Regulatory Disclosure Report for the 2022 financial year
of Aareal Bank Group

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Regulatory Disclosure Report for the 2022 financial year

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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 in accordance with part 8 of Regulation (EU) 575/2013 (Capital Requirements Regulation – "CRR"). The existing disclosure requirements are specified by the Commission Implementing Regulation (EU) 2021/637, published in March 2021.

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).

Due to its total assets of more than € 30 billion, Aareal Bank Group is classified as a large institution in accordance with Article 4 No. 146 lit. d) of the CRR.

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 disclosure guidelines, which ensure that the disclosure requirements are met. The disclosure guidelines of Aareal Bank Group contain 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 Aareal Bank Group's Internal Control System (ICS). 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 guidelines 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”.

Aareal Bank AG publishes the Regulatory Disclosure Report on a quarterly basis. The scope of the information to be disclosed as at the respective reporting dates is based on the requirements set out in Article 433a of the CRR.

Summary

Aareal Bank AG, whose registered office is in Wiesbaden, Germany, is the parent institution of the Group (LEI code EZKODONU5TYHW4PP1R34).

Due to the use of the waiver option (section 2a (1) sentence 1 of the German Banking Act (Kreditwesengesetz – “KWG”) in conjunction with Article 7 (3) of the CRR), Aareal Bank complies with the requirements of parts 2, 3, 4, 6, 7 and 8 of the CRR at a Group level.

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.

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. In addition, the transitional provisions, pursuant to Article 473a of the CRR, to mitigate the impact of the introduction of IFRS 9 on regulatory capital requirements will not be applied. Accordingly, the obligation to provide additional disclosures (as specified in detail in EBA guidelines EBA/GL/2018/01) is waived.

Since the ECB does not classify Aareal Bank Group as a Global Systemically Important Institution (G-SII) on the basis of Delegated Regulation (EU) 1222/2014, the disclosure requirements pursuant to Article 437a of the CRR (“Disclosure of own funds and eligible liabilities”) do not apply.

The guidelines on reporting and regulatory disclosure of exposures subject to measures applied in response to the Covid-19 crisis (EBA/GL/2020/07) were rescinded effective 1 January 2023. As a result of the insignificant gross carrying amount of risk exposures subject to a general payment moratorium and in consultation with the Joint Supervisory Team, we decided not to disclose, for the last time, information required under the EBA guidelines.

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

The Regulatory Disclosure Report includes all the requirements of the CRR. References to our Annual Report are only made for additional information beyond the disclosure requirements.

Overview of Regulatory Key Metrics

The table EU KM1 provides an overview of the regulatory key metrics in accordance with Article 447 of the CRR. The overview also includes the additional regulatory capital as required by the Supervisory Review and Evaluation Process (SREP).

EU KM1: Key metrics

		a	b	c	d	e
		31 Dec 2022	30 Sep 2022	30 Jun 2022	31 Mar 2022	31 Dec 2021
€ mn						
	Available own funds					
1	Common Equity Tier 1 (CET1) capital	2,468	2,402	2,579	2,240	2,322
2	Tier 1 (T1) capital	2,768	2,702	2,879	2,540	2,622
3	Own funds	3,065	3,027	3,208	2,906	3,016
	Risk-weighted exposure amounts					
4	Risk-weighted exposure amounts (Risk-weighted assets, RWAs)	12,782	13,031	10,094	10,767	10,446
	Capital ratios (as a percentage of risk-weighted exposure amount)					
5	Common Equity Tier 1 ratio (CET1 ratio)	19.31	18.43	25.55	20.81	22.23
6	Tier 1 ratio (T1 ratio)	21.66	20.74	28.52	23.59	25.10
7	Total capital ratio (TC ratio)	23.98	23.23	31.78	26.99	28.87
	Additional own funds requirements to address risks other than the risk of excessive leverage (as a percentage of risk-weighted exposure amount)					
EU 7a	Additional own funds requirements to address risks other than the risk of excessive leverage	2.75	2.75	2.75	2.75	2.25
EU 7b	of which: to be made up of CET1 capital	1.55	1.55	1.55	1.55	1.27
EU 7c	of which: to be made up of Tier 1 capital	2.07	2.07	2.07	2.07	1.69
EU 7d	Total SREP own funds requirements	10.75	10.75	10.75	10.75	10.25
	Combined buffer and overall capital requirement (as a percentage of risk-weighted exposure amount)					
8	Capital conservation buffer	2.50	2.50	2.50	2.50	2.50
EU 8a	Conservation buffer due to macro-prudential or systemic risk identified at the level of a Member State	–	–	–	–	–
9	Institution-specific countercyclical capital buffer	0.16	0.01	0.01	0.00	0.01
EU 9a	Systemic risk buffer	–	–	–	–	–
10	Global Systemically Important Institution buffer	–	–	–	–	–
EU 10a	Other Systemically Important Institution buffer	–	–	–	–	–
11	Combined buffer requirement	2.66	2.51	2.51	2.50	2.51
EU 11a	Overall capital requirements	13.41	13.27	13.26	13.25	12.76
12	CET1 available after meeting the total SREP own funds requirements	13.23	12.19	19.50	14.76	16.46
	Leverage Ratio					
13	Total exposure measure	46,168	50,172	48,802	48,047	47,724
14	Leverage Ratio (%)	6.00	5.39	5.90	5.29	5.49
	Additional own funds requirements to address the risk of excessive leverage (as a percentage of total exposure measure)					
EU 14a	Additional own funds requirements to address the risk of excessive leverage	–	–	–	–	–
EU 14b	of which: to be made up of CET1 capital	–	–	–	–	–
EU 14c	Total SREP leverage ratio requirements	3.00	3.00	3.00	3.00	3.00

€ mn		a 31 Dec 2022	b 30 Sep 2022	c 30 Jun 2022	d 31 Mar 2022	e 31 Dec 2021
	Leverage ratio buffer and overall leverage ratio requirement (as a percentage of total exposure measure)					
EU 14d	Leverage ratio buffer requirement	–	–	–	–	–
EU 14e	Overall leverage ratio requirement	3.00	3.00	3.00	3.00	3.00
	Liquidity Coverage Ratio					
15	Total high-quality liquid assets (HQLA) (weighted value – average)	7,662	7,175	6,750	6,775	6,643
EU 16a	Cash outflows – total weighted value	4,474	4,024	3,634	3,287	3,080
EU 16b	Cash inflows – total weighted value	758	713	672	549	472
16	Total net cash outflows (adjusted value)	3,718	3,311	2,961	2,740	2,607
17	Liquidity coverage ratio (LCR) (%)	207.42	220.27	231.23	248.54	255.42
	Net Stable Funding Ratio					
18	Total available stable funding	33,280	35,252	35,166	32,273	33,011
19	Total required stable funding	27,816	30,141	30,901	27,523	27,064
20	NSFR (%)	119.64	116.95	113.80	117.26	121.98

Development of key metrics

Capital ratios and RWAs

Compared to the disclosure date of 31 December 2021, the capital ratios reported to the supervisory authorities (CET 1, T 1 and TC ratio) decreased by 3.75 percentage points on average. This development was due to a € 2,336 million increase in RWAs, while regulatory capital only rose slightly by € 49 million.

Higher RWAs on the back of an increase in the Structured Property Financing segment's loan portfolio were offset by quality improvements in the commercial property finance portfolio as the year progressed. The non-performing loan portfolio was further reduced during the year. As at 31 December 2022, RWAs were determined for the first time in accordance with applicable law as at year-end (CRR II) and applying the partial regulation for the "output floor" in connection with commercial property lending and equity exposures, based on the European Commission's draft dated 27 October 2021 for the implementation of Basel IV (CRR III).

Retained earnings eligible for inclusion in CET 1 increased due to profit retention. During the course of the year, this was offset by an increase in the deduction item accounting for the expectations defined by regulatory and legislative authorities regarding provisioning for non-performing exposures ("prudential provisioning").

Leverage Ratio

Compared to 30 September 2022, the leverage ratio increased to 6.00 %, which was due to the € 4,004 million decrease in the total exposure measure and a simultaneous € 66 million increase in Tier 1 capital. The key driver for the decrease in the total exposure measure was the reduced aggregate amount of on-balance sheet exposures (excluding derivatives and securities financing transactions) and off-balance sheet exposures (€ -2,307 million in total) as well as the decline in securities financing transactions held on the reporting date (€ -1,572 million).

Liquidity Coverage Ratio

Outflows tended to increase in the first quarter of 2022. The volume of assets (which had increased at the beginning of the year 2022) gradually declined again until the middle of the year. However, since August, the volume of assets constantly increased again following the increase in the balances held with central banks. By contrast, outflows rose considerably in the third quarter, following the strong new business development. The fourth quarter was driven by the early termination of a major portion of the targeted longer-term refinancing operations (TLTRO). Notably, the expiry of reverse repo transactions resulted in higher outflows.

Net Stable Funding Ratio

Compared to 30 September 2022, the Net Stable Funding Ratio increased by 2.69 percentage points to 119.64 %, reflecting a less pronounced decrease in available stable funding (ASF; € -1,972 million), which was below the decrease in required stable funding (RSF) by € 2,325 million.

The ASF reduction (€ -2 billion) is largely attributable to the early termination of the TLTRO loans.

The RSF decline is due to shifting securities to shorter maturity bands (€ 1.4 billion), a reduction of the credit portfolio (€ -1 billion) and the transfer of assets to the cover pool (€ 476 million). The non-performing loan portfolio also declined (€ -160 million).

Aareal Bank Group Risk Management

The ability to correctly assess risks, and to manage them in a targeted manner, is a core skill in banking. Accordingly, being able to control risks in all their relevant variations is a key factor for a bank's sustainable, commercial success. This economic motivation for a highly-developed risk management system is continuously increased by extensive regulatory requirements for risk management.

Aareal Bank regularly reviews the appropriateness and effectiveness of its corporate governance systems (including risk governance systems). The Risk Appetite Framework was updated during the second quarter of 2022, with pension risks defined as a separate type of risk to enhance transparency.

The Bank's risk management also incorporates sustainability risks, i. e. ESG risks from the environmental, social and governance areas. Aareal Bank considers sustainability risks to include overarching risks or risk drivers that are influenced directly or indirectly by environmental or social issues, or by monitoring processes. All material sustainability risks were able to be classified as a form of existing financial and non-financial risks. In line with this, they are managed implicitly as part of the risk types under which they are classified. ESG risks are a component of the regular risk inventory process. Physical climate-related risk and transition risk in terms of investor behaviour that have an impact on credit, liquidity, property and reputational risk, were identified as the major short-term risk factors. This is complemented by the major mid- to long-term risk factors of the transition risk in relation to technology and violations of regulatory provisions as well as governance factors such as fraud, sustainability management and data protection. In addition, there is client behaviour as an overarching factor. Management and monitoring of ESG risks is further refined on an ongoing basis, and suitable risk indicators and limits for climate-related and environmental risks are currently being developed.

With regard to the disclosure requirements pursuant to Article 435 (1) lit. e) and f) 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.

In addition to the general information on risk management, this section also addresses the risk management of risk types that are not subject to specific disclosure requirements pursuant to Part 8 of the CRR.

Risk management – scope of application and areas of responsibility

Aareal Bank AG, as the parent entity of the Group, has implemented extensive systems and procedures to monitor and manage the Group's risk exposure.

Uniform methods and procedures are deployed to monitor material risks generally associated with banking business across all entities of Aareal Bank Group. Specific risk monitoring methods have been developed and deployed to suit the relevant risk exposure at the subsidiaries. In addition, risk monitoring for these subsidiaries is carried out at Group level via the relevant control bodies of the respective entity, and equity investment risk controlling.

Overall responsibility for risk management and risk monitoring remains with the Management Board and – in its function of monitoring the Management Board – the Supervisory Board of Aareal Bank AG. The diagram below provides an overview of the responsibilities assigned to the respective organisational units.

Type of risk	Risk management	Risk monitoring
Overall responsibility: Management Board and Supervisory Board of Aareal Bank AG		
Loan loss risks		
Property Financing	Loan Markets & Syndication Credit Risk Credit Portfolio Management Credit Transaction Management Workout	Risk Controlling Second Line of Defence NPL
Treasury business	Treasury	Risk Controlling
Country risks	Treasury Credit Risk Credit Transaction Management	Risk Controlling
Interest rate risk in the banking book (IRRBB)	Treasury, Asset-Liability Committee	Risk Controlling Finance & Controlling
Market Risks	Treasury, Asset-Liability Committee	Risk Controlling
Operational Risks	Process owners	Non-Financial Risks
Investment risks	Group Strategy	Risk Controlling Finance & Controlling Controlling bodies
Property risks	Aareal Estate AG	Risk Controlling
Business and strategic risks	Group Strategy	Risk Controlling
Liquidity Risks	Treasury	Risk Controlling
Process-independent monitoring: Internal Audit		

The Management Board formulates the business and risk strategies, as well as the so-called Risk Appetite Framework. For this purpose, "risk appetite" means the maximum risk exposure where the Bank's continued existence is not threatened, even in the event of risks materialising. For individual business units (the "First Line of Defence"), the Risk Appetite Framework defines guidelines for the independent and responsible handling of risks.

The risk monitoring function (the "Second Line of Defence") regularly measures utilisation of risk limits, and reports on the risk situation. In this context, the Management Board is supported by the Risk Executive Committee (RiskExCo). The RiskExCo develops proposals for resolutions in line with delegated tasks, and promotes risk communications and a risk culture within the Bank. The risk management system was supplemented by a recovery plan, in line with regulatory requirements, which comprises the definition of threshold values for key indicators – both from an economic and a normative perspective. These are designed to ensure that any sustained negative market developments having an impact upon our business model are identified at an early stage and corresponding action is taken in order to safeguard the sustained continuation of business operations. Risk Controlling is responsible for monitoring financial risks at portfolio level, whilst the Non-Financial Risks division exercises this function for non-financial risks. Both divisions report directly to the Group Chief Risk Officer (GCRO).

On top of this, Group Internal Audit (as the "Third Line of Defence") reviews the organisational structure and procedures, as well as risk processes – including the Risk Appetite Framework – and assesses their appropriateness. Moreover, internal processes provide for the involvement of the Compliance function whenever there are facts which are compliance-relevant.

In order to efficiently perform its control function, amongst other measures, the Supervisory Board has established a Risk Committee, whose responsibility includes the risk strategies as well as the management and monitoring of all material types of risk.

Strategies

The business policy set by the Management Board, and duly acknowledged by the Supervisory Board, provides the conceptual framework for Aareal Bank Group's risk management. The Risk Appetite Framework, which also outlines the key elements of the risk culture put in place, is defined consistently with the business strategy and building on the defined risk appetite. Taking the Risk Appetite Framework as a basis, and strictly considering the Bank's risk-bearing capacity, we have formulated detailed strategies for managing the material types of risk, in terms of capital as well as liquidity. Taken together, these represent the Group's risk strategy. These strategies are designed to ensure a professional and conscious management of risks. Accordingly, these strategies include general policies, to ensure a uniform understanding of risks across all parts of the Group. They also provide a cross-sectional, binding framework applicable to all divisions. The Bank has implemented adequate risk management and risk control processes to implement these strategies, and to safeguard the Bank's risk-bearing capacity.

The business strategy, the Risk Appetite Framework and the risk strategies are subject to review on an ongoing basis, and are updated if necessary. Besides the regular review (and, if appropriate, adjustment) of the business strategy (and consequently, of the Group risk strategy), the Bank's risk-bearing capacity and its material risk models are independently validated at least once a year. For this purpose, the appropriateness of risk measurement methods, processes, and risk limits is examined in particular. During the financial year under review, the strategies were adopted by the Management Board, duly noted, and approved by the Supervisory Board.

The Bank has defined escalation and decision-making processes to deal with limit breaches. Risk Controlling prepares timely and independent risk reports for the management.

Aareal Bank Group maintains a decentralised Internal Control System (ICS), with control activities and results being outlined in the Written Set of Procedural Rules. These describe individual processes of divisions, subsidiaries, or other units. Internal controls may run upstream, downstream, or in parallel to workflows; this applies both to automatic control and monitoring functions as well as to the respective manual steps. Accordingly, the ICS comprises the entire universe of control activities; its objective is to ensure that qualitative and quantitative standards are adhered to (compliance with legal or regulatory requirements, with limits etc.).

The appropriateness and effectiveness of controls is reviewed on an event-driven basis; in any case, at least once a year. The results are discussed with the corresponding units within the Second and Third Lines of Defence (Risk Controlling, Compliance and Internal Audit), and reported to the Management Board and the Supervisory Board. In the event of any irregularities or violations, depending on the severity of the event, the Management Board (as well as the Supervisory Board, if appropriate) must be notified without delay, so that adequate measures or audit activities can be initiated at an early stage.

Risk-bearing capacity and risk limits

The Bank's ability to carry and sustain risk (as determined within the framework of the Internal Capital Adequacy Assessment Process (ICAAP)) is a core determining factor governing the structure of its risk management system. To ensure its uninterrupted risk-bearing capacity, Aareal Bank Group has adopted a dual management approach comprising two complementary perspectives: the normative and the economic perspective.

The normative perspective aims to ensure Aareal Bank Group's ability to fulfil all of its regulatory requirements over a multi-year period. This perspective thus accounts for all material risks which may impact upon relevant regulatory indicators over the multi-year planning period.

The normative ICAAP perspective is embedded into Aareal Bank Group's planning process, which – in particular – also includes capital planning. Group planning covers three planning years, it comprises both baseline and adverse scenarios. Results of Group planning are shown as a projected consolidated income statement for Aareal Bank Group. Planning also encompasses the balance sheet structure, as well as key regulatory indicators, plus additional internal management indicators.

Besides the planning process itself, intra-year computation adjustments to Aareal Bank Group's planning process also included the ongoing monitoring of management indicators as well as checking whether limits in the normative perspective were being complied with.

Management indicators in the normative perspective (which are being monitored, and for which limits have been set) comprise various regulatory ratios.

We are using the ICAAP economic perspective, whose purpose is to safeguard Aareal Bank Group's economic substance and thus, in particular, to protect creditors against economic losses. The procedures and methods are part of the Supervisory Review and Evaluation Process (SREP) and are applied in order to identify and quantify potential economic losses, and to determine the required capital backing.

The purpose of internal capital is to serve as a risk-bearing component under the economic perspective. Within Aareal Bank Group, the current regulatory Common Equity Tier 1 (CET1) capital forms the basis for determining economic aggregate risk cover. The Bank ceased adding Additional Tier 1 (AT1) capital to internal capital in April 2022. Tier 2 capital, as well as projected results to be incurred during the risk analysis horizon, are not taken into account.

Moreover, the value-oriented approach adopted under the economic perspective requires suitable adjustments to be made to regulatory Tier 1 capital, in order to bring aggregate risk cover into line with the economic assessment. Specifically, this may entail adjustments regarding conservative valuation, hidden encumbrances, or a management buffer. Starting in 2022, the management buffer has also included adjustments for potential climate-related risks as determined within the scope of our Group-wide ESG strategy.

Aareal Bank Group consistently applies a period of 250 trading days as a risk analysis horizon, as well as for the holding period as part of risk models under the economic perspective. To the extent that risks are measured on the basis of quantitative risk models, a uniform observation period of at least 250 trading days (or at least one year) is applied to the risk parameters used. The appropriateness of model assumptions is verified within the scope of independent validation of the corresponding risk models and parameters.

Looking at correlation effects between material types of risk within the framework of the economic ICAAP perspective, Aareal Bank Group has prudently opted for aggregation of risk levels; accordingly, no risk-mitigating correlation effects are being taken into account. Where we measure risks on the basis of quantitative risk models for the purposes of calculating risk-bearing capacity, these are based on a confidence interval of 99.9 %.

Limits for specific risk types are determined in such a manner that aggregate limits do not exceed economic aggregate risk cover, less a risk buffer designed to cover risks not explicitly covered by limits, and to also absorb other fluctuations of internal capital over time. Individual limits are set on the basis of existing risk exposures and historical levels of potential risks, and to an extent that is in line with the Bank's business and risk strategy. Specific limits have been set in a way that each limit is sufficient for utilisation in line with planned business development, as well as for common market fluctuations.

A detailed monthly report provides information regarding the utilisation of individual limits for the material types of risk, as well as on the overall limit utilisation. These are being monitored as part of daily reporting. No limit breaches at the aggregate risk level were detected during the period under review. The observed increase in market volatility in connection with the war in Ukraine led to "amber" thresholds (early warning triggers) for individual risk categories being exceeded. These could be resolved through risk-mitigating measures without undue delay.

Since risk cover potential is an inadequate measure to assess the risk-bearing capacity in terms of monitoring the Bank's ability to meet its payment obligations (liquidity risk in the narrower sense), we have defined special tools within the framework of the Internal Liquidity Adequacy Assessment Process (ILAAP) for managing and monitoring this type of risk. These tools are described in detail in the chapter "Liquidity risks" (pages 91 et seqq.).

Stress testing

Within the scope of ICAAP and ILAAP, scenario analyses are carried out in all perspectives, as a core element of our risk management system. This involves conducting stress tests for all material risks, using both historical parameters as well as hypothetical stress testing scenarios. To also be able to assess cross-relationships between the various types of risk, we have defined multi-factor stress scenarios, so-called "global" stress tests. For instance, the impact of the crisis affecting financial markets and the economy, which broke out in 2007, on individual types of risk and aggregate risk is analysed within the scope of a historical scenario. In the hypothetical scenario, current potential developments are derived from factors such as political developments, and are combined with significant macro-

economic deterioration. The stress testing methodology implemented also takes into account the impact of any risk concentrations. Stress scenarios are analysed both from an economic and a normative perspective, with the respective cross-relationships being taken into consideration – meaning that any economic risks which may materialise (from a normative view) over the analysis period being incorporated in the normative perspective, unless they are sufficiently covered already. ESG risks were integrated into the stress testing methodology in 2022. ESG-related stress test calculations comprise a scenario depicting climate change, which is being supplemented by a scenario on change in society.

The Management Board and the Supervisory Board are informed of the results of the stress analyses on a quarterly basis.

Lending business

Division of functions and voting

Aareal Bank Group's structural organisation and business processes consider regulatory requirements regarding the organisational structure and procedures in the credit business.

Processes in the credit business are designed to consistently respect the clear functional division of Sales units ("Markt") and Credit Management ("Marktfolge"), up to and including senior management level. In addition, the Risk Controlling division, which is not involved in making lending decisions, is responsible for monitoring all material risks whilst ensuring an adequate and targeted risk reporting system at portfolio level.

Lending decisions regarding credit business classified as relevant for the Bank's risk exposure require two approving votes submitted by a Sales unit and a Credit Management unit. The Bank's Schedule of Powers clearly defines the relevant lending authorities within Sales units and Credit Management. Where authorised persons are unable to come to a unanimous lending decision, the loan involved cannot be approved, or must be presented to the next-highest decision-making level for a decision.

The RiskExCo, which has delegated authority to the Heads of Risk Controlling, Credit Transaction Management and Credit Portfolio Management (organisational units which are independent of the Sales units), is responsible for the approval of counterparty, issuer, or country limits.

We have implemented and documented the clear separation of Sales and Credit Management processes across all relevant divisions.

Process requirements

The credit process comprises the credit approval and further processing phases, each governed by a control process. Credit exposures subject to increased risks involve supplementary processes for intensified handling, the handling of problem loans, and – if necessary – for recognising loss allowance. The corresponding processing principles are laid down in the Bank's standardised rules and regulations. Important factors determining the counterparty credit risk of a credit exposure are identified and assessed on a regular basis, taking into account sector and (where appropriate) country risks. Critical issues regarding an exposure are highlighted, and analysed assuming different scenarios where appropriate.

Suitable risk classification procedures are applied to evaluate risks for lending decisions, as well as for regular or event-driven assessment of existing exposures. This classification scheme is reviewed at least once a year; depending on the risk situations, the review cycle may be shortened significantly. Furthermore, the risk assessment results influence pricing.

The organisational guidelines contain provisions governing escalation procedures and further handling in the event of limit breaches, or of a deterioration in individual risk parameters. Measures involved may include the provision of extra collateral, or an impairment test.

Early risk detection procedures

The early identification of credit risk exposure, using individual or combined (early warning) criteria is a core element of our risk management approach.

In particular, the procedures applied for the early detection of risks serve the purpose of identifying borrowers or exposures where higher risks start emerging, at an early stage. For this purpose, we generally monitor individual exposures and the parties involved (such as

borrowers or guarantors) regularly throughout the entire credit term, assessing quantitative and qualitative factors, using instruments such as periodic monitoring and internal ratings. The intensity of the ongoing assessments is based on the risk level and size of the exposure. The Group's risk management processes ensure that counterparty credit risk is assessed at least once a year.

Extensive IT resources are deployed to identify risk positions, and to monitor and assess risks. Overall, the existing set of tools and methods enables the Bank to adopt risk management measures, where required, at an early stage.

Actively managing client relationships is crucially important in this context: approaching clients in time to jointly develop a solution to any problems which may arise. Where necessary, we muster the support of experts from the independent restructuring and recovery functions.

Risk classification procedures

Aareal Bank employs risk classification procedures tailored to the requirements of the respective asset class for the initial, regular, or event-driven assessment of counterparty credit risk. Responsibility for development, quality assurance, and monitoring implementation of risk classification procedures, and for annual validation, lies with two separate divisions outside the Sales units which are independent from each other.

The ratings determined using internal risk classification procedures are an integral element of the Bank's approval, monitoring, and management processes.

Property financing business

The Bank employs a two-level risk classification procedure for large-sized commercial property finance exposures, specifically designed to match the requirements of this type of business.

In a first step, the client's probability of default (PD) is determined using a rating procedure. The method used in this context comprises 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 current and future default probability is determined based on specific financial indicators, together with qualitative aspects and expert knowledge.

The second step involves calculating the loss given default (LGD). The LGD estimates the extent of the economic loss in the event of a borrower defaulting. In simple terms, this is the amount of the claim not covered by the proceeds from the realisation of collateral.

When evaluating collateral, haircuts are applied or recovery rates used, depending on the type of collateral involved and specific realisation factors. 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 statistical methods, given the low number of realisations.

In this context, PD and LGD procedures are also applied for accounting purposes, for determining model-based loss allowance. Concerning the scenario analyses to be taken into account when determining individual LGDs, we applied an updated scenario mix, going beyond the customary process. This probability-weighted scenario mix reflects the uncertainty of future developments and supplements our baseline scenario through the addition of divergent developments over an observation period of three years.

The expected loss (EL) in the event of default of an exposure is determined as the product of PD, LGD and EAD. As a risk parameter related to the financing, EL is used as an input factor for the tools used to manage the property financing business.

Financial institutions

Aareal Bank Group employs an internal rating procedure for financial institutions, which incorporates qualitative and quantitative factors as well as our client's group affiliation, to classify the risk exposure to banks, financial services providers, securities firms, public-sector development banks, and insurance companies. Financial institutions are assigned to a specific rating grade by way of assessing relevant financial indicators and taking into account expert knowledge.

Sovereign states and local authorities

In addition, Aareal Bank Group employs internal rating methods for sovereign borrowers and regional governments, local and other public-sector entities. In this context, rating grades are assigned using clearly defined risk factors, such as fiscal flexibility or the level of debt. The expert knowledge of our rating analysts is also taken into account for the rating.

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

Trading activities

Functional separation

We have implemented a consistent functional separation between Sales units and Credit Management for the conclusion, settlement and monitoring of trading transactions, covering the entire process chain.

On the Sales side, the processing chain comprises the Treasury division, whilst Credit Management tasks are carried out by the independent Credit Transaction Management and Risk Controlling divisions. Beyond this, Finance & Controlling and Audit are responsible for tasks not directly related to processes.

We have laid down organisational guidelines providing for binding definitions of roles and responsibilities along the process chain; with clearly defined change processes.

The detailed assignment of responsibilities is outlined below.

Treasury is responsible for risk management and trading activities as defined by the Minimum Requirements for Risk Management ("MaRisk"). Treasury is also responsible for asset/liability management, and for managing the Bank's market and liquidity risk exposures. In addition, we have established an Asset-Liability Committee (ALCO), to develop strategies for the Bank's asset/liability management and proposals for their implementation. The ALCO, which comprises the CFO and CRO, and other members appointed by the Management Board, meets every two weeks.

Credit Transaction Management is responsible for controlling trading activities, confirming trades to counterparties, and for trade settlement. The division is also responsible for verifying that trades entered into are in line with prevailing market conditions. The Legal department performs the legal assessment of non-standard agreements, and of new standard/master agreements.

To assess counterparty credit risk in the trading business, a rating is prepared for all counterparties and issuers on a regular or event-driven basis. The rating is a key indicator used to determine the limit for the relevant counterparty or issuer.

The tasks of the Risk Controlling division comprise identifying, quantifying and monitoring market price, liquidity and counterparty credit risk exposure from trading activities, and the timely and independent risk reporting to senior management.

Process requirements

Processes are geared towards ensuring end-to-end risk management, from conclusion of the trade right through to monitoring portfolio risk. The monitoring and reporting function comprises deploying adequate risk measurement systems, deriving limit systems, and ensuring the transparency of Aareal Bank Group's overall risk exposure from trading activities, in terms of scope and structure.

Change processes (as defined in section AT 8 of the MaRisk) are consistently managed via Group-wide framework directives, with the RiskExCo involved in all cases. Moreover, processes and systems are designed in a way that allows to incorporate new products into the risk monitoring system swiftly and adequately, in order to ensure the flexibility of the Sales units in their business activities.

A standardised process exists for the intensified handling of counterparties and issuers, and for dealing with problems. This process comprises identifying early warning indicators, applying them for the purposes of risk analysis, as well as determining further action to be taken. In the event of counterparty or issuer default, the RiskExCo will be involved in devising an action plan, in cooperation with the Bank's divisions involved.

Escalation and decision-making processes have been set out to deal with limit breaches.

Investment risks

Definition

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.

Risk measurement and monitoring

The model for investment risk was thoroughly revised, with a new model implemented in 2022. The new model breaks down investments outside the regulatory scope of consolidation into two groups, whereby risk-equivalent exposures are determined for material investments using the regulatory IRB formula. For non-material investments, equity coverage is determined using the simple risk weight method for investments in accordance with the CRR. Risk exposure for investments within the regulatory scope of consolidation is measured using the look-through principle, based on the assets of the respective investment.

The existing procedures used to measure and monitor risk exposure are supplemented by subjecting the equity portfolio to regular stress testing.

Strategy Development, as well as Finance & Controlling and Risk Controlling, are responsible for measuring and monitoring investment risk exposure.

Risk Controlling is responsible for submitting a quarterly equity investment risk report to the Bank's Management Board.

Property risks

Definition

We define property risk as the threat of unexpected losses arising from changes in the value of property held by the Bank, or by fully-consolidated subsidiaries.

Due to the special character of property risk (involving marketing risks, for example), special methods and procedures are employed to deal with investment risk. All relevant property holdings are subject to regular audits, including a review and assessment of their risk situation.

Risk measurement and monitoring

In order to measure and monitor risks, property yields are analysed for different regions and property types, and over the time horizons available: on this basis, potential yield increases for different regions and property types over a one-year horizon are determined applying a 99.9 % confidence interval. A property's risk contribution results from the difference between the current market value and the property value adjusted for the yield increase.

Country risks

Our comprehensive approach to risk management also includes measuring and monitoring country risk exposure. When defining country risk, in addition to the risk of sovereign default or default of state entities, Aareal Bank also considers the risk that a counterparty could become unable to meet its payment obligations as a result of government action, despite being willing and able to pay, due to restrictions being imposed on making payments to creditors (transfer risk). Country risk exposure is managed using a cross-divisional process. The respective country limits are determined on the basis of a country risk assessment by the Bank's senior management. The Risk Controlling division is responsible for the continuous monitoring of country limits and limit utilisation, and for periodical reporting.

Business and strategic risks

Definition

Business and strategic risks are defined as potential risks of all kinds that may potentially threaten achievement of corporate objectives, and which may result (for example) from changes in the competitive environment, or from an unsuitable strategic positioning in the macro-economic environment. We distinguish between allocation risk and investment risk, whereby allocation risk is defined as a divergence of operating results due to lower-than-expected income from allocated capital that cannot be offset through reductions in costs or administrative expenses. Investment risk is defined as the risk that the Bank is unable to compensate for any divergence in operating results through activities or investments in alternative business segments that generate results to the same or similar extent.

Risk measurement and monitoring

Allocation risk is already covered by various planning scenarios, and is thus incorporated in aggregate risk cover.

Investment risk is measured across segments: it is quantified assuming that additional upfront investment is required to establish an investment opportunity which was previously unavailable. Such upfront investment is assumed to represent potential risk.

Pension risks

Pension risks arise from the measurement of pension obligations entered into, and of plan assets held under pension plans. Risk is mitigated by structuring plan assets – largely a special investment fund held in trust – accordingly.

