VI Risk report

1 Disclosure principles

In its capacity as the parent company in the DZ BANK Group, DZ BANK is publishing this risk report in order to meet the **transparency requirements** for risks applicable to the DZ BANK Group as specified in sections 115 and 117 of the German Securities Trading Act (WpHG) and German Accounting Standard (GAS) 16. This report also implements the applicable international risk reporting requirements on the basis of International Accounting Standard (IAS) 34, although the legal standards applicable to annual reporting are taken into account.

The risk report also includes information in compliance with those **recommended risk-related disclosures** that have been issued by the Financial Stability Board, the European Banking Authority, and the European Securities and Markets Authority that extend beyond the statutory requirements and that are intended to improve the usefulness of the disclosures in the decision-making process.

The quantitative disclosures in this risk report are based on information that is presented to the Board of Managing Directors and used for internal management purposes (known as the **management approach**). This is designed to ensure the usefulness of the disclosures in the decision-making process.

DZ BANK Group

2 Risk management system

The DZ BANK Group's risk management system was described in the DZ BANK Group and DZ BANK risk report ('2020 risk report') within the 2020 group management report. Those disclosures are also applicable to the first half of this year, unless otherwise indicated in this report. The main aspects of the risk management system are presented below.

2.1 Fundamental features

Risks result from adverse developments affecting financial position or financial performance, and essentially comprise the risk of an unexpected future liquidity shortfall or unexpected future losses. A distinction is made between liquidity and capital. Risks that materialize can affect both of these resources.

The risk management system is based on the risk appetite statement – the fundamental document for determining risk appetite in the DZ BANK Group – and the specific details and additions in **risk strategies**, which are consistent with the business strategies and have been approved by the Board of Managing Directors. The **risk appetite statement** contains risk policy guidelines and risk strategy requirements applicable throughout the group. It also sets out quantitative guidelines reflecting risk appetite.

Management and control tools are used in all areas of risk. These tools are subject to continual further development and refinement. The methods used for measuring risk are integrated into the risk management system. Risk model calculations are used to manage the DZ BANK Group.

Note:
In the event of differences between the English version of the risk report and the original German version, the German version shall be definitive.

The DZ BANK Group has a **risk management system** that is updated on an ongoing basis in line with changes to the business and regulatory environment. The organizational arrangements, methods, and IT systems that have been implemented, the limit system based on risk-bearing capacity, stress testing of all material risk types, and internal reporting are designed to enable the DZ BANK Group to identify material risks at an early stage and initiate the necessary control measures. This particularly applies to **risks that could affect the group's survival as a going concern**.

The tools used for the purposes of risk management are also designed to enable the DZ BANK Group to respond appropriately to **significant market movements**. Possible changes in risk factors are reflected in adjusted risk parameters in the mark-to-model measurement of credit risk and market risk. Conservative crisis scenarios for short-term and medium-term liquidity are intended to ensure that liquidity risk management also takes adequate account of market crises.

2.2 KPIs

Risks affecting liquidity and capital resources are managed on the basis of groupwide liquidity risk management and groupwide risk capital management. The purpose of **liquidity risk management** is to ensure adequate levels of liquidity reserves are in place in respect of risks arising from future payment obligations (liquidity adequacy). The aim of **risk capital management** is to ensure the availability of capital resources that are commensurate with the risks assumed (capital adequacy).

The key risk management figures used in the DZ BANK Group in respect of **liquidity** are the minimum liquidity surplus, the liquidity coverage ratio (LCR), and the net stable funding ratio (NSFR). The key risk management figures used in respect of **capital** are economic capital adequacy, the coverage ratio for the financial conglomerate, and the regulatory capital ratios, plus the leverage ratio and the minimum requirement for own funds and eligible liabilities (MREL).

2.3 Management units

Based on the requirements set out in GAS 20.A1.3, this risk report is structured according to **risk type**. The DZ BANK Group is managed using the main types of risk, taking into account particular features relating to DZ BANK and its material subsidiaries (referred to below as **management units**).

All entities in the DZ BANK Group are integrated into the groupwide risk management system. The DZ BANK Group largely comprises the regulatory DZ BANK banking group and R+V. The management units form the core of the financial services group.

The insurance business operated at R+V differs in material respects from the other businesses of the DZ BANK Group. For example, actuarial risk is subject to factors that are different from those affecting risks typically assumed in banking business. Furthermore, policyholders have a share in any gains or losses from investments in connection with life insurance, as specified in statutory requirements, and this must be appropriately taken into account in the measurement of risk. Not least, the supervisory authorities also treat banking business and insurance business differently. This is reflected in differing regulatory regimes for banks and insurance companies.

Because of these circumstances, two sectors – Bank sector and Insurance sector – have been created within the DZ BANK Group for the purposes of risk management. The management units are assigned to these sectors as follows:

Bank sector:
- DZ BANK
- BSH
- DZ HYP
- DVB
- DZ PRIVATBANK

- TeamBank
- UMH
- VR Smart Finanz

Insurance sector:
- R+V.

The management units represent the operating segments of the DZ BANK Group. From a risk perspective, the 'DZ BANK' management unit equates to the central institution and corporate bank operating segment and the holding function.

DZ HYP has applied the **waiver** pursuant to section 2a (1), (2), and (5) of the German Banking Act (KWG) in conjunction with article 7 (1) of the Capital Requirements Regulation (CRR), under which – provided certain conditions are met – the regulatory supervision at individual bank level may be replaced by supervision of the entire banking group.

The management units are deemed to be material in terms of their contribution to the DZ BANK Group's aggregate risk and are directly incorporated into the group's risk management system. The other subsidiaries and investee entities of DZ BANK are included in the risk management system either indirectly as part of equity investment risk or directly as part of other types of risk. This is decided for each of them annually.

The management units' subsidiaries and investees are also integrated into the DZ BANK Group's risk management system – indirectly via the majority-owned entities – with due regard to the minimum standards applicable throughout the group.

Risk is managed groupwide on a consolidated basis.

3 Risk factors

The entities in the DZ BANK Group are exposed to a number of risk factors. These include adverse factors that affect multiple types of risk (**general risk factors**) and **risk factors specific to each type of risk**. Low interest rates, risks to the global economy, economic divergence in the eurozone, and climate change have been identified as general risk factors.

These risk factors were explained in detail in the 2020 risk report. They continued to be of material relevance to the DZ BANK Group in the first six months of this year and apply equally to the second half of 2021. The business risk factor 'switch in interest-rate benchmarks' constitutes an exception. Material changes to the regulatory framework were introduced in this respect in the first half of 2021. The implications of these changes are described in section 12.1.

4 Dealing with the impact of the COVID-19 pandemic

4.1 Relaxation of supervisory requirements

The lowering of the **external minimum targets** for regulatory key figures that was carried out by the supervisory authorities in 2020 continued to apply unchanged in the first half of 2021. The same was true for the lower **internal thresholds** for selected regulatory capital adequacy metrics that were adopted by the Board of Managing Directors of DZ BANK in 2020. The banking supervisor's relaxing of requirements relating to the preparation of a group recovery plan in 2020 was scaled back significantly. In particular, the number of stress scenarios to be prepared increased from one in 2020 to two in the reporting period. Before the start of the COVID-19 pandemic, banks were required to present four stress scenarios to the banking supervisor.

4.2 Risk management measures

The changes to the **risk reporting** (financial and risk radar, CET1 radar, credit risk report) to the Board of Managing Directors of DZ BANK that were made in 2020 due to the COVID-19 pandemic were maintained in the first half of 2021. The same applied to the **stress testing** regarding the impact of the COVID-19 pandemic that was introduced in 2020 and to the associated internal reporting.

The COVID-19 pandemic primarily affected **credit risk** in the Bank sector during the first six months of 2021. Signs recently emerged that pressure is easing as a result of the economic upturn and rising vaccination rates. This was also reflected in improved credit risk metrics. Nonetheless, the credit portfolio of the Bank sector remains subject to **close monitoring**, both at individual borrower level and at sector and country level, as part of the adapted risk reporting.

Ad hoc remeasurements in the first half of 2021 mostly related to **cruise ships** and companies from the **service and automotive sectors**. The quality of the **hotel and department store financing** portfolio of DZ HYP remains stable. Further information on the volume of lending to industries that have been hit particularly hard by the COVID-19 pandemic is provided in section 8.2.

In the first half of 2021, existing customers submitted only a small number of **applications for liquidity support**. To process them, DZ BANK continued to use the support programs of the Federal Republic of Germany provided through Germany's KfW development bank and the development banks of the individual federal states. Applications from borrowers to **defer repayments** declined noticeably in the reporting period after a surge in 2020. Information on the scale of the liquidity support and deferred repayments are also included in section 8.2.

