due to the fact that the CRR does not provide for a separate adequate business line for the operating segment Consulting/Services, the relevant income of that segment is weighted using the highest beta factor (18 %, corresponding, inter alia, to the beta factor for the trading and sales business).

Investment Risks

Aareal Bank defines investment risk as the threat of unexpected losses incurred due to an impairment of the investment's carrying amount, or a default of loans extended to investees. The concept of investment risk also encompasses additional risks arising from contingencies vis-à-vis the relevant Group entities. Please refer to the Annual Report for information on risk measurement and risk monitoring.[1)]

Investment risk strategy

Aareal Bank Group acquires equity investments strictly for the purpose of positioning the Group as an international property financing specialist and provider of property-related services. While the standard banking risks mainly exist within Aareal Bank AG and the equity investments in banks, the other subsidiaries are frequently exposed to other risks. Due to their special character, these risks cannot be measured and managed using the same methods and processes. These risks are centralised in a separate risk category called "Investment risks" and included in the centralised risk management system through an investment risk controlling concept.

In general, all types of investments contribute to investment risk. The main focus of investment risk controlling, however, is on operating non-bank shareholdings, since these companies have different business models from that of Aareal Bank AG. The statistical methods and procedures applied in the banking business – such as VaR models – are generally not suitable to assess the risks of these companies. For this reason, we pursue a qualitative approach for investment risk control which attempts to estimate the risk content on the basis of the balance sheet and income statement analyses conducted within the scope of investment risk controlling. The investments covered are classified into different risk classes. Each risk class has specific risk weightings, which are used to translate the carrying amount of the investment into a risk equivalent value. Based on this risk equivalent value, Risk Controlling monitors compliance with the limits for investment risks.

Based on the type, scope, complexity and risk level of transactions, processes should be set up for the early identification of risk potential and for controlling and monitoring these risks in accordance with the Minimum Requirements for Risk Management (MaRisk).

This requirement is complied with through a risk-adequate investment controlling system within the framework of implementing the investment strategy, where the different autonomy requirements of investments are accounted for.

The controlling philosophy of Aareal Bank Group defines to which extent the business activities of the investments are influenced, and who exercises this influence. The controlling philosophy also determines the structure for controlling equity investments. A distinction has to be made between a direct and indirect influence on the investments.

The more important the investment is, the more direct influence will be taken and regulatory reporting will be required. The Group's head office will be involved in material business decisions. In case of an indirect influence, the investments have more discretion as regards business decisions. The carrying amount underlying these companies, in aggregate, is insignificant when measured against the total carrying amount of all subsidiaries.

Aareal Bank AG considers investment risks to be material and therefore includes these risks into its overall risk reporting. For this purpose, the investment risks are determined and assessed by the Finance & Controlling division. The Risk Controlling division reports to the Management Board as regards investment risks within the framework of regular risk reporting on a quarterly basis.

[1)] Aareal Bank Group 2018 Annual Report: chapter "Risk measurement and monitoring" in the Risk Report of the Group Management Report (page 85).

In our business model, we make a distinction between the two segments, Structured Property Financing and Consulting/Services. Our equity investments reflect the medium- to long-term strategic objectives of our business model.

Structured Property Financing

- We enter into strategic investments to support our property financing activities, particularly abroad.
- Special-purpose entities within the scope of foreclosed assets are used to secure real property liens.

Consulting/Services

- Strategic investments allow us to offer the housing and commercial property industries in Germany – as well as in selected European countries – plus the German utilities and waste disposal industries, services and products for managing residential property portfolios and processing payment flows.
- Investments in companies that provide the Group and third parties with other property or IT services.

Regulatory assessment

The statements below exclusively refer to investments that are not part of the regulatory scope of consolidation and are therefore included as risk-weighted assets in the report pursuant to sections 10 and 10a of the KWG.

From a regulatory perspective, all investments of Aareal Bank AG are covered by the Advanced IRB Approach. The Simple Risk Weight Approach, pursuant to Article 155 of the CRR, is used for the determination of the risk-weighted exposure amounts.