VaR, which requires sensitivity data for risk factors (representing exposure) as well as a covariance matrix of such risk factors (volatility and correlation) to map market dynamics, is calculated as the simplest stochastic model in the delta-normal approach.

Pension risks are managed directly by the Asset-Liability Committee (ALCO); for this purpose, the ALCO has also assumed the function of Investment Committee for the plan assets. Pension obligations and plan assets are subject to regular risk reviews and assessments.

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

The number of management and supervisory functions held by members of the Management Board and Supervisory Board presented in the following overviews is based on the list of offices held disclosed in the Group Annual Report.[1]

	Number of management or supervisory functions actually exercised	Number of management or supervisory functions taking into account the privileged status pursuant to section 25c (2) of the KWG
Management Board		
Jochen Klösges	4	2
Marc Hess	4	1
Nina Babic	5	2
Christof Winkelmann	4	1

[1] "Aareal Bank Group 2022 Annual Report": chapter "Other Notes", Note (93) in the Notes to the consolidated financial statements, page 176 et seqq.

	Number of management or supervisory functions actually exercised	Number of management or supervisory functions taking into account the privileged status pursuant to section 25d (3) of the KWG
Supervisory Board		
Prof. Dr Hermann Wagner	4	3
Henning Giesecke	6	5[1)]
Denis Hall	4	4
Thomas Hawel[2)]	2	1
Petra Heinemann-Specht	1	1
Barbara Antonia Knoflach	6	4
Jan Lehmann	2	1
Hans-Hermann Lotter	9	3
Marika Lulay	5	3
Klaus Novatius	1	1
Sylvia Seignette	1	1
José Sevilla Álvarez	3	3

[1)] Mr Giesecke will retire from one of these offices by no later than 30 June 2023.
[2)] Mr Hawel resigned from his office in mid-March 2023. Ms Bach succeeds him as a substitute candidate effective 16 March 2023.

Guidelines regarding the Selection of 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, including conflicts of interest and independence aspects). The composition of the Supervisory Board and the Management Board, respectively, shall facilitate, in its entirety, 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 when evaluating Management Board and Supervisory Board members, as well as when selecting candidates for appointment to the Management Board, or shareholder representatives to the Supervisory Board. When establishing these processes, it took into account the requirements of the German Public Limited Companies Act (Aktiengesetz – "AktG") and the German Banking Act (Kreditwesengesetz – "KWG"), as well as the recommendations of the German Corporate Governance Code. In addition, the regulatory guidelines of the European Central Bank and the European Banking Authority on adequacy and internal governance are also incorporated, as are corporate governance guidelines of 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, using the so-called 'fit & proper' approach.

Personal reliability

The principles of personal reliability apply equally for all members of the Management Board and the Supervisory Board. The members of the Management Board and the Supervisory Board shall demonstrate honesty, integrity and independence of mind. They should live by the ethical principles of Aareal Bank, as set out in the Code of Conduct, and commit sufficient time to perform their duties. The Supervisory Board calculates the time commitment of every member of the Management Board and the Supervisory Board, and reviews on an annual basis whether they are also dedicating sufficient time to exercising the mandate. In this context, the Supervisory Board takes care to ensure compliance with the requirements for the maximum number of additional offices, pursuant to sections 25c (2) and 25d (3) of the KWG.

Conflicts of interest and independence of Supervisory Board members

Special rules apply to the Supervisory Board, over and above the Group-wide Conflict of Interest Policy. Acting in the interests of the Company means making judgements unbiased by extraneous influences. The Supervisory Board therefore attaches particular importance

to the handling and disclosure of actual, potential, temporary or permanent conflicts of interest that could, for example, call into question the independence of the Supervisory Board.

In the Management Board's and Supervisory Board's Conflict of Interest Policy, which has been specifically designed for these two corporate bodies, the Supervisory Board has laid down procedures on how to handle conflicts of interest affecting members of the Management Board or the Supervisory Board. In accordance with this Policy, individual Management Board and Supervisory Board members must establish transparency in the event of any potential conflicts of interest.

The Supervisory Board has also determined when the independence of one of its members is no longer ensured. At least once a year it carries out a review of whether the independence of individual members is no longer ensured, or will no longer be ensured in the future. In the event of the following circumstances, the Supervisory Board generally assumes that independence is not ensured:

- a material, and not just temporary, conflict of interest materialises within the meaning of the Management Board's and Supervisory Board's Conflict of Interest Policy;
- if the member of the Supervisory Board has served on the Supervisory Board or Management Board of Aareal Bank AG for twelve consecutive years or longer;
- if less than five years have elapsed between their service on the management board of an institution included in the scope of prudential consolidation and their membership of Aareal Bank AG's Supervisory Board;
- if less than three years have elapsed between their serving as a senior manager at the top management level below the Management Board at Aareal Bank AG or another entity included in the scope of prudential consolidation and their membership of the Supervisory Board of Aareal Bank AG;
- if the member of the Supervisory Board is a controlling shareholder of Aareal Bank AG, as defined in Article 22 (1) of Directive 2013/34/EU, or if they represent the interests of a controlling shareholder;
- if the member of the Supervisory Board has a material financial or business relationship with the relevant institution;
- if the Supervisory Board member is an employee of, or otherwise affiliated with, a controlling shareholder of Aareal Bank AG;
- if the member of the Supervisory Board has been the owner of a significant professional advisor or external auditor or have themselves been a significant advisor to Aareal Bank AG or any other entities included in the scope of prudential consolidation within a three-year period;
- if the member of the Supervisory Board is, or was in the previous year, a significant supplier or client of Aareal Bank AG or any other entity included in the scope of prudential consolidation, or had any other significant business relationship with, or is a senior executive (leitende(r) Angestellte(r)) of, a significant supplier, client or commercial enterprise that has a significant business relationship, or is otherwise directly or indirectly related to such significant supplier, client or commercial enterprise;
- if the member of the Supervisory Board member receives significant remuneration or other benefits from Aareal Bank AG or another entity included in the scope of prudential consolidation over and above the remuneration for their activities as a member of the Supervisory Board or any remuneration for activities performed in connection with any significant financial or business relationship with Aareal Bank AG;
- if the Supervisory Board member is a close relative of a member of the Management Board of Aareal Bank AG or of a member of the management board or a managing director of another entity included in the scope of prudential consolidation.

Furthermore, all Supervisory Board members are subject to the statutory limitations laid out in section 100 (2) nos. 2 to 4 of the AktG. Unlike the criteria listed above, the statutory limitations are mandatory, which means that they prevent the nomination of a potential candidate, or require the resignation of the affected board member.

Effective 31 December 2022, the Supervisory Board believes, taking the above definition into account, that six of eight shareholder representatives – specifically, Prof. Dr Wagner, Mr Giesecke, Mr Hall, Ms Knoflach, Ms Seignette and Mr Sevilla Álvarez – are independent, whereas Mr Lotter and Ms Lulay are not considered independent in line with the above definition.

Professional qualification

Every member of an executive body must possess the knowledge, ability and experience to properly perform their duties. This means that they must at least be able to understand and assess the Company's material business activities and the associated material risks, the control and monitoring system established in this regard, as well as the corresponding accounting and financial reporting systems. This also requires being familiar with the underlying material legal requirements. Each member of the Supervisory Board must be in a position to perform the duties incumbent on the Supervisory Board in its entirety.

When chairing a committee, Supervisory Board members should possess extensive expertise in the topics covered by that committee. The Chairman of the Audit Committee, for example, must be an expert on accounting/financial reporting issues and internal control and risk management systems, while the Chairman of the Risk Committee must be an expert in assessing the efficacy of risk management systems in credit institutions.

Overall, with regard to its collective composition, the Supervisory Board further decided that the following additional expertise be adequately represented:

- Experience in sectors and financial markets which are material to Aareal Bank Group,
- Digitalisation and transformation,
- Strategic planning,
- Design and assessment of risk management systems, internal control systems and corporate governance frameworks,
- Accounting/financial reporting and audit matters,
- ESG, and
- M&A.

The skills matrix below provides an overview of the implementation status of the collective profile of required skills and expertise:

Member of the Supervisory Board	Material sector and financial markets expertise	Digitalisation and transformation	Strategic planning	Design and assessment of RMS, ICS and CG frameworks	Accounting/financial reporting and auditing	ESG	M&A
Prof. Dr Hermann Wagner	X			X	X		
Thomas Hawel*	X	X					
Henning Giesecke	X		X	X	X		
Denis Hall	X	X		X		X	X
Petra Heinemann-Specht*	X			X			
Barbara Antonia Knoflach	X	X	X			X	X
Jan Lehmann*	X	X			X		
Hans-Hermann Lotter	X		X	X	X		X
Marika Lulay	X	X	X			X	X
Klaus Novatius*	X			X			
Sylvia Seignette	X		X	X	X		X
José Sevilla Álvarez	X		X	X	X		X

* Employee representative

Mr Hawel resigned from his office in mid-March 2023. Ms Bach succeeds him as a substitute candidate effective 16 March 2023.

The following Audit Committee members are experts in the areas of accounting/financial reporting and auditing: Prof. Dr Wagner, Mr Giesecke and Mr Sevilla Álvarez. Mr Lotter is an auditing expert and Ms Seignette is an accounting/financial reporting expert.

Please refer to Aareal Bank's website for the curricula vitae of the members of the Management Board (www.aareal-bank.com/en/about-us/company-profile/the-management-board) and of the Supervisory Board (www.aareal-bank.com/en/about-us/company-profile/supervisory-board).

Concept of diversity

In principle, the Management Board and the Supervisory Board pursue the objective in their bodies of ensuring maximum variety with regard to gender, age, internationality and professional diversity. Where there are several equally suitable candidates, further selection takes these aspects into account, to avoid "herd mentality" and to draw together the broadest possible spectrum of different perceptions to make the best possible decision for Aareal Bank. The Management Board ensures that these aspects of diversity are also taken into consideration at the management levels it controls, to facilitate succession oriented around this concept of diversity. The Supervisory Board has set objectives for the aforementioned diversity aspects, both for itself and the Management Board, the implementation of which it presents annually. It understands these objectives as being minimum objectives; there is no reason why they cannot be exceeded.

Gender diversity

The Supervisory Board sets specific targets – including concrete implementation deadlines – for the share of female members on the Supervisory Board and the Management Board. Likewise, the Management Board defines such targets for the first two management levels below the Management Board. On the Supervisory Board, by 30 June 2022 at least 25 % of positions were to be held by women. New targets in place since 1 July 2022 stipulate that by 30 June 2027 at least 33 % of Supervisory Board positions are to be held by women. The status quo is 41.7 % (2021: 44.4 %). By 30 June 2022, at least 20 % of Management Board positions were to be held by women. The new target, applicable as at 1 July 2022, stipulates that the proportion of women on the Management Board should be 25 % minimum by 30 June 2027. The status quo is 25 % (2021: 25 %). Therefore, the minimum objectives set by the Supervisory Board have been achieved.

Age diversity

The Supervisory Board has set out targets for the age structure of the Management Board and the Supervisory Board, in order to safeguard the continuous development of both executive bodies. At the time of (re)election to the Supervisory Board, candidates should be less than 70 years old. Furthermore, half of the Supervisory Board members should be younger than 60 years. Members of the Management Board should not exceed the upper age limit of 65 years while serving on the Management Board. These objectives are currently met.

International profile

In addition, given Aareal Bank's international business activities, the Supervisory Board has set itself and the Management Board the goal of having the broadest possible international experience, which can be proven by foreign nationality or considerable professional experience gained in another country. For the Management Board, the figure is currently at 50 % (2021: 25 %), for the Supervisory Board it is at 58.3 % (2021: 22.2 %).

Diversity of professional skills

The Supervisory Board pursues the objective of maximum professional diversity when selecting the members of the Management Board and the Supervisory Board. However, the demanding professional requirements for members of the management board and the supervisory board of so-called 'significant credit institutions' limit the opportunities for achieving this objective: for instance, regulatory rules require in principle that the members of the Management Board have extensive experience in the lending business and in risk management. In accordance with section 100 (5) of the AktG, the Management Board members in their entirety shall be familiar with the sector in which the Company operates. The Supervisory Board's aim of ensuring that not all members have gained most of their professional experience at a credit institution is currently met.

Risk Committee

The Supervisory Board has established five committees, including the Risk Committee, in order to perform its supervisory duties in an efficient manner: The Risk Committee monitors Aareal Bank's material risks, comprising financial and non-financial types of risk alike, including IT-related risks. The Committee is also responsible for reviewing the contents of the risk strategies in accordance with the MaRisk, for checking conformity with the business strategy, and preparing the corresponding resolutions of the Supervisory Board. It furthermore advises the Management Board on how to design an appropriate and effective risk management system, making sure that the Bank's risk-bearing capacity is adequate. To that end, the Committee monitors the Management Board, especially as regards determining risk appetite and the corresponding limits.

The Risk Committee held seven meetings during the financial year under review. It regularly discussed reports on the Bank's risk situation, which were submitted and explained by the Management Board. Having discussed the contents with the Management Board, these were duly noted and approved by the members of the Committee. Besides the risks that arose as a consequence of the invasion of Ukraine by Russian troops, the Committee concerned itself with credit and country risks, market risks, liquidity risks, and operational risks, as well as reputational and IT risks. The Committee was also engaged with the analysis of Aareal Bank's risk-bearing capacity and its capital ratios. Also, detailed reports were provided regarding the Bank's liquidity status and management as well as its funding. Risks from existing investments, as well as all additional material risks were also presented.

The Risk Committee concerned itself with Aareal Bank's strategies and the derived sub-risk strategies, as well as with the risk management system. The Management Board also submitted detailed reports to the Risk Committee, covering all markets in which the Bank is active in the property finance business, as well as supplementary reports regarding the Bank's investments in securities portfolios. The Committee members discussed these reports and market views in detail. Within the scope of risk reporting, significant exposures were discussed in detail, and measures for the reduction of high-risk exposures presented and consulted within the Committee. The Risk Committee received reports on recovery planning and other risk management measures. The Management Board also informed the Risk Committee about all completed, ongoing and scheduled audits by the supervisory authorities at each Risk Committee meeting. In addition to regular reporting on the risk situation at each meeting, the following meetings had additional focal points on certain topics: The current impact of the Russian-Ukraine conflict on Aareal Bank's risk situation was discussed in all meetings.

- In **February 2022,** the Risk Committee addressed the events in Ukraine (invasion by Russian troops on 24 February 2022).
- The Risk Committee meeting held in **March 2022** dealt with the results of the risk management system review performed by the external auditors, the supervisory authorities' focus during the 2022 financial year and other regulatory publications and amendments.
- In **April 2022,** the Risk Committee concerned itself with the overview of the structure of the project for implementing the amended supervisory requirements for the resolution planning and with adjustments to risk strategies. Reports were also presented on the credit risks, on non-financial risks, as well as an update on supervisory issues.
- In **June 2022,** the Risk Committee dealt with the regular reporting as well as the yearly reports of the individual risk management functions. In addition, supervisory and regulatory issues were also addressed.
- At the meeting held in **September 2022,** the discussion about lending with increased risk was a significant topic of risk reporting. An analysis of the impact of higher interest rates and questions regarding information security risk were other focal points. Furthermore, the Risk Committee was informed about the updated recovery planning and the current audits. Another focal point was the event-driven review of the business and risk strategies.
- At the **October 2022** meeting, a report was presented on the credit risks with an emphasis on dealing with non-performing exposures and foreclosures.
- In its **December 2022** meeting, the Risk Committee discussed the development of the loan portfolio and the risk situation. The Risk Committee then concerned itself with the regular review of the conditions in the client business. The risk inventory and the work of the Bank internal project regarding resolution planning were also presented.

The Committee also concerned itself at all meetings with the banking and regulatory environment, focusing on current topics such as individual risk types during individual meetings. Furthermore, the Risk Committee dealt with the audits performed by the supervisory authorities, the findings these audits yielded and the authorities' recommendations on risk-related topics in all meetings.

Flow of information towards the Management Board and the Supervisory Board

Reporting to the Management Board and the Supervisory Board is described in the section "Risk management" of this Regulatory Disclosure Report as well as in the relevant sections addressing the risk types that are relevant for disclosure.

The Chairman of the Supervisory Board regularly discusses questions regarding the risk situation and risk management with the Chairman of the Management Board. The Chairman of the Risk Committee goes into detail – especially with the Chief Risk Officer – on topics such as the risk situation, risk management, and risk strategies. The Chairman of the Audit Committee also regularly exchanges views with the Chief Risk Officer, but with the Chief Financial Officer and the external auditors, too.

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. The strategic business segments are broken down into the three segments Structured Property Financing, Banking & Digital Solutions and Aareon.

In the Structured Property Financing segment, Aareal Bank facilitates property investments for its domestic and international clients, and is active in Europe, North America and Asia/Pacific. We finance commercial property, especially office buildings, hotels, retail, logistics and residential properties. Our focus is on financing existing buildings. By combining local market expertise with sector-specific know-how from the corporate headquarters, Aareal Bank can offer financing concepts that meet the special requirements of our domestic and international clients, as well as concluding structured portfolio and cross-border financings.

In the Banking & Digital Solutions segment, we offer our clients from the institutional housing industry, commercial property companies, as well as the energy and utilities industries, amongst other things services for the management of properties for residential use and the integrated processing of payment flows, thus contributing to a more efficient and sustainable structuring of our fundamental business processes. In conjunction with payment transactions processed via Aareal Bank's systems, deposits are generated that contribute significantly to Aareal Bank Group's refinancing base.

In the Aareon segment, the Aareon sub-group offers the European property industry and its partners user-oriented ERP software and digital solutions that simplify and automate processes, and support sustainable and energy-efficient operations.

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

[1)] "Aareal Bank Group 2022 Annual Report": chapter "Fundamental Information about the Group" in the Group Management Report, page 26 et seqq.

The following table EU LI3 lists all subsidiaries, joint arrangements and associates of Aareal Bank Group for each of the three segments which are consolidated on the basis of regulatory aspects and included in consolidated financial reporting as at the reporting date. Furthermore, the table includes only 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 h, 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 or financial institutions. Shareholdings classified as other companies comprise only those included in consolidated financial reporting and for which classification pursuant to CRR does not apply.

Within the scope of Regulation (EU) 2019/876 amending CRR I (i.e. CRR II) which entered into force at the end of June 2019, pure industrial holding companies such as Aareon AG are excluded from the classification as financial institutions and thus from inclusion in the regulatory scope of consolidation. Further investments which are outside the regulatory scope of consolidation are allocated to the "at equity" measurement category, and are reported in the "Investments accounted for using the equity method" line item. These investments are not consolidated, nor are they deducted from regulatory capital; instead, they are taken into account when determining RWAs.

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

a	b	c	d	e	f	g	h
Name of the organisation	Method of accounting consolidation	Method of regulatory consolidation					Description of the entity
		Full consolidation	Proportional consolidation	Equity method	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		Miscellaneous
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
BVG – Grundstücks- und Verwertungsgesellschaft mbH, Frankfurt/Main	Full consolidation				X		Miscellaneous
Cave Nuove S.p.A., Rome	Full consolidation	X					Ancillary services undertaking
collect Artificial Intelligence GmbH, Hamburg	Full consolidation				X		Miscellaneous
DBB Inka, Dusseldorf	Full consolidation				[1]		Miscellaneous
Deutsche Structured Finance GmbH, Wiesbaden	Full consolidation				X		Miscellaneous
DHB Verwaltungs AG, Wiesbaden	Full consolidation				X		Miscellaneous
Galleria City Holding Company LLC, Wilmington	Full consolidation	X					Ancillary services undertaking
Galleria Manager Realty LLC, Wilmington	Full consolidation	X					Ancillary services undertaking
Galleria City Partners LP, Wilmington	Full consolidation	X					Ancillary services undertaking
GEV Besitzgesellschaft mbH, Wiesbaden	Full consolidation				X		Miscellaneous
Houses2021 MEP Beteiligungs GmbH, Frankfurt/Main	Full consolidation				X		Miscellaneous
Houses2021 Management Beteiligungs GmbH & Co. KG, Frankfurt/Main	At equity				X		Miscellaneous

[1] The special funds reported under the advanced IRB approach are treated using the simple risk weight method pursuant to Article 155 (2) of the CRR.

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a	b	c	d	e	f	g	h
Name of the organisation	**Method of accounting consolidation**	**Method of regulatory consolidation**					**Description of the entity**
		Full consolidation	**Proportional consolidation**	**Equity method**	**Neither consolidated nor deducted**	**Deducted**	
IV Beteiligungsgesellschaft für Immobilien-investitionen mbH, Wiesbaden	Full consolidation				X		Miscellaneous
Izalco Spain S.L., Madrid	Full consolidation	X					Ancillary services undertaking
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		Miscellaneous
MS Investment Management Limited, London	At equity				X		Miscellaneous
Northpark Realty LP, Wilmington	Full consolidation	X					Ancillary services undertaking
objego GmbH, Essen	At equity				X		Miscellaneous
Participation Achte Beteiligungs GmbH, Wiesbaden	Full consolidation	X					Financial institution
Participation Zehnte Beteiligungs GmbH, Wiesbaden	Full consolidation				X		Miscellaneous
PropTech1 Fund I GmbH & Co. KG, Berlin	No consolidation				[1]		Miscellaneous
Sole Sopra Cinquina S.r.l., Rome	Full consolidation	X					Ancillary services undertaking
Terrain Beteiligungen GmbH, Wiesbaden	Full consolidation	X					Financial institution
Terrain-Aktiengesellschaft Herzogpark, Wiesbaden	Full consolidation	X					Ancillary services undertaking
Tintoretto Rome S.r.l., Rome	Full consolidation	X					Ancillary services undertaking
Westdeutsche Immobilien Servicing AG, Mainz	Full consolidation	X					Financial institution
Segment Banking & Digital Solutions							
Aareal First Financial Solutions AG, Mainz	Full consolidation	X					Ancillary services undertaking
Segment Aareon							
Aareon AG, Mainz	Full consolidation				X		Miscellaneous
Aareon Deutschland GmbH, Mainz	Full consolidation				[2]		Miscellaneous
Aareon France S.A.S., Meudon-la Forêt	Full consolidation				[2]		Miscellaneous
Aareon Nederland B.V., Emmen	Full consolidation				[2]		Miscellaneous
Aareon SMB HUB UK Limited, Kenilworth	Full consolidation				[2]		Miscellaneous
Aareon Sverige AB, Mölndal	Full consolidation				[2]		Miscellaneous
Aareon UK Ltd., Coventry	Full consolidation				[2]		Miscellaneous
Arthur Online Ltd., London	Full consolidation				[2]		Miscellaneous
BauSecura Versicherungsmakler GmbH, Hamburg	Full consolidation				[2]		Miscellaneous
CalCon Deutschland GmbH, Munich	Full consolidation				[2]		Miscellaneous
GAP Gesellschaft für Anwenderprogramme und Organisationsberatung mbH, Bremen	Full consolidation				[2]		Miscellaneous
Mary BidCo AB, Stockholm	Full consolidation				[2]		Miscellaneous
Momentum Software AB, Stockholm	Full consolidation				[2]		Miscellaneous
Momentum Software Group AB, Stockholm	Full consolidation				[2]		Miscellaneous
OSRE B.V., Amsterdam	Full consolidation				[2]		Miscellaneous
Tactile Limited, London	Full consolidation				[2]		Miscellaneous

[1] The special funds reported under the advanced IRB approach are treated using the simple risk weight method pursuant to Article 155 (2) of the CRR.
[2] Indirect consideration via the carrying amount of the parent company Aareon AG classified as pure industrial holding company

Undercapitalised entities

Currently, there are no Aareal Bank Group subsidiaries failing to meet capital adequacy requirements whose participation is deducted from the liable equity capital of the parent institution.

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.

Due to its equity interest in the subsidiaries, Aareal Bank AG is able to transfer the subordinated companies’ excess capital to Aareal Bank AG if necessary. This can be achieved, for example, through distributions to Aareal Bank AG or by way of capital reductions at subsidiaries. The Bank can also factually request its subsidiaries to repay their liabilities due to its position vis-à-vis the subordinated subsidiaries.

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 prerequisite 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 statement categories to regulatory risk categories

For each of the line items in the annual financial statements, the following table shows the differences between the scope of accounting consolidation and the regulatory scope of consolidation within Aareal Bank Group. Furthermore, for the line items shown, the table outlines the allocation to relevant risk categories for regulatory capital requirements.

The carrying values shown in 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.

EU LI1: Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories to regulatory risk categories

		a	b	c	d	e	f	g
				Carrying values of items				
€ mm		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 own funds requirements or deduction from regulatory capital
	Assets							
1	**Financial assets (ac)**	**40,490**	**40,704**	**40,704**	**–**	**–**	**16,972**	**–**
1a	Cash funds (ac)	5,424	5,424	5,424	–	–	0	–
1b	Loan receivables (ac)	29,948	30,268	30,268	–	–	16,712	–
1c	Money market and capital market receivables (ac)	5,017	4,961	4,961	–	–	256	–
1d	Receivables from other transactions (ac)	101	51	51	–	–	4	–
2	Loss allowance (ac)	-490	-490	-490	–	–	-161	–
3	**Financial assets (fvoci)**	**3,552**	**3,538**	**3,538**	**–**	**–**	**404**	**–**
3a	Money market and capital market receivables (fvoci)	3,550	3,536	3,536	–	–	404	–
3b	Equity instruments (fvoci)	2	2	2	–	–	–	–
4	**Financial assets (fvpl)**	**2,258**	**2,354**	**529**	**1,826**	**–**	**662**	**–**
4a	Loan receivables (fvpl)	427	427	427	–	–	241	–
4b	Money market and capital market receivables (fvpl)	5	102	102	–	–	–	–
4c	Positive market value of designated hedging derivatives (fvpl)	1,104	1,104	–	1,104	–	329	–
4d	Positive market value of other derivatives (fvpl)	722	722	–	722	–	93	–
5	Non-current assets held for sale	7	–	–	–	–	–	–
6	Investments accounted for using the equity method	14	205	205	–	–	8	–
7	Intangible assets	566	26	–	–	–	–	26
8	Property and equipment	235	195	195	–	–	7	–
9	Income tax assets	46	34	34	–	–	6	–
10	Deferred tax assets	179	175	166	–	–	0	9
11	Other assets	474	445	445	–	–	218	–
12	**Total assets**	**47,331**	**47,187**	**45,327**	**1,826**	**–**	**18,118**	**35**

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€ 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 own funds requirements or deduction from regulatory capital
	Equity and liabilities							
12	**Financial liabilities (ac)**	**40,022**	**40,088**	**–**	**–**	**–**	**1,892**	**38,197**
12a	Money market and capital market liabilities (ac)	26,425	26,479	–	–	–	1,865	24,614
12b	Deposits from the housing industry (ac)	13,115	13,164	–	–	–	–	13,164
12c	Liabilities from other transactions (ac)	96	59	–	–	–	27	32
12d	Subordinated liabilities (ac)	386	386	–	–	–	–	386
13	**Financial liabilities (fvpl)**	**3,514**	**3,514**	**–**	**3,514**	**–**	**145**	**–**
13a	Negative market value of designated hedging derivatives (fvpl)	2,183	2,183	–	2,183	–	80	–
13b	Negative market value of other derivatives (fvpl)	1,331	1,331	–	1,331	–	64	–
14	Non-current liabilities held for sale	1	–	–	–	–	–	–
15	Provisions	292	237	–	–	–	18	219
16	Income tax liabilities	76	74	–	–	–	1	73
17	Deferred tax liabilities	57	30	–	–	–	31	0
18	Other liabilities	111	46	–	–	–	2	44
19	**Equity**	**3,258**	**3,198**	**–**	**–**	**–**	**–**	**3,198**
19a	Subscribed capital	180	180	–	–	–	–	180
19b	Capital reserves	721	721	–	–	–	–	721
19c	Retained earnings	2,076	2,062	–	–	–	–	2,062
19d	AT1 bond	300	300	–	–	–	–	300
19e	Other reserves	-88	-71	–	–	–	–	-71
19f	Non-controlling interests	69	7	–	–	–	–	7
20	**Total liabilities**	**47,331**	**47,187**	**–**	**3,514**	**–**	**2,088**	**41,730**

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 financial statements under IFRS to the scope of prudential consolidation, and on the allocation to regulatory risk categories, table EU LI2 reconciles carrying amounts with the regulatory risk exposure (Exposure at Default – "EaD"), in line with the scope of prudential consolidation.

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

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

		a	b	c	d	e
			Items subject to			
€ mn		Total	Credit risk framework	Securitisation framework	CCR framework	Market risk framework
1	**Assets carrying value under the scope of prudential consolidation (as per table EU LI1)**	**47,187**	**45,327**	**–**	**1,826**	**18,118**
2	Liabilities carrying value under the scope of prudential consolidation (as per table EU LI1)	47,187	–	–	3,514	2,088
3	Total net amount under the scope of prudential consolidation	–	–	–	–	–
4	Off-balance sheet amounts	1,280	1,280	–	–	–
5	Differences in valuations	–	–	–	–	–
6	Differences due to different netting rules, other than those already included in row 2	–	–	–	–	–
7	Differences due to consideration of provisions	483	483	–	–	–
8	Differences due to the use of credit risk mitigation techniques	-94	-94	–	–	–
9	Differences due to credit conversion factors	-82	-82	–	–	–
10	Differences due to securitisation with risk transfer	–	–		–	–
11	Other differences	-3,037	-1,658	–	-1,344	-17,982
12	**Exposure amounts considered for regulatory purposes**	**45,737**	**45,256**	**–**	**482**	**136**

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

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 before application of credit conversion factors (CCFs) and credit risk mitigation techniques.

There are no values reported in line 5 as the additional value adjustments of the assets and liabilities measured at fair value in accordance with Article 34 of the CRR in conjunction with Article 105 of the CRR (Prudent Valuation)[1] are included in own funds and do not affect EaD determination.

Line 7 reflects credit risk adjustments used for the regulatory comparison of Expected Loss (EL) and credit risk adjustments of exposures under the AIRBA as they have already been deducted from the carrying amounts shown in line 1. 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 only shows credit risk mitigants in relation to the exposure value disclosed in line 12 for risk exposures reported under the CRSA. The collateral available under the AIRBA is fully taken into account in the determination of the LGD of the respective property financing.

Line 9 comprises the effect on the EaD of the off-balance sheet risk exposures reported in line 4, which results from the consideration of the CCF.

[1] Since the determination of the additional value adjustments is not based on the core approach set out in Chapter III of Delegated Regulation (EU) 2016/101, but on the simplified approach, table EU PV1 (Prudent valuation adjustments) is not disclosed.

Line 11 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). This line also includes, on the one hand, the difference attributable to the determination of the net foreign exchange position, for the purpose of own funds requirements for market risk, and, on the other hand, valuation differences between the carrying amounts under IFRSs and EaD for on-balance sheet exposures. This is largely attributable to no longer applicable adjustments due to the methodology for determining EaD for credit risk exposures under the AIRBA, as well as to adjustments of the total exposure value as a result of the SA-CCR calculation logic for derivative transactions. This line item also includes the carrying amounts of the initial margins due from central counterparties Eurex and LCH Limited, which are recorded as financial assets. In accordance with section 306 (2) of the CRR, Aareal Bank assigns an EaD of zero to the assets pledged as collateral.

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 for the financial statements.

The regulatory capital as well as equity 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 Article 4 of Commission Implementing Regulation 2021/637/EU, in the interests of comparability and increased transparency pursuant to Article 437 of the CRR.

Main features of capital instruments

The main features of capital instruments of Common Equity Tier 1, Additional Tier 1 and Tier 2 capital are described by using the table EU CCA, which is published on our website as an annex to this Disclosure Report.

In addition, Aareal Bank is required, pursuant to Article 437 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. These terms and conditions of issue presented in the table EU CCA are fully published on our website in the section "Investors › Financial Information › Terms and Conditions of Issue pursuant to Article 437 lit. (c) of the CRR".

Composition of regulatory own funds

Within the scope of the ECB's Supervisory Review and Evaluation Process, Aareal Bank has to meet total SREP own funds requirements of 10.75 % on a consolidated level in 2022. This comprises an additional own funds requirement (Pillar 2 Requirement, P2R) of 2.75 %, which has to be maintained in the form of at least 56.25 % in Common Equity Tier 1 capital and 75 % of Tier 1 capital. Taking into account the capital conservation buffer of 2.50 % and the countercyclical capital buffer of 0.16 %, both of which have to be main-

tained in the form of Common Equity Tier I capital, the Overall Capital Requirement (OCR) of Aareal Bank as at 31 December 2022 amounts to 13.41 %.

The average total capital ratio (TC ratio) over the current reporting date and the four last quarters amounts to 26.97 %. The comparison to the total SREP own funds requirements demonstrates that Aareal Bank Group is well capitalised to cover its risks.

The following table EU CC1 serves to fulfil the disclosure requirements set out in Article 437 lit. (a) and (d) of the CRR. The components of Common Equity Tier I, Additional Tier I and Tier 2 capital are described in the section following this table.