The COVID-19 pandemic may continue to have an adverse impact on credit risk in the Bank sector in the **second half of 2021**. The extent of this impact will depend primarily on the duration and intensity of the pandemic and any measures taken by the government in response. An increase in corporate insolvencies and private bankruptcies could become a source of pressure, although there were no signs of a pronounced increase as at the reporting date.

To ensure that day-to-day operations could continue during the lockdowns that were imposed to contain the pandemic, the entities in the DZ BANK Group made additional technical equipment available to facilitate **remote working**. Medical protective measures and safety plans for enclosed spaces were implemented in order to protect the **health of employees**.

5 Risk profile

The DZ BANK Group's **business model** and the associated business models used by the management units determine the risk profile of the group.

The values for the measurement of **liquidity and capital adequacy** presented in Fig. 3 reflect the liquidity risks and the risks backed by capital assumed by the DZ BANK Group. They illustrate the **risk profile** of the DZ BANK Group. The values for these KPIs are compared against the (internal) threshold values specified by the Board of Managing Directors of DZ BANK with due regard to the business and risk strategies – also referred to below as **risk appetite** – and against the (external) minimum targets laid down by the supervisory authorities. The KPIs are explained in more detail later in this risk report.

FIG. 3 – LIQUIDITY AND CAPITAL ADEQUACY KPIS

	Measured figure		Internal minimum threshold value[1]		External minimum target	
	Jun. 30, 2021	Dec. 31, 2020	2021	2020	2021	2020
LIQUIDITY ADEQUACY						
DZ BANK Group (economic perspective)						
Economic liquidity adequacy (€ billion)[2]	17.8	15.3	4.0	4.0	0.0	0.0
DZ BANK banking group (normative internal perspective)						
Liquidity coverage ratio – LCR (%)[3]	157.2	146.3	110.0	110.0	100.0	100.0
Net stable funding ratio – NSFR (%)	124.9	122.4	105.0		100.0	
CAPITAL ADEQUACY						
DZ BANK Group (economic perspective)						
Economic capital adequacy (%)[4, 5]	185.6	171.7	120.0	120.0	100.0	100.0
DZ BANK financial conglomerate (normative internal perspective)						
Coverage ratio (%)[6]	140.4	146.0	110.0	110.0	100.0	100.0
DZ BANK banking group (normative internal perspective)						
Common equity Tier 1 capital ratio (%)[6, 7]	15.4	15.3	10.0	10.0	9.0	9.0
Tier 1 capital ratio (%)[6, 7]	16.8	17.0	11.9	11.9	10.8	10.8
Total capital ratio (%)[6, 7]	18.7	19.5	14.3	14.3	13.3	13.3
Leverage ratio (%)[6, 8]	7.2	5.7	3.5	3.5	3.26	
MREL ratio (%)[9]	11.0	11.9	8.3	8.3	8.0	8.0

Not available

1 As specified by the Board of Managing Directors.
2 The measured value relates to the stress scenario with the lowest minimum liquidity surplus. The internal minimum target relates to the observation threshold.
3 In view of the COVID-19 pandemic, the supervisory authorities will tolerate a value below the external minimum target of 100 percent until further notice.
4 The value measured as at December 31, 2020 takes account of the annual recalculation of the overall solvency requirement. A different value was stated in the 2020 risk report.
5 The internal threshold value is the amber threshold in the traffic light system for managing and monitoring economic capital adequacy.
6 Measured values based on the CRR transitional guidance. In the 2020 risk report, the values stated as at December 31, 2020 were based on full application of the CRR.
7 The external minimum targets are the binding regulatory minimum capital requirements. Details on the minimum capital requirements can be found in section 7.2.3.
8 The external minimum target for 2021 applies from June 30, 2021. It is generally 3.0 percent, but was raised to 3.26 percent owing to temporary use of the exemption for balances with central banks. The higher target ends on March 31, 2022.
9 The value as at June 30, 2021 was not available at the time that the interim group management report was prepared by the Board of Managing Directors. The value measured as at March 31, 2021 is therefore shown.

In view of the fallout from the COVID-19 pandemic, the supervisory authorities tolerated values that had temporarily fallen below the external minimum targets for liquidity adequacy and capital adequacy during the reporting period.

The **solvency** of DZ BANK and its subsidiaries was never in jeopardy at any point during the reporting period. They also complied with regulatory requirements for liquidity adequacy. By holding ample liquidity reserves, the group aims to be able to protect its liquidity against any potential crisis-related threats.

In addition, the DZ BANK Group remained within its economic **risk-bearing capacity** in the first half of 2021 and also complied with regulatory requirements for capital adequacy on every reporting date.

6 Liquidity adequacy

6.1 Economic perspective

6.1.1 Quantitative variables

Liquid securities

The available liquid securities have a significant influence on the level of the minimum liquidity surplus. Liquid securities are a component of the **counterbalancing capacity** and are largely held in the portfolios managed by

DZ BANK's Group Treasury and Capital Markets Trading divisions or in the portfolios of the treasury units at the subsidiaries of DZ BANK. Only bearer bonds are counted as liquid securities.

Liquid securities comprise highly liquid securities that are suitable for collateralizing funding in private markets, securities eligible as collateral for central bank loans, and other securities that can be liquidated in the one-year forecast period that is relevant for liquidity risk.

Securities are only eligible as liquid securities if they are not pledged as collateral, e.g. for secured funding. Securities that have been borrowed or taken as collateral for derivatives business or in connection with secured funding only become eligible when they are freely transferable. Eligibility is recognized on a daily basis and also takes into account factors such as restrictions on the period in which the securities are freely available.

Fig. 4 shows the liquidity value of the liquid securities that would result from secured funding or if the securities were sold. The total liquidity value as at June 30, 2021 amounted to €30.7 billion (December 31, 2020: €36.9 billion). The decline in the volume of liquid securities was attributable to their use as pledged collateral under the targeted longer-term refinancing operations (TLTRO) carried out by the European Central Bank (ECB). The main reason for the decline in the first half of the year was the TLTRO III.7 open-market operation entered into with the ECB.

Liquid securities represent the largest proportion of the counterbalancing capacity and make a major contribution to maintaining solvency in the stress scenarios with defined limits at all times during the relevant forecast period. In the first month, which is a particularly critical period in a crisis, liquid securities are almost exclusively responsible for maintaining solvency in the stress scenarios with defined limits.

FIG. 4 – LIQUID SECURITIES

€ billion	Jun. 30, 2021	Dec. 31, 2020
Liquid securities eligible for GC Pooling (ECB Basket)[1]	**16.2**	**21.7**
Securities in own portfolio	28.3	29.7
Securities received as collateral	20.2	8.5
Securities provided as collateral	-32.2	-16.5
Liquid securities eligible as collateral for central bank loans	**8.0**	**9.1**
Securities in own portfolio	21.8	20.5
Securities received as collateral	6.9	5.7
Securities provided as collateral	-20.7	-17.2
Other liquid securities	**6.4**	**6.1**
Securities in own portfolio	6.0	5.7
Securities received as collateral	0.5	0.8
Securities provided as collateral	-0.1	-0.3
Total	**30.7**	**36.9**
Securities in own portfolio	56.1	55.9
Securities received as collateral	27.6	15.0
Securities provided as collateral	-53.0	-33.9

1 GC = general collateral, ECB Basket = eligible collateral for ECB funding.

Unsecured short- and medium-term funding

Other than liquid securities, the main factors determining the minimum liquidity surplus are the availability and composition of the sources of funding.

The range of funding sources in the unsecured money markets is shown in Fig. 5. The changes in the composition of the sources of funding compared with the end of 2020 were attributable to a change in the behavior of customers and investors resulting from money market policy implemented by the ECB.

Further information on funding can be found in chapter II.5 in the business report in the interim group management report.

FIG. 5 – UNSECURED SHORT-TERM AND MEDIUM-TERM FUNDING

€ billion	Jun. 30, 2021	Dec. 31, 2020
Local cooperative banks	60.6	61.6
Commercial paper (institutional investors)	10.4	7.5
Corporate customers, institutional customers	21.4	13.2
Interbank, customer banks, central banks	9.8	6.0

6.1.2 Risk position

Economic liquidity adequacy is assured if none of the four stress scenarios with defined limits exhibit a negative value for the key risk indicator 'minimum liquidity surplus'. Fig. 6 shows the results of measuring liquidity risk. The results are based on a daily calculation and comparison of forward cash exposure and counterbalancing capacity. The values reported are the values that occur on the day on which the liquidity surplus calculated over the forecast period of one year is at its lowest point.