Measurement and accounting policies

Aareal Bank AG includes the majority of the companies concerned in its IFRS consolidated financial statements (full consolidation) since it controls the financial and operating policies of these companies as the parent entity of the Group.

Companies over which Aareal Bank AG may exercise a significant influence ("associates") as well as companies under joint control (joint ventures) are measured using the equity method and reported under "Investments accounted for using the equity method".

Investments not consolidated under IFRSs are allocated to the measurement category "fair value through other comprehensive income (fvoci)" and shown in the line item of the statement of financial position "Equity instruments (fvoci)".

Further information on measurement and accounting principles applied to investments is provided in our Annual Report.[1]

Valuations for disclosure

The following table (page 74) shows aggregate investments in relation to their strategic objective, excluding investments consolidated for solvency reporting purposes.

The overview compares the carrying amounts with fair values. Since it is not necessary from an accounting perspective to determine the carrying amounts and the fair values for the fully-consolidated companies, the carrying amount and the fair value of the majority of these companies are derived from their equity capital for disclosure purposes.

Table EU CR10 in the Regulatory Capital Requirements chapter provides an overview of the breakdown of investments across risk weights, using the simple risk weight method, pursuant to Article 155 (2) of the CRR, as well as of the respective IRBA risk exposure value and RWA.

[1] Aareal Bank Group 2018 Annual Report: chapter "Accounting Policies" in Notes (2), (3), (7) and (15) in the Notes to the consolidated financial statements, pages 137 et seqq.

€ mn	Carrying amount	Fair value
Structured Property Financing	**184**	**184**
of which: listed investments	0	0
of which: other equity investments	184	184
Consulting/Services	**163**	**163**
of which: listed investments	–	–
of which: other equity investments	163	163

Gains and losses from the remeasurement of investments

Gains and losses of € 4 million from the remeasurement of investments which were risk-weighted as at the disclosure date are reported in OCI reserves, and included in Common Equity Tier I (CET I) capital.

Market Risks

Market price risk is broadly defined as the threat of losses due to changes in market parameters. Aareal Bank's market price risk exposure predominantly comprises interest rate risks, whilst currency risks are largely eliminated through hedges. Hence, the primary market price risk exposures are related to the risk parameters for interest rates, equity prices, and exchange rates.

Risk Controlling uses the latest methods and tools for the measurement and analysis of market risks. Up-to-date reporting to management on the Group's risk profile provides decisive input for all short-, medium- and long-term investment decisions. Value-at-risk (VaR) has established itself as the method for measuring general market price risk. This concept, as well as stress testing and sensitivity analysis used as further methods to measure market risks, are described in detail in the Annual Report.[1)]

Risk management, especially with regard to market risks (comprising interest rate risk in the banking book, credit spread and migration risk in the banking book, as well as other market risks) is performed within the Treasury division and monitored by the Risk Controlling division. Based on the daily risk report, all changes of the present value in all currencies are analysed on a daily basis; if necessary, risk-reducing measures are taken. In addition, the general interest rate and market risk situation is discussed during weekly meetings of the Transaction Committee. The Transaction Committee comprises the Management Board member responsible for Treasury, the Head of Treasury as well as the department heads of Treasury. The Transaction Committee makes decisions as regards the general approach with respect to the management of market and interest rate risks.

In the area of market price risks, we monitor and control concentration risks, in particular with respect to the relevant risk factors (interest rate risks, currency risks etc.), products and individual companies of Aareal Bank Group.

Please refer to the Annual Report for more detailed information on credit spread and migration risks in the banking book, as well as on other market risks.

Market risk strategy

Our exposure to the capital market is based on a responsible and sustained strategy. Identified risks are offset, for example, through hedging agreements.

[1)] Aareal Bank Group 2018 Annual Report: chapter "Credit spread and migration risks in the banking book" (page 82) as well as chapter "Other market risks" (pages 82 et seqq.).

Interest rate positions from the current lending and refinancing business, which are intended to be hedged, are closed out using interest rate derivatives. Generally, we use one-to-one hedges to meet IFRS hedge accounting criteria. Macro hedges, where IFRS hedge accounting cannot be used, are an exception to this.