In order to reconcile the regulatory own funds with the balance sheet figures disclosed in column b of table EU CC2, column b references the relevant balance sheet line item.

EU CC1: Composition of regulatory own funds

€ mn		a Amounts	b Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
	Common Equity Tier 1 (CET1) capital: instruments and reserves		
1	Capital instruments and the related share premium accounts	901	A, B
	of which: shares	180	A
2	Retained earnings	1,908	C
3	Accumulated other comprehensive income (and other reserves)	-71	D
EU-3a	Funds for general banking risk	–	
4	Amount of qualifying items referred to in Article 484 (3) of the CRR and the related share premium accounts subject to phase-out from CET1	–	
5	Minority interests (amount allowed in consolidated CET1)	–	
EU-5a	Independently reviewed interim profits net of any foreseeable charge or dividend	77	E
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**2,815**	
	Common Equity Tier 1 (CET1) capital: regulatory adjustments		
7	Additional value adjustments (negative amount)	-3	F
8	Intangible assets (net of related tax liability) (negative amount)	-26	G
9	–	–	
10	Deferred tax assets that rely on future profitability, excluding those arising from temporary differences (net of related tax liability where the conditions of Article 38 (3) of the CRR are met) (negative amount)	-9	H
11	Fair value reserves related to gains or losses on cash flow hedges of financial instruments that are not valued at fair value	–	
12	Negative amounts resulting from the calculation of expected loss amounts	-33	
13	Increase in equity resulting from securitised assets (negative amount)	–	
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	–	
15	Defined-benefit pension fund assets (negative amount)	–	
16	Direct, indirect and synthetic holdings by an institution of own CET1 instruments (negative amount)	–	
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)	–	

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€ mn		a Amounts	b Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
18	Direct, indirect and synthetic holdings by the institution of Common Equity 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)	–	
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)	–	
20	–	–	
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	–	
EU-20b	of which: qualifying holdings outside the financial sector (negative amount)	–	
EU-20c	of which: securitisation positions (negative amount)	–	
EU-20d	of which: free deliveries (negative amount)	–	
21	Deferred tax assets arising from temporary differences (amount exceeding the 10 % threshold, net of related tax liability where the conditions in Article 38 (3) of the CRR are met) (negative amount)	–	
22	Amount exceeding the 17.65% threshold (negative amount)	–	
23	of which: direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities	–	
24	–	–	
25	of which: deferred tax assets arising from temporary differences	–	
EU-25a	Losses for the current financial year (negative amount)	–	
EU-25b	Foreseeable tax charges relating to CET1 items except where the institution suitably adjusts the amount of CET1 items insofar as such tax charges reduce the amount up to which those items may be used to cover risks or losses (negative amount)	–	
26	–	–	
27	Qualifying Additional Tier 1 deductions that exceed the AT1 items of the institution (negative amount)	–	
27a	Other regulatory adjustments	-276	
28	**Total regulatory adjustments to Common Equity Tier 1 (CET1) capital**	**-346**	
29	**Common Equity Tier 1 (CET1) capital**	**2,468**	
	Additional Tier 1 (AT1) capital: Instruments		
30	Capital instruments and the related share premium accounts	300	I
31	of which: classified as equity under applicable accounting standards	300	I
32	of which: classified as liabilities under applicable accounting standards	–	
33	Amount of qualifying items referred to in Article 484 (4) of the CRR and the related share premium accounts subject to phase-out from Additional Tier 1 (AT1) capital	–	
EU-33a	Amount of qualifying items referred to in Article 494a (1) of the CRR subject to phase-out from Additional Tier 1 (AT1) capital	–	
EU-33b	Amount of qualifying items referred to in Article 494b (1) of the CRR subject to phase-out from Additional Tier 1 (AT1) capital	–	
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	–	
35	of which: instruments issued by subsidiaries subject to phase-out	–	
36	**Additional Tier 1 (AT1) capital before regulatory adjustments**	**300**	

€ mn		a Amounts	b Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
	Additional Tier 1 (AT1) capital: regulatory adjustments		
37	Direct, indirect and synthetic holdings by an institution of own Additional Tier 1 instruments (negative amount)	–	
38	Direct, indirect and synthetic holdings of the 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)	–	
39	Direct, indirect and synthetic holdings by the institution 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)	–	
40	Direct, indirect and synthetic holdings by the institution of Additional Tier 1 instruments of financial sector entities in which the institution has a significant investment (net of eligible short positions) (negative amount)	–	
41	–	–	
42	Qualifying Tier 2 deductions that exceed the Tier 2 items of the institution (negative amount)	–	
42a	Other regulatory adjustments to Additional Tier 1 (AT1) capital	–	
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	**–**	
44	**Additional Tier 1 (AT1) capital**	**300**	
45	**Tier 1 capital (T1 = CET1 + AT1)**	**2,768**	
	Tier 2 (T2) capital: instruments		
46	Capital instruments and the related share premium accounts	248	J
47	Amount of qualifying items referred to in Article 484 (5) of the CRR and the related share premium accounts subject to phase-out from Tier 2 as described in Article 486 (4) of the CRR	–	
EU-47a	Amount of qualifying items referred to in Article 494a (2) of the CRR subject to phase-out from Tier 2	–	
EU-47b	Amount of qualifying items referred to in Article 494b (2) of the CRR subject to phase-out from Tier 2	–	
48	Qualifying own funds instruments included in consolidated Tier 2 capital (including minority interests and Additional Tier 1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties	–	
49	of which: instruments issued by subsidiaries subject to phase-out	–	
50	Credit risk adjustments	49	
51	**Tier 2 (T2) capital before regulatory adjustments**	**296**	
	Tier 2 (T2) capital: regulatory adjustments		
52	Direct, indirect and synthetic holdings by an institution of own Tier 2 instruments and subordinated loans (negative amount)	–	
53	Direct, indirect and synthetic holdings of the Tier 2 instruments and subordinated loans of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	–	
54	Direct, indirect and synthetic holdings of the Tier 2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above 10 % threshold and net of eligible short positions) (negative amount)	–	
54a	–	–	

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€ mn		a Amounts	b Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
55	Direct, indirect and synthetic holdings by the institution of the Tier 2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	–	
56	–	–	
EU-56a	Qualifying eligible liabilities deductions that exceed the eligible liabilities items of the institution (negative amount)	–	
EU-56b	Other regulatory adjustments to Tier 2 capital	–	
57	**Total regulatory adjustments to Tier 2 (T2) capital**	**–**	
58	**Tier 2 (T2) capital**	**296**	
59	**Own funds (TC = T1 + T2)**	**3,065**	
60	**Total risk-weighted assets**	**12,782**	
	Capital ratios and requirements including buffers		
61	CET1 ratio	19.31 %	
62	Tier 1 ratio	21.66 %	
63	Total capital ratio	23.98 %	
64	Institution CET1 overall capital requirements	8.71 %	
65	of which: capital conservation buffer requirement	2.50 %	
66	of which: countercyclical capital buffer requirement	0.16 %	
67	of which: systemic risk buffer requirement	–	
EU-67a	of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer requirement	–	
EU-67b	of which: additional own funds requirements to address the risks other than the risk of excessive leverage	1.55 %	
68	Common Equity Tier 1 capital (as a percentage of risk exposure amount) available after meeting the minimum capital requirements	13.23 %	
	Amounts below thresholds for deductions (before risk weighting)		
72	Direct and indirect holdings of own funds and eligible liabilities of financial sector entities where the institution does not have a significant investment in those entities (amount below 10 % threshold and net of eligible short positions)	–	
73	Direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 17.65 % thresholds and net of eligible short positions)	–	
74	–	–	
75	Deferred tax assets arising from temporary differences (amount below 17,65 % threshold, net of related tax liability where the conditions in Article 38 (3) of the CRR are met)	176	
	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)	–	
77	Cap on inclusion of credit risk adjustments in Tier 2 under standardised approach	17	
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)	20	
79	Cap on inclusion of credit risk adjustments in Tier 2 under internal ratings-based approach	53	

€ mn		a Amounts	b Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
	Capital instruments subject to phase-out arrangements (only applicable between 1 January 2014 and 1 January 2022)		
80	Current cap on CET1 instruments subject to phase-out arrangements	–	
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	–	
82	Current cap on Additional Tier 1 capital instruments subject to phase-out arrangements	–	
83	Amount excluded from Additional Tier 1 capital due to cap (excess over cap after redemptions and maturities)	–	
84	Current cap on Tier 2 instruments subject to phase-out arrangements	–	
85	Amount excluded from Tier 2 capital due to cap (excess over cap after redemptions and maturities	–	

Common Equity Tier 1 capital

Aareal Bank Group's Common Equity Tier 1 (CET1) capital (€ 2,468 million) is generally limited to the items and capital instruments listed under Article 26 of the CCR, whereby the latter must meet the requirements of Article 28 of the CRR. The CET1 is composed as follows:

- subscribed capital and capital reserves,
- eligible retained earnings,
- accumulated other comprehensive income and
- regulatory adjustments.

Aareal Bank AG's subscribed capital amounted to € 180 million as at 31 December 2022. It is divided into 59,857,221 fully-paid no-par value shares ("unit shares") with a notional value of € 3 per share. The shares are bearer shares. Each share carries one vote. There are no pre-emptive rights or constraints with respect to dividend payouts.

The capital reserves amount to € 721 million and contain premiums received upon the issuance of shares. Costs incurred within the framework of a capital increase reduce capital reserves.

Retained earnings (excluding consolidated net retained profit) comprise € 5 million in statutory reserves (pursuant to section 150 of the AktG) and € 1,903 million in other retained earnings. Dividends in the amount of € 61 million (€ 1.02 per share) are deducted from this.

Accumulated other comprehensive income (€ -71 million) contains other reserves recognised in equity, in which the following effects are recognised directly:

- reserve from remeasurements of defined benefit plans (€ -69 million),
- reserve from the measurement of equity instruments fvoci (€ -4 million),
- reserve from the measurement of debt instruments fvoci (€ 6 million),
- other recyclable and non-recyclable reserves from companies accounted for using the equity method (€ 1 million),
- reserve from changes in the value of foreign currency basis spreads (€ -8 million), and
- currency translation reserve (€ 3 million).

The regulatory adjustments reducing the CET1 amount to € 346 million. Specifically, the following deductions were made:

- **Additional value adjustments to assets and liabilities at fair value in accordance with Article 34 of the CRR in conjunction with Article 105 of the CRR (€ -3 million)**
  In accordance with Article 34 of the CRR in conjunction with the requirements for prudent valuation under Article 105 of the CRR, those additional value adjustments that are required to adjust the fair value to the prudent valuation are to be deducted from CET1.

  As the line items at fair value amount to less than € 15 billion, the simplified approach pursuant to Article 4 of Commission Delegated Regulation (EU) No. 2016/101 does apply to Aareal Bank Group.

- **Intangible assets as defined in Article 37 of the CRR (€ -26 million)**
  The amount largely comprises purchased and self-developed software classified as intangible assets (€21 million). The regulatory technical standard EBA/RTS/2020/07 on the regulatory treatment of software assets is not applied within Aareal Bank Group.

- **Deferred tax assets that rely on future profitability (€ -9 million)**
  The only deferred tax assets considered are those that do not result from temporary differences (net of related tax liability).

- **Negative amounts resulting from the calculation of expected loss amounts (€ -33 million)**
  In accordance with Article 36 (1) lit. d) of the CRR, negative amounts resulting or remaining from the offsetting of an expected loss (EL) and credit risk adjustments (the so-called value adjustment deficit) as required by Article 159 of the CRR are to be deducted from CET1.

  This item includes the EL from investments. Pursuant to Article 159 of the CRR, there are no netting options for this EL within the scope of the comparison of value adjustments, meaning that the amount is directly deducted from CET1.

- **Other regulatory adjustments (€ -276 million)**

  - **Deductions pursuant to Article 3 of the CRR (€ -233 million)**
    This includes an additional voluntary and preventive capital deduction for regulatory uncertainties in connection with ECB reviews in the amount of € 95 million. This deduction item also accounts for the expectations defined by regulatory and legislative authorities regarding provisioning for non-performing exposures ("prudential provisioning").

  - **Deductions pursuant to Article 36 (1) lit. m) of the CRR (€ -2 million)**

  - **Other deductions from CET1 (€ -41 million)**
    Aareal Bank holds irrevocable payment obligations to deposit guarantee schemes and resolution funds, for which assets were encumbered or cash collateral provided. The fact that the encumbered assets or the cash collateral provided cannot be used to cover potential current losses is taken into account by deducting them from CET1.

Additional Tier 1 capital

Additional Tier 1 (AT1) capital comprises a € 300 million Additional Tier 1 (AT1) bond (ISIN DE000A1TNDK2). Regulatory adjustments pursuant to Article 56 et seqq. of the CRR were not made.

On 13 November 2014, the Management Board had issued notes in an aggregate nominal amount of € 300 million with a denomination of € 200,000 and an initial interest rate of 7.625 % p.a. (valid until 30 April 2020), based on the authorisation granted by the Annual General Meeting on 21 May 2014. The rate of interest for any interest period commencing after 30 April 2020 is equal to the reference rate (one-year EUR swap rate) determined on the relevant interest determination date plus a margin of 7.18 % p.a.

The notes constitute unsecured and subordinated obligations of the issuer.

Further information on the conditions of the AT1 bond can be found in the annex to the Disclosure Report 2022 "EU CCA: Main Features of Capital Instruments 2022" published on our website.

Tier 2 capital

Aareal Bank's Tier 2 capital of € 296 million largely consists of subordinated promissory notes (€ 123 million) and subordinated bearer debt securities (€ 125 million), which are allocated to the measurement category "amortised costs". In the event of liquidation or insolvency, claims on interest and principal from these liabilities are subordinated to the claims of the other creditors, which are not subordinated themselves.

In accordance with Article 64 (2) of the CRR, the IFRS carrying amount (instead of the nominal amount) on the first day of the final five-year period is used in the calculation of the eligible amount for the amortisation of Tier 2 instruments in the last five years of their contractual maturity. The IFRS carrying amount is also used for Tier 2 instruments with a residual maturity of more than five years, to ensure consistency in the measurement basis for all Tier 2 instruments.

The valuation adjustment excess (€ 49 million) determined in accordance with Article 62 lit. d) of the CRR within the scope of the comparison of value adjustments pursuant to Article 159 of the CRR is another component of Tier 2 capital.

Reconciliation of regulatory own funds to balance sheet in the audited financial statements

To fulfil the disclosure requirements in accordance with Article 437 lit. a) of the CRR, the equity items of table EU CC1 are clearly allocated to the line items contained in the following table via column c. The granularity of the line items disclosed corresponds to the statement of financial position in our Annual Report.

EU CC2: Reconciliation of regulatory own funds to balance sheet in the audited financial statements

	a	b	c
	Balance sheet as at 31 December 2022		
€ mn	as in published financial statements	under regulatory scope of consolidation	Reference
Assets			
Financial assets (ac)	**40,490**	**40,705**	
Cash funds (ac)	5,424	5,424	
Loan receivables (ac)	29,948	30,268	
Money market and capital market receivables (ac)	5,017	4,961	
Receivables from other transactions (ac)	101	51	
Loss allowance (ac)	-490	-490	
Financial assets (fvoci)	**3,552**	**3,538**	
Money market and capital market receivables (fvoci)	3,550	3,536	F
Equity instruments (fvoci)	2	2	F
Financial assets (fvpl)	**2,258**	**2,354**	
Loan receivables (fvpl)	427	427	F
Money market and capital market receivables (fvpl)	5	102	F
Positive market value of designated hedging derivatives (fvpl)	1,104	1,104	
Positive market value of other derivatives (fvpl)	722	722	
Non-current assets held for sale	7	–	
Investments accounted for using the equity method	14	205	

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	a	b	c
	Balance sheet as at 31 December 2022		
	as in published financial statements	under regulatory scope of consolidation	Reference
€ mn			
Intangible assets	566	26	G
Property and equipment	235	195	
Income tax assets	46	34	
Deferred tax assets	179	175	H
Other assets	474	445	
Total assets	**47,331**	**47,187**	
Equity and liabilities			
Financial liabilities (ac)	**40,022**	**40,088**	
Money market and capital market liabilities (ac)	26,425	26,479	
Deposits from the housing industry (ac)	13,115	13,164	
Liabilities from other transactions (ac)	96	59	
Subordinated liabilities (ac)	386	386	J
Financial liabilities (fvpl)	**3,514**	**3,514**	
Negative market value of designated hedging derivatives (fvpl)	2,183	2,183	F
Negative market value of other derivatives (fvpl)	1,331	1,331	F
Non-current liabilities held for sale	1	–	
Provisions	292	237	
Income tax liabilities	76	74	
Deferred tax liabilities	57	30	
Other liabilities	111	46	
Equity	**3,258**	**3,198**	
Subscribed capital	180	180	A
Capital reserves	721	721	B
Retained earnings	2,076	2,062	C, E
AT1 bond	300	300	I
Other reserves	-88	-71	D
Non-controlling interests	69	7	
Total liabilities	**47,331**	**47,187**	

Risk-weighted assets and regulatory capital requirements

In accordance with Article 438 lit. 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". The related information can be found in the chapter "Risk-bearing capacity and risk limits" (page 9 et seqq.) in this Disclosure Report.

The regulatory 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 2022, no risks associated with outstanding delivery as part of counterparty risks 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.

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

		a	b	c
		RWAs		Regulatory capital requirements
€ mn		31 Dec 2022	30 Sep 2022	31 Dec 2022
1	**Credit risk (excluding CCR)[1]**	**11,120**	**11,314**	**890**
2	of which: Credit Risk Standard Approach (CRSA)	1,204	1,006	96
3	of which: Foundation IRB Approach (FIRB)	–	–	–
4	of which: slotting approach	–	–	–
EU 4a	of which: equities under the simple risk-weighted approach	765	805	61
5	of which: Advanced IRB (AIRBA) approach	8,095	9,503	648
6	**CCR**	**384**	**431**	**31**
7	of which: standardised approach	188	189	15
8	of which: internal model method (IMM)	–	–	–
EU 8a	of which: exposures to a CCP	2	33	0
EU 8b	of which: credit valuation adjustment – CVA	194	204	16
9	of which: other CCR	0	5	0
15	**Settlement risk**	**–**	**–**	**–**
16	**Securitisation exposures in the banking book (after the cap)**	**–**	**–**	**–**
17	of which: SEC-IRBA approach	–	–	–
18	of which: SEC-ERBA (including IAA)	–	–	–
19	of which: SEC-SA approach	–	–	–
EU 19a	of which: 1,250 % / deduction	–	–	–
20	**Market risk (position, foreign exchange and commodity risks)**	**136**	**143**	**11**
21	of which: standardised approach	136	143	11
22	of which: IMA	–	–	–
EU 22a	**Large exposures**	**–**	**–**	**–**
23	**Operational risk**	**1,142**	**1,142**	**91**
EU 23a	of which: basic indicator approach	–	–	–
EU 23b	of which: standardised approach	1,142	1,142	91
EU 23c	of which: advanced measurement approach	–	–	–
24	**Amounts below the thresholds for deduction (subject to 250 % risk weight)**	**441**	**248**	**35**
29	**Total**	**12,782**	**13,031**	**1,023**

[1] The RWAs were determined in accordance with applicable law as at year-end (CRR II) and applying the partial regulation for the "output floor" in connection with commercial property lending and equity exposures, based on the European Commission's proposal dated 27 October 2021 (CRR III) for implementation of Basel IV. The resulting RWA effect was reported to the supervisory authorities as part of the solvency reporting in the item "Additional risk-weighted assets pursuant to Article 3 of the CRR". This item is reported in line 1 of table EU OV1, taking into account the mapping rules issued by EBA.

In accordance with Annex II of Commission Implementing Regulation (EU) 2021/637, the disclosure of RWA of deferred tax assets in line 24 is only for information, since they are already reflected in line 2 of the disclosure table.

In the following table EU CR10.5, the equity investments reported under the AIRBA and previously disclosed on a consolidated level – for which the simple risk-weighted approach is used exclusively pursuant to Article 155 (2) of the CRR – are disclosed separately according to the risk exposures determined in the Regulation.

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, the tables EU CR10.1 to EU CR10.4 are not disclosed.

EU CR10.5: Equity IRB under the simple risk-weighted approach

Regulatory categories	a	b	c	d	e	f
	Equity exposures under the simple risk-weighted approach					
	On-balance sheet exposures	Off-balance sheet exposures	Risk weight	Exposure at Default	RWAs	Expected loss amount
€ mn						
Private equity exposures	–	–	190 %	–	–	–
Listed investments	–	–	290 %	–	–	–
Other equity investments	207	–	370 %	207	765	5
Total	**207**	**–**		**207**	**765**	**5**

Countercyclical Buffer

The countercyclical capital buffer (CCB) is a macroprudential 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 clients.

The following two disclosure tables are based on the requirements set out in Article 5 of Commission Implementing Regulation (EU) 2021/637.

EU CCyB1: Geographical distribution of credit exposures relevant for the calculation of the countercyclical capital buffer

	a	b	c	d	e	f
	General credit risk exposures		Relevant credit exposures – Market risk		Securitisation exposures – Exposure value in the banking book	Total risk exposure amount
	Exposure value under the Credit Risk Standard Approach	Exposure value under the IRB approach	Sum of long and short positions of trading book exposures under the standardised approach	Value of trading book exposures for internal models		
	€ mn	€ mn	€ mn	€ mn	€ mn	€ mn
010 Breakdown by country						
Germany	966	3,631	–	–	–	4,597
Belgium	–	417	–	–	–	417
Austria	43	340	–	–	–	382
Switzerland	–	329	–	–	–	329
France	262	3,301	–	–	–	3,563
United Kingdom	40	4,915	–	–	–	4,954
Guernsey	2	–	–	–	–	2
Ireland	0	57	–	–	–	58
Luxembourg	1	154	–	–	–	155
Netherlands	52	1,334	–	–	–	1,387
Denmark	155	211	–	–	–	366
Sweden	52	913	–	–	–	965
Finland	16	518	–	–	–	535
Norway	104	–	–	–	–	104
Hungary	–	9	–	–	–	9
Italy	0	1,139	–	–	–	1,139
Spain	0	1,573	–	–	–	1,573
Turkey	–	52	–	–	–	52
Czech Republic	0	146	–	–	–	146
Poland	–	1,300	–	–	–	1,300
Estonia	–	45	–	–	–	45
Russia	0	213	–	–	–	213
USA	47	8,081	–	–	–	8,128
Cayman Islands	–	2	–	–	–	2
Canada	71	1,364	–	–	–	1,435
China	–	89	–	–	–	89
Maldives	–	472	–	–	–	472
Australia	0	1,011	–	–	–	1,011
020 Total	**1,811**	**31,616**	**–**	**–**	**–**	**33,426**

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	g	h	i	j	k	l	m
	Regulatory capital requirements				Risk-weighted exposure amounts	Weightings of regulatory capital requirements	Countercyclical capital buffer ratio
	Relevant credit risk exposures – Credit risk	Relevant credit exposures – Market risk	Relevant credit exposures – Securitisation exposures in the banking book	Total			
	€ mn	€ mn	€ mn	€ mn	€ mn	%	%
010 Breakdown by country							
Germany	217	–	–	217	2,716	28.47	–
Belgium	4	–	–	4	53	0.56	–
Austria	5	–	–	5	62	0.65	–
Switzerland	3	–	–	3	36	0.38	–
France	58	–	–	58	730	7.66	–
United Kingdom	97	–	–	97	1,214	12.72	1.00
Guernsey	0	–	–	0	2	0.02	–
Ireland	1	–	–	1	11	0.12	–
Luxembourg	4	–	–	4	52	0.55	0.50
Netherlands	20	–	–	20	253	2.65	–
Denmark	3	–	–	3	43	0.45	2.00
Sweden	8	–	–	8	100	1.05	1.00
Finland	8	–	–	8	96	1.00	–
Norway	1	–	–	1	10	0.11	2.00
Hungary	0	–	–	0	5	0.05	–
Italy	43	–	–	43	542	5.68	–
Spain	25	–	–	25	316	3.31	–
Turkey	3	–	–	3	36	0.38	–
Czech Republic	1	–	–	1	18	0.19	1.50
Poland	29	–	–	29	366	3.84	–
Estonia	1	–	–	1	10	0.10	1.00
Russia	6	–	–	6	69	0.73	–
USA	170	–	–	170	2,126	22.29	–
Cayman Islands	0	–	–	0	2	0.02	–
Canada	20	–	–	20	250	2.62	–
China	2	–	–	2	31	0.33	–
Maldives	14	–	–	14	181	1.89	–
Australia	17	–	–	17	208	2.18	–
020 Total	**763**	**–**	**–**	**763**	**9,539**	**100.00**	

EU CCyB2: Amount of institution-specific countercyclical capital buffer

€ mn		a
010	Total risk exposure amount	12,782
020	Institution-specific countercyclical capital buffer rate	0.16 %
030	Institution-specific countercyclical capital buffer requirement	20

Credit Risks and General Information on Credit Risk Mitigation

Management of credit risks

Definition

Aareal Bank defines credit risk as the risk of losses being incurred due to (i) a deterioration in a business partner's credit quality (migration risk); (ii) a business partner defaulting on contractual obligations; (iii) collateral being impaired; or (iv) a risk arising upon realisation of collateral. Both credit business and trading activities may be subject to counterparty credit risk. Counterparty credit risk exposure 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

Based on the Bank's overall business strategy, Aareal Bank's credit risk strategy sets out all material aspects of the Group's credit risk management and policies. The credit risk strategy serves as a strategic guideline for dealing with each respective category of risk within Aareal Bank Group; it also provides a binding, overarching framework applicable to all divisions.

The credit risk strategy will be reviewed, at least once a year, as to its suitability regarding the Bank's risk-bearing capacity and its business environment; amendments will be made as necessary. In this context, we also incorporate ESG criteria to assess the properties' sustainable intrinsic value. The associated process is instigated by senior management, and implemented by Risk Controlling, which submits a proposal, which has been agreed upon with all divisions, to senior management. The credit risk strategy adopted is subsequently discussed by the Supervisory Board.

Designed in principle for a medium-term horizon, the credit risk strategy is adapted when necessary to reflect material changes in the Group's credit risk and business policies, or in the Group's business environment.

Risk measurement and monitoring

Regulatory requirements are taken into account for the organisation of Aareal Bank's operations and workflows in the credit and trading businesses.

Processes in the credit and trading businesses are designed to consistently respect the clear functional division of Sales units ("Markt") and Credit Management ("Marktfolge"), up to and including senior management level. The independent Risk Controlling division is responsible for identifying, quantifying and monitoring all material risks at portfolio level, and for maintaining a targeted risk reporting system.

Aareal Bank employs different risk classification procedures tailored to the requirements of the respective type of business for the initial, regular, or event-driven assessment of counterparty credit risk. Forward-looking as well as macro-economic information is taken into consideration for risk classification procedures, and in the valuation of collateral. The respective procedures and parameters are subject to regular review and adjustment. Responsibility for development, quality assurance, and monitoring implementation of procedures, is outside the Sales units.

Against the background of the Covid-19 pandemic and the potential impact of the war in Ukraine, special attention is currently paid to macro-economic forecasts. In the context of this ongoing review, we also rely on projections published by the ECB, apart from those issued by our usual data providers. Yet estimation uncertainties are currently much higher than usual, as current events have provoked a situation unprecedented in recent history. Data and experience are therefore both lacking.

We use two different credit risk models to measure, control and monitor concentration and diversification effects on a portfolio level. These are supplemented by limits on individual and sub-portfolio level to facilitate operating management. Based on these instruments, the Bank's decision-makers are regularly informed of the performance and risk content of property financing exposures, and of

business with financial institutions. The models in question allow the Bank to include, in particular, rating changes and correlation effects in the assessment of the risk concentrations.

Within the process-oriented monitoring of individual exposures, the Bank uses various tools to monitor exposures on an ongoing basis: besides the tools already described, this includes rating reviews, the monitoring of payment arrears, and the regular, individual analysis of the largest exposures. The intensity of loan coverage is oriented upon the credit risk exposure.

Some effects of the Covid-19 pandemic were still felt in the year under review, but the portfolio most susceptible to it rebounded as expected, especially in the hotel sector, and returned to pre-pandemic levels on average. In this light, all Covid-specific provisions or processes in the most vulnerable portfolio (retail, hotels, student housing) were abolished as at the reporting date.

Monthly reporting covers the material aspects of credit risk; it is supplemented by detailed information – which also fully covers specific credit portfolio developments (broken down by country, property and product type, risk classes, and collateral categories, for example), in line with regulatory requirements – at least on a quarterly basis. Risk concentrations are being taken into account in particular.

Trading activities are restricted to counterparties for whom the requisite limits are in place. All trades are immediately taken into account for the purposes of borrower-related limits. Compliance with limits is monitored in real time by Risk Controlling. Persons holding position responsibility are informed about relevant limits and their current usage, regularly and without delay.

In principle, Aareal Bank pursues a “buy and manage” strategy in managing its credit portfolio – with the primary objective of holding the majority of loans extended on its balance sheet until maturity; at the same time, targeted exit measures are deployed for actively managing the portfolio and the risks involved.

In summary, during the period under review, the existing set of tools and methods continued to enable the Bank to adopt suitable risk management or risk mitigation measures, where required, without any undue delay.

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.

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

Regulatory disclosure follows accounting policies in accordance with IFRS 9. The loss allowance to be recognised in this context is based on the internal staging and expected credit loss (ECL/EL) 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 twelvemonth or the lifetime expected credit loss (lifetime ECL or LEL).

Stage 1: All financial instruments without impairment trigger are allocated to this stage at initial recognition. Any disposal and addition involving a substantial modification does not result in a change of allocation. If the credit risk is not significantly increased, the financial instrument has to remain in Stage 1 for subsequent measurement. Loss allowances are recognised in the amount of the losses expected for the following twelve months and interest income is calculated on the basis of the gross carrying amount, applying the effective interest method. Loss allowances have to be recognised on a present value basis.

Stage 2: All financial instruments where credit risk has increased significantly since initial recognition are allocated to this stage. Any disposal and addition involving a substantial modification does not result in a change of allocation. Loss allowances are recognised in the amount of the losses expected for the entire remaining term of the instrument and interest income is calculated on the basis of the gross carrying amount, applying the effective interest method. Loss allowances have to be recognised on a present value basis. The significant increase in credit risk for allocation to Stage 2 is determined using the so-called bank-internal expected downgrade staging model and taking into consideration quantitative and qualitative criteria such as the credit rating of the client, the intensity of client handling (intensified handling), the existence of forbearance measures and/or payment defaults. If the significant increase in credit risk no longer applies, the financial instrument is re-transferred to Stage 1.

Stage 3: This stage includes all financial instruments where there is objective evidence of impairment (impairment trigger or credit impaired). Loss allowances are recognised in the amount of the losses of the lifetime expected credit loss, and interest income is calculated on the basis of the net carrying amount (i. e. gross carrying amount less loss allowance) using the effective interest method. The lifetime expected credit loss in Stage 3 is determined as the difference between the gross carrying amount and the present value of expected future cash flows (discounted using the original effective interest). If the impairment triggers no longer apply, the financial instrument is re-transferred to Stage 1 or 2.

POCI (purchased or originated credit impaired): This category includes all financial instruments that were subject to an impairment trigger at initial recognition. The loss allowance is recorded in the amount of the lifetime expected credit loss.

The expected credit loss is generally determined by Aareal Bank using a model-based procedure where, depending on the stage, one- or multi-year parameters are used. The calculation of the expected loss in Stage 1 and of lifetime expected credit loss in Stage 2 is based on the one-year or lifetime probability of default (PD), respectively, the forecast loss given default (LGD), the expected exposure at default (EAD), a discount factor (DF) and the expected contractual term. Current and expected country-specific economic conditions such as the GDP, long-term interest rates and unemployment rate are included in the LGD by means of a scenario-weighted market value forecast. This probability-weighted scenario mix reflects the uncertainties as to how the Covid-19 pandemic will develop further and the potential effects of the war in Ukraine; it supplements our baseline scenario with the addition of divergent developments over an observation period of three years. In addition, the economic outlook is taken into consideration implicitly in the estimation of the future development of the borrowers' financial position and performance and the expected property cash flows and, hence, in the probability of default (PD). We moved a new LGD model for our commercial property finance portfolio (which complies with new EBA guidelines for rating procedures) into production as at 30 June 2022; this new model also serves as a basis for model-based Stage 1 and Stage 2 loss allowance. In addition, Aareal Bank has recognised a management overlay of approximately € 11 million for all property loans in Stage 1 and Stage 2, in order to account for macro-economic uncertainty affecting economic forecasts to an extraordinary extent, given the impact of the Ukraine war.

A period of not more than twelve months is assessed for Stage 1, while the expected contractual term of the financial instrument has to be taken into account for Stages 2 and 3 (and, in addition, the expected term for repayment of the financial instrument in Stage 3).