FIG. 6 – LIQUIDITY UP TO 1 YEAR IN THE STRESS SCENARIOS WITH DEFINED LIMITS: MINIMUM LIQUIDITY SURPLUSES

	Forward cash exposure		Counterbalancing capacity		Minimum liquidity surplus	
€ billion	Jun. 30, 2021	Dec. 31, 2020	Jun. 30, 2021	Dec. 31, 2020	Jun. 30, 2021	Dec. 31, 2020
Downgrading	-25.6	-31.1	58.2	58.4	32.6	27.4
Corporate crisis	-28.6	-34.2	46.4	49.6	17.8	15.3
Market crisis	-28.8	-32.8	53.4	53.9	24.6	21.1
Combination crisis	-30.4	-35.8	50.0	53.5	19.6	17.7

The liquidity risk value measured as at June 30, 2021 for the stress scenario with defined limits with the lowest minimum liquidity surplus (squeeze scenario) was €17.8 billion (December 31, 2020: €15.3 billion). The increase in the minimum liquidity surplus was largely due to a decrease in the collateral provided.

The risk value as at June 30, 2021 was above the internal threshold value (€4.0 billion) and above the limit (€1.0 billion). It was also above the external minimum target (€0 billion). The observation threshold, limit, and external minimum target remained unchanged compared with 2020.

The minimum liquidity surplus as at June 30, 2021 was positive in the stress scenarios with defined limits that were determined on the basis of risk appetite. This is due to the fact that the counterbalancing capacity was above the cumulative cash outflows on each day of the defined forecast period in every scenario, which indicates that the cash outflows assumed to take place in a crisis could be comfortably covered.

6.2 Normative internal perspective

6.2.1 Liquidity coverage ratio

The LCR for the DZ BANK banking group calculated in accordance with Commission Delegated Regulation (EU) 2015/61 as at June 30, 2021 is shown in Fig. 7.

FIG. 7 – LIQUIDITY COVERAGE RATIO AND ITS COMPONENTS

	Jun. 30, 2021	Dec. 31, 2020
Total liquidity buffer (€ billion)	115.2	91.4
Total net liquidity outflows (€ billion)	73.3	62.5
LCR (%)	**157.2**	**146.3**

The increase in the LCR from 146.3 percent as at December 31, 2020 to 157.2 percent as at June 30, 2021 was largely attributable to the rise in excess cover at DZ BANK, which was mainly due to the issuance of long-term funding instruments and participation in the ECB's three-year tender (TLTRO III.7). Excess cover is the difference between the liquidity buffer and the net liquidity outflows.

Both the internal threshold value (110.0 percent) and the regulatory external minimum target (100.0 percent) were exceeded as at June 30, 2021. In view of the COVID-19 pandemic, the supervisory authorities will tolerate a value that is temporarily below the external minimum target, but the DZ BANK Group did not need to use this option.

6.2.2 Net stable funding ratio

Since June 28, 2021, when CRR II began to apply, the DZ BANK banking group has been obliged to calculate its NSFR. It manages the NSFR within groupwide liquidity risk management. The NSFR is intended to limit mismatches between the maturity structures of assets-side and liabilities-side business. The ratio is the amount of available stable funding (equity and liabilities) relative to the amount of required stable funding (assets-side business). The funding sources are weighted according to their degree of stability and assets are weighted according to their degree of liquidity based on factors defined by the supervisory authority. The NSFR, which has a longer-term focus, complements the LCR, which has a short-term focus.

Fig. 8 shows the DZ BANK banking group's NSFR and its components.

FIG. 8 – NET STABLE FUNDING RATIO AND ITS COMPONENTS

	Jun. 30, 2021	Dec. 31, 2020
Available stable funding (weighted equity and liabilities; € billion)	283.6	268.2
Required stable funding (weighted assets; € billion)	227.0	219.1
Excess cover/shortfall (€ billion)[1]	56.6	49.2
NSFR (%)	**124.9**	**122.4**

1 Excess cover = positive values, shortfall = negative values.

The increase in the NSFR from 122.4 percent as at December 31, 2020 to 124.9 percent as at June 30, 2021 and the related rise in excess cover were primarily due to the higher amount of available stable funding owing to DZ BANK's drawing down of long-term funding in the context of its participation in the ECB's TLTRO III program. The improved NSFR was also attributable to the greater volume of retail customer deposits at subsidiaries. Excess cover in relation to the NSFR is the difference between the available stable funding and the required stable funding.

As at the reporting date, both the internal threshold for the DZ BANK banking group's NSFR of 105.0 percent and the regulatory external minimum target of 100 percent were exceeded at the level of the DZ BANK banking group and DZ BANK.

7 Capital adequacy

7.1 Economic perspective

The annual recalculation of the **overall solvency requirement** took place as at December 31, 2020 owing to scheduled changes to the parameters for the risk measurement procedures carried out in the second quarter of 2021 for the Insurance sector on the basis of R+V's 2020 consolidated financial statements and the updating of actuarial assumptions. The recalculation reflects updated measurements of insurance liabilities based on annual actuarial analyses and updates to parameters in the risk capital calculation. Because of the complexity and the amount of time involved, the parameters are not completely updated in the in-year calculation and an appropriate projection is made.

The recalculation led to changes in the available internal capital, key risk indicators, and economic capital adequacy. The figures as at December 31, 2020 given in this risk report have been restated accordingly and are not directly comparable with the figures in the 2020 risk report.

The DZ BANK Group's **available internal capital** as at June 30, 2021 stood at €31,457 million. The comparable figure as at December 31, 2020 was €30,020 million. The increase in available internal capital compared with December 31, 2020 was primarily due to the positive financial performance of the Bank sector.

The limit derived from the available internal capital was set at €23,588 million as at June 30, 2021 (December 31, 2020: €23,730 million).

As at June 30, 2021, **aggregate risk** was calculated at €16,947 million. The comparable figure as at December 31, 2020 was €17,482 million. The decrease was primarily driven by lower credit risk and market risk in the Bank sector.

As at June 30, 2021, the **economic capital adequacy ratio** for the DZ BANK Group was calculated at 185.6 percent. The comparable figure as at December 31, 2020 was 171.7 percent. As at the reporting date, the economic capital adequacy ratio was higher than the internal threshold value of 120.0 percent and the external minimum target of 100.0 percent. The internal threshold value and the external minimum target for 2021 are unchanged compared with those for 2020. The increase in the economic capital adequacy ratio compared with the end of 2020 was due to the higher amount of available internal capital and the reduction in aggregate risk.

Fig. 9 provides an overview of economic capital adequacy and its components.

FIG. 9 – ECONOMIC CAPITAL ADEQUACY OF THE DZ BANK GROUP

	Jun. 30, 2021	Dec. 31, 2020
Available internal capital (€ million)[1]	31,457	30,020
Limit (€ million)	23,588	23,730
Aggregate risk (€ million)[1]	16,947	17,482
Economic capital adequacy (%)[1]	**185.6**	**171.7**

1 Value as at December 31, 2020 after recalculation of R+V's overall solvency requirement. Different values were stated in the 2020 risk report.

In the case of the risk types in the Bank sector and Insurance sector, the risk capital requirement also contains any decentralized capital buffer requirement that has been assigned. To simplify matters, only the terms 'risk capital requirement' and 'overall solvency requirement' will be used in the remainder of this risk report. These include the decentralized capital buffer requirement.

The limits and risk capital requirements for the **Bank sector**, broken down by risk type, are shown in Fig. 10.

FIG. 10 – LIMITS AND RISK CAPITAL REQUIREMENTS IN THE BANK SECTOR

	Limit		Risk capital requirement	
€ million	Jun. 30, 2021	Dec. 31, 2020	Jun. 30, 2021	Dec. 31, 2020
Credit risk	7,188	6,978	5,295	5,496
Equity investment risk	1,220	1,090	956	936
Market risk	5,725	5,725	3,725	4,310
Technical risk of a home savings and loan company[1]	706	550	610	545
Business risk[2]	750	550	438	382
Operational risk	1,020	1,020	914	844
Total (after diversification)	**15,403**	**14,835**	**11,073**	**11,647**

1 Including business risk and reputational risk of BSH.
2 Apart from that of BSH, reputational risk is contained in the risk capital requirement for business risk.

Fig. 11 sets out the limits and overall solvency requirements for the **Insurance sector**, broken down by risk type, and includes policyholder participation.