The lending and refinancing business in foreign currencies is managed using money market transactions and FX swaps in the respective currency. The currency positions from accumulated lending and refinancing margins are reviewed regularly and closed out on a timely basis. Basic risks from differing fixing dates are largely avoided for each currency by selecting suitable roll dates.

We do not invest in precious metals, other commodities and raw materials. Similarly, there are currently no amounts to be included for net equity or equity index positions. We calculate the regulatory capital requirements for foreign currency risk based on the rights and obligations as well as investments in foreign currencies.

Regulatory capital requirements for market risk in the standardised approach

We do not use an internal model for the regulatory assessment of market risk, but employ standard regulatory procedures instead.

The option provided in Article 340 of the CRR, as well as the duration-based approach, are used to calculate general risks.

We do not apply any lump-sum weighting amounts for investment fund units in accordance with Article 348 (1) of the CRR.

The following overview shows the own funds requirements for the different market risk positions in accordance with Article 92 (3) lit. c) of the CRR.

No trading activity took place during the financial year under review.

EU MR1: Market risk under the standardised approach

		a RWAs	b Minimum capital requirements
€ mn			
	Outright products		
1	Interest rate risk (general and specific)	–	–
2	Equity risk (general and specific)	–	–
3	Foreign exchange risk	112	9
4	Commodity risk	–	–
	Options		
5	Simplified approach	–	–
6	Delta-plus method	–	–
7	Scenario approach	–	–
8	**Securitisation (specific risk)**	–	–
9	**Total**	**112**	**9**

Interest rate risk in the banking book

Whilst the net interest position is calculated to determine regulatory capital requirements for market risk, the calculation of interest rate risk in the banking book does not impact on the capital representation for regulatory purposes.

Interest rate risk in the banking book is defined as the risk exposure of instruments held in the banking book which are sensitive to changes in interest rates, caused by yield curve shifts.

Qualitative and quantitative information as regards the exposure to interest rate risk on positions in the banking book is fully disclosed for the first time in the Risk Report.[1)]

Encumbered and Unencumbered Assets

The Asset Encumbrance provides an overview of the degree of asset encumbrance and – derived from this overview – an assessment of the Bank's ability to meet its financial obligations. The Asset Encumbrance Ratio, a key indicator of asset encumbrance, presents total encumbered assets and total collateral reused in proportion to total assets and total collateral received.

Assets are considered encumbered or used if they are not freely available to the institution. This is always the case if an asset is pledged or subject to lending arrangements or any form of arrangement to secure, collateralise or credit-enhance any originated loans or potential commitments from derivative transactions or any on-balance sheet or off-balance sheet transaction.

The information provided below is based on the requirements in accordance with Article 443 of the CRR in connection with the Delegated Regulation (EU) 2017/2295 of 4 September 2017 and the corresponding reporting forms. Quantitative details are disclosed using median values of data reported to supervisory authorities during 2018, on a quarterly basis.[2)]

Assets

€ mn		Carrying amount of encumbered assets 010	Fair value of encumbered assets 040	Carrying amount of unencumbered assets 060	Fair value of unencumbered assets 090
010	**Assets of the reporting institution**	**17,752**		**23,428**	
030	Equity instruments	–	–	2	163
040	Debt securities	2,106	2,094	6,219	6,094
050	of which: covered bonds	–	–	253	253
060	of which: securitisations	–	–	–	–
070	of which: issued by sovereign governments	1,972	1,959	5,465	5,287
080	of which: issued by financial institutions	130	130	776	779
090	of which: issued by non-financial institutions	–	–	–	–
120	Other assets	15,587		17,569	

1) Aareal Bank Group 2018 Annual Report: chapter "Interest rate risk in the banking book" in the Group Management Report, page 80 et seqq.
2) Given that median figures are disclosed, the positive effects from the acquisition of Düsseldorfer Hypothekenbank, which was closed effective 31 December 2018, are not accounted for.