The expected loss in Stage 3 is usually determined on the basis of individually estimated cash flows (ECF procedure) in three probability-weighted scenarios. The amount of the loss allowance is determined as being the difference between the carrying amount of the asset and the present value of the expected future cash flows, discounted using the original effective interest rate applicable at initial recognition or after the most recent interest rate adjustment in the case of variable-rate financial instruments (taking into account cash flows from realisation of collateral provided). Collateral is largely provided in the form of land charges or mortgages; these are measured at

fair value of the respective scenario which is generally based on either the income capitalisation approach or the discounted cash flow method. Impairment triggers are strong indications for a decline of the borrower's credit quality, arrears, external expert opinions as well as further indications that not all interest and principal payments can be made as contractually agreed.

The loss allowance for debt instruments measured at amortised cost is reported in the item "Loss allowance (ac)", for debt instruments measured at fair value through other comprehensive income in the item "Reserve from the measurement of debt instruments (fvoci)" and for loan commitments and financial guarantees under provisions. Debt instruments reported under POCI are accounted for on a net basis, i.e. without any loss allowance. Changes in loss allowance are reflected by increasing or decreasing the carrying amount through other loss allowance.

If the receivables are not recoverable, the corresponding loss allowance is utilised and the receivable is derecognised. Direct write-offs are not made.

The loss allowance for receivables from other transactions is determined using a simplified procedure in the amount of the lifetime expected credit losses.

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 and can thus be applied interchangeably. Consequently, at the time of default, the risk exposure affected is allocated to stage 3 within the loss allowance process in accordance with Article 178 of the CRR and is considered to be defaulted, and hence non-performing, for both regulatory and accounting purposes.

According to the EBA guidelines on the application of the definition of default under Article 178 of the CRR (EBA/GL/2016/07), a default can be omitted, amongst other criteria, especially after a certain grace period (3 months or 12 months). This means that even if the economic reasons for a default do no longer apply (and the exposures are no longer allocated to stage 3), the financial instruments continue to be recorded as defaulted or non-performing for the grace period for supervisory purposes.

For financial instruments of the category "measured at fair value through profit or loss (fvpl)", the default of a borrower does not lead to the recognition of loss allowance in Stage 3, but to a creditinduced fair value adjustment.

In the absence of any other reasons for default, all liabilities of a borrower that are up to 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. Such a modification of the loan agreement is deemed to constitute a significant increase in credit risk since the recognition of the financial instrument. The financial instrument is allocated to stage 2 and loss allowance is recognised in the amount of the lifetime ECL.

Credit quality of exposures

In the following tables, the breakdown of exposures and the related loss allowances required by Article 442 lit. c) – g) of the CRR, as submitted to banking supervisors in the context of Financial Reporting (FINREP), are disclosed with different levels of detail. In this context, exposures resulting from counterparty credit risk exposures are not taken into account; these are disclosed separately in this report.

The information is based on the requirements set out in Annex XVI of Commission Implementing Regulation (EU) 2021/637 on the disclosure of non-performing and forborne exposures.

The NPL ratio determined in accordance with Article 8 (3) (4) of the Implementing Regulation mentioned above amounts to 3.8 % as at 31 December 2022.

Table EU CQ1 provides information on the gross carrying amount of forborne exposures (i.e. exposures with forbearance measures), and on the coverage of existing risks through loss allowance as well as collateral received. In this context, the measurement of collateral received differs from the current market value of such collateral, due 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 reflecting a cap on any collateral at the carrying amount.

EU CQ1: 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 exposures	Non-performing forborne exposures			On performing forborne exposures	On non-performing forborne exposures		of which: collateral received and financial guarantees received on non-performing exposures with forbearance measure
€ mn			of which: defaulted	of which: impaired				
005 Cash balances at central banks and other demand deposits	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
010 Loans and advances	**4,979**	**1,052**	**1,052**	**849**	**-32**	**-367**	**5,530**	**620**
020 Central banks	–	–	–	–	–	–	–	–
030 General governments	–	–	–	–	–	–	–	–
040 Credit institutions	–	–	–	–	–	–	–	–
050 Other financial corporations	144	–	–	–	-1	–	144	–
060 Non-financial corporations	4,835	1,051	1,051	848	-31	-366	5,387	620
070 Households	–	1	1	1	–	-1	–	–
080 Debt securities	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
090 Loan commitments given	**16**	**3**	**3**	**2**	**0**	**0**	**16**	**–**
100 Total	**4,995**	**1,054**	**1,054**	**851**	**-32**	**-367**	**5,546**	**620**

Table EU CQ2 shows the gross carrying amount of all loans and advances to borrowers which were forborne more than twice in the past due to financial difficulties (forbearance measures). On the reporting date, the Bank's portfolio contained no borrowers which fail to comply with exit criteria for being classified as non-performing after a forbearance measure (line 020).

EU CQ2: Quality of forbearance

€ mn	a Gross carrying amount of forborne exposures
010 Loans and advances which were forborne more than twice	1.443
020 Non-performing forborne loans and advances that failed to meet the non-performing exit criteria	–

Table EU CR1 does not take into account financial assets held for trading. In addition to the disclosures on non-performing exposures, this table also discloses loss allowances and provisions attributable to performing exposures.

Besides information on accumulated impairment for non-performing exposures, columns j to l also require disclosure of negative changes in fair value due to credit risk. The limitation to negative changes in a borrower's credit risk is due to such 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. However, the respective values are capped at the carrying amount of the respective exposure.

EU CR1: Performing and non-performing exposures and related provisions

	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						Accu-mulated 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			
005 Cash balances at central banks and other demand deposits	**7,238**	**7,238**	**–**	**–**	**–**	**–**	**-1**	**-1**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
010 Loans and advances	**30,574**	**23,945**	**6,629**	**1,217**	**123**	**1,012**	**-101**	**-45**	**-57**	**-418**	**-1**	**-386**	**-240**	**28,127**	**677**
020 Central banks	7	7	–	–	–	–	0	0	–	–	–	–	–	–	–
030 General governments	1,745	1,745	0	–	–	–	0	0	0	–	–	–	–	–	–
040 Credit institutions	50	50	–	–	–	–	0	0	–	–	–	–	–	–	–
050 Other financial corporations	1,032	797	234	0	–	0	-3	-2	-1	0	–	0	-1	1,002	0
060 Non-financial corporations	27,725	21,337	6,188	1,213	122	1,008	-96	-43	-53	-416	-1	-384	-238	26,956	675
070 of which: SMEs	20,590	14,925	5,666	1,170	122	968	-76	-27	-49	-394	-1	-363	-238	20,442	662
080 Households	215	8	206	4	1	3	-2	0	-2	-2	0	-2	–	169	2
090 Debt securities	**5,295**	**5,295**	**–**	**–**	**–**	**–**	**-1**	**-1**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
100 Central banks	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
110 General governments	3,247	3,247	–	–	–	–	0	0	–	–	–	–	–	–	–
120 Credit institutions	1,710	1,710	–	–	–	–	-1	-1	–	–	–	–	–	–	–
130 Other financial corporations	338	338	–	–	–	–	0	0	–	–	–	–	–	–	–
140 Non-financial corporations	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
150 Off-balance sheet exposures	**1,279**	**1,188**	**91**	**3**	**1**	**2**	**4**	**3**	**1**	**0**	**0**	**–**		**862**	**–**
160 Central banks	–	–	–	–	–	–	–	–	–	–	–	–		–	–
170 General governments	0	0	0	–	–	–	0	–	0	–	–	–		–	–
180 Credit institutions	–	–	–	–	–	–	–	–	–	–	–	–		–	–
190 Other financial corporations	23	16	7	–	–	–	0	0	0	–	–	–		21	–
200 Non-financial corporations	1,256	1,172	84	3	1	2	4	3	1	0	0	–		841	–
210 Households	0	0	0	–	–	–	0	–	0	–	–	–		–	–
220 Total	**44,386**	**37,666**	**6,720**	**1,220**	**124**	**1,014**	**-99**	**-44**	**-56**	**-418**	**-1**	**-386**	**-240**	**28,990**	**677**

Table EU CR1-A provides an overview of the net carrying amounts of loans and advances previously disclosed in table EU CR1 as well as debt securities, broken down by remaining term to maturity. The remaining term to maturity is determined on the basis of the contractually agreed term of the exposure. Column a comprises exposures due on demand.

EU CR1-A: Maturity of exposures

		a	b	c	d	e	f
		Net carrying amount					
		On demand	≤ 1 year	> 1 year ≤ 5 years	> 5 years	No stated maturity	Total
€ mn							
1	Loans and advances	461	4,752	21,611	4,435	13	**31,272**
2	Debt securities	–	413	2,192	2,689	–	**5,294**
3	**Total**	**461**	**5,165**	**23,803**	**7,124**	**13**	**36,566**

Past-due exposures shown in table EU CQ3 (whether impaired or not) are broken down across specified past-due maturity bands. For a definition of “past due”, please refer to the statements in the chapter “Loss allowance” (page 44).

EU CQ3: Credit quality of performing and non-performing exposures by past due days

		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													
005	**Cash balances at central banks and other demand deposits**	**7,238**	**7,238**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
010	**Loans and advances**	**30,574**	**30,574**	**0**	**1,217**	**739**	**222**	**31**	**113**	**41**	**0**	**72**	**1,217**
020	Central banks	7	7	–	–	–	–	–	–	–	–	–	–
030	General governments	1,745	1,745	–	–	–	–	–	–	–	–	–	–
040	Credit institutions	50	50	–	–	–	–	–	–	–	–	–	–
050	Other financial corporations	1,032	1,032	–	0	–	–	–	–	–	0	0	0
060	Non-financial corporations	27,525	27,525	0	1,213	739	221	30	112	40	–	71	1,213
070	of which: SMEs	20,590	20,590	0	1,170	737	221	30	112	40	–	30	1,170
080	Households	215	214	0	4	1	0	1	1	1	–	0	4
090	**Debt securities**	**5,295**	**5,295**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**–**
100	Central banks	–	–	–	–	–	–	–	–	–	–	–	–
110	General governments	3,247	3,247	–	–	–	–	–	–	–	–	–	–
120	Credit institutions	1,710	1,710	–	–	–	–	–	–	–	–	–	–
130	Other financial corporations	338	338	–	–	–	–	–	–	–	–	–	–
140	Non-financial corporations	–	–	–	–	–	–	–	–	–	–	–	–

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€ mn	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
150 Off-balance sheet exposures	**1,279**			**3**								**3**
160 Central banks	–			–								–
170 General governments	0			–								–
180 Credit institutions	–			–								–
190 Other financial corporations	23			–								–
200 Non-financial corporations	1,256			3								3
210 Households	0			–								–
220 Total	**44,386**	**43,107**	**0**	**1,220**	**739**	**222**	**31**	**113**	**41**	**0**	**72**	**1,220**

In line with tables EU CR1 and EU CQ3, table EU CQ4 also does not take into account financial assets held for trading. In addition to the disclosures on non-performing exposures, this table also discloses loss allowances and provisions attributable to performing exposures. The information is broken down by relevant countries. In this context, a country with an exposure of at least € 300 million is considered relevant. The allocation is based on the borrower's country of domicile.

EU CQ4: Credit quality of non-performing exposures by geography

€ mn	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				
010 On-balance sheet exposures	**44,324**	**1,217**	**1,217**	**44,242**	**-491**		**-30**
020 Germany	13,852	3	3	13,852	-16		–
030 France	3,641	10	10	3,641	-13		–
040 Netherlands	1,527	–	–	1,527	-3		–
050 Austria	688	–	–	688	-1		–
060 UK	4,785	149	149	4,785	-91		–
070 Finland	678	96	96	678	-8		–
080 Sweden	955	–	–	955	-1		–
090 Italy	1,657	222	222	1,636	-76		-3
100 Spain	1,672	206	206	1,672	-75		–
110 Poland	1,282	60	60	1,222	-2		-27
120 Canada	1,453	29	29	1,453	-6		–
130 USA	7,858	228	228	7,858	-54		–
140 Australia	990	–	–	990	-3		–
150 Switzerland	328	–	–	328	0		–
160 Maldives	472	–	–	472	-4		–
170 Other countries	2,488	215	215	2,487	-139		–

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€ mn		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				
180	**Off-balance sheet exposures**	**1,282**	**3**	**3**			**4**	
190	Germany	492	–	–			0	
200	France	218	–	–			1	
210	Netherlands	9	–	–			0	
220	Austria	25	–	–			0	
230	UK	184	2	2			1	
240	Finland	24	–	–			0	
250	Sweden	37	–	–			0	
260	Italy	7	–	–			0	
270	Spain	18	–	–			0	
280	Poland	18	–	–			0	
290	Canada	15	–	–			0	
300	USA	172	1	1			1	
310	Australia	21	–	–			0	
320	Other countries	43	–	–			0	
330	**Total**	**45,606**	**1,220**	**1,220**	**44,242**	**-491**	**4**	**-30**

In accordance with Annex XVI of Commission Implementing Regulation, table EU CQ5 only shows exposures to non-financial institutions.

The presentation based on industries corresponds to the differentiation by NACE codes in the context of Financial Reporting (FINREP).

As the Group's business is focused on commercial property financing, the real estate activities sector is by far the most relevant industry.

EU CQ5: Credit quality of loans and advances to non-financial corporations by industry

€ mn		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			
010	Agriculture, forestry and fishing	–	–	–	–	–	–
020	Mining and quarrying	–	–	–	–	–	–
030	Manufacturing	–	–	–	–	–	–
040	Electricity, gas, steam and air conditioning supply	0	–	–	0	0	–
050	Water supply	2	–	–	2	0	–
060	Construction	75	74	74	57	-11	-3
070	Trading	75	–	–	75	0	–
080	Transport and storage	1	–	–	1	0	–
090	Accommodation and food service activities	1,729	2	2	1,727	-7	–
100	Information and communication	–	–	–	–	–	–
110	Financial and insurance activities	–	–	–	–	–	–
120	Real estate activities	26,397	1,074	1,074	26,333	-425	-28

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€ mn	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			
130 Professional, scientific and technical activities	376	–	–	376	-4	–
140 Administrative and support service activities	2	–	–	2	0	–
150 Public administration and defence; compulsory social security	–	–	–	–	–	–
160 Education	–	–	–	–	–	–
170 Health and social services	–	–	–	–	–	–
180 Arts, entertainment and recreation	–	–	–	–	–	–
190 Other services	82	63	63	82	-35	–
200 Total	**28,738**	**1,213**	**1,213**	**28,655**	**-482**	**-30**

As an international property lender, we focus on property in the context of collateralisation. This is also reflected in table EU CQ6, which provides an overview of the quality of collateral received. As the table shows, exposures are almost completely collateralised by property. Our performing property financing portfolio has an average loan-to-value (LtV) ratio of 55 %. Please refer to our Annual Report for a breakdown of average LtV ratios by region and by property type.[1)]

EU CQ6: Collateral valuation – loans and advances

€ mn	a	b	c	d	e	f	g	h	i	j	k	l
	Loans and advances											
		Performing		Non-performing								
					Unlikely to pay that are not past due or are past due ≤ 90 days	Past due > 90 days						
			of which: Past due > 30 days ≤ 90 days				of which: Past due > 90 days ≤ 180 days	of which: Past due > 180 days ≤ 1 year	of which: Past due > 1 year ≤ 2 years	of which: Past due > 2 years ≤ 5 years	of which: Past due > 5 years ≤ 7 years	of which: Past due > 7 years
010 Gross carrying amount	31,791	30,574	0	1,217	739	478	222	31	113	41	0	72
020 of which: secured	29,505	28,333	0	1,172	704	467	222	31	112	41	–	62
030 of which: secured with immovable property	29,348	28,176	0	1,172	704	467	222	31	112	41	–	62
040 of which: instruments with LTV higher than 60 % and lower or equal to 80 %	7,446	7,318		127	127	–						
050 of which: instruments with LTV higher than 80 % and lower or equal to 100 %	631	498		134	52	81						
060 of which: instruments with LTV higher than 100 %	865	–		865	524	341						
070 Accumulated impairment for secured assets	-506	-95	0	-412	-191	-221	-137	-7	-43	-3	–	-30
080 Collateral												
090 of which: value capped at the value of exposure	28,787	28,109	0	677	455	223	83	23	56	37	–	24

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1) "Aareal Bank Group 2022 Annual Report": chapter "Financial position – assets and liabilities", pages 43 et seqq., in the Report on the Economic Position of the Group Management Report

€ mn	a	b	c	d	e	f	g	h	i	j	k	l
	Loans and advances											
		Performing		Non-performing								
						Past due > 90 days						
			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 year ≤ 2 years	of which: Past due > 2 years ≤ 5 years	of which: Past due > 5 years ≤ 7 years	of which: Past due > 7 years
100 of which: immovable property	28,600	27,943	0	657	435	223	83	23	56	37	–	24
110 of which: value above the cap	745	610	0	135	24	111	–	–	–	–	–	–
120 of which: immovable property	736	601	0	135	24	111	–	–	–	–	–	–
130 Financial guarantees received	18	18	–	–	–	–	–	–	–	–	–	–
140 Accumulated partial writeoffs	-240	-4	–	-235	-21	-214	-99	–	-41	-65	-1	-7

In accordance with EBA requirements set out in Annex XVI of the Implementing Regulation, in table EU CQ7, 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 EU CQ8, with the same level of granularity, we do not assign any additional informational value to the disclosures in table EU CQ7.

Given that Aareal Bank generally pursues the strategy of preventing any further losses from a loan exposure, some of the properties disclosed in table EU CQ8 are investments, some of which are subject to re-positioning and further development, and which may thus be held over several years. Hence, fair value (as well as the carrying amount) can be increased by valueenhancing measures. The table below does not provide any such information. Accumulated impairment and accumulated negative changes in fair value, as shown in line 010, fully refer to recognised write-downs on the property. Properties shown in line 040 are assigned to current assets. therefore, no separate values are disclosed in columns k and l.

EU CQ8: Collateral obtained by taking possession and execution processes – vintage breakdown (initial recognition)

€ mn	a	b	c	d	e	f	g	h	i	j	k	l
	Debt balance reduction		Total collateral obtained by taking possession									
					Foreclosed ≤ 2 years		Foreclosed > 2 years ≤ 5 years		Foreclosed > 5 years		of which: Non-current assets held for sale	
	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
010 Collateral obtained by taking possession classified as PP&E	59	–	89	–								
020 Collateral obtained by taking possession other than that classified as PP&E	373	-89	305	–	25	–	112	–	168	–	–	–
030 Residential immovable property	12	-4	8	–	–	–	8	–	0	–	–	–
040 Commercial immovable property	361	-85	297	–	25	–	104	–	168	–	–	–
050 Movable property (auto, shipping, etc.)	–	–	–	–	–	–	–	–	–	–	–	–
060 Equity and debt instruments	–	–	–	–	–	–	–	–	–	–	–	–
070 Other collateral	–	–	–	–	–	–	–	–	–	–	–	–
080 Total	**431**	**-89**	**394**	**–**	**25**	**–**	**112**	**–**	**168**	**–**	**–**	**–**

Table EU CR2a outlines the changes within the portfolio of non-performing exposures during the reporting year 2022. Besides new defaulted loans and advances (shown in line 020), the amounts of exposures removed from the non-performing portfolio (as shown in line 030) are broken down further: in addition to recoveries (line 040), the outflows from the non-performing portfolio are due to partial or full repayments (line 050), proceeds from the liquidation of collateral (either as a result of enforcement against the client, or on the basis of a voluntary bilateral agreement with the borrower), as well as proceeds from individual sales of loans and advances (line 080). Any losses realised due to the factors shown in lines 060 to 090 are not disclosed again in line 100.

Since the information to be disclosed in table EU CR2 is also fully depicted in table EU CR2a, we do not assign any additional informational value to the disclosures in table EU CR2.

EU CR2a: Changes in the stock of non-performing loans and advances and related net accumulated recoveries

€ mn		a Gross carrying amount	b Related net accumulated recoveries
010	**Initial stock of non-performing loans and advances as at 1 January 2022**	**1,680**	
020	Inflows to non-performing portfolios	265	
030	Outflows from non-performing portfolios	-728	
040	Outflow to performing portfolio	-21	
050	Outflow due to loan repayment, partial or total	-129	
060	Outflow due to collateral liquidations	-246	346
070	Outflow due to taking possession of collateral	–	–
080	Outflow due to sale of instruments	-72	68
090	Outflow due to risk transfers	–	–
100	Outflows due to write-offs	-180	
110	Outflow due to other situations	-80	
120	Outflow due to reclassification as held for sale	0	
130	**Final stock of non-performing loans and advances as at 31 December 2022**	**1,217**	

Line 020 includes an addition to loss allowance of € 134 million for the Bank's exposure to Russia which is being run down, This brings coverage of the outstanding exposure (around € 213 million) to more than 60 %. The exposure could not be serviced due to the sanctions imposed in Russia (transfer risk), even though the borrower is willing and able to pay. The potential additional impact of the war in Ukraine and the economic consequences of the mutual sanctions imposed are very difficult to estimate at this point in time.

General information on credit risk mitigations

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. 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 of the property are set in accordance with the respective lending authority, and form an integral part of the lending decision.

Valuation reports are used for propertyrelated collateral. The provisions of Article 208 (3) of the CRR are complied with during the valuation. The property's market or fair values are subjected to a defined internal 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 clients 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 taken into account as credit risk mitigation, also applying 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.

Included collateral

Collateral in the amount of € 28,804 million was applied within the scope of credit risk mitigation. This figure comprises no financial collateral included for derivatives transactions.

The following table shows all collateral eligible to collaterise loans and advances as well as debt securities. The respective values are capped at the carrying amount of the respective exposure. The real property liens relevant for Aareal Bank as an international property specialist are disclosed in column c along with the financial collateral, whereas warranties (financial guarantees) are disclosed under column d. Aareal Bank currently does not hold any credit derivatives which may be used for collateralisation purposes. Therefore, table EU CR7 (IRB approach – Effect on the Risk Weighted Exposure amounts of credit derivatives used as CRM techniques) is not disclosed.

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

EU CR3: Overview of credit risk mitigation techniques

€ mn		a Exposures unsecured	b Exposures secured	c of which: Exposures secured by collateral	d of which: Exposures secured by financial guarantees	e of which: Exposures secured by credit derivatives
1	Loans and advances	9,705	28,804	28,787	18	–
2	Debt securities	5,294	–	–	–	
3	**Total**	**14,999**	**28,804**	**28,787**	**18**	**–**
4	of which: non-performing exposures	122	677	677	–	–
EU-5	of which: defaulted	122	677			

As defaulted exposures are considered non-performing, the net carrying amount reported in line EU-5 is equivalent to the amount shown in line 4. This is further described in the chapter "Loss allowance" in this Disclosure Report (page 44).

The disclosure table EU CR7-A is limited to the presentation of the collateral considered for the commercial property lending portfolio subject to the Advanced IRBA. These are shown for each IRBA collateral as a percentage of the respective IRBA exposure.

Aareal Bank considers the relevant types of collateral within the scope of its LGD estimation in accordance with Article 181 (1) lit. e) and f) of the CRR.

Column m generally remains blank, as we do not make any substitution within the scope of the collateralisation of our exposures treated in AIRBA by guarantees. If the guarantor's rating is better than the borrower's rating, the guarantor's rating reduces the LGD.

EU CR7-A: IRB approach – Disclosure of the extent of the use of CRM techniques

IRBA exposure class	a	b	c	d	e	f	g
		Credit risk mitigation techniques					
		Funded Credit Protection (FCP)					
	Total exposures	Part of exposures covered by Financial collateral	Part of exposures covered by Other eligible collateral	Part of exposures covered by Immovable property collateral	Part of exposures covered by Receivables	Part of exposures covered by Other physical collateral	Part of exposures covered by Other funded credit protection
	€ mn	%	%	%	%	%	%
3 Corporates	30,763	0.09	99.61	99.06	–	0.55	0.18
3.1 of which: Corporates – SMEs	1,530	1.54	96.08	92.66	–	3.42	–
3.2 of which: Corporates – Specialised lending	26,502	0.02	100.72	100.27	–	0.45	–
3.3 of which: Corporates – Other	2,730	–	90.84	90.84	–	–	2.03
5 Total	**30,763**	**0.09**	**99.61**	**99.06**	**–**	**0.55**	**0.18**

IRBA exposure class	h	i	j	k	l	m	n
	Credit risk mitigation techniques					Credit risk mitigation methods in the calculation of RWAs	
	Funded Credit Protection (FCP)			Unfunded Credit Protection (UFCP)			
	Part of exposures covered by Cash on deposit	Part of exposures covered by Life insurance policies	Part of exposures covered by Instruments held by a third party	Part of exposures covered by Guarantees	Part of exposures covered by Credit derivatives	RWA without substitution effects (reduction effects only)	RWA with substitution effects (both reduction and substitution effects)
	%	%	%	%	%	€ mn	€ mn
3 Corporates	–	0.18	–	0.05	–	–	7,460
3.1 of which: Corporates – SMEs	–	–	–	0.83	–	–	360
3.2 of which: Corporates – Specialised lending	–	–	–	0.01	–	–	6,082
3.3 of which: Corporates – Other	–	2.03	–	0.00	–	–	1,018
5 Total	**–**	**0.18**	**–**	**0.05**	**–**	**–**	**7,460**

Risk concentrations

According to our statements in the previous chapter, real property liens represent the major portion of our eligible collateral. However, risk concentrations are minimised through diversification by countries and types of property.

The qualitative and quantitative processes to assess and control risk concentrations are described in the chapter "Management of credit risks" (pages 41 et seqq.).

Netting framework agreements

The netting framework agreements used at Aareal Bank are presented in the chapter "Credit risk mitigation for trading activities" in this Disclosure Report (pages 86 et seqq.).

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 the large-sized commercial property lending business 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.

Internal rating systems

As regards the Advanced IRB Approach (AIRBA) used to determine the regulatory capital requirements for exposures, the Bank is required 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). One risk model per risk parameter has been approved for Aareal Bank's exposure class "Corporates". Additional approved models do not exist.

The internal rating procedure for borrowers is approved by the supervisory authorities and determines a borrower's probability of default (PD). In addition, the Bank uses an approved procedure to determine the loss given default (LGD) for the "Corporates" exposure class.

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 class "Corporates" is made fully automatically on the basis of the characteristics of the transaction and the client.

The internal rating procedure to determine a client'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 borrower's current and future default probability 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.

When determining internal credit ratings and default rates, Aareal Bank does not use assessments by external rating agencies, in accordance with Article 180 (1) lit. f) of the CRR. Hence, there is no relation between internal and external credit assessments.

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 AIRB approach. The LGD estimates the extent of the economic loss in the event of a borrower defaulting. In simple terms, this is the amount of the claim not covered by the proceeds from the realisation of collateral.

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 – resolution, recovery/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 the market value under downturn conditions. For financings of domestic properties, recovery rates are taken from an inter-bank pool of data, 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.

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 eystimates

The internally-estimated risk parameters are central factors for the Bank's lending process, the recognition of loss allowance, and its risk management. The credit risk strategy incorporates the rating; it is based – with regard to its specific requirements – on the rating and the parameters underlying the LGD, among other things. 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, intensive-handling, restructuring, or recovery exposure.

The Bank primarily uses a credit risk model to monitor concentration and diversification effects on a 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.

PD and LGD procedures are applied for accounting purposes in the context of determining model-based loss allowance. Concerning the scenario analyses to be taken into account when determining individual LGDs, we applied an updated scenario mix, going beyond the customary process. This probability-weighted scenario mix reflects the uncertainty of the future development of the Russia-Ukraine conflict and high inflation, and supplements our baseline scenario through the addition of divergent developments over an observation period of three years.

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 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.

Manual adjustments may be made within the scope of overruling, and are documented subsequently in the rating system.

The internal rating procedure to determine a borrower-specific probability of default for large-sized property financing is validated, both on the basis of the underlying data pool and through internal validation of Aareal Bank's portfolio, 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 CCF are also validated on an annual basis. As these procedures represent Bank-internal developments, validation is made mostly 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 Credit Management.

Irrespective of the treatment of the bank portfolio under the CRSA, applicable internal rating procedures to determine PD and LGD continue to be carried out internally, once a year.

Risk Controlling is responsible for developing rating models, whilst Non-Financial Risks (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 (treated under the AIRBA) shall be disclosed in the EU CR6 table, which considers clearly-defined PD classes. Expected loss (EL) is also reported per PD class, thus also ensuring a statement concerning the collateral quality.

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

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

IRBA exposure class	a	b	c	d	e	f	g
	PD range	On-balance sheet exposures	Off-balance sheet exposures pre-CCF	Average CCF	Exposure post CRM and post CCF	Average PD	Number of obligors
	%	€ mn	€ mn	%	€ mn	%	
Corporates – SMEs	0.00 to < 0.15	42	–	–	42	0.10	3
	0.00 to < 0.10	–	–	–	–	–	1
	0.10 to < 0.15	42	–	–	42	0.10	2
	0.15 to < 0.25	137	15	100.00	152	0.22	27
	0.25 to < 0.50	121	14	100.00	135	0.42	26
	0.50 to < 0.75	282	12	100.00	293	0.70	24
	0.75 to < 2.50	482	9	100.00	491	1.30	29
	0.75 to < 1.75	482	9	100.00	491	1.30	29
	1.75 to < 2.50	–	–	–	–	–	–
	2.50 to < 10.00	218	0	100.00	218	6.20	9
	2.50 to < 5.00	74	0	100.00	74	2.62	6
	5.00 to < 10.00	145	–	–	145	8.02	3
	10.00 to < 100.00	1	–	–	1	30.00	1
	10.00 to < 20.00	–	–	–	–	–	–
	20.00 to < 30.00	–	–	–	–	–	–
	30.00 to < 100.00	1	–	–	1	30.00	1
	100.00 (Default)	12	–	–	12	100.00	8
	Subtotal	**1,294**	**51**	**100.00**	**1,344**	**2.58**	**127**
Corporates – specialised lending	0.00 to < 0.15	233	–	–	233	0.09	8
	0.00 to < 0.10	44	–	–	44	0.06	2
	0.10 to < 0.15	189	–	–	189	0.10	6
	0.15 to < 0.25	947	10	100.00	956	0.22	22
	0.25 to < 0.50	4,234	59	100.00	4,293	0.42	162
	0.50 to < 0.75	4,990	96	100.00	5,087	0.70	125
	0.75 to < 2.50	8,989	298	100.00	9,287	1.36	147
	0.75 to < 1.75	8,989	298	100.00	9,287	1.36	147
	1.75 to < 2.50		–	–	–	–	–
	2.50 to < 10.00	6,704	226	100.00	6,930	3.17	113
	2.50 to < 5.00	6,454	218	100.00	6,671	2.99	107
	5.00 to < 10.00	251	8	100.00	259	8.02	6
	10.00 to < 100.00		–	–	–	–	1
	10.00 to < 20.00	–	–	–	–	–	–
	20.00 to < 30.00	–	–	–	–	–	–
	30.00 to < 100.00	–	–	–	–	–	1
	100.00 (Default)	1,601	2	–	1,601	100.00	38
	Subtotal	**27,698**	**691**	**100.00**	**28,387**	**7.06**	**616**

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IRBA exposure class	a	b	c	d	e	f	g
	PD range	On-balance sheet exposures	Off-balance sheet exposures pre-CCF	Average CCF	Exposure post CRM and post CCF	Average PD	Number of obligors
	%	€ mn	€ mn	%	€ mn	%	
Corporates – Others	0.00 to < 0.15	–	–	–	–	–	–
	0.00 to < 0.10	–	–	–	–	–	–
	0.10 to < 0.15	–	–	–	–	–	–
	0.15 to < 0.25	223	21	100.00	243	0.23	7
	0.25 to < 0.50	206	120	100.00	326	0.39	19
	0.50 to < 0.75	377	141	100.00	518	0.70	42
	0.75 to < 2.50	772	35	100.00	807	1.17	39
	0.75 to < 1.75	772	35	100.00	807	1.17	39
	1.75 to < 2.50	–	–	–	–	–	–
	2.50 to < 10.00	117	40	100.00	157	2.65	9
	2.50 to < 5.00	116	40	100.00	157	2.62	8
	5.00 to < 10.00	1	–	–	1	8.02	1
	10.00 to < 100.00	1	–	–	1	30.00	1
	10.00 to < 20.00	–	–	–	–	–	–
	20.00 to < 30.00	–	–	–	–	–	–
	30.00 to < 100.00	1	–	–	1	30.00	1
	100.00 (Default)	–	–	–	–	–	–
	Subtotal	**1,694**	**357**	**100.00**	**2,052**	**0.94**	**117**
	Total	**30,686**	**1,099**	**100.00**	**31,782**	**6.47**	**860**

IRBA exposure class	a	h	i	j	k	l	m
	PD range	Average LGD	Average maturity	Risk-weighted assets (RWAs)	RWA density	Expected loss amount (EL)	Value adjustments and provisions
	%	%		€ mn	%	€ mn	€ mn
Corporates – SMEs	0.00 to < 0.15	23.91	3	5	0.12	0	0
	0.00 to < 0.10	–	–	–	–	–	–
	0.10 to < 0.15	23.91	3	5	0.12	0	0
	0.15 to < 0.25	12.95	3	15	0.10	0	0
	0.25 to < 0.50	27.62	3	45	0.33	0	0
	0.50 to < 0.75	11.19	3	48	0.16	0	0
	0.75 to < 2.50	7.23	3	60	0.12	0	-1
	0.75 to < 1.75	7.23	3	60	0.12	0	-1
	1.75 to < 2.50	–	–	–	–	–	–
	2.50 to < 10.00	30.18	2	169	0.77	5	-6
	2.50 to < 5.00	7.35	3	11	0.15	0	0
	5.00 to < 10.00	41.80	2	158	1.09	5	-6
	10.00 to < 100.00	28.38	3	1	1.08	0	0
	10.00 to < 20.00	–	–	–	–	–	–
	20.00 to < 30.00	–	–	–	–	–	–
	30.00 to < 100.00	28.38	3	1	1.08	0	0
	100.00 (Default)	77.67	3	2	0.20	9	-4
	Subtotal	**15.65**	**3**	**345**	**0.26**	**15**	**-12**

IRBA exposure class	a	h	i	j	k	l	m
	PD range	Average LGD	Average maturity	Risk-weighted assets (RWAs)	RWA density	Expected loss amount (EL)	Value adjustments and provisions
	%	%		Mio. €	%	Mio. €	Mio. €
Corporates – specialised lending	0.00 to < 0.15	4.13	3	4	0.02	0	0
	0.00 to < 0.10	4.11	3	1	0.01	0	0
	0.10 to < 0.15	4.14	3	4	0.02	0	0
	0.15 to < 0.25	5.20	3	42	0.04	0	0
	0.25 to < 0.50	6.89	3	407	0.09	1	-2
	0.50 to < 0.75	4.44	3	388	0.08	2	-4
	0.75 to < 2.50	6.78	3	1,270	0.14	9	-22
	0.75 to < 1.75	6.78	3	1,270	0.14	9	-22
	1.75 to < 2.50	–	–	–	–	–	–
	2.50 to < 10.00	11.30	3	1,715	0.25	26	-65
	2.50 to < 5.00	11.27	2	1,619	0.24	23	-60
	5.00 to < 10.00	12.12	3	96	0.37	3	-5
	10.00 to < 100.00	–	–	–	–	–	–
	10.00 to < 20.00	–	–	–	–	–	–
	20.00 to < 30.00	–	–	–	–	–	–
	30.00 to < 100.00	–	–	–	–	–	–
	100.00 (Default)	21.64	2	1,102	0.69	258	-451
	Subtotal	**8.24**	**3**	**4,928**	**0.17**	**296**	**-545**
Corporates – Others	0.00 to < 0.15	–	–	–	–	–	–
	0.00 to < 0.10	–	–	–	–	–	–
	0.10 to < 0.15	–	–	–	–	–	–
	0.15 to < 0.25	17.97	4	66	0.27	0	0
	0.25 to < 0.50	29.86	4	185	0.57	0	0
	0.50 to < 0.75	17.25	4	192	0.37	1	0
	0.75 to < 2.50	6.35	4	142	0.18	1	-1
	0.75 to < 1.75	6.35	4	142	0.18	1	-1
	1.75 to < 2.50	–	–	–	–	–	–
	2.50 to < 10.00	15.36	4	74	0.47	1	-1
	2.50 to < 5.00	15.32	4	73	0.47	1	-1
	5.00 to < 10.00	23.33	3	1	0.98	0	0
	10.00 to < 100.00	33.94	3	1	1.99	0	0
	10.00 to < 20.00	–	–	–	–	–	–
	20.00 to < 30.00	–	–	–	–	–	–
	30.00 to < 100.00	33.94	3	1	1.99	0	0
	100.00 (Default)	–	–	–	–	–	–
	Subtotal	**14.91**	**4**	**660**	**0.32**	**2**	**-2**
	Total	**8.99**	**3**	**5,933**	**0.19**	**313**	**-560**

The following table EU CR8 provides an overview of the RWA changes and the associated causes to be analysed since 30 September 2022.