FIG. 11 – LIMITS AND OVERALL SOLVENCY REQUIREMENTS IN THE INSURANCE SECTOR

	Limit		Overall solvency requirement	
€ million	Jun. 30, 2021	Dec. 31, 2020	Jun. 30, 2021	Dec. 31, 2020[1]
Life actuarial risk	1,310	1,400	1,043	1,070
Health actuarial risk	420	700	236	293
Non-life actuarial risk	4,900	4,500	3,952	3,780
Market risk	4,500	5,750	3,417	3,511
Counterparty default risk	260	220	186	178
Operational risk	810	800	733	694
Risks from entities in other financial sectors	140	140	124	126
Total (after diversification)	**7,460**	**8,170**	**5,344**	**5,201**

1 Values after recalculation of the overall solvency requirement. Different values were stated in the 2020 risk report.

In addition to the amounts shown in Fig. 10 and Fig. 11, there was a **centralized capital buffer requirement across all types of risk** of €530 million as at June 30, 2021 (December 31, 2020: €633 million). The corresponding **limit** was €725 million as at the reporting date (December 31, 2020: €725 million). The reduction

in the central capital buffer requirement was predominantly due to DVB's business risk being transferred to the decentralized capital buffer requirement.

7.2 Normative internal perspective

7.2.1 Calculation method for the regulatory capital ratios

Until the end of 2020, the internal management of the regulatory capital adequacy of the DZ BANK banking group and thus the DZ BANK financial conglomerate was based on full application of the CRR. At the start of 2021, internal management was switched to the CRR transitional guidance (Regulation (EU) No. 575/2013). As a result, the values in this risk report have been calculated in accordance with the CRR transitional guidance. To ensure the comparability of the key figures shown as at the reporting date with the prior-year figures based on full application of the CRR, the figures as at December 31, 2020 shown in sections 7.2.2 and 7.2.3 are in accordance with the changed calculation method. This means that they differ from the corresponding disclosures in the 2020 risk report.

7.2.2 DZ BANK financial conglomerate

The DZ BANK financial conglomerate comprises the DZ BANK banking group and the R+V Versicherung AG insurance group. The changes in the coverage ratio and in the own funds and solvency requirements of the DZ BANK financial conglomerate are shown in Fig. 12.

FIG. 12 – COMPONENTS OF REGULATORY CAPITAL ADEQUACY OF THE DZ BANK FINANCIAL CONGLOMERATE

	Jun. 30, 2021	Dec. 31, 2020[1]
Own funds (€ million)	34,713	35,805
Solvency requirements (€ million)[2]	24,724	24,516
Coverage ratio (%)	**140.4**	**146.0**

1 Final figures. Preliminary figures were stated in the 2020 risk report.
2 The values for the DZ BANK banking group included in the solvency requirements were determined in accordance with the CRR transitional guidance.

The decrease in the coverage ratio calculated for the DZ BANK financial conglomerate from 146.0 percent as at December 31, 2020 to 140.4 percent as at June 30, 2021 was attributable, in particular, to the reduction in own funds. By contrast, the DZ BANK financial conglomerate's solvency requirements increased. The change in the coverage ratio is attributable to effects in the DZ BANK banking group and in the R+V Versicherung AG insurance group (for details, see section 7.2.3 and section 7.2.4 of this risk report).

The coverage ratio calculated for the financial conglomerate as at June 30, 2021 was higher than both the internal threshold value (110.0 percent) and the external minimum target (100.0 percent). According to current projections, the requirements are also expected to be satisfied in the second half of the year.

7.2.3 DZ BANK banking group

Regulatory capital ratios

The regulatory **own funds** as at June 30, 2021 determined in accordance with the CRR transitional guidance amounted to a total of €27,857 million (December 31, 2020: €28,669 million). This equates to a decline in own funds of €812 million compared with the end of 2020, comprising an increase in common equity Tier 1 capital of €432 million, a decrease in additional Tier 1 capital of €425 million, and a decrease in Tier 2 capital of €819 million.

The increase in **common equity Tier 1 capital** was primarily due to the interim profit of €552 million calculated in accordance with article 26 (2) CRR and the €52 million rise in other reserves. This was partly offset by a €231 million decrease in cumulative other comprehensive income.

Tier 2 capital declined from €3,591 million as at December 31, 2020 to €2,772 million as at June 30, 2021, a decrease of €819 million. This was essentially due to non-CRR-compliant common equity Tier 1 capital instruments of €918 million no longer being eligible, whereas they had been partly included in Tier 2 capital under the CRR transitional guidance until December 31, 2020. The decrease in Tier 2 capital was also attributable to the reduced level of eligibility under CRR rules for own funds instruments in the last five years before their maturity date. This was partly offset by an inflow of capital of €215 million as a result of new Tier 2 instruments being issued.

Risk-weighted assets went up from €147,173 million as at December 31, 2020 to €149,208 million as at June 30, 2021, a rise of €2,035 million that comprised two opposing effects. On the one hand, credit risk increased as a result of the CRR II rules being applied for the first time with effect from June 28, 2021, in particular the new standardized approach to measuring the counterparty risk of derivative financial transactions. Conversely, market risk declined because the market scenarios that materialized in spring 2020 in the context of the COVID-19 pandemic were no longer included in the historical observation period used in the market risk model.

As at June 30, 2021, the **common equity Tier 1 capital ratio** was 15.4 percent and therefore higher than the ratio of 15.3 percent at the end of 2020. The **Tier 1 capital ratio** of 16.8 percent calculated as at the reporting date was lower than the figure of 17.0 percent as at December 31, 2020. The **total capital ratio** also went down, from 19.5 percent as at December 31, 2020 to 18.7 percent as at the reporting date.

Fig. 13 provides an overview of the DZ BANK banking group's regulatory capital ratios.

FIG. 13 – REGULATORY CAPITAL RATIOS[1]

	Jun. 30, 2021	Dec. 31, 2020[2]
Capital		
Common equity Tier 1 capital (€ million)	22,908	22,476
Additional Tier 1 capital (€ million)	2,177	2,602
Tier 1 capital (€ million)	**25,085**	**25,078**
Total Tier 2 capital (€ million)	2,772	3,591
Own funds (€ million)	**27,857**	**28,669**
Risk-weighted assets		
Credit risk including long-term equity investments (€ million)	131,069	128,177
Market risk (€ million)	7,652	8,388
Operational risk (€ million)	10,487	10,608
Total (€ million)	**149,208**	**147,173**
Capital ratios		
Common equity Tier 1 capital ratio (%)	15.4	15.3
Tier 1 capital ratio (%)	16.8	17.0
Total capital ratio (%)	18.7	19.5

1 In accordance with the CRR transitional guidance.
2 In the 2020 risk report, the values stated as at December 31, 2020 were based on full application of the CRR.

Regulatory minimum capital requirements specified by the SREP

The mandatory minimum capital requirements relevant to the DZ BANK banking group, as specified by the requirements of the Supervisory Review and Evaluation Process for Basel Pillar 2 (SREP), and their components are shown in Fig. 14.

FIG. 14 – REGULATORY MINIMUM CAPITAL REQUIREMENTS ACCORDING TO SREP

%	2021	2020
Minimum requirement for common equity Tier 1 capital	4.50	4.50
Additional Pillar 2 capital requirement	0.98	0.98
Capital conservation buffer	2.50	2.50
Countercyclical capital buffer[1]	0.02	0.01
O-SII capital buffer	1.00	1.00
Mandatory minimum requirement for common equity Tier 1 capital	**9.01**	**9.00**
Minimum requirement for additional Tier 1 capital	1.50	1.50
Additional Pillar 2 capital requirement	0.33	0.33
Mandatory minimum requirement for Tier 1 capital	**10.84**	**10.82**
Minimum requirement for Tier 2 capital[2]	2.00	2.00
Additional Pillar 2 capital requirement	0.44	0.44
Mandatory minimum requirement for total capital	**13.27**	**13.26**

1 The value for the countercyclical capital buffer is recalculated at each reporting date. Unlike the other reported values, which apply to the entire financial year, the countercyclical capital buffers shown for 2021 and 2020 relate solely to the reporting dates of June 30, 2021 and December 31, 2020 respectively.
2 The minimum requirement can also be satisfied with common equity Tier 1 capital.

Relaxation of the minimum capital requirements in response to the COVID-19 pandemic

Because of the COVID-19 pandemic, the supervisory authorities introduced various relief measures for banks, including in relation to the **binding minimum capital requirements**. For example, a bank can temporarily use up its capital conservation buffer and O-SII capital buffer without incurring sanctions. In such an eventuality, it must submit a capital conservation plan to the supervisory authorities. If, as a result, the combined capital buffer requirement and thus one of the three thresholds for the maximum distributable amount can no longer be met, the rules regarding the limits for distributions continue to apply. Consequently, DZ BANK does not use the aforementioned relief measures and they are not taken into account in Fig. 14.

Because of the COVID-19 pandemic, the supervisory authorities in some countries reduced the capital buffer rates used to calculate the countercyclical capital buffer, which is another part of the mandatory minimum capital requirements. In some cases, the authorities lowered the rates right down to 0 percent. In a general administrative act dated March 31, 2020, the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) [German Federal Financial Supervisory Authority] lowered the domestic countercyclical capital buffer rate for Germany to 0 percent (it was originally supposed to be raised to 0.25 percent with effect from July 1, 2020). These reduced capital buffer rates for Germany and other countries are factored into the calculation of the institution-specific countercyclical capital buffer rate. DZ BANK is therefore obliged to apply them.