Collateral received

€ mn		Fair value of encumbered collateral received or own debt securities issued 010	Unencumbered Fair value of collateral received or own debt securities issued available for encumbrance 040
130	**Collateral received by the reporting institution**	**–**	**–**
140	Loans on demand	–	–
150	Equity instruments	–	–
160	Debt securities	–	–
170	of which: covered bonds	–	–
180	of which: securitisations	–	–
190	of which: issued by sovereign governments	–	–
200	of which: issued by financial institutions	–	–
210	of which: issued by non-financial institutions	–	–
220	Loans and advances other than loans on demand	–	–
230	Other collateral received		–
231	of which: ...	–	–
240	**Own debt securities issued other than own covered bonds or asset-backed securities**	**–**	**23**
241	**Own covered bonds and asset-backed securities issued and not yet pledged**		**–**
250	**Total assets, collateral received and own debt securities issued**	**17,752**	

Encumbered assets/collateral received and associated liabilities

€ mn		Matching liabilities, contingent liabilities or securities lent 010	Encumbered assets, collateral received and own debt securities issued other than covered bonds and asset-backed securities 030
010	**Carrying amount of selected financial liabilities**	**15,352**	**17,671**

Information on importance of encumbrance

Aareal Bank Group determines the encumbrance of assets in accordance with Implementation Regulation (EU) 2015/79. Unchanged from the previous year, in addition to the cover assets pool, derivatives as well as – occasionally – securities repurchase transactions (repos) are key sources of encumbrance as at 31 December 2018. Aareal Bank Group issues Pfandbriefe (German covered bonds) which are collateralised with receivables and securities. Aareal Bank AG's cover assets pools held for issuance of covered bonds account for the encumbrance of assets in a total amount of € 15 billion.

The changes in the total amounts of encumbered assets and collateral received, as well as the shift in the ratio of both totals, compared to the previous reporting period, was largely attributable to a reduction in lending volume, combined with a reduction of the cover assets pools.

On a Group level, no structure of encumbrance between entities within Aareal Bank Group existed, due to consolidation. A significant over-collateralisation only applied to the cover assets pool. Besides compliance with statutory minimum excess cover requirements, over-collateralisation also serves to satisfy the requirements of rating agencies.

Collateral is provided and accepted predominantly on the basis of standardised agreements on securities repurchase transactions and on the collateralisation of forward transactions. Derivatives transactions are generally entered into only on the basis of the German Master Agreement for Financial Derivatives, or the ISDA Master Agreement. Such master agreements provide for the netting of claims and liabilities in the event of insolvency or counterparty default, and thus further reduce counterparty credit risk.

Unencumbered other assets include approximately € 0.8 billion in assets which cannot be encumbered within the scope of current business operations: this largely relates to properties intended for disposal (28 %), as well as to tax reclaims and deferred tax assets (19 %).

Remuneration

Remuneration policy disclosure requirements pursuant to Article 450 of the CRR are generally fulfilled in the Annual Report.[1)]

The quantitative disclosures on the remuneration of Management Board members, employees as well as senior executives required according to Article 450 of the CRR will be produced only after the financial year's reporting date and be disclosed by the end of June 2019, on Aareal Bank AG's homepage.

Leverage Ratio

The Bank manages the risk of excessive leverage on a quarterly basis, within the scope of forecasting own funds. For this purpose, both Tier 1 capital and total assets are forecast for the year-end dates of the two following years, one month prior to the end of each quarter. In this context, the minimum 3 % Leverage Ratio, as set out in the framework published by the Basel Committee on Banking Supervision in 2014, must be complied with at any time. The information is then submitted to senior management.

Aareal Bank determines the Leverage Ratio to be disclosed, taking into account the regulatory scope of consolidation, based on the Delegated Regulation (EU) 2015/62.

The following disclosure tables are based on the requirements set out in the Implementation Regulation (EU) 2016/200 dated 15 February 2016.

[1)] Aareal Bank Group 2018 Annual Report: Remuneration Report within the Group Management Report (pages 97 et seqq.)