The starting and end balances represent the sums of figures disclosed in lines 4a and 5 of table EU OV1 for the respective reporting date. IRBA exposures subject to counterparty credit risk were not taken into account for this purpose.

EU CR8: RWA-Flussrechnung der Kreditrisiken gemäß IRB-Ansatz

€ mn		a RWAs
1	**RWAs as at 30 September 2022**	**10,308**
2	Asset size	-147
3	Asset quality	-1,373
4	Model updates	341
5	Methodology and policy	–
6	Acquisitions and disposals	5
7	Foreign exchange movements	-275
8	Other	–
9	**RWAs as at 31 December 2022**	**8,859**

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. Moreover, this line also includes the RWA change due to the continued reduction of non-performing loans.

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

The RWA effect disclosed in line 4 results from the implementation of a new model for the market value forecast.

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 as at the reporting date.

Line 6 discloses the RWA effect from the acquisition of companies that are outside the regulatory scope of consolidation and thus included as RWAs in the report pursuant to sections 10 and 10a of the German Banking Act (KWG).

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

As at the reporting date under review, the RWAs were determined in accordance with applicable law as at year-end (CRR II) and applying the partial regulation for the "output floor" in connection with commercial property lending and equity exposures, based on the European Commission's proposal dated 27 October 2021 (CRR III) for the implementation of Basel IV. The resulting RWA effect was reported to the supervisory authorities as part of the solvency reporting in the item "Additional risk-weighted assets pursuant to Article 3 of the CRR". As a result of this procedure, the total RWAs based on the standardised approach under Basel IV were determined taking into consideration the output floor, while the effect from table EU CR8 was largely offset.

Coverage ratio

The coverage ratio represents the portion of all on-balance sheet and off-balance sheet exposures in the portfolio of a credit institution for which the regulatory own funds requirement is determined using the IRB approach.

In the following table, the exposures addressed under the CRSA and the IRBA are allocated to the IRBA exposure classes set out in Article 147 of the CRR, with counterparty credit risks not being taken into account. While the exposure value of IRBA exposures has to be disclosed in column a without taking into account specific credit risk adjustments, column b shows the exposure values of all CRSA and IRBA exposures taking into account specific credit risk adjustments.

EU CR6-A: Scope of the use of IRB and CRS approaches

		a	b	c	d	e
		Exposure value as defined in Article 166 of the CRR for exposures subject to IRB approach	Total exposure value for exposures subject to the CRSA and to the IRBA	Percentage of total exposure value subject to the permanent partial use of the CRSA from column b	Percentage of total exposure value subject to IRBA from column b	Percentage of total exposure value subject to a roll-out plan from column b
		€ mn	€ mn	%	%	%
1	Central governments or central banks	–	11,483	100.00	–	–
1.1	of which: Regional governments or local authorities		2,965	100.00	–	–
1.2	of which: Public-sector entities		1,019	100.00	–	–
2	Institutions	–	1,395	100.00	–	–
3	Corporates	30,763	30,149	1.96	98.04	–
3.1	of which: Specialised lending, excluding slotting approach		25,661	–	100.00	–
3.2	of which: Specialised lending under slotting approach		25,661	–	100.00	–
4	Retail	–	202	100.00	–	–
4.1	of which: Secured by real estate (SMEs)		–	–	–	–
4.2	of which: Secured by real estate (non-SMEs)		191	100.00	–	–
4.3	of which: Qualifying revolving		–	–	–	–
4.4	of which: Other SMEs		–	–	–	–
4.5	of which: Other non-SMEs		12	100.00	–	–
5	Equity exposures	–	207	–	100.00	–
6	Other non-credit obligation assets	–	635	–	100.00	–
7	**Total**	**30,763**	**44,070**	**31.02**	**68.98**	**–**

The advanced IRB approach, therefore, covers 68.98 % of the total exposure value as at 31 December 2022.[1] Apart from the commercial property financings, the equity exposures and the other non-credit obligation assets, Aareal Bank Group does not hold any further exposures in its portfolio for which a sequential implementation of the IRB approach in accordance with Article 148 of the CRR is planned at the moment.

[1] The IRB ratios, determined in accordance with the requirements set out in paragraph 26 of the ECB's guide to internal models (in its version dated October 2019), amount to 90 % in terms of the exposure amount and 84 % in terms of the RWAs.

The variation in the exposure values to be disclosed in columns a and b mainly results from the variation in the handling of the specific credit risk adjustments (see above) as well as from valuation differences between the carrying amounts under IFRSs and EaD for on-balance sheet exposures disclosed in column a. This is attributable to adjustments due to the methodology for determining EaD for credit risk exposures under the AIRBA.

Backtesting of default probabilities

The following section compares the PDs used for the commercial property lending portfolio subject to the Advanced IRBA with the effective default rates of borrowers. The average historical annual default rate for the past five years is used for comparison.

In accordance with Implementing Regulation (EU) 2021/637, counterparty credit risk exposures are outside the observed IRBA exposure classes.

In accordance with the information disclosed in table EU CR6, the RWA of the commercial property financing portfolio, which was subjected to back-testing of the probability of default (PD), amounted to € 5,933 million as at the reporting date, most of which (83.1 %) is attributable to the IRBA exposure class "Corporates – specialised lending".

The PD ranges do not correspond to Aareal Bank's internal master scale – comprised of 16 PD classes (15 rating classes for borrowers not subject to default, one default class). Instead, the granularity corresponds to the breakdown in table EU CR6.

When determining internal credit ratings and default rates, Aareal Bank does not use assessments by external rating agencies.

The observed average default rate to be disclosed in column e of table EU CR9 is consistent with the one-year default rate pursuant to Article 4 (1) no. 78 of the CRR, which represents the percentage share of obligors defaulted in 2022 out of the total number of all obligors assigned to a PD range as at 31 December 2022. Calculation of the observed average default rate is based on non-overlapping one-year windows.

While column f shows an EaD-weighted average, the average PD disclosed in column g is weighted for the number of obligors. Where a PD range includes only one credit rating of our internal master scale, the figures disclosed in the columns mentioned above are consistent.

In 2022, a total of four borrowers 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 reporting period. There are restrictions to the interpretation of comparing average PD to historical average annual default rates as shown in the table; this is due to the small number of defaults in few rating classes.

As at 31 December 2022, Aareal Bank's portfolio contained 132 borrowers with short-term contracts (mostly in the IRBA exposure class "Corporates – specialised lending"). Short-term contracts are contracts with a remaining term of less than twelve months.

EU CR9: Back-testing of PD per Corporate exposure class – SMEs

a	b	c	d	e	f	g	h
		Number of obligors at the end of previous year					
Exposure class	PD range		of which: number of obligors which defaulted in the year	Observed average PD	Exposures weighted average PD	Average PD	Average historical annual default rate
	%			%	%	%	%
Corporates – SMEs	0.00 to < 0.15	4	–	–	0.11	0.09	–
	0.00 to < 0.10	1	–	–	–	0.05	–
	0.10 to < 0.15	3	–	–	0.11	0.10	–
	0.15 to < 0.25	26	–	–	0.19	0.22	–
	0.25 to < 0.50	40	–	–	0.34	0.42	–
	0.50 to < 0.75	18	–	–	0.55	0.70	0.27
	0.75 to < 2.50	30	–	–	1.08	1.26	1.45
	0.75 to < 1.75	30	–	–	0.87	1.26	1.45
	1.75 to < 2.50	–	–	–	1.79	–	–
	2.50 to < 10.00	10	–	–	3.65	4.78	5.20
	2.50 to < 5.00	6	–	–	2.73	2.62	4.41
	5.00 to < 10.00	4	–	–	6.25	8.02	7.95
	10.00 to < 100.00	–	–	–	30.00	–	–
	10.00 to < 20.00	–	–	–	–	–	–
	20.00 to < 30.00	–	–	–	–	–	–
	30.00 to < 100.00	–	–	–	30.00	–	–
	100.00 (Default)	9	–	–	100.00	100.00	–

EU CR9: Back-testing of PD per Corporate exposure class – specialised lending

a	b	c	d	e	f	g	h
		Number of obligors at the end of previous year					
Exposure class	PD range		of which: number of obligors which defaulted in the year	Observed average PD	Exposures weighted average PD	Average PD	Average historical annual default rate
	%			%	%	%	%
Corporates – specialised lending	0.00 to < 0.15	7	–	–	0.09	0.09	–
	0.00 to < 0.10	2	–	–	0.06	0.06	–
	0.10 to < 0.15	5	–	–	0.11	0.10	–
	0.15 to < 0.25	17	–	–	0.19	0.21	–
	0.25 to < 0.50	114	–	–	0.34	0.44	–
	0.50 to < 0.75	156	–	–	0.55	0.70	0.19
	0.75 to < 2.50	140	4	2.86	1.35	1.31	1.17
	0.75 to < 1.75	140	4	2.86	1.01	1.31	1.17
	1.75 to < 2.50	–	–	–	1.79	–	–
	2.50 to < 10.00	124	–	–	2.93	3.42	12.06
	2.50 to < 5.00	118	–	–	2.87	3.19	12.18
	5.00 to < 10.00	6	–	–	6.25	8.02	6.67
	10.00 to < 100.00	–	–	–	–	–	–
	10.00 to < 20.00	–	–	–	–	–	–
	20.00 to < 30.00	–	–	–	–	–	–
	30.00 to < 100.00	–	–	–	–	–	–
	100.00 (Default)	37	–	–	100.00	100.00	–

EU CR9: Back-testing of PD per Corporate exposure class – Other

a	b	c	d	e	f	g	h
		Number of obligors at the end of previous year					
Exposure class	PD range		of which: number of obligors which defaulted in the year	Observed average PD	Exposures weighted average PD	Average PD	Average historical annual default rate
	%			%	%	%	%
Corporates – Other	0.00 to < 0.15	–	–	–	–	–	–
	0.00 to < 0.10	–	–	–	–	–	–
	0.10 to < 0.15	–	–	–	–	–	–
	0.15 to < 0.25	6	–	–	0.19	0.22	–
	0.25 to < 0.50	23	–	–	0.34	0.40	–
	0.50 to < 0.75	8	–	–	0.55	0.70	–
	0.75 to < 2.50	42	–	–	0.97	1.19	–
	0.75 to < 1.75	42	–	–	0.82	1.19	–
	1.75 to < 2.50	–	–	–	1.79	–	–
	2.50 to < 10.00	3	–	–	4.15	3.13	–
	2.50 to < 5.00	3	–	–	4.15	3.13	–
	5.00 to < 10.00	–	–	–	–	–	–
	10.00 to < 100.00	–	–	–	–	–	–
	10.00 to < 20.00	–	–	–	–	–	–
	20.00 to < 30.00	–	–	–	–	–	–
	30.00 to < 100.00	–	–	–	–	–	–
	100.00 (Default)	–	–	–	–	–	–

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:

- institutions,
- 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 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" CRSA exposures 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.

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.

The external credit ratings are allocated to the risk weights pursuant to Article 114 et seqq. of the CRR using the regulatory standardised approach as set out in the Implementing Regulation (EU) 2016/1799.

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 than for 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		Exposures post CCF and post CRM		RWAs and RWA density	
	On-balance sheet exposures	Off-balance sheet exposures	On-balance sheet exposures	Off-balance sheet exposures	RWA	RWA density
	€ mn	€ mn	€ mn	€ mn	€ mn	%
1 Central governments or central banks	6,944	–	7,130	–	11	0.15
2 Regional governments or local authorities	2,954	–	2,958	–	445	15.05
3 Other public-sector entities	1,005	0	949	0	1	0.16
4 Multilateral development banks	154	–	154	–	–	–
5 International organisations	401	–	401	–	–	–
6 Institutions	392	–	278	–	85	30.40
7 Corporates	453	112	432	33	441	95.02
8 Retail	10	0	10	0	7	75.00
9 Secured by mortgages on immovable property	286	–	286	–	100	35.02
10 Exposures in default	4	–	4	–	4	121.11
11 Exposures associated with particularly high risk	–	–	–	–	–	–
12 Covered bonds	950	–	950	–	95	10.00
13 Institutions and corporates with a short-term credit assessment	–	–	–	–	–	–
14 Collective investment undertakings (CIU)	68	–	68	–	14	20.12
15 Equity exposures	–	–	–	–	–	–
16 Other items	–	–	–	–	–	–
17 Total	**13,619**	**112**	**13,619**	**33**	**1,204**	**8.82**

Table EU CR5 shows the exposure amount after mitigating credit risk and after taking into consideration the credit conversion factors of all exposures to which the 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 column q are exposures for which no external rating is used to derive the risk weight.

EU CR5: Credit Risk Standard Approach

Exposure classes	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
	Risk weight																
	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1,250%	Other	Total	of which: unrated
€ mn																	
1 Central governments or central banks	7,076	–	–	–	54	–	–	–	–	–	–	–	–	–	–	**7,130**	6,637
2 Regional governments or local authorities	2,758	–	–	–	24	–	–	–	–	–	–	176	–	–	–	**2,958**	2,752
3 Other public-sector entities	942	–	–	–	7	–	–	–	–	–	–	–	–	–	–	**950**	942
4 Multilateral development banks	154	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**154**	154
5 International organisations	401	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**401**	401
6 Institutions	–	–	–	–	182	–	96	–	–	–	–	–	–	–	–	**278**	0
7 Corporates	–	–	–	–	–	–	32	–	–	433	–	–	–	–	–	**465**	433
8 Retail	–	–	–	–	–	–	–	–	10	–	–	–	–	–	–	**10**	10

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Exposure classes	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
	Risk weight																
	0%	2%	4%	10%	20%	35%	50%	70%	75%	100%	150%	250%	370%	1,250%	Other	Total	of which: unrated
€ mn																	
9 Secured by mortgages on immovable property	–	–	–	–	–	238	48	–	–	–	–	–	–	–	–	**286**	286
10 Exposures in default	–	–	–	–	–	–	–	–	–	2	2	–	–	–	–	**4**	4
11 Exposures associated with particularly high risk	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**–**	–
12 Covered bonds	–	–	–	950	–	–	–	–	–	–	–	–	–	–	–	**950**	–
13 Claims on institutions and corporates with a short-term credit assessment	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**–**	–
14 Collective investment undertakings (CIU)	14	–	–	–	53	–	–	–	–	–	–	–	–	0	–	**68**	14
15 Equity exposures	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**–**	–
16 Other items	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**–**	–
17 Total	**11,345**	**–**	**–**	**950**	**320**	**238**	**176**	**–**	**10**	**435**	**2**	**176**	**–**	**0**	**–**	**13,652**	**11,631**

Environmental, Social and Governance Risks

In the following chapters Aareal Bank will – for the first time – disclose information on environmental, social and governance risks as required under Article 449 of the CRR. The detailed requirements are based on Article 18a of the Commission Implementing Regulation (EU) 2021/637. This regulation not only sets out qualitative requirements with regard to the three risk dimensions but also stipulates the disclosure of ten tables with quantitative information on climate-related risks; their first-time disclosure, however, is staggered. For instance, first-time disclosure of information related to the Green Asset Ratio (GAR) and the Banking Taxonomy Ratio (BTAR) is not required before the end of 2023 and 30 June 2024, respectively.

Qualitative information on ESG risks

Aareal Bank defines sustainability risks as events or conditions relating to environmental ("E"), social ("S") or governance ("G") issues that, should they occur, could have an actual or potential negative impact on the net assets, financial position and financial performance, as well as the reputation of the Bank. We identified the relevant ESG risk factors as climate risks, changes in stakeholder requirements, competitive and market pressure, business ethics, compliance and uncertainty regarding ESG regulations relating to Aareal Bank Group. These primarily impact our credit risk and operational risk.

Business strategy and processes

Aareal Bank sees ESG issues not only as risk but also opportunity. Environmental, social and governance aspects form an integral part of its business strategy, underlining the importance of the Bank's sustainable development.

Aareal Bank Group has been accompanying and supporting the sustainable transformation of the economy and society for years with its systematic approach to sustainability. We want to do our bit to help meet the international climate protection goals such as those set out in the Paris Agreement on Climate Change and the United Nations' Sustainable Development Goals (SDGs). This is because, as a financial services provider and partner to the property industry, we are active in two sectors that are instrumental as the economy transforms. The property sector accounts for a significant proportion of global energy consumption and resulting greenhouse gas emissions. As a result, this sector has a responsibility to realise the potential savings in this area, which are substantial in some cases – a responsibility that politicians are also reminding it of. ESG criteria play an increasingly important role not only in lending but also on the funding side of our business, in our investment portfolio, and in our digital product portfolio.

As is the case with most financial institutions, the environmental impacts of our financing activities are largely indirect. However, we are convinced that we need to systematically align our activities and our work with sustainability requirements in order to live up to our responsibility to society in this area of business and to ensure that our business model remains viable in the future. We therefore consider the inclusion of environmental risks as a fundamental necessity for ensuring our long-term business success. We use compliance with the ESG criteria that have been classified as relevant to our business as a key tool for assessing properties' sustainable intrinsic value. In our investment portfolio, we apply these criteria both out of ethical conviction and from a risk perspective, so as to avoid any losses in value as far as possible. At the same time, enhancing transparency for the properties we finance with respect to ESG aspects during property valuations allows us to create a basis for providing additional support for international climate protection efforts. In addition, our funding activities and securities business can have an active impact on the market. As in the past, the segment's business strategy focuses on the controlled, risk-conscious expansion of its portfolio volume within its target range, taking ESG requirements into account and taking advantage of its flexible approach with regard to countries, property types and financing structures.

In the Banking & Digital Solutions and Aareon segments, our products and services raise our clients' environmental awareness and enable them to use digital, mobile solutions to actively and measurably cut carbon emissions, and hence reduce negative environmental impacts. For example, they contribute to more efficient processes, a drop in the number of kilometres travelled and lower paper usage. In addition to time and cost savings and efficiency gains, our solutions can also contribute to greater transparency and an improved environmental footprint. In this way, we are helping our clients cut carbon emissions and save energy.

Conserving resources is environmental protection and part of our corporate philosophy. Continuously cutting energy usage and avoiding carbon emissions also play an important role in our internal planning and optimization measures. For the 2023 financial year, we have set ourselves the goal to achieve -carbon-neutral operations in line with the "avoid, reduce,offset" principle. This will allow us to play our part as a company in protecting the climate.

Integrating sustainability into the organisational structure

The topic of sustainability in its various facets is considered a relevant risk driver with significant influence on the Bank's overall risk profile.

To allow for a holistic management approach, an overarching governance model has been developed, which includes both Sales Units and Credit Management divisons as well individual corporate functions.

As a rule, responsibility for including sustainability risks in the risk strategy and risk governance lies with the Management Board. The internal supervisory bodies that monitor risks (e.g. Supervisory Board and Risk Committee), however, play a central role in ensuring that sustainability risks are adequately taken into account in the strategy and governance of the Company.

As part of the regular Management Board and Supervisory Board meetings, the full Management Board and the Supervisory Board deals with the Bank's strategic positioning on ESG issues, ESG integration into processes and structures, and the Group-wide management of sustainability activities.

Aareal Bank Group's sustainability management activities are directed by the Group parent, Aareal Bank AG. At an organisational level, central Sustainability Management is assigned to the Group Strategy division. The Group Sustainability Officer is responsible for centrally coordinating sustainability management activities, and reports directly to the CEO, who has overall responsibility for Aareal Bank Group's sustainability strategy. This emphasises sustainability's strategic importance for the Group's corporate philosophy and ensures that relevant ESG information is included in our communication with stakeholders. Sustainability Management is supported in its work by contacts from various divisions. Aareon AG – as the Group's largest subsidiary – has its own contacts who are responsible for progressing the topic area together with Aareal Bank AG's Sustainability team. The Sustainability Committee, which meets at regular intervals, and the Green Finance Committee are responsible for ensuring internal coordination and liaison.

ESG risk governance, as part of the overarching governance model, is integrated into Aareal Bank's existing risk governance. Along the risk management cycle, the identification, assessment, management, and monitoring of ESG risks is adequately implemented through a three-lines-of-defence model (3LoD). This governance structure ensures that the relevant bodies are involved, and that risk-relevant ESG aspects are reflected in the organisational structure. Aareal Bank's business/sales units (as first LoD) are responsible for identifying and managing ESG risks, taking into account the requirements of the second LoD.

As part of their risk management function, the Non-Financial Risks (NFR) and Risk Control (RCO) divisions, as the central 2nd LoD, ensure that ESG risks are adequately considered and integrated along the risk management cycle. This includes specifying methods for managing ESG risks, monitoring measures, and ESG reporting. ESG risks are integrated into risk management via existing risk types. The second LoD is also represented by a compliance function, which assumes a control function in relation to ESG risks with regard to compliance with material legal and internal regulations.

In its role as third LoD, Group Audit is expected to provide an independent and objective review of the risk management framework. This includes a review of the adequacy and effectiveness of ESG risk governance arrangements, the specific implementation of the risk strategy and risk appetite related to ESG risks, and internal policies, procedures and responsibilities for ESG risks.

Management of ESG risks

Sustainability risks are drivers of existing financial and non-financial risk types and are managed as an integral part of these risk types. Relevant ESG risks are quantified using different stress test scenarios. ESG risk management is fundamentally based on the regulatory requirements – as set out in the ECB guide and the BaFin guidance notice on managing sustainability risks, along with the EBA's guidelines on loan origination and monitoring.

To develop an understanding of sustainability risks, including physical and transitional climate-related risks, their characteristics as well as possible impacts on the Bank's business and risk situation, a structured identification and inventory of ESG risks is performed as part of the regular risk inventory. A questionnaire is used to assess potential ESG factors and their impact on Aareal Bank. These factors are not confined to climate issues but encompass the three areas of environmental, social and governance matters.

The impact of the ESG risk factors on Aareal Bank is identified for the short (up to one year), medium (one to five years) and long term (more than five years).

Next to physical climate-related risks, the transition risk of changed investor behaviour was identified as a relevant factor for the short-term horizon. For the medium- to long-term horizon, additional transition risks (regulatory environment, technology, investors) and governance factors such as fraudulent acts, sustainability management, and data protection, were identified as relevant ESG factors.

The identification of relevant ESG factors is followed by a structured assessment as to how these risk factors affect financial and non-financial risk types via the various transmission channels.

Acute and chronic physical risks, alongside risks pertaining to the transition to a lower-carbon and more environmentally sustainable economy, are associated with relevant effects on financial risks and credit risk in particular. The main transmission channel for environmental and climate factors are properties used as collateral for credit exposures. Depending on their location, these properties may be exposed to physical climate-related and environmental risks. Natural disasters may damage buildings and negatively affect their market value. They may also damage the area where the buildings are located, significantly impairing the extent to which the properties can be used. This may lead to rent defaults or losses of cash flow in a broader sense. Buildings are responsible for a large portion of worldwide energy consumption and CO_2 emissions, which is why they are particularly affected by rising CO_2 prices and refurbishment costs. Future costs for CO_2 and energy-efficient refurbishments may impair the market values and – as a result – the risk profile of the financings.

Similar causalities apply to properties held in the Bank's own portfolio, whose risk is reflected in property risk. As opposed to credit risk, changes in the value of such properties have a direct impact on the balance sheet.

Liquidity risk may be affected as transition measures or physical events may lead to a liquidity outflow, for example, if housing companies need to repair or rebuild properties damaged or destroyed by a natural disaster. In addition, liquidity outflows may also occur as a result of an increase in energy-efficient refurbishments.

Regarding non-financial risks, transition risks mainly arise due to changes in the political, legal or regulatory environment governing the transition to a lower-carbon and more environmentally sustainable economy. Compliance risks may then arise from violations of legal or regulatory provisions and sustainability requirements, such as measures to increase energy efficiency or reduce energy costs, or

the disclosure of sustainability-related information in the course of non-financial reporting, and can materialise in corresponding fines, penalties or other sanctions from authorities with an impact on the net assets, results of operations or liquidity situation of the institution.

This also applies to reputational risks which may arise from changes in statutory and regulatory provisions and requirements in connection with sustainability, such as those relating to the sustainability strategy and the associated impact on the “Aareal” brand value, and may materialise in corresponding costs for communication measures.

The identified relevant short-term ESG risk factors are closely linked to Aareal Bank’s planning horizon, the average loan terms, and the risk-bearing capacity. They are integrated into the ICAAP and limit systems.

Since it is expected that climate-related and environmental risks for institutions will primarily take effect in the medium to long term, the longer perspective assumes a future-oriented approach and is particularly relevant for stress test scenario design. Integrating ESG risks in the stress testing methodology is part of the comprehensive sustainability risk management and monitoring.

To conclude, ESG risk factors are considered along Aareal Bank’s entire risk management cycle by identifying (inventory), assessing, measuring and managing risks, and assessing them from an economic perspective as part of the ICAAP. To this end, management and monitoring of ESG risks is consistently and continuously being refined.

Climate-related and environmental risks

Definition

Climate-related risks comprise all risks caused or exacerbated by climate change and are subdivided into physical climate-related risks and transitional climate-related risks.

Physical climate-related risks describe the direct effects of climate change triggered by continuous global warming and progressive environmental destruction. These climate change risks result directly from the consequences of changes in the climate such as a rise in global average temperatures, more frequent occurrence of natural disasters and extreme weather events such as flooding, heat waves/droughts, storm and hail. Physical climate-related risks can also have indirect consequences (for example, collapse of supply chains, abandonment of water-intensive business activities through to climate-related migration.

Transitional climate risks are risks caused to institutions as a direct or indirect consequence of the process of becoming a less carbon-intensive and more ecologically sustainable economy. They comprise changes in the political, legal and regulatory framework conditions and technological developments and/or a change in investor behaviour.

Environmental risks comprise all risks caused by the destruction of the environment (for example, in the form of air and water pollution, the pollution of land surfaces, water stress, loss of biodiversity and deforestation) and are also divided into physical and transitional environmental risks. Transitional environmental risks, in line with transitional climate risks, are adjustment processes triggered by politics, technology or market participants in order to counter the destruction of the environment.

Management of climate-related and environmental risks

Regarding climate-related risks, the credit risk is the material risk type in the Structured Property Financing segment. Individual credit receivables are collateralised by the respective properties. Physical climate-related risks with a view to Aareal Bank’s climate-related risks are effectively monitored and managed by taking out adequate insurance cover against negative financial effects resulting from acute physical risks (such as extreme weather events). In accordance with Article 208 (5) of the CRR, property used as collateral must be adequately insured against damage for the purpose of a reduced consideration of loans in the capital adequacy requirements.

The property collateral of our loans is exposed both to transitional risks such as a carbon tax or refurbishing requirements, and to physical risks such as flooding or storm. These risks are assessed in the risk inventory and evaluated using the internal stress testing methodology. To derive physical threats, the Bank uses third-party data which forms the basis for the physical stress test, as well as for the required insurance cover that the borrower has to substantiate.

Aareal Bank created the data infrastructure required for capturing information on energy efficiency, green building certificates and energy-efficient refurbishment projects in our systems as early as 2019. Once again, progress was made with data gathering, capture and validation for our global portfolio in the reporting period. This already allows us to calculate a number of sustainability-related KPIs for our lending business. In the future, we aim to go into greater detail and expand this to capture CO_2 impacts (Scope 3 emissions). Together with external experts, we developed a methodology in the reporting period for harmonising and assigning priorities to different data sets used to calculating financed carbon emissions. This methodology is designed to serve as the basis for establishing a structured process for using heterogeneous data of varying quality to calculated financed carbon emissions. We finance properties of lasting value that live up to our strict quality requirements. When performing property valuations, we not only focus on the buildings' fair values but also determine the mortgage lending value and use a lifecycle analysis that includes environmental aspects such as the buildings' technical, functional and environmental quality as standard components. We also always take marketability and third-party usability into account when looking at sustainable property use. To safeguard a comprehensive and overall management and monitoring of ESG risks, it is essential to develop and implement Bank-wide indicators and metrics for ESG aspects in addition to the risk type-specific treatment of ESG risks, taking into account the specified business strategy.

In order to assess the physical threat, the Bank has created an internal database for all relevant properties and locations containing the risk classifications with regard to acute and chronic climate-related risks at the respective locations. The data is sourced from an external insurance provider and updated at least annually for the entire portfolio.

To assess the threat for loan receivables posed by ESG factors, Aareal Bank has developed an ESG Score together with CredaRate GmbH and further partner banks, which was implemented in 2022. Within the framework of this methodology, the three dimensions of environmental, social and governance are assessed depending on the share of the financed property in the borrower's total assets, which are then combined into an overall score at borrower level. In 2023, Aareal Bank's portfolio is therefore going to be systematically rated with regard to ESG aspects.

When measuring climate-related risks, scenario analyses and/or stress tests play an important role. The Bank has developed internal tools both for transitional and physical climate-related risks. The tool for transitional risks can take CO_2 levies from NGFS scenarios ("Network for Greening the Financial System") and possible refurbishment projects into account when assessing a building. The tool for assessing physical risks can determine portfolio losses based on exposure data from an external provider for physical shock events (e.g. flood).