Banks are also temporarily permitted to not comply with the **Pillar 2 capital recommendation** without this having any impact on a possible distribution. DZ BANK does not currently exercise this option.

Compliance with the minimum capital requirements

The **internal threshold values** and **external minimum targets** applicable to the DZ BANK banking group for the common equity Tier 1 capital ratio, the Tier 1 capital ratio, and the total capital ratio were exceeded as at June 30, 2021. According to current projections, this will also be the case at the end of 2021. The internal threshold values are shown in Fig. 3.

Leverage ratio

The leverage ratio of the DZ BANK banking group determined in accordance with the CRR transitional guidance went up by 1.5 percentage points from 5.7 percent as at December 31, 2020 to 7.2 percent as at June 30, 2021.

This increase was mainly the result of applying the CRR II rules for the first time with effect from June 28, 2021. It was primarily attributable to the introduction of the exemption from the total exposure for exposures within the cooperative financial network. This means that domestic loans and advances to members of the protection scheme of the Bundesverband der Deutschen Volksbanken und Raiffeisenbanken (BVR) [National Association of German Cooperative Banks] no longer have to be included. The resulting mitigating effect amounted to €103.1 billion.

At the same time, the exempted amount for balances with central banks rose by €31.3 billion. This exemption had originally applied until June 27, 2021 but was extended by the banking supervisor until March 31, 2022.

The main countervailing effects were increases in DZ BANK’s securities financing transaction (SFTs) that are not settled centrally and the growth of on-balance-sheet business.

As at June 30, 2021, the banking supervisor introduced a binding **external minimum target** of 3.0 percent in connection with initial application of CRR II. Because the DZ BANK banking group is applying the aforementioned temporary exemption for balances with central banks, this external minimum target has temporarily increased to 3.26 percent. The higher target ends on March 31, 2022.

Both the **internal threshold value** of 3.5 percent for the leverage ratio and the **external minimum target** of 3.26 percent specified by the banking regulator since June 28, 2021 were exceeded as at June 30, 2021. Based on current projections, it is expected that these minimum requirements will also be satisfied in the second half of the year.

Minimum requirement for own funds and eligible liabilities (MREL)

The **MREL ratio** measured for the DZ BANK banking group was 11.0 percent as at March 31, 2021 (December 31, 2020: 11.9 percent). The latest MREL ratio relates to March 31, 2021 because the figure as at June 30, 2021 was not yet available at the time that the interim group management report was prepared by the Board of Managing Directors. The fall in the ratio compared with the figure at the end of 2020 was attributable to the decrease in own funds and a significant increase in total assets on the back of secured borrowing in the money markets.

As at the reporting date, the MREL ratio was higher than the **internal threshold value** of 8.3 percent and the **external minimum target** of 8.0 percent. Based on current projections, it is expected that these requirements will also be satisfied in the second half of the year.

7.2.4 R+V Versicherung AG insurance group

The R+V Versicherung AG insurance group met the regulatory solvency requirements under Solvency II as at June 30, 2021.

The projections applied in the internal planning show that the R+V Versicherung AG insurance group’s solvency ratio will continue to exceed the solvency requirement as at December 31, 2021.

Bank sector

8 Credit risk

8.1 Lending volume

8.1.1 Asset class structure of the credit portfolio

The reporting to the Board of Managing Directors on concentrations of credit risk includes a presentation of the Bank sector's credit portfolio broken down by asset class. This is done by dividing the credit portfolio into business-related homogeneous segments on the basis of characteristics such as industry code to reflect the sector, product type, and the rating system used to determine the credit rating. The characteristics are selected in such a way that the segments are subject to uniform risk drivers. The presentation of asset classes replaces the sectoral presentation used in this section in the 2020 risk report, which was based solely on sector classification.

Fig. 15 shows the breakdown of the credit portfolio by asset class.

FIG. 15 – BANK SECTOR: LENDING VOLUME, BY ASSET CLASS

€ billion	Jun. 30, 2021	Dec. 31, 2020
Entities within the cooperative financial network	119.1	115.1
Financials	41.5	40.3
Corporates	64.7	65.2
Asset-based lending/project finance	12.6	13.5
Public sector	49.6	51.7
Real estate (commercial and retail customers)	114.9	111.7
Retail business (excluding real estate customers)	16.0	15.8
ABSs and ABCPs	7.3	7.5
Other	2.2	1.7
Total	**427.9**	**422.6**

The total lending volume in the Bank sector increased by 1 percent in the first half of the year, from €422.6 billion as at December 31, 2020 to €427.9 billion as at June 30, 2021. The rise in the lending volume was mainly due to an increase in volume in the specialized service providers within the cooperative sector and real estate asset classes, which went up by €4.0 billion and €3.2 billion respectively compared with the end of 2020. DZ BANK accounted for most of the increase, which was driven by lending business with entities in the cooperative financial network and by liquidity support provided under government financing programs to cushion the consequences of the COVID-19 pandemic (see section 8.2). The increase in the real estate asset class was mainly attributable to real estate finance transactions with retail customers of BSH and DZ HYP.

As at June 30, 2021, a significant proportion (38 percent) of the lending volume was concentrated in the financial sector (December 31, 2020: 37 percent). In addition to the local cooperative banks, the borrowers in this customer segment comprised banks from other sectors of the banking industry and other financial institutions.

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

and BSH, and DZ HYP's local authority lending business determine the industry breakdown for the remainder of the portfolio.

8.1.2 Geographical structure of the credit portfolio

Fig. 16 shows the geographical distribution of the credit portfolio by country group. The lending volume is assigned to the individual country groups using the International Monetary Fund's breakdown, which is updated annually.

FIG. 16 – BANK SECTOR: LENDING VOLUME, BY COUNTRY GROUP

€ billion	Jun. 30, 2021	Dec. 31, 2020
Germany	356.8	351.6
Other industrialized countries	56.8	57.4
of which: France	8.3	7.1
of which: USA	8.3	8.7
of which: Netherlands	5.2	5.6
Advanced economies	2.2	2.2
Emerging markets	8.7	8.3
Supranational institutions	3.3	3.0
Total	**427.9**	**422.6**

As at June 30, 2021, 97 percent of the total lending volume was concentrated in Germany and other industrialized countries, which was the same percentage as at December 31, 2020.

8.1.3 Residual maturity structure of the credit portfolio

The breakdown of the credit portfolio by residual maturity as at June 30, 2021 presented in Fig. 17 shows that the lending volume had decreased by €0.9 billion in the short-term maturity band compared with December 31, 2020. This was attributable to BSH, DVB, and DZ HYP. By contrast, there was an increase of €2.6 billion in the medium-term maturity band that was attributable to DZ BANK. BSH and DZ BANK were primarily responsible for the rise of €3.5 billion in the lending volume in the long-term maturity band.

FIG. 17 – BANK SECTOR: LENDING VOLUME, BY RESIDUAL MATURITY

€ billion	Jun. 30, 2021	Dec. 31, 2020
≤ 1 year	100.8	101.7
> 1 year to ≤ 5 years	106.4	103.8
> 5 years	220.7	217.2
Total	**427.9**	**422.6**

8.1.4 Rating structure of the credit portfolio

Fig. 18 shows the consolidated lending volume by rating class according to the VR credit rating master scale. The proportion of the total lending volume accounted for by rating classes 1A to 3A (investment grade) was 85 percent as at June 30, 2021 (December 31, 2020: 79 percent). Rating classes 3B to 4E (non-investment grade) represented 14 percent of the total lending volume as at the reporting date (December 31, 2020: 19 percent). Defaults, represented by rating classes 5A to 5E, accounted for 1 percent of the total lending volume as at June 30, 2021, which was unchanged compared with the end of 2020.

FIG. 18 – BANK SECTOR: LENDING VOLUME, BY RATING CLASS

€ billion		Jun. 30, 2021	Dec. 31, 2020
Investment grade	1A	37.9	39.8
	1B	7.3	5.3
	1C	130.7	127.2
	1D	14.1	12.7
	1E	14.3	15.9
	2A	16.0	15.3
	2B	24.7	24.2
	2C	24.2	17.6
	2D	30.2	21.1
	2E	37.4	27.5
	3A	25.2	27.3
Non-investment grade	3B	17.6	25.4
	3C	14.6	22.2
	3D	9.6	14.5
	3E	6.5	7.4
	4A	2.8	4.6
	4B	3.4	3.5
	4C	2.2	1.5
	4D	0.7	0.7
	4E	1.9	1.8
Default		3.7	4.4
Not rated		3.0	2.7
Total		**427.9**	**422.6**

The increase in the investment-grade proportion of the lending volume was mainly due to updates to the rating systems at BSH. The methodology change resulted in a reduction in default rates and thus an improvement in the credit ratings in BSH's credit portfolio. There was a countervailing effect as a result of updates to the model used by BSH to determine loss given default (LGD) that led to an increase in the LGD. The two effects largely offset each other at the level of the expected loss.