Summary reconciliation of accounting assets and leverage ratio exposures (LRSum)

€ mn		Applicable amount
1	**Total assets as per published financial statements**	**42,687**
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	314
3	(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio total exposure measure in accordance with Article 429 (13) of Regulation (EU) 575/2013)	–
4	Adjustments for derivative financial instruments	-1,528
5	Adjustments for securities financing transactions (SFTs)	–
6	Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	576
EU-6a	(Adjustment for intra-group exposures excluded from the leverage ratio total exposure measure in accordance with Article 429 (7) of Regulation (EU) 575/2013)	–
EU-6b	(Adjustment for exposures excluded from the leverage ratio total exposure measure in accordance with Article 429 (14) of Regulation (EU) 575/2013)	–
7	Other adjustments	-258
8	**Leverage ratio total exposure measure**	**41,791**

Leverage Ratio common disclosure (LRCom)

€ mn		CRR leverage ratio exposures
	On-balance sheet exposures (excluding derivatives and SFTs)	
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	40,851
2	(Asset amounts deducted in determining Tier 1 capital)	-41
3	**Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets) (sum of lines 1 and 2)**	**40,810**
	Derivative exposures	
4	Replacement cost associated with all derivatives transactions (i.e. net of eligible cash variation margin)	377
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	492
EU-5a	Exposure determined under Original Exposure Method	–
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	–
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-463
8	(Exempted CCP leg of client-cleared trade exposures)	–
9	Adjusted effective notional amount of written credit derivatives	–
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	–
11	**Total derivatives exposures (sum of lines 4 to 10)**	**406**

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€ mn		CRR leverage ratio exposures
	SFT exposures	
12	Gross SFT assets (with no recognition of netting), after adjusting for transactions posted as sales	–
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	–
14	Counterparty credit risk exposure for SFT assets	–
EU-14a	Derogation for SFTs: counterparty credit risk exposure in accordance with Articles 429b (4) and 222 of Regulation (EU) 575/2013	–
15	Agent transaction exposures	–
EU-15a	(Exempted CCP leg of client-cleared SFT exposures)	–
16	**Total securities financing transaction exposures (sum of lines 12 to 15a)**	
	Other off-balance sheet exposures	
17	Off-balance sheet exposures at gross notional amount	1,497
18	(Adjustments for conversion to credit equivalent amounts)	-921
19	**Other off-balance sheet exposures (sum of lines 17 and 18)**	**576**
	Exempted exposures in accordance with Article 429 (7) and (14) of Regulation (EU) 575/2013 (on- and off-balance sheet)	
EU-19a	(Intragroup exposures (solo basis) exempted in accordance with Article 429 (7) of Regulation (EU) 575/2013 (on- and off-balance sheet))	–
EU-19b	Exempted exposures in accordance with Article 429 (7) and (14) of Regulation (EU) 575/2013 (on- and off-balance sheet)	–
	Capital and total exposure measure	
20	**Tier 1 capital**	**2,563**
21	**Leverage ratio total exposure measure (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)**	**41,791**
	Leverage Ratio	
22	Leverage Ratio	6.13 %
	Choice on transitional arrangements and amount of derecognised fiduciary items	
EU-23	Choice on transitional arrangements for the definition of the capital measure	Transitional arrangements
EU-24	Amount of derecognised fiduciary items in accordance with Article 429 (11) of Regulation (EU) 575/2013	–

At 6.13 %, the Leverage Ratio remained constant, compared to the disclosure date of 30 September 2018. Whilst the total exposure measure increased significantly due to the acquisition of DHB, the resulting impact upon the ratio is fully offset by the increase in Tier I capital.

The following table (page 81) provides a breakdown of on-balance sheet risk exposures (excluding derivatives, securities financing transactions, and exempted risk exposures).

Split-up of on-balance sheet exposures (LRSpl)

€ mn		CRR leverage ratio exposures
EU-1	**Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:**	**40,388**
EU-2	Trading book exposures	–
EU-3	Banking book exposures, of which:	40,388
EU-4	Covered bonds	303
EU-5	Exposures treated as sovereigns	10,233
EU-6	Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns	1,569
EU-7	Institutions	768
EU-8	Secured by mortgages on immovable properties	24,454
EU-9	Retail exposures	13
EU-10	Corporate	1,075
EU-11	Exposures in default	1,072
EU-12	Other exposures (e.g. equity, securitisations, and other non-credit obligation assets)	902

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Aareal Bank Group