The assessment and measurement of ESG factors related to liquidity risk is expert-based by developing individual ESG-related scenarios on potential liquidity risk events. An expert-based review in 2022 demonstrated that ESG factors associated with liquidity risk do not result in material net liquidity outflows or a material reduction in the liquidity buffer. Based on this review, scenarios have been developed for a scenario calculation in liquidity risk. The most severe scenario from Aareal Bank's point of view is quantified in the regular liquidity stress calculation.

In addition to the quantitative consideration of ESG risks in the economic ICAAP perspective, a calculation of the effects of climate-related and environmental risks on Aareal Bank's risk situation is carried out within the framework of ESG-related stress test and scenario analyses. These analyses are the principal methods for assessing climate-related risks. They are based on the scenarios/climate pathways set out in the NGFS or on internal shock scenarios. Compared to the other stress test scenarios, the impact of the climate stress test or the "Changes in social values" scenario on Aareal Bank Group's capitalisation is mild.

As an integral part of the internal reporting system, ESG risks are continuously displayed and monitored in a transparent manner. Aside from the results of the stress test analyses, the main content relates in particular to operational risks associated with ESG aspects, the presentation of portfolio transparency (green buildings) and the review of the use of proceeds for green bonds.

Current and future investment activities to achieve environmental objectives

Since the second quarter of 2021, we have been offering green loans (in accordance with the definition of the "Green Finance Framework – Lending") in order to help our clients reach their business objectives and thus boost the property sector's contribution to increase sustainability. We have defined environmental sustainability criteria for commercial property based on our valuation expertise, our many years of experience, our property market knowledge, and existing market standards. These form the basis for our "Green Finance Framework – Lending". In addition to meeting minimum energy efficiency standards and the existence of certain high-quality building

certificates, the requirements for Taxonomy-aligned buildings serve as qualification criteria for green loans. This definition was developed together with internal experts with the goal of applying it to around the world. A second-party opinion by Sustainalytics GmH (Sustainaltytics) then reviewed the framework developed in this way for the ambition, market conformity and suitability of the qualification criteria, and rated it as “credible and impactful”. This third-party certified model serves as the basis for extending green loans and hence is successively aligning the Bank’s credit portfolio with sustainable criteria. Sustainalytics also provided a second opinion concerning our internal taxonomy (Aareal-specific definition of “green” for (a) buildings and (b) energy-efficient refurbishments of buildings), which underlines Aareal Bank’s sustainability approach as being both credible and robust.

Our green funding offering supplements our green lending activities, allowing us to offer ESG-oriented clients products in both the asset and the liability areas of the business in the reporting period. Our suitability criteria for our liability-side products and for classifying them as “green” have been designed in a similar way to our existing “Green Finance Framework – Lending”. The resulting Green Finance Framework – Liabilities was also subjected to a second party opinion review by Sustainalytics and was classified as “market-conforming, credible and impactful”. At the same time as the first green funding products were introduced, the Green Finance Committee (GFC) was established to manage and monitor the green asset pool and to make additional enhancements to the Framework.

With regard to our Treasury portfolio, an annual issuer-based ESG screening is carried out to analyse and evaluate the portfolio from an ESG perspective. Among other things, we take social criteria such as the freedom of the press and the Corruption Index into account here.

Social risks

Definition

Social risks refer to issues such as occupational health and safety, employment law standards and working environment, diversity and social involvement. Social risks are also characterised by a negative impact on a company’s stakeholders.

Social aspects include human rights violations, income inequality and discrimination.

Management of social risks

Many social risks that are typical for the property sector are of only minor relevance to us, since Aareal Bank AG mainly provides financing for buildings that have already been completed. Since we focus on office buildings, hotels, shopping centres and logistics facilities, our portfolio does not contain any potentially controversial industrial plant or other properties that might be considered problematic.

ESG topics, and hence social matters as well, are taken into account directly by Group Strategy in its development and management of our business strategy, and by the Management Board in its business decisions.

We take the following sustainability criteria into account during property valuations performed in association with lending decisions:

- functional quality, e.g. transport infrastructure, accessibility, and barrier-free access;
- life-cycle quality, e.g. demonstrated by opportunities for flexible use, the ability to re-let properties, third-party usability and appropriate expenditure on value preservation measures;
- sociocultural quality, e.g. high-quality architecture, the quality of town planning and potential tenants.

We consider respect for human rights to be an inalienable part of our responsibility as a global enterprise. This is why we have undertaken not only to strictly comply with all applicable legal requirements but also to uphold human rights within our sphere of influence.

Breaches of human rights – including along our value chain – must be prevented for humanitarian reasons in the first instance. Above and beyond this, though, any infringements could have far-reaching economic consequences for the Group. Reputational damage and financial penalties can lead to long-term risks for the company involved that should not be underestimated. Managing these risks comprehensively and responsibly is a particularly important task. This is why we have established guidelines and mandatory codes of conduct that apply throughout the Group, so as to uphold and strengthen human rights in our international business to the best of our ability.

We have introduced contractual rules relating to the Code of Conduct for Suppliers in our Purchasing and Procurement operations in order to combat the risk of human rights violations among our suppliers. These rules underline our commitment to comply with certain standards. The Code of Conduct is a binding foundation for business relationships between Group companies and suppliers or service providers. It ensures on the one hand that our business partners respect human rights, while on the other it protects us against potential risks in the supply chain arising from failures to comply with environmental or social standards that would reflect negatively on Aareal Bank Group.

New regulatory requirements that could lead to obligations with respect to the observance of human rights at the Group are reviewed regularly for their relevance and for any need to take action. This includes, inter alia, the revised EBA Guidelines on internal governance. In addition, in our own interests we track new laws such as the German Supply Chain Due Diligence Act and hence identify potential implications for Aareal Bank Group as soon as possible.

At the level of the workforce, complying with the German General Equal Treatment Act (Allgemeines Gleichstellungsgesetz – AGG) and the ban on discrimination (e.g. treating staff differently on the basis of diversity aspects, or inappropriate or unfair remuneration) is a key issue. Unethical behaviour of this kind would damage teamwork and hence results, lead to inefficient working processes, demotivate talented employees and cause economic damage as a result.

Our Code of Conduct summarises the values and convictions that make us – Aareal Bank Group – what we are. Its principles are designed to ensure a culture of integrity and mutual trust throughout the Group. In line with this, the Code of Conduct covers the topics of equal opportunities and diversity, fairness and protecting human rights, among other things. It is a matter of course for us that we respect and comply with the laws and regulations of the countries in which we operate and that we respect human rights, focusing in particular on the abolition of all forms of forced and child labour. The Management Board has expressly undertaken to respect human rights in our Code of Conduct, which applies to the entire Group, and to observe the principles of diversity and equal treatment. Our reporting on our respect for human rights is used to inform the Management Board of the measures implemented, their effectiveness, any infringements and the actions taken to penalise them. The Code of Conduct is based on the requirements of the EBA Guidelines on Internal Governance and international industry standards such as the Universal Declaration of Human Rights, the conventions drawn up by the International Labour Organization (ILO), the OECD Guidelines for Multinational Enterprises and the UN Global Compact's Ten Principles.

We disclose information on employee and social matters, along with respect for human rights, on an annual basis within our non-financial reporting which also comprises details on how we handle social risks within Aareal Bank Group's operational and business environment. Relevant topics within the context of social risks are discussed at Management Board and top management level, in various corporate bodies and on a regular basis.

The workers' representative body responsible exercises its right of co-determination in the case of appointments at our German locations. In addition, we report annually on the proportion of women in management positions and in the workforce throughout the world. We define "women in management" as all female non-pay scale employees at the Company who exercise a professional management role or who have the right to issue instructions to employees.

ESG targets were included in the individual component of the overall target achievement for Aareal Bank AG's Management Board members in the 2022 financial year, in order to ensure that the increased importance of ESG aspects to our corporate strategy was also reflected in the remuneration paid. The minimum weighting was 15 %. The use of quantitative ESG targets allows a high level of transparency regarding Aareal Bank AG's ESG focal areas and at the same time creates targeted incentives for a long-term sustainable strategy. From the 2023 financial year onwards, the emphasis put on ESG targets in Management Board remuneration has been increased: the 2022 Annual General Meeting approved a revised remuneration system for the members of the Management Board under which targets will also be set for ESG aspects at the Group component level in future. In other words, the minimum weighting for ESG targets in future will be 25 % of the overall targets. For further information on the revised remuneration system, please see the agenda for the 2022 Ordinary Annual General Meeting.

In line with section 25d (12) of the German Banking Act (Kreditwesengesetz – KWG), Aareal Bank's Supervisory Board has established a Remuneration Control Committee, which ensures that the remuneration systems for the Management Board and employees are appropriately structured. The remuneration systems and the underlying remuneration inputs are reviewed for appropriateness at least

once a year with the assistance of Group Human Resources & Infrastructure, the Remuneration Officer and other relevant control instances.

We have our salary structures reviewed regularly by external specialists. The results of the most recent analysis confirmed that there were no significant differences in remuneration within Aareal Bank AG between men and women in comparable positions.

Within our comprehensive sustainability risk monitoring and management, our stress test scenarios focus on climate-related and environmental risks as well as on changes in the working environment and travel behaviour. An analysis of the change in society increasingly highlights social and governance risks, assessing their impact on financial and non-financial risks alike.

Governance risks

Definition

Governance risks means the risks resulting from (un-)sustainable corporate governance. They focus on the areas of actions that are either fraudulent or perceived as negative by society, on compliance with privacy requirements and sustainability-related disclosure obligations.

Management of governance risks

Aareal Bank Group also manages its risks by defining permissible transactions (for example, it does not operate correspondent banking business, and it defines permissible industries). The Bank does not execute business in non-permissible areas such as nuclear power or arms production. Non-permissible business mainly covers actions perceived negatively by society and/or fraudulent acts within the meaning of the “governance” ESG risk inventory factor (e.g. tax evasion, corruption, bribery, prostitution). The Bank uses qualitative standards as operational risk management guidelines and bases its qualitative guidelines mainly on the Wolfsberg Questionnaire, an international correspondent banking standard, which is also disclosed vis-à-vis business partners. Aareal Bank Group has restricted certain business activities to reduce risk. The Wolfsberg Questionnaire lists other transactions that are only permissible at Aareal Bank on a case-by-case decision by the Management Board.

We expect our business partners to handle (ESG) risks in a similarly responsible manner. Business partners involved in ongoing legal proceedings related to fraud, bribery, corruption, environmental offences, etc. warrant increased caution, including a compulsory and regular screening for negative news. In addition, business partners undertake to comply with Aareal Bank Group’s Code of Conduct. This mandatory policy forms the basis for the business relationships between Group companies and suppliers/service providers. It ensures on the one hand that our business partners respect human rights, while on the other it protects us against potential risks in the supply chain arising from failures to comply with environmental or social standards that would reflect negatively on Aareal Bank Group. New suppliers and service providers with an order volume in excess of € 100,000 are checked using commercial credit agency reports. Primary suppliers are examined regularly using a supplier evaluation system that assesses their reliability and compliance with the terms and conditions of their contracts, among other things. If functions (particularly material ones) are outsourced, the division performing the outsourcing must ensure the service provider’s suitability using a selection and assessment procedure, and must review this regularly. Factors that must be examined during due diligence are defined in detail in Group-wide procedural guidelines. Additional requirements apply when outsourcing material functions.

At Group level, the Framework Directive on Preventing Corruption and the Procedural Guidelines on the Prevention of White-collar Crime serve as the basis for raising awareness among our employees and provide a benchmark for acting correctly. They are supplemented by fraud prevention measures and Aareal Bank AG’s whistle-blowing procedure , which act as preventive measures against the threat of corruption, as well as the Conflict of Interest Policy, which generally manages conflicts of interest. This should help avoid and manage any conflicts of interest as far as possible.

In addition, employees receive training on the Company’s compliance and fraud prevention requirements and on the potential consequences of any breaches. More specifically, the training courses designed to raise employee awareness of compliance requirements comprise individual modules on general compliance requirements, on the Code of Conduct, on preventing money laundering and terrorist financing, and on preventing corruption and fraud. A confidential (and anonymous) whistle-blowing channel also exists that can be used to report suspected breaches of the rules, fraudulent behaviour or white-collar crime. This guarantees the employee reporting the issue confidentiality and protection. Employees can use this voluntary, confidential reporting system to raise concerns online or by phone – including anonymously, if desired.

Quantitative information on ESG risks

The following table 1 shows the gross carrying amounts of loans and advances, debt securities and equity instruments to non-financial corporations, by sector of economic activities. It does not take into account financial assets held for trading. The exposures are also presented by residual maturity, based on the contractually agreed maturity.

The presentation by sector of economic activity corresponds to the differentiation by NACE codes in the context of Financial Reporting (FINREP).

As the Group's business is focused on commercial property financing, the real estate activities sector is by far the most relevant industry. As the sectors of economic activity as per the statistical classification of the European Union listed in Sections A to C are irrelevant to us, we refrain from disclosing rows 2 to 33 of table 1.

Column b includes exposures towards non-financial corporations that are excluded from the EU Paris-aligned benchmarks as specified in Article 12(1), points (d) to (g) and Article 12(2) of Delegated Regulation (EU) 2020/1818 as regards minimum standards for EU Climate Transition Benchmarks and EU Paris-aligned Benchmarks. There was only one exposure towards a corporation classified as excluded from the EU Paris-aligned benchmarks as at the reporting date, but it was immaterial in scope.

The gross carrying amount of environmentally sustainable exposures under the objective of contributing to climate change mitigation is to be reported in column c, with first disclosure reference date as of 31 December 2023, for exposures included in the numerator of the Green Asset Ratio ("GAR"). The gross carrying amount of those environmentally sustainable exposures included in the numerator of the Banking Book Taxonomy Alignment Ratio ("BTAR") but not in the numerator of the GAR will be indicated in this column, with first disclosure reference date as of 31 December 2024.

Loss allowances and provisions attributable to performing and non-performing exposures are to be disclosed in columns f to h.

Information on greenhouse gas emissions is to be given in columns i to k, with first disclosure reference date as of 30 June 2024.

ESG table 1: Indicators of potential climate change transition risk:
Credit quality of exposures by sector, emissions and residual maturity

		a	b	c	d	e
		Gross carrying amount				
€ mn			of which: exposures towards companies excluded from EU Paris-aligned Benchmarks as specified in Article 12(1), points (d) to (g) and Article 12(2) of Delegated Regulation (EU) 2020/1818.	of which: environ-mentally sustainable	of which: Stage 2	of which: non-performing
1	**Exposures towards sectors that highly contribute to climate change**	**28,275**	**0**	**–**	**6,235**	**1,150**
34	**D – Electricity, gas, steam and air conditioning supply**	**0**	**0**	**–**	**0**	**–**
35	D.35.1 – Electric power generation, transmission and distribution	0	0	–	0	–
36	D.35.11 – Production of electricity	–	–	–	–	–
37	D.35.2 – Manufacture of gas; distribution of gaseous fuels through mains	–	–	–	–	–
38	D.35.2 – Steam and air conditioning supply	–	–	–	–	–
39	**E – Water Supply: sewerage, waste management and remediation activities**	**2**	**–**	**–**	**–**	**–**

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€ mn	a	b	c	d	e
	Gross carrying amount				
		of which: exposures towards companies excluded from EU Paris-aligned Benchmarks as specified in Article 12(1), points (d) to (g) and Article 12(2) of Delegated Regulation (EU) 2020/1818.	of which: environ-mentally sustainable	of which: Stage 2	of which: non-performing
40 F – Construction	**75**	**–**	**–**	**1**	**74**
41 F.41 – Construction of buildings	75	–	–	1	74
42 F.42 – Civil engineering	–	–	–	–	–
43 F.43 – Specialised construction activities	–	–	–	–	–
44 G – Wholesale and retail trade; repair of motor vehicles and motorcycles	**75**	**–**	**–**	**–**	**–**
45 H – Transport and storage	**1**	**–**	**–**	**1**	**–**
46 H.49 – Land transport and transport via pipelines	–	–	–	–	–
47 H.50 – Water transport	–	–	–	–	–
48 H.51 – Air transport	–	–	–	–	–
49 H.52 – Warehousing and support activities for transportation	1	–	–	1	–
50 H.53 – Postal and courier activities	–	–	–	–	–
51 I – Accommodation and food service activities	**1,729**	**–**	**–**	**460**	**2**
52 L – Real estate activities	**26,393**	**–**	**–**	**5,772**	**1,074**
53 Exposures towards sectors other than those that highly contribute to climate change	**464**	**–**	**–**	**75**	**63**
54 K – Financial and insurance activities	–	–	–	–	–
55 Exposures to other sectors (NACE codes J, M - U)	464	–	–	75	63
56 Total	**28,739**	**0**	**–**	**6,310**	**1,213**

€ mn	f	g	h	l	m	n	o	p
	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions			≤ 5 years	> 5 years ≤ 10 years	> 10 years ≤ 20 years	> 20 years	Average maturity
		of which: Stage 2	of which: non-performing					
1 Exposures towards sectors that highly contribute to climate change	**-443**	**-53**	**-351**	**26,017**	**1,885**	**302**	**71**	**3**
34 D – Electricity, gas, steam and air conditioning supply	**0**	**0**	**–**	**0**		**302**	**72**	**5**
35 D.35.1 – Electric power generation, transmission and distribution	0	0	–	0	–	–	1	5
36 D.35.11 – Production of electricity	–	–	–	–	–	–	–	1
37 D.35.2 – Manufacture of gas; distribution of gaseous fuels through mains	–	–	–	–	–	302	71	14
38 D.35.2 – Steam and air conditioning supply	–	–	–	–	–	–	–	–
39 E – Water supply: sewerage, waste management and remediation activities	**0**	**–**	**–**	**0**	**2**	**–**	**–**	**9**

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€ mn	f	g	h	l	m	n	o	p
	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions			≤ 5 years	> 5 years ≤ 10 years	> 10 years ≤ 20 years	> 20 years	Average maturity
		of which: Stage 2	of which: non-performing					
40 F – Construction	**-11**	**0**	**-11**	**74**	**–**	**–**	**1**	**1**
41 F.41 – Construction of buildings	-11	0	-11	74	–	–	1	1
42 F.42 – Civil engineering	–	–	–	–	–	–	–	–
43 F.43 – Specialised construction activities	–	–	–	–	–	–	–	–
44 G – Wholesale and retail trade; repair of motor vehicles and motorcycles	**0**	**–**	**–**	**74**	**1**	**–**	**–**	**3**
45 H – Transportation and storage	**0**	**0**	**–**	**–**	**1**	**–**	**–**	**7**
46 H.49 – Land transport and transport via pipelines	–	–	–	–	–	–	–	–
47 H.50 – Water transport	–	–	–	–	–	–	–	–
48 H.51 – Air transport	–	–	–	–	–	–	–	–
49 H.52 – Warehousing and support activities for transportation	0	0	–	–	1	–	–	7
50 H.53 – Postal and courier activities	–	–	–	–	–	–	–	–
51 I – Accommodation and food service activities	**-7**	**-3**	**0**	**1,729**	**–**	**–**	**0**	**2**
52 L – Real estate activities	**-425**	**-50**	**-340**	**24,141**	**1,881**	**302**	**70**	**3**
53 Exposures towards sectors other than those that highly contribute to climate change	**-38**	**-1**	**-35**	**461**	**3**	**–**	**–**	**1**
54 K – Financial and insurance activities	–	–	–	–	–	–	–	–
55 Exposures to other sectors (NACE codes J, M-U)	-38	-1	-35	461	3	–	–	1
56 Total	**-482**	**-54**	**-386**	**26,478**	**1,888**	**302**	**71**	**3**

Table 2 discloses the gross carrying amount of loans collateralised by commercial and residential immovable property and of repossessed real estate collateral, grouped by defined levels of energy efficiency measured in terms of kWh/m2 and energy performance certificate ("EPC") labels.

Gross carrying amounts for financings with more than one collateral are distributed across energy efficiency levels and EPC labels according to the share the gross carrying amount of a given property has in the total gross carrying amount of all properties.

Property loans with no EPC label pertaining to the collateral are disclosed in column o. The share of property loans with no EPC label (as indicated in column o), but with energy performance scores estimated by the Bank ("EPS") is disclosed in column p. In line with the EBA's Q&A ID 2022_6625, the EPS was deemed "not estimated" only for properties for which there was an EPC label. For some of these properties, EPCs or similar certificates indicating an energy efficiency level in kWh/m^2 are available, but they have not earned an EPC label; as a consequence, the share of exposures relying on estimates instead of real data is smaller than depicted in column p. The same procedure was applied to the exposures in rows 5 and 10.

For the collateral whose EPC labels are actually based on estimated values, the calculation was based on the Partnership for Carbon Accounting Financials' standards ("PCAF") taking the location and type of the properties that are to be financed into account. Estimates were made for all properties where such an estimate was appropriate; this includes all property types with the exception of undeveloped sites.

Given that Aareal Bank generally pursues the strategy of preventing any further losses from a loan exposure, some of the properties disclosed in rows 4 and 9 are subject to re-positioning and further development, and which may thus be held over several years.

ESG table 2: Indicators of potential climate change transition risk:
Loans collateralised by immovable property (energy efficiency of the collateral)

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
	Gross carrying amount															
	Level of energy efficiency (EP score – in kWh/m²) of collateral							Level of energy efficiency (EPC label of collateral)							Without EPC label of collateral	
		of which: 0 ≤ 100	of which: > 100 ≤ 200	of which: > 200 ≤ 300	of which: >300 ≤ 400	of which: > 400 ≤ 500	of which: > 500	A	B	C	D	E	F	G		of which: estimated level of energy efficiency of collateral (EP score – in kWh/m²)
€ mn																%
1 Total EU	**14,968**	**3,158**	**3,537**	**5,369**	**398**	**810**	**1,510**	**635**	**604**	**502**	**353**	**147**	**18**	**79**	**12,629**	**98.53**
2 of which: collateralised by commercial immovable property	13,956	2,857	3,090	5,226	398	810	1,510	635	604	498	349	147	18	79	11,625	99.44
3 of which: collateralised by residential immovable property	755	293	447	6	0	–	0	–	–	4	4	–	–	–	748	98.91
4 of which: collateral obtained by taking possession (residential and commercial immovable properties)	257	8	–	137	–	–	–	–	–	–	–	–	–	–	257	56.16
5 of which: level of energy efficiency estimated	12,444	2,313	3,065	4,751	172	736	1,408								12,444	100.00
6 Total non-EU	**14,855**	**339**	**1,344**	**4,856**	**3,051**	**729**	**4,529**	**364**	**686**	**296**	**52**	**283**	**–**	**12**	**13,162**	**99.95**
7 of which: collateralised by commercial immovable property	13,632	289	527	4,848	2,837	621	4,504	225	554	296	52	283	–	12	12,211	99.95
8 of which: collateralised by residential immovable property	1,008	49	818	9	–	107	25	140	132	–	–	–	–	–	736	100.00
9 of which: collateral obtained by taking possession (residential and commercial immovable properties)	215	–	–	–	215	–	–	–	–	–	–	–	–	–	215	100.00
10 of which: level of energy efficiency estimated	13,297	158	1,052	4,680	2,929	624	3,854								13,297	100.00

The following table 4 discloses exposures to counterparties that are among the top 20 carbon-intensive firms in the world. When reviewing its portfolio of loans and advances, debt securities and equity instruments, Aareal Bank used the most recent available data from the Climate Accountability Institute's Carbon Majors Database (i. e. data from 2018 published in 2020).

The gross carrying amount reported in the table refers to commercial property financings of two special purpose entities belonging to a counterparty listed in the Carbon Major Database. The share of these financings in the aggregate gross carrying amount of the portfolio to be reviewed is a mere 0.19 %.

The aggregate gross carrying amount of exposures which are environmentally sustainable under the objective of climate-change mitigation[1] are to be disclosed in column c, with first disclosure reference date as of 31 December 2023.

[1] Please refer to Article 3 of Regulation (EU) 2020/852 for details on the criteria for classifying an investment as environmentally sustainable ("Taxonomy Regulation").

ESG table 4: Indicators of potential climate change transition risk: Exposures to top 20 carbon-intensive firms

	a	b	c	d	e
	Gross carrying amount (aggregate)	Gross carrying amount towards the counterparties compared to total gross carrying amount (aggregate)	of which: environmentally sustainable (CCM)	Weighted average maturity	Number of top 20 polluting firms included
	€ mn	%	€ mn		
1	85	0.19	–	3	1

Table 5 gives an overview of exposures to chronic and acute climate-related risks of a physical nature. A physical climate-related risk is considered to be acute if it materialises due to extreme events, such as drought, flooding or storms. If it is the result of gradual changes (e.g. rising temperatures, rising sea levels, water stress, biodiversity loss, changes in the use of land, destruction of natural habitats and resource scarcity), it is classified as chronic.

For ease of reference, we limit the presentation by geographies affected by physical climate-related risks resulting from climate change to an exposure breakdown by EU and non-EU geographies.

Information on physical climate-related risks is supplied by an external data provider in the form of risk scores that depict the environmental hazard on a scale and further information from which exposure can be derived. The risk scores take the current and future hazards to the location into account, amongst others. The methodology used to derive the physical risk to a property is conservative in that it also takes risks into account that will not directly cause damage to a building (e.g. drought). The methodology used to derive the physical environmental risk is being reviewed this year, together with the external data provider; it will then be adjusted based on the results of the review.

Column b includes the gross carrying amount of all exposures that must be considered pursuant to Annex II of Commission Implementing Regulation (EU) 2022/2453 regardless of whether they are subject to physical climate-related risks or not. However, the information on maturity breakdown and loss allowance contained in the following columns is limited to exposures subject to acute and/or physical climate-related risks.

While the exposures that must be disclosed by sector of economic activity are limited to non-financial corporations, the information in rows 10 and 11 also considers loans to other counterparties that are collateralised by residential and/or commercial immovable property.

ESG table 5: Indicators of potential climate change physical risks: Exposures subject to physical risk (EU)

		b	c	d	e	f	g	h	i
		Gross carrying amount							
			of which: exposures sensitive to impact from climate change physical events						
			Breakdown by maturity bucket						
			≤ 5 years	> 5 years ≤ 10 years	> 10 years ≤ 20 years	≥ 20 years	Average weighted maturity	of which: exposures sensitive to impact from chronic climate change events	of which: exposures sensitive to impact from acute climate change events
€ mn									
1	A – Agriculture, forestry and fishing	–	–	–	–	–	–	–	–
2	B – Mining and quarrying	–	–	–	–	–	–	–	–
3	C – Manufacturing	–	–	–	–	–	–	–	–
4	D – Electricity, gas, steam and air conditioning supply	0	–	–	–	–	–	–	–

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€ mn	b	c	d	e	f	g	h	i
	Gross carrying amount							
		of which: exposures sensitive to impact from climate change physical events						
		Breakdown by maturity bucket						
		≤ 5 years	> 5 years ≤ 10 years	> 10 years ≤ 20 years	≥ 20 years	Average weighted maturity	of which: exposures sensitive to impact from chronic climate change events	of which: exposures sensitive to impact from acute climate change events
5 E – Water supply; sewerage, waste management and remediation activities	2	–	–	–	–	–	–	–
6 F – Construction	75	74	–	–	–	0	–	–
7 G – Wholesale and retail trade; repair of motor vehicles and motorcycles	75	70	0	–	–	3	–	1
8 H – Transport and storage	1	–	–	–	–	–	–	–
9 L – Real estate activities	12,292	6,739	1,273	193	31	4	178	5,465
10 Loans collateralised by residential immovable property	756	74	35	59	31	12	–	150
11 Loans collateralised by commercial immovable property	12,811	7,680	1,249	136	–	3	209	5,740
12 Repossessed collateral	257	–	–	–	–	–	–	–
13 Other relevant sectors	666	308	3	–	–	2	19	250

€ mn	j	k	l	m	n	o
	Gross carrying amount					
	of which: exposures sensitive to impact from climate change physical events					
	of which: exposures sensitive to impact both from chronic and acute climate change events	of which: Stage 2	of which: non-performing	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions	of which: Stage 2	of which: non-performing
1 A – Agriculture, forestry and fishing	–	–	–	–	–	–
2 B – Mining and quarrying	–	–	–	–	–	–
3 C – Manufacturing	–	–	–	–	–	–
4 D – Electricity, gas, steam and air conditioning supply	–	–	–	–	–	–
5 E – Water supply; sewerage, waste management and remediation activities	–	–	–	–	–	–
6 F – Construction	74	–	74	-11	–	-11
7 G – Wholesale and retail trade; repair of motor vehicles and motorcycles	69	–	–	0	–	–
8 H – Transport and storage	–	–	–	–	–	–
9 L – Real estate activities	2,593	407	421	-119	-2	-107

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€ mn	j	k	l	m	n	o
	Gross carrying amount					
	of which: exposures sensitive to impact from climate change physical events					
	of which: exposures sensitive to impact both from chronic and acute climate change events	of which: Stage 2	of which: non-performing	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions	of which: Stage 2	of which: non-performing
10 Loans collateralised by residential immovable property	49	7	4	0	0	0
11 Loans collateralised by commercial immovable property	3,117	651	554	-166	-4	-152
12 Repossessed collateral	–	–	–	–	–	–
13 Other relevant sectors	37	21	63	-35	0	-35

ESG table 5: Indicators of potential climate change physical risks: Exposures subject to physical risk (non-EU)

€ mn	b	c	d	e	f	g	h	i
	Gross carrying amount							
		of which: exposures sensitive to impact from climate change physical events						
		Breakdown by maturity bucket						
		≤ 5 years	> 5 years ≤ 10 years	> 10 years ≤ 20 years	≥ 20 years	Average weighted maturity	of which: exposures sensitive to impact from chronic climate change events	of which: exposures sensitive to impact from acute climate change events
1 A – Agriculture, forestry and fishing	–	–	–	–	–	–	–	–
2 B – Mining and quarrying	–	–	–	–	–	–	–	–
3 C – Manufacturing	–	–	–	–	–	–	–	–
4 D – Electricity, gas, steam and air conditioning supply	–	–	–	–	–	–	–	–
5 E – Water supply; sewerage, waste management and remediation activities	–	–	–	–	–	–	–	–
6 F – Construction	–	–	–	–	–	–	–	–
7 G – Wholesale and retail trade; repair of motor vehicles and motorcycles	–	–	–	–	–	–	–	–
8 H – Transport and storage	–	–	–	–	–	–	–	–
9 L – Real estate activities	14,102	9,723	230	–	–	3	1,962	954
10 Loans collateralised by residential immovable property	1,007	538	–	–	–	3	29	116
11 Loans collateralised by commercial immovable property	14,777	10,347	230	–	–	3	1,989	885
12 Repossessed collateral	215	–	–	–	–	–	–	–
13 Other relevant sectors	1,526	903	–	–	–	2	56	–

	j	k	l	m	n	o
	Gross carrying amount					
	of which: exposures sensitive to impact from climate change physical events					
	of which: exposures sensitive to impact both from chronic and acute climate change events	of which: Stage 2	of which: non-performing	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions	of which: Stage 2	of which: non-performing
€ mn						
1 A – Agriculture, forestry and fishing	–	–	–	–	–	–
2 B – Mining and quarrying	–	–	–	–	–	–
3 C – Manufacturing	–	–	–	–	–	–
4 D – Electricity, gas, steam and air conditioning supply	–	–	–	–	–	–
5 E – Water supply; sewerage, waste management and remediation activities	–	–	–	–	–	–
6 F – Construction	–	–	–	–	–	–
7 G – Wholesale and retail trade; repair of motor vehicles and motorcycles	–	–	–	–	–	–
8 H – Transport and storage	–	–	–	–	–	–
9 L – Real estate activities	7,037	3,541	436	-197	-33	-152
10 Loans collateralised by residential immovable property	393	–	30	-8	–	-7
11 Loans collateralised by commercial immovable property	7,703	3,759	406	-193	-34	-145
12 Repossessed collateral	–	–	–	–	–	–
13 Other relevant sectors	847	218	–	-3	-1	–

The following table 10 includes loans and advances that do not qualify as environmentally sustainable pursuant to Article 3 of the Taxonomy Regulation and therefore are not taxonomy-aligned, but that support the transition to low-carbon and sustainable economy under the objectives of climate change mitigation and climate change adaptation.

With poor data availability and disclosure obligations entering into force pursuant to Article 10 of Delegated Regulation (EU) 2021/2178 progressively, there are relatively few taxonomy-aligned investment products available in the market at present. It is against this background that we refrained from reviewing green bond frameworks when checking for taxonomy alignment, assuming that the green bonds in the portfolio are not taxonomy-aligned exposures. Our classification is institution-specific. The investment standards applicable to our securities portfolio include ESG principles, including social criteria such as freedom of the press and the corruption index, amongst others.

Green bond proceeds are used to finance different eligible projects in line with the review of the issuers' green bond frameworks. Examples in this context include financings in the realms of renewable energy, sustainable buildings and low-carbon transport infrastructure. These actions serve to reduce transition risks in particular, but also climate change physical risks.