As at June 30, 2021, the **ten counterparties associated with the largest lending volumes** accounted for 5 percent of the total lending volume (December 31, 2020: 6 percent). These counterparties largely comprised borrowers from the public-sector domiciled in Germany and from the financial sector (including the cooperative banks) with investment-grade ratings.

8.1.5 Collateralized lending volume

Fig. 19 shows the breakdown of the collateralized lending volume at overall portfolio level by type of collateral. The total collateral value had risen to €130.4 billion as at June 30, 2021, compared with €128.0 billion as at December 31, 2020. The collateralization rate of 37.7 percent as at the reporting date was the same as it had been at the end of 2020.

FIG. 19 – BANK SECTOR: COLLATERAL VALUE, BY TYPE OF COLLATERAL

€ billion	Jun. 30, 2021	Dec. 31, 2020
Guarantees, indemnities, risk subparticipation	7.2	7.4
Credit insurance	4.6	4.2
Land charges, mortgages, registered ship and aircraft mortgages	114.0	111.4
Pledged loans and advances, assignments, other pledged assets	2.9	2.8
Financial collateral	1.5	1.9
Other collateral	0.2	0.3
Total collateral	**130.4**	**128.0**
Lending volume	345.9	339.6
Uncollateralized lending volume	**215.5**	**211.6**
Collateralization rate (%)	**37.7**	**37.7**

In the case of **traditional lending business**, lending volume is generally reported as a gross figure before the application of any offsetting agreements, whereas the gross lending volume in the **derivatives and money market business** is shown on a netted basis. In the derivatives and money market business, collateral values are relatively low and are in the form of personal and financial collateral. In the **securities business**, there is generally no further collateralization to supplement the collateral already taken into account. For this reason, securities business is not included in the presentation of the collateralized lending volume.

8.1.6 Securitizations

Within the securitizations business, the entities in the Bank sector act in different capacities, for example as investors in asset-backed security (ABS) portfolios, sponsors of asset-backed commercial paper (ABCP) programs, or sponsors of on-balance-sheet receivables purchasing programs.

The Bank sector's ABS portfolio, in which its entities act as **investors**, is predominantly held by DZ BANK and DZ HYP. This portfolio had a nominal amount of €2,252 million as at the reporting date (December 31, 2020: €2,368 million). The fall in the nominal amount was mainly attributable to redemptions in the wind-down portfolio. The COVID-19 pandemic also led to a lower level of ABS trading. The highest internal rating class 1A accounted for 61 percent of the nominal amount as at June 30, 2021 (December 31, 2020: 60 percent). The investment-grade proportion of the nominal amount of 91 percent was the same as it had been at the end of 2020.

The above figures included the **wind-down portfolio** dating back to the period before the financial crisis in 2007, which had a nominal amount of €810 million (December 31, 2020: €918 million). The volume of the wind-down portfolio contracted during the first half of this year, primarily because of regular redemptions.

In addition, DZ BANK acts as a **sponsor in ABCP programs** that are funded by issuing money market-linked ABCP or liquidity lines. The ABCP programs are made available for customers who then securitize their own assets via these companies. As at June 30, 2021, the securitization exposures arising from DZ BANK's activities in which it acts as a sponsor amounted to €1,804 million (December 31, 2020: €1,703 million). The increase in the securitization exposures was due to new business and to fluctuations in the drawdown of liquidity lines.

DZ BANK also sponsors a **program for the purchase of commercial customer receivables**, the aim of which is to generate fee and commission income. The purchased receivables predominantly consist of invoice receivables and receivables arising from agreements for payment by installment. The provisions in the master agreements for this purchase program are designed such that division of the credit risk into two or more tranches is agreed between the seller of the assets and DZ BANK at the time that the assets are purchased. As at June 30, 2021, DZ BANK's securitization exposure arising from the purchase of receivables amounted to €456 million (December 31, 2020: €279 million). The growth of the exposure arose because new business exceeded the settlement of receivables in existing transactions.

8.2 Credit portfolios particularly affected by the COVID-19 pandemic

The following sections describe credit portfolios in which the effects of the COVID-19 pandemic were more noticeable than in the rest of the credit portfolios. However, no significantly heightened risk was as yet evident in connection with the exposures in the affected portfolios as at the reporting date. They are described solely for reasons of transparency. The figures presented below are included in the disclosures for the lending volume as a whole (see section 8.1 of this risk report).

The **automotive sector** is in a state of upheaval and faced with a number of issues, notably low margins and huge capital requirements. The COVID-19 pandemic is amplifying the pressure created by the transformation process. Supply shortages in many plants are currently resulting in production outages. **DZ BANK's** automotive finance portfolio, which is assigned to the corporates segment, is still deemed to be stable with a good credit quality despite pandemic-related rating downgrades for a few counterparties and a comparatively high NPL ratio of 5.8 percent as at June 30, 2021 (DZ BANK as a whole: 0.8 percent). This was also attributable to the stabilization resulting from government support and buyers' incentives for individual segments of the automotive industry and to the general recovery of demand. The volume of lending in the Bank sector's automotive finance portfolio came to €4.7 billion as at June 30, 2021 (December 31, 2020: €4.5 billion).

DZ HYP's lending business with corporates includes financing for **hotels and department stores**. In view of the potential evolution of the pandemic and the measures initiated to contain it, DZ HYP came to the conclusion in the first half of 2021 that there was still heightened uncertainty in relation to the operating activities of these businesses. A gradual return to normal business operations is expected following the easing of containment measures that has been taking place since May 2021. DZ HYP did not identify any notable negative impact on individual exposures as a result of the pandemic as at the reporting date. As at June 30, 2021, the volume of corporate loans extended by DZ HYP amounted to €46.6 billion (December 31, 2020: €46.4 billion). Of this total, €2.6 billion (December 31, 2020: €2.8 billion) related to hotel financing and €0.3 billion (December 31, 2020: €0.6 billion) to department store financing.

The **tourist cruise ship business**, for which **DZ BANK** provides funding, was also significantly impacted by the COVID-19 pandemic. The effects on cruise ship financing operations and on the financing of cruise ship building are described in section 8.3.3.

In the first six months of 2021, the entities in the Bank sector granted existing customers **liquidity support** amounting to approximately €2.5 billion as part of the government support measures introduced to mitigate the consequences of the COVID-19 pandemic for borrowers (2020: approximately €9 billion). The volume declined owing to the improvement in the pandemic situation. These activities mainly concerned DZ BANK, although VR Smart Finanz was also involved to a lesser extent. At DZ BANK, these activities also included the provision of liquidity support under government financing programs; it worked together with the local cooperative banks to pass on this support to their customers.

In the Bank sector, relief measures in the form of **payment deferrals and other credit contract modifications** were again granted to borrowers in the reporting period to help them cope with the consequences of the pandemic. These included voluntary assistance, statutory requirements, and measures put in place by the Verband der Privaten Bausparkassen e.V. [Association of Private Bausparkassen]. The latter had expired in full by the reporting date. The relief measures were mainly introduced by DZ BANK and BSH. The total lending volume involved stood at €2.8 billion as at June 30, 2021 (December 31, 2020: €4.2 billion). Again, the decrease was due to the easing of the COVID-19 pandemic during the first half of the year.

8.3 Credit portfolios with increased risk content

The credit portfolios with increased risk content are analyzed separately because of their significance for the risk position. The figures presented below are included in the above analyses of the lending volume as a whole (see section 8.1 of this risk report).

8.3.1 Loans and advances to borrowers in eurozone periphery countries

As at June 30, 2021, loans and advances to borrowers in the countries directly affected by the **economic divergence in the eurozone** amounted to €6,917 million (December 31, 2020: €7,276 million). This mainly consisted of securities business. The decrease was mainly due to reductions in fair value and to disposals and maturities at DZ HYP.

Fig. 20 shows the borrower structures in the eurozone periphery countries.

FIG. 20 – BANK SECTOR: LOANS AND ADVANCES TO BORROWERS IN EUROZONE PERIPHERY COUNTRIES[1]

€ million	Jun. 30, 2021	Dec. 31, 2020
Portugal	**918**	**1,150**
of which: public sector	829	1,057
of which: non-public sector	89	93
of which: financial sector	-	-
Italy	**3,158**	**3,181**
of which: public sector	2,826	2,929
of which: non-public sector	331	252
of which: financial sector	89	100
Spain	**2,841**	**2,945**
of which: public sector	1,878	2,022
of which: non-public sector	963	922
of which: financial sector	387	321
Total	**6,917**	**7,276**
of which: public sector	5,534	6,008
of which: non-public sector	1,383	1,268
of which: financial sector	476	421

1 Unlike the other presentations of lending volume, traditional lending business in this case includes long-term equity investments.