Using our valuation expertise, our many years of experience and property market know-how, along with taking existing market standards into account, we have defined criteria for the ecological value of commercial properties. These form the basis for our "Green Finance Framework – Lending". In addition to the fulfilment of minimum energy efficiency requirements, the existence of certain building certificates of corresponding quality, the requirements for taxonomy-compliant buildings are also considered a qualifying feature of a green loan. This definition was developed together with our in-house experts with the objective of being applicable on a global scale. Sustainalytics GmbH reviewed the developed framework as part of a second opinion with regard to its claim, market conformity and

suitability of the qualification criteria, rating the framework as “credible and impactful”. This independently certified framework provides the basis for the extension of green loans and thus successively aligns the Bank’s loan portfolio with sustainable criteria.

Aareal Bank defines loans as green if they are being used to finance environmentally sustainable and/or sustainably operated properties. This includes loans for building stock, refurbished buildings and new builds, as well as loans for modernisation/refurbishment measures (including renovations or ADC financings) that will allow buildings to reach green building standards or increase their energy efficiency to a defined minimum. As such, our green loans are aimed at reducing the climate change transition risk.

ESG table 10: Other climate change mitigating actions that are not covered in Regulation (EU) 2020/852

		b	c	d	e
		Type of counterparty	Gross carrying amount	Type of risk mitigated	
€ mn				Climate change transition risk	Climate change physical risk
1	Bonds	Financial corporations	88	X	X
2	Bonds	Non-financial corporations	–		
3	Bonds	of which: loans collateralised by commercial immovable property	–		
4	Bonds	Other counterparties	109	X	X
5	Loans	Financial corporations	51	X	X
6	Loans	Non-financial corporations	1,840	X	–
7	Loans	of which: loans collateralised by commercial immovable property	1,670	X	–
8	Loans	Households	–	–	–
9	Loans	of which: loans collateralised by residential immovable property	–	–	–
10	Loans	of which: building renovation loans	–	–	–
11	Loans	Other counterparties	–	–	–

Counterparty Credit Risk

Management of counterparty credit risk

Definition

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.

Risk measurement and monitoring

For information on risk measurement and monitoring of counterparty credit risk, please refer to the chapter “Management of credit risks” of this Disclosure Report (pages 41 et seqq.).

Other qualitative disclosures on counterparty credit risk

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.

Internal limitation of risks from derivative transactions

To assess counterparty credit risk from derivative transactions in the trading business, an internal rating is prepared for all counterparties on a regular or event-driven basis. The internal rating constitutes a key indicator for determining counterparty-specific limits for the derivatives business.

Credit risk mitigation for trading activities

To reduce counterparty risk in Aareal Bank's trading business, the master agreements for financial derivatives and master agreements for securities repurchase transactions (repos) used by the Bank[1)] provide for various credit risk mitigation techniques, via mutual netting framework agreements.

The master agreements for financial derivatives used by the Bank contain netting framework agreements at a single transaction level (so-called "payment netting"), and arrangements for the termination of individual transactions under a master agreement (so-called "close-out netting").

In general, all master agreements are based on the principle of a common agreement. This means that, in the case of a termination, the individual claims are netted, and that only such net amount can and may be claimed with regard to the defaulted counterparty. This claim must not be affected by any insolvency, i.e. it must be legally valid and enforceable. This, in turn, means that the jurisdictions concerned must recognise the concept of a common agreement which protects the net amount of the claim from imminent access by the insolvency administrator.

Above all, the close-out netting is subject to (international) legal risks. The Bank reviews these legal risks by reference to legal opinions regarding the validity and enforceability of mutual netting framework agreements in the case of a counterparty's insolvency. These legal opinions are evaluated based on various criteria such as product type, jurisdiction of the registered office and branch office of the counterparty, individual contract supplements and other criteria, and using a database developed for this purpose. In doing so, the Bank decides for each individual transaction whether or not netting is possible. The Bank uses eligible bilateral netting framework agreements within the meaning of the CRR for all transactions with financial institutions; in most cases there are additional collateral agreements which further reduce the relevant credit risk.

The Bank enters into repo transactions both on a bilateral basis and via Eurex Clearing AG as a central counterparty. For repo transactions, depending on the counterparty, payment or delivery netting is agreed upon. Master agreements for repo transactions generally contain provisions on close-out netting. So far, the Bank does not use the option permitted by regulatory authorities to reduce capital requirements for repo transactions.

Furthermore, counterparty credit risk is reduced through derivatives settlement via central counterparties (CCPs): Aareal Bank uses Eurex Clearing AG and LCH Limited.

[1)] Any comments below referring to the German Master Agreement on Financial Derivatives (Deutscher Rahmenvertrag für Finanztermingeschäfte – "DRV") also pertain to the master agreement issued by the International Swaps and Derivatives Association Inc. (ISDA) (the "ISDA Master Agreement"). Both agreements are standardised agreements recommended by leading associations – among others, by the Association of German Banks (Bundesverband deutscher Banken–"BdB").

The Bank uses an internal rating system to assess the credit quality of counterparties. Credit Transaction Management is responsible for the daily valuation of the Bank's trades, including collateral accepted or pledged, and using validated valuation procedures.

Collateral for derivative transactions is usually provided in cash. Repo transactions are usually collateralised through securities, pledged on a daily basis.

Some collateral agreements provide for higher collateral levels in the event of material downgrades to a contracting party's rating.

Loss allowance

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

For the purpose of regulatory reporting, the equivalent value of derivatives and the related counterparty credit risk are determined according to the standardised approach for measuring counterparty credit risk (SA-CCR) (Article 274 et seqq. of the CRR). For this reason, disclosure of table EU CCR7 (RWA flow statements of credit risk exposures, the counterparty credit risks of which are measured taking the internal model method into consideration) is not required.

Quantitative disclosures on counterparty credit risk

Pursuant to Article 439 of the CRR, Aareal Bank is obliged to disclose details on the methods of calculating 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.

EU CCR1: Analysis of CCR exposures by approach

		a	b	c	d	e	f	g	h
€ mn		Replacement cost	Potential future exposure	Effective expected positive exposure (EEPE)	Alpha used for computing regulatory exposure value	Exposure value pre-CRM	Exposure value post-CRM	Exposure value	RWAs
EU-1	EU – Original Exposure Method (for derivatives)	–	–		1.4	–	–	–	–
EU-2	EU – Simplified SA-CCR (for derivatives)	–	–		1.4	–	–	–	–
1	SA-CCR (for derivatives)	19	296		1.4	1,414	441	441	188
2	IMM (for derivatives and SFTs)			–	1.4	–	–	–	–
2a	of which: securities financing transactions netting sets			–		–	–	–	–

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€ mn		a Replacement cost	b Potential future exposure	c Effective expected positive exposure (EEPE)	d Alpha used for computing regulatory exposure value	e Exposure value pre-CRM	f Exposure value post-CRM	g Exposure value	h RWAs
2b	of which: derivatives and long settlement transactions netting sets			–		–	–	–	–
2c	of which: from contractual cross-product netting sets			–		–	–	–	–
3	Financial collateral simple method (for SFTs)					–	–	–	–
4	Financial collateral comprehensive method (for SFTs)					93	2	2	–
5	VaR for SFTs					–	–	–	–
6	**Total**					**1,507**	**443**	**443**	**188**

The following table, EU CCR2, gives an overview of the credit valuation adjustment (CVA) calculations, resulting in additional capital requirements aimed at absorbing the risk of a negative change in the market value of OTC derivatives in 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.

EU CCR2: Transactions subject to own funds requirements for CVA risk

€ mn		a EAD	b RWAs
1	Transactions subject to the advanced method	–	–
2	i) VaR component (including the 3x multiplier)		–
3	ii) Stressed VaR component (sVaR, including the 3x multiplier)		–
4	Transactions subject to the standardised method	431	194
EU-4	Transactions subject to the alternative approach (based on the original exposure method)	–	–
5	**Total transactions subject to own funds requirements for CVA risk**	**431**	**194**

Table EU CCR8 discloses the exposure value and risk-weighted exposure (RWA) for exposures to central counterparties. As at the reporting date, Eurex Clearing AG (in short: Eurex) and LCH Limited (which are both qualified counterparties) acted as central counterparties to Aareal Bank. There were no exposures to non-qualified CCPs as at the reporting date of 31 December 2022. In accordance with Article 306 (2) of the CRR, for the purpose of solvency reporting, Aareal Bank assigns an exposure value of zero to initial margin pledged to Eurex and LCH Limited.

EU CCR8: Exposures to CCPs

€ mn		a EAD	b RWAs
1	**Exposures to QCCPs (total)**		**2**
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which:	41	1
3	(i) OTC derivatives	41	1
4	ii) Exchange-traded derivatives	–	–
5	iii) SFTs	–	–
6	iv) Netting sets where cross-product netting has been approved	–	–
7	Segregated initial margin	267	

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€ mn		a EAD	b RWAs
8	Non-segregated initial margin	–	–
9	Pre-funded default fund contributions	8	1
10	Unfunded default fund contributions	–	–
11	**Exposures to non-QCCPs (total)**		**–**
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which:	–	–
13	(i) OTC derivatives	–	–
14	ii) Exchange-traded derivatives	–	–
15	iii) SFTs	–	–
16	iv) Netting sets where cross-product netting has been approved	–	–
17	Segregated initial margin	–	
18	Non-segregated initial margin	–	–
19	Pre-funded default fund contributions	–	–
20	Unfunded default fund contributions	–	–

Table EU CCR3 discloses the exposure amount after mitigating credit risk of all counterparty credit risk exposures to which the 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.

EU CCR3: Credit Risk Standard Approach – CCR exposures by regulatory exposure class and risk weights

Exposure classes	Risk weight											
	a	b	c	d	e	f	g	h	i	j	k	l
€ mn	0 %	2 %	4 %	10 %	20 %	50 %	70 %	75 %	100 %	150 %	Other	Total
1 Central governments or central banks	–	–	–	–	–	–	–	–	–	–	–	**–**
2 Regional governments or local authorities	–	–	–	–	–	–	–	–	–	–	–	**–**
3 Public-sector entities	–	–	–	–	–	–	–	–	–	–	–	**–**
4 Multilateral development banks	–	–	–	–	–	–	–	–	–	–	–	**–**
5 International organisations	–	–	–	–	–	–	–	–	–	–	–	**–**
6 Institutions	–	41	–	–	134	290	–	–	–	–	–	**464**
7 Corporates	–	–	–	–	–	7	–	–	1	–	–	**9**
8 Retail	–	–	–	–	–	–	–	–	–	–	–	**–**
9 Institutions and corporates with a short-term credit assessment	–	–	–	–	–	–	–	–	–	–	–	**–**
10 Other exposures	–	–	–	–	–	–	–	–	–	–	–	**–**
11 Total	**–**	**41**	**–**	**–**	**134**	**297**	**–**	**–**	**1**	**–**	**–**	**473**

The following table EU CCR4 shows the derivative exposures treated in AIRBA – by analogy with the table EU CR6 within clearly-defined PD classes. IRBA exposures classified as specialised lending as at the reporting date under review do not include any derivative exposures.

Certain derivatives fulfil the conditions set out in Article 274 (5) of the CRR; as a result, they are shown with a zero risk exposure value.

The derivatives held by Aareal Bank Group, and entered into with internally rated property clients 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.

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

Exposure class	PD scale	a	b	c	d	e	f	g
		Exposure value	Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA density
		€ mn	%		%	Years	€ mn	%
Corporates – SMEs	0.00 to < 0.15	–	–	–	–	–	–	–
	0.15 to < 0.25	1	0.19	2	90.00	3	1	60.28
	0.25 to < 0.50	2	0.34	11	90.00	3	1	81.93
	0.50 to < 0.75	3	0.55	12	90.00	2	4	104.45
	0.75 to < 2.50	3	1.52	16	90.00	2	5	142.61
	2.50 to < 10.00	–	–	4	–		–	–
	10.00 to < 100.00	–	–	–	–	–	–	–
	100.00 (Ausfall)	–	–	–	–	–	–	–
	Subtotal	**10**	**0.78**	**45**	**90.00**	**2**	**11**	**106.42**
Corporates – Others	0.00 to < 0.15	–	–	–	–	–	–	–
	0.15 to < 0.25	–	–	–	–	–	–	–
	0.25 to < 0.50	–	–	4	–	–	–	–
	0.50 to < 0.75	0	0.55	3	90.00	2	1	153.70
	0.75 to < 2.50	–	–	6	–	–	–	–
	2.50 to < 10.00	–	–	1	–	–	–	–
	10.00 to < 100.00	–	–	–	–	–	–	–
	100.00 (Ausfall)	–	–	–	–	–	–	–
	Subtotal	**0**	**0.55**	**14**	**90.00**	**2**	**1**	**153.70**
	Total	**10**	**0.77**	**59**	**90.00**	**2**	**11**	**108.25**

Pursuant to Article 439 lit. e) of the CRR, Aareal Bank is obliged to disclose information on collateral received or posted in table EU CCR5. For this purpose, this collateral must be broken down by type of financial instrument, and by segregated and non-segregated collateral. Collateral is deemed to be segregated if client assets are bankruptcy-remote as defined in Article 300 no. 1 of the CRR.

EU CCR5: Composition of collateral for CCR exposures

		a	b	c	d	e	f	g	h
		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	Segregated	Unsegregated	Segregated	Unsegregated
€ mn									
1	Cash – domestic currency	–	75	0	1,693	–	–	–	–
2	Cash – other currencies	104	150	32	–	–	–	–	–
3	Domestic sovereign debt	–	–	–	–	–	–	–	–
4	Other sovereign debt	–	–	111	–	–	–	–	–
5	Government agency debt	–	–	58	–	–	–	–	–
6	Corporate bonds	–	–	–	–	–	–	–	–
7	Equity securities	–	–	–	–	–	–	–	–
8	Other collateral	–	–	98	–	–	–	–	93
9	**Total**	**104**	**225**	**299**	**1,693**	**–**	**–**	**–**	**93**

As the Bank currently does not hold any credit derivatives, disclosure of the information required under Article 439 lit. j) of the CRR in table EU CCR6 is not included.

Liquidity Risks

Management of liquidity risks

Definition

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 processes have been designed to cover not only the liquidity risk in the narrower sense (insolvency risk), but also market liquidity risk and refinancing risk, including cost risk which is measured and limited accordingly as a component of the IRRBB. All elements have been integrated in an overarching ILAAP, which maps liquidity risks in both the normative and the economic perspective. Within the framework of Group planning, the Bank considers not only ICAAP risk parameters, but also ILAAP risk parameters for a three-year horizon.

Liquidity risk strategy

The objective of the liquidity risk strategy is to ensure the Bank's solvency at all times, even in the case of serious crisis events. The degree of crisis events to be covered is determined by Aareal Bank's risk appetite and reflected in the risk tolerances.

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. In addition to the issuance of Pfandbriefe, which make up a significant share of its long-term funding, Aareal Bank uses a wide range of other refinancing tools, including senior preferred and senior non-preferred bonds, as well as other promissory notes, bonds and Euro Commercial Paper (ECP). Depending on market conditions, the Bank places large-sized public issues or private placements. The targeted maturity of the refinancings is generally based on the maturity profiles of the credit portfolio. In addition, the Bank aims to achieve a balanced maturity structure of liabilities. In this context, the respective market conditions and investor demand are taken into account. In the Banking & Digital Solutions segment, the Bank also generates deposits from the housing industry, which represent a strategically important additional source of funding. Furthermore, it has recourse to institutional money market investor deposits and enters into repo transactions in the interbank market and on Eurex as well as into open market transactions with the ECB as required. To raise funds from retail deposits, Aareal Bank launched several cooperations in the year under review by way of a trust model, for example, with Raisin and Deutsche Bank ZinsMarkt.

Risk measurement and monitoring

Treasury is responsible for managing liquidity risks, and thus for the strategic and tactical management of liquidity risk for Aareal Bank Group within the framework of the defined limits and directions, whilst Risk Controlling ensures the continuous monitoring, including a daily liquidity report submitted to Treasury, and a contribution to the monthly risk report to the entire Management Board. Aareal Bank generally aims to monitor liquidity risks across all of its entities using standardised methods and procedures. This applies also if companies are taken over. The following tools are used for this purpose:

Cash flow forecast

We have developed a cash flow forecast, tracking cash flows from all balance sheet items and derivatives, on a daily basis, over a ten-year period. This liquidity risk information helps to assess the Bank's short-term liquidity position, broken down by currency or product. Strategic liquidity is taken into account using this ten-year cash flow profile. We use statistical modelling to incorporate the expected cash flow profile of products without a fixed contractual lifetime.

Liquidity run-off profile

The appropriateness of the Bank's liquidity from an economic perspective is assessed using a liquidity run-off profile (liquidity risk model): the aggregate of all conservatively expected cash inflows and outflows over a three-month period is compared to the liquidity

stock. This liquidity stock comprises all assets that can be liquidated at very short notice. The difference of both figures (in absolute terms) indicates excess liquidity, once all claims assumed in the run-off profile have been fulfilled through the liquidity stock. There were no liquidity shortages throughout the period under review.

Time to illiquidity

To safeguard adequate liquidity beyond the three-month horizon covered by the liquidity run-off profile, we use the concept of time to illiquidity as a parameter. For this purpose, a liquidity run-off profile was developed which compares liquidity requirements occurring with the liquidity stock, for a one-year period. Time to illiquidity ("TtI") denotes the remaining period (expressed in days) during which Aareal Bank Group can be regarded as sufficiently liquid, even under adverse conditions. In other words, liquidity requirements (including security add-ons for adverse future events) do not exceed the liquidity stock. The calculations are based on contractual cash flows and the short-term risk assessment methodology (liquidity run-off profile), as well as the portfolio development within the current plan scenario.

Funding profile

Diversifying the Bank's funding profile by type of investor, and by product, represents a further key aspect of our approach to liquidity risk management. Core sources of funding such as client deposits and funds invested by institutional clients – alongside covered and uncovered bond issues – constitute the foundation of our liability profile.

Generally, in addition to deposits from housing industry clients and institutional investors, Aareal Bank also uses interbank and repo transactions for short-term refinancing, the latter being used primarily to manage liquidity and cash positions.

Aareal Bank Group is solidly funded, which is underscored by its major share of long-term funding. This encompasses registered and bearer Pfandbriefe, promissory note loans, medium-term notes, other bonds and subordinated capital. As they legally qualify as debt securities, ECP are included as well, even though they usually have a term of less than one year. Subordinated capital includes subordinated liabilities and the Additional Tier 1 (AT1) bond.

Concentration limits

Besides the pure measurement of risk indicators, we also monitor concentrations of liquid assets and of funding sources, determining the percentage share of the ten largest counterparties and/or positions, relative to the total portfolio.

A limit is set for each indicator in order to restrict the dependency upon individual positions or counterparties.

LCR forecast

We have developed the LCR forecast as a measurement tool designed to ensure that we maintain compliance with the regulatory Liquidity Coverage Ratio. A preview of the Liquidity Coverage Ratio is calculated over a horizon of up to three years, determining the ratio of highly liquid assets to cumulative net cash outflows for various end-of-month dates – thus identifying any potential liquidity shortfalls or reserves.

NSFR forecast

The NSFR forecast, which is a projection of the Net Stable Funding Ratio over a period of up to three years, represents another important component of our liquidity management. This measurement tool allows us to forecast the regulatory Net Stable Funding Ratio for future dates, thus identifying any potential liquidity shortfalls or reserves in terms of the NSFR at an early stage.

Long Term LAB

The long-term liquidity run-off profile (Long Term LAB) provides a forecast of the economic perspective and enables an outlook of the liquidity run-off profile (liquidity risk model) over a period of up to three years. This liquidity run-off profile compares the expected liquidity requirements and available liquidity for different scenarios at various points in time in the future; thus, any potential liquidity shortfalls or liquidity reserves arising in the future are identified with regard to the liquidity run-off profile.

Stress testing

Moreover, we employ stress tests and scenario analyses to assess the impact of sudden stress events onto the Bank's liquidity situation. This involves conducting historical as well as hypothetical stress tests for all material risks. In order to be able to assess cross-relation-

ships between the various types of risk, we also apply both risk type-specific and cross-risk type scenarios (so-called global stress tests), supplemented by additional inverse stress tests. The results of the listed stress analyses are reported to the Management Board on a quarterly basis.

As part of the daily reporting, various standardised liquidity-specific scenarios, which include at least one historic, one idiosyncratic and one combined scenario, are evaluated based on the liquidity run-off profile. We generally consider the withdrawal of deposits from the housing industry as the most significant scenario. Even in this stress scenario, liquidity is sufficient to cover the expected liquidity needs under stress conditions.

Liquidity emergency plan

Aareal Bank AG's liquidity emergency plan describes the governance regulations, internal provisions as well as roles in the wake of a liquidity crisis, and reflects the Bank's liquidity-specific risk profile. In addition, the plan defines qualitative and quantitative early warning indicators and the measures to remedy liquidity bottlenecks under stress conditions. This ensures that material potential disruptions of the Bank's funding capacity can be addressed in a timely and appropriate manner.

Liquidity Coverage Ratio

The 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 must amount to at least 100%.

The calculation of the LCR is based on the market values of liquid assets and cash flows from all asset and liability items.

The following table is based on the requirements set out in Annex XIV of Commission Implementing Regulation (EU) 2021/637 on the disclosure of the Liquidity Coverage Ratio. Quantitative details are disclosed using the weighted and unweighted average values of the last 12 reporting days of the respective quarter.

The table EU LIQ1 contains all positions that Aareal Bank deems relevant for its liquidity profile.

EU LIQ1: Quantitative information of LCR

Scope of consolidation		a	b	c	d	e	f	g	h
		Total unweighted value (average)				Total weighted value (average)			
		Quarter ending on 31 Mar 2022	Quarter ending on 30 Jun 2022	Quarter ending on 30 Sep 2022	Quarter ending on 31 Dec 2022	Quarter ending on 31 Mar 2022	Quarter ending on 30 Jun 2022	Quarter ending on 30 Sep 2022	Quarter ending on 31 Dec 2022
€ mn									
EU 1b	Number of data points used for the calculation of averages	12	12	12	12	12	12	12	12
	High-quality liquid assets								
1	Total high-quality liquid assets (HQLA)					6,775	6,750	7,175	7,662
	Cash outflows								
2	**Retail deposits and deposits from small business customers, of which:**	**5,697**	**5,798**	**5,889**	**5,959**	**302**	**307**	**311**	**314**
3	Stable deposits	5,322	5,431	5,520	5,604	266	272	276	280
4	Less stable deposits	350	343	341	332	36	35	35	34
5	**Unsecured wholesale funding**	**6,670**	**7,112**	**7,609**	**8,178**	**2,429**	**2,634**	**2,892**	**3,228**
6	Operational deposits (all counterparties) and deposits in networks of cooperative banks	4,314	4,510	4,717	4,813	1,035	1,083	1,134	1,157

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Scope of consolidation		a	b	c	d	e	f	g	h
		Total unweighted value (average)				Total weighted value (average)			
		Quarter ending on 31 Mar 2022	Quarter ending on 30 Jun 2022	Quarter ending on 30 Sep 2022	Quarter ending on 31 Dec 2022	Quarter ending on 31 Mar 2022	Quarter ending on 30 Jun 2022	Quarter ending on 30 Sep 2022	Quarter ending on 31 Dec 2022
€ mn									
7	Non-operational deposits (all counterparties)	2,242	2,440	2,699	3,096	1,280	1,389	1,565	1,802
8	Unsecured debt	114	162	193	269	114	162	193	269
9	**Secured wholesale funding**					**–**	**–**	**–**	**5**
10	**Additional requirements**	**1,148**	**1,199**	**1,323**	**1,520**	**258**	**344**	**457**	**604**
11	Outflows related to derivative exposures and other collateral requirements	159	247	345	481	154	242	340	455
12	Outflows related to loss of funding on debt products	3	4	15	41	3	4	15	41
13	Credit and liquidity facilities	986	948	963	998	101	98	102	108
14	**Other contractual funding obligations**	**132**	**119**	**150**	**146**	**108**	**95**	**126**	**121**
15	**Other contingent funding obligations**	**1,485**	**1,525**	**1,410**	**1,169**	**190**	**254**	**238**	**202**
16	**Total cash outflows**					**3,287**	**3,634**	**4,024**	**4,474**
	Cash inflows								
17	Secured lending (e. g. reverse repos)	106	99	140	246	7	7	10	32
18	Inflows from fully performing exposures	531	589	663	716	370	429	474	507
19	Other cash inflows	172	236	229	219	172	236	229	219
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**	**809**	**924**	**1,032**	**1,181**	**549**	**672**	**713**	**758**
EU-20a	Fully exempt inflows	–	–	–	–	–	–	–	–
EU-20b	Inflows subject to 90 % cap	–	–	–	–	–	–	–	–
EU-20c	Inflows subject to 75 % cap	809	924	1,033	1,180	548	672	713	757
						Total adjusted value			
EU-21	**Liquidity buffer**					**6,775**	**6,750**	**7,175**	**7,662**
22	**Total net cash outflows**					**2,740**	**2,961**	**3,311**	**3,718**
23	**Liquidity Coverage Ratio (%)**					**248.54 %**	**231.23 %**	**220.27 %**	**207.42 %**

A large portion of securities held in the Treasury portfolio serve as the Bank's liquidity reserve, both from an economic and a normative perspective. 81 % of the Treasury portfolio fulfils the criteria for inclusion as high-quality liquid assets (HQLA); high quality and value stability play a decisive role in this respect.

The Bank's HQLA predominantly comprise the asset class "public-sector borrowers" and deposits with central banks. Key drivers impacting LCR results are largely related to changes in our asset portfolio, as well as outflows connected with housing industry business.

The LCR at Group level exceeded 170 % on all reporting dates over the past twelve months, largely due to the high levels of HQLA held.

Regarding the causes of LCR changes over time, reference is made to the explanations in the chapter "Overview of regulatory key metrics".

Concentration of funding sources

In addition to the issuance of Pfandbriefe, which make up a significant share of its long-term funding, Aareal Bank uses a wide range of other refinancing tools, including senior preferred and senior non-preferred bonds, as well as other promissory notes and bonds. Depending on market conditions, the Bank places large-sized public issues or private placements. In the Banking & Digital Solutions segment, the Bank also generates deposits from the housing industry, which represent a strategically important additional source of funding. Furthermore, it has recourse to institutional money market investor deposits.

Diversifying the Bank's funding profile by type of investor, and by product, represents a key aspect to Aareal Bank's approach to liquidity risk management. Besides the pure measurement of risk indicators, the concentrations of funding sources are also monitored. For this purpose, the percentage share of the ten largest counterparties and/or positions in relation to the total portfolio are determined.

A limit is set for each indicator in order to restrict the dependencies upon individual positions or counterparties.

Currency mismatches in the Liquidity Coverage Ratio

Pursuant to Article 415 (2) of the CRR, Aareal Bank Group currently has no significant foreign currency exposure in its portfolio. As at 31 December 2022, the largest foreign currency portfolio in USD amounts to 2.46 % 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. As at the reporting date, the annual average of additional liquidity requirements stood at € 398 million.

Net Stable Funding Ratio

As opposed to the LCR, the focus of the NSFR – to be disclosed as at the reporting date – is exclusively on holdings of assets and liabilities as well as on off-balance sheet items (contingent liabilities). The fundamental idea of the NSFR is that the repayment structure of an institution's asset and liability items should largely correspond to each other so that the institution is able to refinance less liquid asset items using the respective non-current liabilities, even under stress conditions.

To calculate the NSFR, available stable funding (ASF) is set in relation to the required stable funding (RSF).

In addition to liquid assets, the LCR only includes items that are due within 30 days, while the NSFR comprises all of the institution's balance sheet holdings according to their remaining term. In contrast to the LCR, which is based on the market values of liquid assets and cash flows from all asset and liability items, the NSFR calculation uses the balance sheet as a reference and is therefore generally based on the carrying amounts.

In accordance with Article 451a (3) lit. a) of the CRR, the quarter-end figures shall be published for each quarter of the relevant disclosure period. As a large institution, Aareal Bank is bound to disclose its NSFR information on a semi-annual basis. Therefore, in principle, the Bank shall publish its figures for the respective current disclosure date as well as for the previous quarter.

The following table EU LIQ2 generally discloses the carrying amount as the unweighted value by residual maturity (columns a to d). However, derivatives at fair value are excluded from this. The weighted value of stable funding disclosed in column e is the product of the unweighted value and the factors defined in the CRR for individual asset and liability items.

The available stable funding items disclosed in column a ("no maturity") are either unlimited or have no maturity specifications.

EU LIQ2: Net Stable Funding Ratio as at 31 December 2022

		a	b	c	d	e
		Unweighted value by residual maturity				
€ mn		No maturity	< 6 months	6 months to < 1 year	≥ 1 year	Weighted value
	Available stable funding (ASF) Items					
1	**Capital items and instruments**	**2,764**	**1**	**5**	**399**	**3,163**
2	Own funds	2,764	1	5	290	3,054
3	Other capital instruments		–	–	109	109
4	**Retail deposits**		**6,124**	**1**	**0**	**5,804**
5	Stable deposits		5,813	1	0	5,524
6	Less stable deposits		311	–	–	280
7	**Wholesale funding**		**11,890**	**2,857**	**18,561**	**24,052**
8	Operational deposits		4,548	–	–	488
9	Other wholesale funding		7,342	2,857	18,561	23,564
10	**Interdependent liabilities**		**–**	**–**	**–**	**–**
11	**Other liabilities**	**113**	**246**	**79**	**222**	**262**
12	NSFR derivative liabilities	113				
13	All other liabilities and capital instruments not included in the above categories		246	79	222	262
14	**Total available stable funding (ASF)**					**33,280**
	Required stable funding (RSF) Items					
15	**Total high-quality liquid assets (HQLA)**					**398**
EU-15a	**Assets encumbered for a residual maturity of one year or more in a cover pool**		**181**	**1,406**	**12,673**	**12,121**
16	**Deposits held at other financial institutions for operational purposes**		**–**	**–**	**–**	**–**
17	**Performing loans and securities**		**1,849**	**1,849**	**13,254**	**13,092**
18	Performing securities financing transactions with financial customers collateralised by Level 1 HQLA subject to 0 % haircut		–	–	–	–
19	Performing securities financing transactions with financial customer collateralised by other assets and loans and advances to financial institutions		158	199	359	474
20	Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, and PSEs, of which:		1,647	1,645	12,391	12,319
21	with a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk		298	9	390	627
22	Performing residential mortgages, of which:		44	5	177	–
23	with a risk weight of less than or equal to 35 % under the Basel II Standardised Approach for credit risk		44	5	177	–
24	Other loans and securities that are not in default and do not qualify as HQLA, including exchange-traded equities and trade finance on-balance sheet products		–	–	327	298
25	**Interdependent assets**		**–**	**–**	**–**	**–**

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€ mn		a	b	c	d	e
		Unweighted value by residual maturity				
		No maturity	< 6 months	6 months to < 1 year	≥ 1 year	Weighted value
26	**Other assets**	**–**	**2,363**	**118**	**1,671**	**2,110**
27	Physically traded commodities				–	–
28	Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs		–	–	349	297
29	NSFR derivative assets		–			–
30	NSFR derivative liabilities before deduction of variation margin posted		1,840			92
31	All other assets not included in the above categories		523	118	1,321	1,721
32	**Off-balance sheet items**		**69**	**60**	**1,462**	**95**
33	**Total RSF**					**27,816**
34	**Net Stable Funding Ratio (%)**					**119.64 %**

EU LIQ2: Net Stable Funding Ratio as at 30 September 2022

€ mn		a	b	c	d	e
		Unweighted value by residual maturity				
		No maturity	< 6 months	6 months to < 1 year	≥ 1 year	Weighted value
	Available stable funding (ASF) Items					
1	**Capital items and instruments**	**2,689**	**1**	**7**	**418**	**3,115**
2	Own funds	2,689	1	7	316	3,014
3	Other capital instruments		–	–	102	102
4	**Retail deposits**		**6,041**	**1**	**0**	**5,723**
5	Stable deposits		5,698	0	0	5,414
6	Less stable deposits		343	1	–	309
7	**Wholesale funding**		**13,688**	**6,609**	**18,151**	**26,195**
8	Operational deposits		4,990	–	–	629
9	Other wholesale funding		8,698	6,609	18,151	25,566
10	**Interdependent liabilities**		**–**	**–**	**–**	**–**
11	**Other liabilities**	**194**	**277**	**26**	**205**	**218**
12	NSFR derivative liabilities	194				
13	All other liabilities and capital instruments not included in the above categories		277	26	205	218
14	**Total available stable funding (ASF)**					**35,252**
	Required stable funding (RSF) Items					
15	**Total high-quality liquid assets (HQLA)**					**1,709**
EU-15a	**Assets encumbered for a residual maturity of one year or more in a cover pool**		**28**	**144**	**13,528**	**11,645**
16	**Deposits held at other financial institutions for operational purposes**		**–**	**–**	**–**	**–**

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		a	b	c	d	e
		Unweighted value by residual maturity				
€ mn		No maturity	< 6 months	6 months to < 1 year	≥ 1 year	Weighted value
17	**Performing loans and securities**		**3,705**	**1,720**	**14,473**	**14,312**
18	Performing securities financing transactions with financial customers collateralised by Level 1 HQLA subject to 0 % haircut		–	–	–	–
19	Performing securities financing transactions with financial customer collateralised by other assets and loans and advances to financial institutions		1,754	22	591	700
20	Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, and PSEs, of which:		1,945	1,542	13,174	13,221
21	with a risk weight of less than or equal to 35% under the Basel II Standardised Approach for credit risk		306	49	360	764
22	Performing residential mortgages, of which:		6	156	274	–
23	with a risk weight of less than or equal to 35 % under the Basel II Standardised Approach for credit risk		6	156	274	–
24	Other loans and securities that are not in default and do not qualify as HQLA, including exchange-traded equities and trade finance on-balance sheet products		–	–	433	390
25	**Interdependent assets**		**–**	**–**	**–**	**–**
26	**Other assets**	**–**	**3,188**	**220**	**1,734**	**2,341**
27	Physically traded commodities				–	–
28	Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs		–	–	340	289
29	NSFR derivative assets		–			–
30	NSFR derivative liabilities before deduction of variation margin posted		2,682			134
31	All other assets not included in the above categories		506	220	1,393	1,917
32	**Off-balance sheet items**		**153**	**72**	**1,763**	**136**
33	**Total RSF**					**30,141**
34	**Net Stable Funding Ratio (%)**					**116.95 %**

Assets and liabilities are considered interdependent if they have the same capital amounts and maturity structures and if the role of the reporting institution is limited to transferring the funds from liabilities to assets (Article 428 et seq. of the CRR). These liabilities and assets can be included in the calculation of the NSFR with a weighting of 0 % of the RSF and ASF, if the competent authorities have approved their classification as interdependent. Aareal Bank refrains from obtaining such approval until further notice.

Operational Risks

Management of operational risks

Definition

The Bank defines operational risk as the threat of losses caused by inappropriate internal procedures, human resources and systems (or their failure), or through external events. This definition also includes legal risks. To the extent that they are caused by operational risks, ESG risk factors as well as model and reputational risks are also taken into consideration within this type of risk.

Risk strategy

The primary purpose of the risk strategy is to provide strategic guidance on the conscious and professional handling of operational risk. The strategy covers the organisational framework as well as the fundamentals of reporting related to this topic, supplementing and specifying the existing central rules set out in the Risk Appetite Framework.

To facilitate a holistic risk management of operational risk, Aareal Bank has implemented a governance structure which puts the "three lines of defence" concept into operational practice. Given that, in principle, the management approach is organised in a decentralised manner, located in the various divisions or subsidiaries, there is a distinct emphasis on a strong first line of defence which is responsible for risks on a single-risk basis. The centralised OpRisk Controlling department, which is part of the Non-Financial Risks (NFR) division, monitors the first-line activities as an independent second line of defence. In this context, the general second line of defence is supplemented by specialised monitoring functions known as "specialist second lines".

Process risks are addressed through the internal control system (ICS). The design of Aareal Bank Group's ICS emphasises mitigating material process-inherent risks through appropriate and effective key controls which are compiled in a dedicated inventory.

The NFR division is responsible for monitoring compliance risks, as well as risks related to financial crime. The Group-wide objective of the compliance management system is to mitigate liability risks in the form of potential fines and penalties for the Bank or its subsidiaries and their board members. In addition, Aareal Bank Group's positive reputation as a group of companies with integrity vis-à-vis external stakeholders such as business partners, counterparties and investors is to be maintained and further strengthened. The Anti Financial Crime strategy serves to manage risks related to money laundering, terrorist financing, sanction breaches and fraud in a professional and conscious manner. It encompasses applicable qualitative standards (for example, listing businesses areas and sectors not served) and quantitative key risk indicators (such as thresholds for high-risk clients and politically exposed persons) for the purpose of risk monitoring.

In order to mitigate legal risks, Aareal Bank's central Legal department and decentralised legal units monitor any litigation the Bank is involved in (whether in court or out-of-court), and deal with any legal issues of fundamental importance, and provide legal advice on day-to-day business. Legal compiles all information concerning any legal disputes involving Aareal Bank Group, whether in or out of court. The Bank's decentralised operating legal entities, as well as the legal departments of subsidiaries submit quarterly reports on legal risks identified to Aareal Bank's legal department; where particular risks have occurred, such reports are submitted on an event-driven basis. When required, Aareal Bank's legal department discusses and coordinates any concrete measures with the reporting unit. The legal department reports to the Management Board, (at least) on a quarterly basis, as well as on an event-driven basis. Tax risks including related legal risks are monitored and managed separately by Aareal Bank's tax department. The tax compliance management system actively reduces the risk related to tax law compliance and fraud cases, for example by setting standardised work instructions and controls, both within the tax department and in interfaces with other divisions.

Information Security & Data Protection has central responsibility for monitoring risks affecting operational resilience. The division defines Bank-wide requirements and initiates different measures to mitigate information security risk and to achieve the level of security targeted in the Information Security Framework Directive. This includes raising awareness amongst internal and external employees through corresponding training courses and the exchange of information on cyber threats via the communication channels with ECB, BaFin and BSI. To mitigate outsourcing risk, the responsible outsourcing organisational units regularly assess the performance of external

service providers, using defined criteria. The results of this process, and control measures taken, are consolidated and communicated to the Bank's Management. Business Continuity Management (BCM) mitigates business continuity risks by defining the emergency organisation, setting out and testing emergency and crisis plans for the Bank's business processes identified as time-critical. Business will be managed in accordance with these plans in the event of an emergency or crisis.

Risk measurement and monitoring

It is the objective of the policy pursued by Aareal Bank to achieve a risk-minimising or loss-limiting effect at an early stage by employing a pro-active approach.

The Bank currently uses the following risk control tools to manage operational risks:

- self-assessments: analysis thereof can provide management with indicators of any potential risks within the organisational structure;
- risk inventories and subsequent risk assessments that include a periodic systematic identification and compilation of all relevant risks and their qualitative and quantitative assessment;
- a loss database, in which relevant risk events incurred are reported, and in which they can be monitored until they are officially closed;
- operational risk indicators for all risk levels that show current threat potential using a defined "traffic light" system;
- stress tests based on hypothetical as well as historical scenarios and sensitivity analyses of risk inventory data, carried out in order to gain indicators for developments which may potentially threaten the Bank's continued existence.

Data is collected on a decentralised basis and all material operational risks of the Group compiled centrally.

The controlling tools described above are used to prepare the regular risk reporting to the Bank's senior management. Taken together, these tools for managing operational risks result in an integrated control circuit which leads to risk identification, evaluation, and management – through to risk control. The responsibility for implementing operative risk-reducing measures rests with those responsible for the Bank's risk management. The utilisation of freely available funds for operational risks – as part of the Bank's risk-bearing capacity – is determined using the regulatory standardised approach under Pillar I.

No material risk concentrations were evident in the 2022 financial year. Loss cases are recorded in the loss database on an ongoing basis. The aggregate impact of such losses during the year under review amounted to less than 5% of the regulatory capital to be maintained for operational risks. Additional operational risk management tools – in particular, the monitoring of indicators, scenario analysis and the self-assessment – do not indicate potential elevated risk either.

For information on the responsibilities in connection with operational risks on organisational unit level, we refer to the overview in the chapter "Risk management – scope of application and areas of responsibility" in this Disclosure Report (page 8).

Regulatory assessment

The capital charge for the Group's operational risks is calculated according to the Standardised Approach pursuant to Article 317 et seqq. of the CRR.

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)]

[1)] Due to the fact that the CRR does not provide for a separate adequate business line for the Banking & Digital Solutions segment, 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).

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 information included in relation to the relevant indicator is based on segment reporting as at financial year end based on the regulatory scope of consolidation pursuant to IFRSs. 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).

The following table provides an overview of the calculation of own funds requirements and of the RWA for the operational risk based on the Basic Indicator Approach and the Standardised Approach. The regulatory capital requirements for operational risk as determined under the Standardised Approach are the three-year average of the combined total of the own funds requirements of each business line and taking into consideration the reporting dates set out in the table. In this context, the annual regulatory capital requirements of a business line equal the product of the beta factor defined for each business line and the relevant indicator calculated for each business line.

The “commercial banking” business line accounts for 92.5 % of the relevant indicator.

EU OR1: Operational risk own funds requirements and risk-weighted exposure amounts

		a	b	c	d	e
		Relevant indicator				
		31 Dec 2019	31 Dec 2020	31 Dec 2021	Regulatory capital requirements	RWAs
€ mn						
1	Banking activities subject to basic indicator approach (BIA)	–	–	–	–	–
2	Banking activities subject to standardised (TSA) / alternative standardised (ASA) approaches	592	586	631	91	1,142
3	Subject to TSA	592	586	631		
4	Subject to ASA	–	–	–		
5	Banking activities subject to advanced measurement approaches AMA	–	–	–	–	–

Market Risks

Management of market risks

Definition

Market risks are broadly defined as the threat of losses due to changes in market parameters; this refers to market risks which are not assigned to the IRRBB. In particular, this also encompasses any type of spread risk exposure of instruments held in the banking book which are sensitive to changes in interest rates, and which are neither included in IRRBB nor in counterparty credit risk. Specifically, for Aareal Bank this includes:

- risks resulting from fluctuations of spot foreign exchange (FX) rates (spot FX risk);
- risks resulting from fluctuations of forward foreign exchange rates (forward FX risk); and
- risks from the regulatory review of the trading book (trading book risk).

Since Aareal Bank did not pursue any trading book activities (as defined by the CRR) during the period under review, trading book risks had no relevance.

Commodities are irrelevant for the Bank's business. Currency risks are controlled through derivatives.

Additional elements of market risk are:

- risks from changes in the exposure values based on the general market development of credit spreads of the bonds held as assets (credit spread risk);
- risks from adjustments to the credit valuation of OTC – derivatives (CVA risk).

Market Risk Strategy

Aareal Bank's exposure to the capital market is based on a responsible and sustainable strategy. Identified risks are offset, for example, through hedging agreements.

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 positions for which IFRS hedge accounting cannot be applied are monitored and controlled within the overall position.

The lending and refinancing business in foreign currencies is managed using money market transactions, FX swaps and cross-currency basis 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, cash on hand as well as investments in foreign currencies.

Risk measurement and monitoring

Risk Controlling informs the members of the Management Board responsible for Treasury and risk monitoring about the risk position and exposure to other market risks on a daily basis.

Risk management 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.

The Asset Liability Committee (ALCO) reports comprehensively on the Bank's position regarding the management of market and interest rate risks, as well as additional indicators, on a monthly basis. In addition to the Management Board member responsible for Treasury, the ALCO comprises the head of Treasury, the Management Board member responsible for Risk Controlling, as well as the heads of Risk Controlling, Finance & Controlling and Regulatory Affairs as voting members.

The VaR concept has been broadly accepted as the predominant method for measuring economic market risk. VaR quantifies risk as the maximum loss that will occur within a certain period of time, and given a defined probability. A variance-covariance approach (delta-normal method) is used to determine the aggregated VaR indicator for market risk.

Determined on a daily basis for the Group, the VaR figure takes into account the correlation between individual risk types. Statistical parameters used in the VaR model are calculated directly from a historical data pool maintained within the Bank, which covers at least 250 days[1]. The loss potential is determined applying a 99.9 % confidence interval.

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[1] Historical data covering two years is used for the sub-risk type of credit spread risk.

Backtesting
The quality of forecasts made using statistical models is checked through a monthly backtesting process. The quality of the statistical procedure used to measure risk is checked using a method referred to as binomial test, whereby daily profits and losses from market fluctuations are compared with the upper projected loss limit (VaR) forecast on the previous day (known as "clean backtesting"). In line with the selected confidence interval of 99.9 %, only a small number of events are expected to break out of the VaR projection.

Regulatory assessment

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 table EU MR1 (Market risk under the standardised approach) is used to disclose RWA for various market risk exposures pursuant to Article 92 (3) lit. c) of the CRR. As at 31 December 2022, only currency risk applies to Aareal Bank.

EU MR1: Market risk under the standardised approach

€ mn		a RWAs
	Outright products	
1	Interest rate risk (general and specific)	–
2	Equity risk (general and specific)	–
3	Foreign exchange risk	136
4	Commodity risk	–
	Options	
5	Simplified approach	–
6	Delta-plus approach	–
7	Scenario approach	–
8	**Securitisation (specific risk)**	**–**
9	**Total**	**136**

Interest Rate Risk in the Banking Book

Management of interest rate risk in the banking book

Definition

Interest rate risk in the banking book (IRRBB) 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.

Specifically, for Aareal Bank this includes:

- risks arising from maturity transformation in the event of yield curve shifts (so-called gap risk), which, in turn, are broken down into:
  - risks from cash flows which are sensitive to interest rates, relative to the general yield curve (interest rate risk or repricing risk);
  - risks arising from the valuation of future cash flows, relative to the general yield curve (yield curve risk);
- risks from cash flows which are sensitive to interest rates, in terms of spreads to the general yield curve (basis risk);

- risks from explicit and implied options (option risk);
- risks from fluctuations in the value of fund assets (fund risk); and
- risks from changes in Aareal Bank's specific funding spreads (funding risk).

Risk measurement and monitoring

Risk Controlling informs the members of the Management Board responsible for Treasury and risk monitoring about the risk position and the present-value exposure to interest rate risk in the banking book on a daily basis (the "economic value of equity" perspective).[1)] This is supplemented on a monthly basis by a presentation of potential plan deviations of income in case adverse interest rate scenarios occur (earnings perspective).The interest rate scenarios used for the measurement of potential plan deviations comprise interest rate shocks (both increases and reductions) as well as time-based increases or reductions of the interest rate projection used to determine planned interest income.

The present value based VaR concept has been broadly accepted as the predominant method for measuring economic interest rate risk in the banking book. VaR quantifies risk as the maximum loss that will occur within a certain period of time, and given a defined probability.

A variance-covariance approach (delta-normal method) is used throughout the Group to determine the VaR indicator. Determined on a daily basis for the Group, the VaR figure takes into account the correlation between individual risk types. Statistical parameters used in the VaR model are calculated directly from a 250-day historical data pool maintained within the Bank. The loss potential is determined applying a 99.9 % confidence interval under the economic perspective.

By their very nature, VaR calculations are based on numerous assumptions regarding the future development of the business, and the related cash flows. Key assumptions used include current account balances and deposits at notice which are factored into calculations for a period of up to ten years (2.24 years on average), using the average residual amount of deposits observed in the past. Loans are taken into account using their fixed-interest period (for fixed-rate exposures), or using their expected maturity (variable-rate exposures). Aareal Bank Group's consolidated equity is not taken into account as a risk-mitigating item. This tends to overstate VaR, demonstrating our goal to pursue a conservative approach adopted in our risk measurement processes.

In addition to this and in line with EBA/GL/2018/02 (Guidelines on the management of interest rate risk arising from non-trading book activities), the change in net interest income is determined in the relevant interest rate shock scenarios. Net interest income is the difference between interest income and interest expenses from all interest-bearing assets and liabilities of the banking book, including derivatives and off-balance sheet positions under IFRSs. In contrast to the present value approach, net interest income includes not only the earnings contributions of the modelled existing business as at the planning or forecast date, but also the income and expenses from planned new business and prolongations. The changes are mainly the result of various developments of forward interest rates before and after interest rate shocks and the resulting modelled impact on client behaviour.

An additional instrument used to quantify interest rate risk exposure is the calculation of interest rate sensitivity, expressed by the so-called "delta" parameter. The first step to determine this parameter requires calculating the present values of all asset and equity/liability items on the statement of financial position. In a second step, the interest rates of yield curves used for this calculation are subjected to a one basis point parallel shift up (a method known as the "key rate method"). Delta is the present value of the profit or loss resulting from this yield curve change.

Effect of hedging

Treasury manages the general interest rate risk as well as the basis risk of the banking group in line with the principles of the IRRBB strategy within the framework of the limits set under the RAF and the approval powers defined in the Schedule of Powers (Kompetenzordnung) for Treasury. The focus is on linear risks, while optional risks are largely hedged.

[1)] The responsibilities with respect to interest rate risks in the banking book on organisational unit level can be found in the overview on page 8.

Based on the daily risk report, all changes of the present value in all currencies are analysed by TR; if necessary, risk-reducing measures are taken. Structured and/or puttable financial instruments are hedged externally using interest rate derivatives by transforming them to the management target (SOFR (USD), (SONIA (GBP), SARON (CHF), TONAR (JPY) and 3m other) using swaps. The same applies to fixed-income exposures which remain unhedged without any such intention within the framework of asset/liability macro exposures.

In the context of foreign currency transactions, IRRBB is hedged through interest rate swaps in the respective currency or through FX or cross CCY swaps, respectively. There is no present value based hedge of margins or spread components, which results in stable interest income. The corresponding present value risk is taken by Aareal Bank Group deliberately and contributes to stabilising income.

The management of the interest risk exposure is effected by Treasury on the basis of the objective of a broad-based immunisation of the IFRS income statement over several reporting periods as well as the hedge of the Bank's full fair value (economic value of equity, EVE). At Aareal Bank, micro hedge relationships, based on fair value hedge accounting under IFRS 9, play a major role in this context.

This procedure is complemented by selective macro management of interest rate risks and the management of deposit modelling within the context of the above-mentioned asset/liability macro exposure.

Regulatory assessment

The following table is based on the requirements set out in Article 16a of Commission Implementing Regulation (EU) 2021/637. In accordance with these requirements, the Bank discloses present value changes and net interest income in this table in case of a change in the yield curves for the interest rate shock scenarios presented in EBA/GL/2018/02 (Guidelines on the management of interest rate risk arising from non-trading book activities).

EU IRRBB1: Interest Rate Risk in the Banking Book

		a	b	c	d
		Changes of EVE		Changes of NII	
		31 Dec 2022	30 Jun 2022	31 Dec 2022	30 Jun 2022
€ mn					
1	Parallel shock up	-28	-26	-10	40
2	Parallel shock down	4	74	9	25
3	Steepener shock	7	10		
4	Flattener shock	-24	-1		
5	Short rates shock up	-29	-16		
6	Short rates shock down	22	49		

The change in economic value of equity (EVE) corresponds to the present value change resulting from a change in interest rates in relation to all non-trading book positions sensitive to interest rates, assuming that these positions will expire at a later date.

Net interest income (NII) is a metric based on the income statement. The earnings risk is measured based on the changes in net interest income of the next twelve months as a result of a parallel shift of the yield curve by 200 basis points, with interest rates cuts in a negative or low-interest rate environment being limited through a post shock floor. In this context, assumptions regarding client behaviour and the competitive environment in such a scenario are especially subject to idealised model parameters.

The change in EVE compared to 30 June 2022 mainly resulted from the structure of exposures and general market and interest rate developments. Due to the rise in interest rates in the reference period, these have a reduced present value gain potential in the event of a decrease in interest rates, allowing for a smaller profit potential in a scenario of sharply declining interest rates.

The changes in the impact on NII compared with the reporting date of 30 June 2022 are mainly attributable to the changed interest rate levels, a changed deposit structure as well as an adjusted interest rate positioning. This results in a significant decline in the

change of net interest income, primarily in the scenario of parallel shock ups. In case of parallel shock downs, the above-mentioned post shock floor as at 31 December 2022 does not have a material impact, which now constitutes a true parallel shift also under this scenario. Accordingly, a mirror-image shift of the interest rate curve leads to similar results in terms of amounts in the two relevant scenarios.

Encumbered and Unencumbered Assets

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 following explanations are based on the requirements set out in Article 18 of Commission Implementing Regulation (EU) 2021/637. Accordingly, quantitative information has to be disclosed as median values of the data reported to the supervisory authorities on a quarterly basis; these data are determined based on the IFRS accounting framework.

The scope of consolidation used for determining the asset encumbrance is not different from the scope of consolidation used for liquidity requirements.

As both total assets and the percentage-based asset encumbrance level as at 31 December 2022 were above the thresholds set out in point 6 of the Annex XXXVI of the Commission Implementing Regulation mentioned above, additional disclosures are made with respect of assets that, if unencumbered, would be eligible for a classification as assets of extremely high liquidity and credit quality (EHQLA) or assets of high liquidity and credit quality (HQLA).

EU AE1: Encumbered and unencumbered assets

		Carrying amount of encumbered assets		Fair value of encumbered assets	
			of which: notionally eligible unencumbered EHQLA and HQLA		of which: notionally eligible unencumbered EHQLA and HQLA
		010	030	040	050
€ mn					
010	**Assets of the reporting institution**	**23,210**	**5,058**		
030	Equity instruments	–	–	–	–
040	Debt securities	4,812	4,695	4,702	4,585
050	of which: covered bonds	513	508	511	505
060	of which: securitisations	–	–	–	–
070	of which: issued by general governments	3,105	3,105	3,028	3,028
080	of which: issued by financial corporations	1,619	1,554	1,598	1,528
090	of which: issued by non-financial corporations	–	–	–	–
120	Other assets	18,999	7		

€ mn		Carrying amount of unencumbered assets		Fair value of unencumbered assets	
			of which: EHQLA and HQLA		of which: EHQLA and HQLA
		060	080	090	100
010	**Assets of the reporting institution**	**26,681**	**7,803**		
030	Equity instruments	103	–	103	–
040	Debt securities	334	322	305	292
050	of which: covered bonds	13	–	13	–
060	of which: securitisations	–	–	–	–
070	of which: issued by general governments	309	309	280	280
080	of which: issued by financial corporations	25	24	25	23
090	of which: issued by non-financial corporations	–	–	–	–
120	Other assets	26,085	6,589		

EU AE2: Collateral received and own debt securities issued

€ mn				Unencumbered	
		Fair value of encumbered collateral received or own debt securities issued		Fair value of collateral received or own debt securities issued available for encumbrance	
			of which: notionally eligible unencumbered EHQLA and HQLA		of which: EHQLA and HQLA
		010	030	040	060
130	**Collateral received by the reporting institution**	**201**	**201**	**90**	**90**
140	Loans on demand	–	–	–	–
150	Equity instruments	–	–	–	–
160	Debt securities	201	201	90	90
170	of which: covered bonds	–	–	–	–
180	of which: securitisations	–	–	–	–
190	of which: issued by general governments	–	–	–	–
200	of which: issued by financial corporations	201	201	90	90
210	of which: issued by non-financial corporations	–	–	–	–
220	Loans and advances other than loans on demand	–	–	–	–
230	Other collateral received	–	–	–	–
240	**Own debt securities issued other than own covered bonds or securitisations**	**–**	**–**	**48**	**–**
241	**Own covered bonds and securitisations issued and not yet pledged**			**–**	**–**
250	**Total collateral received and own debt securities issued**	**23,411**	**5,696**		

EU AE3: Sources of encumbrance

€ mn		Matching liabilities, contingent liabilities or securities lent	Assets, collateral received and own debt securities issued other than covered bonds and securitisations encumbered
		010	030
010	**Carrying amount of selected financial liabilities**	**20,144**	**23,115**

Information on importance of encumbrance

Aareal Bank determines the encumbrance of assets in accordance with Implementation Regulation (EU) 2015/79.

Commercial property financing is a major element of the Aareal Bank Group's business model. Accordingly, Pfandbriefe (German covered bonds) represent a significant portion in long-term funding and are therefore a major source of asset encumbrance.

Apart from Pfandbriefe, other major sources of asset encumbrance are deposits from institutional investors, the derivatives business, the Targeted Longer-Term Refinancing Operations (TLTRO) of the ECB, securities repurchase transactions as well as deposits from the housing industry. However, Aareal Bank reduced its borrowings under the TLTRO by € 4.3 billion in the year under review. With regard to commercial property financing and related refinancing, encumbrance within Aareal Bank Group is mainly concentrated on Aareal Bank AG.

As at 31 December 2022, the cover assets pools held for issuance of its own bonds accounted for encumbrance of assets in a total amount of € 13.2 billion.

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, the over-collateralisation of Mortgage Pfandbriefe also serves to satisfy the requirements of rating agency Moody's. Public-Sector Pfandbriefe are currently not subject to any rating.

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 risk.

As at 31 December 2022, other assets amounted to € 2.9 billion, € 1.8 billion of which are attributable to derivatives which are deemed encumbered under asset encumbrance criteria. Unencumbered other assets included € 1.1 billion in assets which cannot be encumbered within the scope of current business operations. This included € 0.2 billion in equity exposures and another € 0.2 billion in property and equipment. As at the reporting date, properties accounted for in accordance with IAS 2 amount to € 0.4 billion; tax reclaims and deferred tax assets amount to € 0.2 billion.

Remuneration

The qualitative and quantitative disclosure requirements in accordance with Article 450 of the CRR in conjunction with Section 16 of the German Regulation on Remuneration in Financial Institutions (Institutsvergütungsverordnung – InstVergV) are met by Aareal Bank through a separate Remuneration Report which will be published at a later date on our website in the same section as this Regulatory Disclosure Report.

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 I capital and total assets are forecast for the year-end dates of the current and the two following years, after the end of each quarter. In this context, the minimum 3 % Leverage Ratio, as set out in Article 92 (1) lit. d) of the CRR, 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 requirements set out in the CRR.

The following disclosure tables are based on the requirements set out in the Implementing Regulation (EU) 2021/637 dated 15 March 2021.

EU LR1: Summary reconciliation of accounting assets and leverage ratio exposures

€ mn		a Applicable amount
1	**Total assets as per published financial statements**	**47,331**
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of prudential consolidation	-133
3	Adjustment for securitised exposures that meet the operational requirements for the recognition of risk transference	–
4	Adjustment for temporary exemption of exposures to central banks (if applicable)	–
5	Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the total exposure measure in accordance with Article 429a (1) lit. i) of the CRR	–
6	Adjustment for regular-way purchases and sales of financial assets subject to trade date accounting	–
7	Adjustment for eligible cash pooling transactions	–
8	Adjustments for derivative financial instruments	-1,249
9	Adjustment for securities financing transactions (SFTs)	2
10	Adjustment for off-balance sheet items (i. e. conversion to credit equivalent amounts of off-balance sheet exposures)	483
11	Adjustment for prudent valuation adjustments and specific and general provisions which have reduced Tier 1 capital	–
EU-11a	Adjustment for exposures exempted from the total exposure measure in accordance with Article 429a (1) lit. c) of the CRR	–
EU-11b	Adjustment for exposures exempted from the total exposure measure in accordance with Article 429a (1) lit. j) of the CRR	–
12	Other adjustments	-267
13	**Total exposure measure**	**46,168**

EU LR2: Leverage Ratio common disclosure

€ mn		a CRR leverage ratio exposures 31 Dec 2022	b 30 Jun 2022
	On-balance sheet exposures (excluding derivatives and SFTs)		
1	On-balance sheet items (excluding derivatives and SFTs, but including collateral)	46,843	48,455
2	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	–	–
3	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-1,668	-1,679
4	(Adjustment for securities received under securities financing transactions that are recognised as an asset)	–	–
5	(General credit risk adjustments to on-balance sheet items)	–	–
6	(Asset amounts deducted in determining Tier 1 capital)	-68	-42
7	**Total on-balance sheet exposures (excluding derivatives and SFTs)**	**45,107**	**46,733**

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€ mn		a	b
		CRR leverage ratio exposures	
		31 Dec 2022	30 Jun 2022
	Derivative exposures		
8	Replacement cost associated with all derivatives transactions under SA-CCR (i. e. net of eligible cash variation margin)	29	122
EU-8a	Derogation for derivatives: Replacement costs contributions under the simplified standardised approach	–	–
9	Add-on amounts for potential future exposure value associated with SA-CCR derivatives transactions	548	474
EU-9a	Derogation for derivatives: Potential future exposure contribution under the simplified standardised approach	–	–
EU-9b	Exposure determined under Original Exposure Method	–	–
10	(Exempted CCP leg of client-cleared trade exposures) (SA-CCR)	–	–
EU-10a	(Exempted CCP leg of client-cleared trade exposures) (simplified standardised approach)	–	–
EU-10b	(Exempted CCP leg of client-cleared trade exposures) (original exposure method)	–	–
11	Adjusted effective notional amount of written credit derivatives	–	–
12	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	–	–
13	**Total derivatives exposures**	**577**	**597**
	SFT exposures		
14	Gross SFT assets (with no recognition of netting), after adjusting for transactions posted as sales	–	1,025
15	(Netted amounts of cash payables and cash receivables of gross SFT assets)	–	–
16	Counterparty credit risk exposure for SFT assets	2	12
EU-16a	Derogation for SFTs: Counterparty credit risk exposure pursuant to Article 429e (5) and Article 222 of the CRR	–	–
17	Agent transaction exposures	–	–
EU-17a	(Exempted CCP leg of client-cleared SFT exposures)	–	–
18	**Total SFT exposures**	**2**	**1,037**
	Other off-balance sheet exposures		
19	Off-balance sheet exposures at gross notional amount	1,282	1,186
20	(Adjustments for conversion to credit equivalent amounts)	-799	-751
21	(General provisions deducted in determining Tier 1 capital and specific provisions associated with off-balance sheet exposures)	–	–
22	**Total other off-balance sheet exposures**	**483**	**436**
	Excluded exposures		
EU-22a	(Exposures excluded from the total exposure measure in accordance with Article 429a (1) lit. c) of the CRR)	–	–
EU-22b	(Exposures exempted in accordance with Article 429a (1) lit. j) of the CRR (on- and off-balance sheet))	–	–
EU-22c	(Excluded exposures of public development banks (or units) – public-sector investments)	–	–
EU-22d	(Excluded exposures of public development banks (or units) – promotional loans)	–	–
EU-22e	(Excluded passing-through promotional loan exposures by non-public development banks (or units))	–	–
EU-22f	(Excluded guaranteed parts of exposures arising from export credits)	–	–
EU-22g	(Excluded excess collateral deposited at triparty agents)	–	–
EU-22h	(Excluded CSD related services of CSD/institutions in accordance with Article 429a (1) lit. o) of the CRR)	–	–
EU-22i	(Excluded CSD related services of designated institutions in accordance with Article 429a (1) lit. p) of the CRR)	–	–
EU-22j	(Reduction of the exposure value of pre-financing or intermediate loans)	–	–
EU-22k	**Total exempted exposures**	**–**	**–**
	Tier 1 capital and total exposure measure		
23	Tier 1 capital	2,768	2,879
24	Total exposure measure	46,168	48,802

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€ mn		a	b
		CRR leverage ratio exposures	
		31 Dec 2022	30 Jun 2022
	Leverage Ratio		
25	Leverage Ratio (%)	6.00 %	5.90 %
EU-25	Leverage ratio (excluding the impact of the exemption of public sector investments and promotional loans) (%)	6.00 %	5.90 %
25a	Leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves) (%)	6.00 %	5.90 %
26	Regulatory minimum leverage ratio requirement (%)	3.00 %	3.00 %
EU-26a	Additional own funds requirements to address the risk of excessive leverage (%)	–	–
EU-26b	of which: to be made up of CET1 capital	–	–
27	Leverage ratio buffer requirement (%)	–	–
EU-27a	Overall leverage ratio requirement (%)	3.00 %	3.00 %
	Choice on transitional arrangements and relevant exposures		
EU-27b	Choice on transitional arrangements for the definition of the capital measure	Fully implemented	Fully implemented
	Disclosure of mean values		
28	Mean of daily values of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivable	766	1,765
29	Quarter-end value of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables	–	1,025
30	Total exposure measure (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	46,934	49,541
30a	Total exposure measure (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	46,934	49,541
31	Leverage ratio (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	5.90 %	5.81 %
31a	Leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	5.90 %	5.81 %

Regarding the causes of changes in the leverage ratio during the fourth quarter of 2022, reference is made to the explanations in the chapter “Overview of regulatory key metrics”.

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

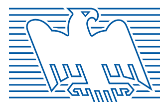
EU LR3: Split-up of on-balance sheet exposures

€ mn		a CRR leverage ratio exposures
EU-1	**Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:**	**45,174**
EU-2	Trading book exposures	–
EU-3	Banking book exposures, of which:	45,174
EU-4	Exposures in the form of covered bonds	950
EU-5	Exposures treated as sovereigns	11,624
EU-6	Exposures to regional governments, MDB, international organisations and PSE not treated as sovereigns	55
EU-7	Exposures to institutions	399
EU-8	Exposures secured by mortgages on immovable properties	28,207
EU-9	Retail exposures	10
EU-10	Exposures to corporates	790
EU-11	Exposures in default	880
EU-12	Other exposures (e. g. equity, securitisations, and other non-credit obligation assets)	2,259

Imprint

Contents:
Aareal Bank AG, Investor Relations,
Regulatory Affairs – Regulatory Reporting
Layout/Design:
S/COMPANY · Die Markenagentur GmbH, Fulda, Germany

This report is also available in German language.



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