8.3.2 Shipping finance

Significance for the Bank sector

Shipping finance in the narrow sense refers to capital investment in mobile assets involving projects that are separately defined, both legally and in substance, in which the borrower is typically a special-purpose entity whose sole business purpose is the construction and operation of ships. In such arrangements, the debt is serviced from the cash flows generated by the ship. The assessment of the credit risk is therefore based not only on the recoverability of the asset, but also in particular on the capability of the ship to generate earnings. To reduce risk, the finance must be secured by a first mortgage on the vessel and the assignment of insurance claims and proceeds. A distinction is made between shipping finance in the narrow sense and finance provided for cruise ships and cruise ship building (see section 8.3.3).

Within the DZ BANK Group's Bank sector, the shipping finance business is mainly operated by **DVB** and, to a lesser degree, by **DZ BANK**.

As at June 30, 2021, the main segments of the shipping finance business at **DVB** included tankers, bulk carriers, and container ships, which accounted for 51 percent (December 31, 2020: 49 percent), 30 percent (December 31, 2020: 31 percent), and 7 percent (December 31, 2020: 10 percent) of the shipping finance portfolio respectively.

DZ BANK finances ships as part of its joint credit business with the local cooperative banks.

Industry situation

The recovery of the container and bulk carrier segments that emerged in the fourth quarter of 2020 continued in the first six months of this year. Demand currently exceeds supply, especially in the container ship segment, which means that charter rates have risen to record highs. A similar rebound is not evident in the tanker segment or in inland tanker shipping. However, demand for crude oil began to increase in the second quarter, so a recovery is likely in the medium term. Both asset values and customer credit quality remain under pressure to varying degrees, depending on the market segment. Consequently, the sustainability of the positive trends in some areas of the shipping markets will only become clear in the coming months.

Lending volume

As at June 30, 2021, the **Bank sector's** shipping finance portfolio had a total volume of €2,658 million (December 31, 2020: €3,698 million). The breakdown of the lending volume between the two management units as at June 30, 2021 was as follows (corresponding figures as at December 31, 2020 in parentheses):

- **DVB**: €2,090 million (€3,123 million)
- **DZ BANK**: €568 million (€575 million).

DVB's lending volume related to shipping finance amounted to €2,090 million as at June 30, 2021 (December 31, 2020: €3,123 million). Of this amount, €289 million was attributable to closely monitored exposures (December 31, 2020: €507 million). The decrease in the overall volume was due to the continued scaling back of the portfolio, a substantial proportion of which consists of closely monitored exposures.

As at June 30, 2021, the closely monitored portion of DVB's shipping finance portfolio included 48 financed vessels (December 31, 2020: 66 financed vessels). The average exposure as at the reporting date was €16 million (December 31, 2020: €23 million) and the largest single exposure was €40 million (December 31, 2020: €71 million).

The lending volume in **DZ BANK's** entire shipping finance portfolio as at June 30, 2021 amounted to €568 million (December 31, 2020: €575 million). Of this amount, €244 million was attributable to exposures closely monitored on the basis of watch and default lists (December 31, 2020: €253 million). As in 2020, DZ BANK's shipping finance portfolio in the reporting period was mainly concentrated in Germany but broadly diversified by type of vessel, borrower, charterer, and shipping activity.

8.3.3 Finance for cruise ships and cruise ship building

Cruise ship finance is brought together under **DZ BANK** in the Bank sector. Because global cruise ship operations remain at an almost total standstill as a result of the COVID-19 pandemic, borrowers' credit quality continued to deteriorate in the first half of 2021 and their credit ratings were again downgraded. In an industry-wide memorandum, the suspension of loan repayments covered by export credit insurance was extended until March 2022, having originally been due to expire in March 2021. The industry's prospects are now slowly beginning to brighten thanks to the increased containment of the pandemic as a result of vaccination programs. However, the situation remains difficult.

As at June 30, 2021, the volume of cruise ship finance amounted to €1,110 million (December 31, 2020: €1,099 million). Of this total, €652 million was covered by export credit insurance as at June 30, 2021 (December 31, 2020: €645 million). The proportion of the lending volume that was not covered predominantly consisted of working capital facilities and support for an acquisition finance transaction.

A distinction is made between cruise ship finance and the **financing of cruise ship building**. This segment, which likewise only affects **DZ BANK** in the Bank sector, is currently undergoing consolidation. In consultation with the parties ordering cruise ships, the order book has been stretched out, thereby ensuring a basic level of capacity utilization in the next few years. However, the shipyards that build cruise ships face the challenge of significantly reducing their production capacity and workforce capacity. Customers' credit quality is expected to remain under pressure in the coming financial year, which is why the subportfolio is classified as a portfolio with

increased risk content. The lending volume related to the financing of cruise ship building stood at €266 million as at June 30, 2021 (December 31, 2020: €410 million). The decrease was due to the fall in traditional lending business.

8.3.4 Offshore finance

Within the Bank sector, only **DVB** has offshore finance business in its credit portfolio. This business consists of various financing arrangements with broad links to the shipping sector. The portfolio includes finance for drilling platforms, drill ships, offshore construction ships, and supply ships for oil platforms.

Despite the increase in the oil price, the situation in the offshore markets has not improved significantly compared with 2020. The main reason for this is that oil extraction companies are only implementing projects with low break-even prices for the time being. Establishing new offshore projects is expensive and necessitates a sustained high level of oil prices, which means that such projects have a relatively high break-even point. A lasting market recovery is not expected in the short term because there is still an excess supply of laid-up ships. Another consequence of this is that the market values of the ships are likely to remain under pressure.

As at June 30, 2021, the lending volume in DVB's offshore finance business amounted to €352 million (December 31, 2020: €594 million). Of this total, €174 million was backed by collateral as at June 30, 2021 (December 31, 2020: €317 million).

8.4 Volume of non-performing loans

In the Bank sector, loans are categorized as non-performing if they have been rated between 5A and 5E on the VR credit rating master scale. These non-performing loans (NPLs) are exposures that are at acute risk of default.

As at June 30, 2021, the volume of non-performing loans in the Bank sector had fallen to €3.7 billion from €4.4 billion as at December 31, 2020, mainly owing to the scaling back of the portfolio at DVB. As a result of this decrease, the NPL ratio went down from 1.0 percent to 0.9 percent.

Fig. 21 shows key figures relating to the volume of non-performing loans.

FIG. 21 – BANK SECTOR: KEY FIGURES FOR THE VOLUME OF NON-PERFORMING LOANS

	Jun. 30, 2021	Dec. 31, 2020
Total lending volume (€ billion)	427.9	422.6
Volume of non-performing loans (€ billion)[1]	3.7	4.4
Balance of loss allowances (€ billion)[2]	1.6	2.0
Coverage ratio (%)[3]	80.0	81.0
NPL ratio (%)[4]	0.9	1.0

1 Volume of non-performing loans excluding collateral.
2 IFRS specific loan loss allowances at stage 3, including provisions.
3 Loss allowances as specified in footnote 2, plus collateral, as a proportion of the volume of non-performing loans.
4 Volume of non-performing loans as a proportion of total lending volume.

8.5 Risk position

8.5.1 Risks in the entire credit portfolio

The risk capital requirement for credit risk is based on a number of factors, including the size of single-borrower exposures, individual ratings, and the industry sector of each exposure.

As at June 30, 2021, the risk capital requirement amounted to €5,295 million (December 31, 2020: €5,496 million) with a limit of €7,188 million (December 31, 2020: €6,978 million). The decrease was mainly due to a change in the calculation of the risk capital requirement at BSH and the ongoing reduction of the portfolio at DVB.

Fig. 22 shows the credit value-at-risk together with the average probability of default and expected loss.

FIG. 22 – BANK SECTOR: FACTORS DETERMINING THE CREDIT VALUE-AT-RISK

	Average probability of default (%)		Expected loss (€ million)		Credit value-at-risk[1] (€ million)	
	Jun. 30, 2021	Dec. 31, 2020	Jun. 30, 2021	Dec. 31, 2020	Jun. 30, 2021	Dec. 31, 2020
Traditional lending business	0.5	0.5	436	430	2,416	2,547
Securities business	0.2	0.2	47	48	1,621	1,757
Derivatives and money market business	0.2	0.2	15	14	278	262
Total			**497**	**492**	**4,315**	**4,565**
Average	**0.4**	**0.4**				

1 As it is not possible to show the risk capital requirement including the capital buffer requirement in the analysis of credit-risk-bearing instruments, the risk capital requirement is presented without the capital buffer requirement.

8.5.2 Risks in the credit portfolios with increased risk content

The risk capital requirement for credit portfolios exposed to increased credit risk is shown in Fig. 23.

FIG. 23 – BANK SECTOR: CREDIT VALUE-AT-RISK[1] FOR CREDIT PORTFOLIOS WITH INCREASED RISK CONTENT

€ million	Jun. 30, 2021	Dec. 31, 2020
Eurozone periphery countries	1,213	1,255
Shipping finance	164	248
Cruise ship finance	18	15
Finance for cruise ship building	2	2
Offshore finance	7	25

1 Excluding decentralized capital buffer requirement.

The decline in the credit value-at-risk for the Bank sector entities' exposure in the **peripheral countries of the eurozone** was in line with the change in the loans and advances to borrowers in these countries.

As at June 30, 2021, the credit value-at-risk for **shipping finance** amounted to €164 million (December 31, 2020: €248 million) and was mainly attributable to DVB. The decrease compared with the end of 2020 was due to the reduction of the portfolio.

The decline in the credit value-at-risk for **offshore finance** compared with the end of 2020 was caused by the scaling back of this business operated by DVB in line with the strategy.

9 Equity investment risk

The **carrying amounts of long-term equity investments** relevant for the measurement of equity investment risk amounted to €2,906 million as at June 30, 2021 (December 31, 2020: €2,893 million).

The **risk capital requirement** for equity investment risk was calculated to be €956 million as at the reporting date (December 31, 2020: €936 million). The **limit** was €1,220 million (December 31, 2020: €1,090 million).

10 Market risk

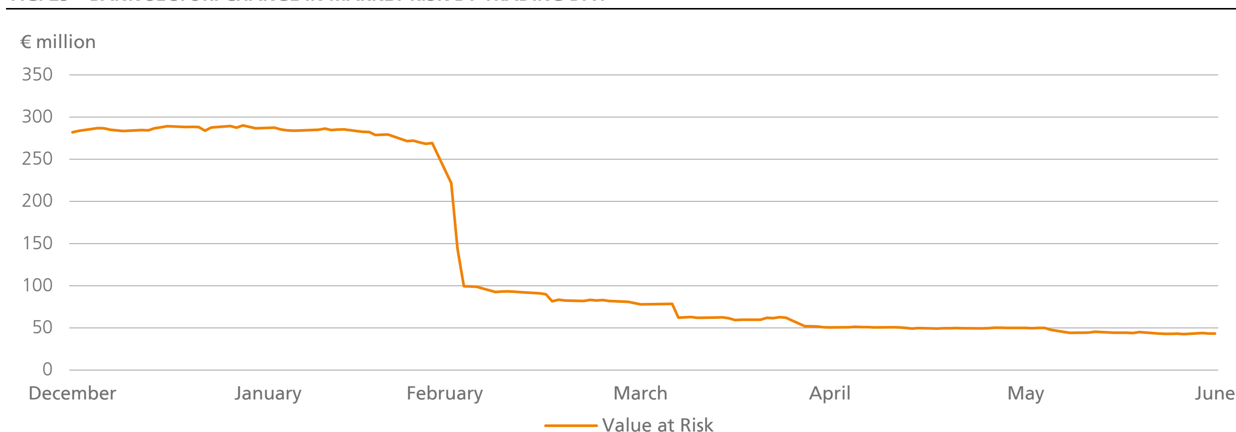
Fig. 24 shows the average, maximum, and minimum **values-at-risk** measured over the first half of the year, including a further breakdown by type of market risk. In addition, Fig. 25 shows the change in market risk by trading day in the reporting period. In both figures, the value-at-risk relates to the trading and banking books for regulatory purposes.

FIG. 24 – BANK SECTOR: CHANGE IN MARKET RISK BY TYPE OF RISK[1, 2, 3]

€ million	Interest-rate risk	Spread risk	Equity risk[4]	Currency risk	Commodity risk	Diversification effect[5]	Total
Jun. 30, 2021	**8**	**46**	**9**	**3**	**2**	**-24**	**43**
Average	13	135	15	3	2	-33	136
Maximum	20	291	32	4	3	-60	290
Minimum	7	45	7	2	2	-20	43
Dec. 31, 2020	**17**	**283**	**29**	**3**	**3**	**-52**	**282**

1 The disclosures relate to general market risk and spread risk. A value-at-risk is not determined for asset-management risk.
2 Value-at-risk with 99.00% confidence level, 1-day holding period, 1-year observation period, based on a central market risk model for the Bank sector. Concentrations and effects of diversification were taken fully into account when calculating the risks.
3 The minimum and maximum amounts for the different subcategories of market risk may stem from different points in time during the reporting period. Consequently, they cannot be aggregated to produce the minimum or maximum aggregate risk due to the diversification effect.
4 Including funds, if not broken down into constituent parts.
5 Total effects of diversification between the types of market risk for all consolidated management units.

FIG. 25 – BANK SECTOR: CHANGE IN MARKET RISK BY TRADING DAY[1]



1 Value-at-risk with 99.00% confidence level, 1-day holding period, 1-year observation period, based on a central market risk model for the Bank sector. Concentrations and effects of diversification were taken fully into account when calculating the risks.

The value-at-risk for the **interest-rate risk in the banking book for regulatory purposes** amounted to €7 million as at June 30, 2021 (December 31, 2020: €19 million).

As at June 30, 2021, the **risk capital requirement** for market risk amounted to €3,725 million (December 31, 2020: €4,310 million) with a **limit** of €5,725 million that was unchanged compared with the end of 2020.

Market risk declined because the market scenarios that materialized in spring 2020 in the context of the COVID-19 pandemic were no longer included in the historical observation period used in the calculation of risk.

The Bank sector's risk capital requirement encompasses the **asset-management risk** of **UMH**. The asset-management risk of the Bank sector as at June 30, 2021 amounted to €350 million (December 31, 2020: €319 million). The increase in risk was primarily attributable to a change to the calculation of risk.

11 Technical risk of a home savings and loan company

As at June 30, 2021, the **capital requirement** for the technical risk of a home savings and loan company amounted to €610 million (December 31, 2020: €545 million) with a **limit** of €706 million (December 31, 2020: €550 million). The increase in risk and the higher limit were primarily attributable to a change to the calculation of risk.

12 Business risk and reputational risk

12.1 Risk factors

The regulatory background to the business risk factor '**switch in interest-rate benchmarks**' was explained in section 10.3.1 of the 2020 risk report. In addition to that information, the following paragraphs set out the main changes that occurred in the first half of 2021.

The Financial Conduct Authority, which is responsible for regulating interest-rate benchmarks in the United Kingdom, has published the announcement of ICE Benchmark Administration (the administrator engaged by the UK government to manage Libor), according to which the Libor settings in Swiss francs, pound sterling, Japanese yen, and euros will be discontinued at the end of 2021. From this date, the aforementioned Libor settings will no longer be deemed representative by the supervisory authorities. US dollar Libor will be discontinued on June 30, 2023. In the period January 1, 2022 to June 30, 2023, US dollar Libor will continue to be available for existing business.

The extension of the deadline for US dollar Libor offers significant relief to the entities in the Bank sector because they will now have more flexibility regarding timing for the required changeover of the affected contracts to successor interest-rate benchmarks. This reduces the risk that the affected transactions of the entities in the Bank sector will be adversely affected by a late or delayed changeover to an alternative interest-rate benchmark.

12.2 Risk position

As at June 30, 2021, the **risk capital requirement** for business risk (including reputational risk) amounted to €438 million (December 31, 2020: €382 million). The **limit** was €750 million as at the reporting date (December 31, 2020: €550 million). The increase in risk and the higher limit were predominantly due to DVB's risk being transferred from the centralized to the decentralized capital buffer requirement.

13 Operational risk

13.1 Losses

Losses from operational risk do not follow a consistent pattern. The overall risk profile can be seen from the total losses incurred over the long term and is shaped by a small number of large losses. Over the course of time, regular fluctuations are evident in the pattern of losses as the frequency of relatively large losses in each individual case is very low. Presenting the change in losses meaningfully therefore requires a sufficiently long and

unchanging time horizon for reporting purposes. The data is therefore selected from the loss history for the past four quarters and on the basis of the date on which the expense is recognized in the income statement.

Fig. 26 shows the internal net losses from loss events reported in the last four quarters, i.e. in the period from July 1, 2020 to June 30, 2021, classified by operational risk subtype.

FIG. 26 – BANK SECTOR: NET LOSSES[1] BY OPERATIONAL RISK SUBTYPE

Proportion of total net losses (%)	Jul. 1, 2020–Jun. 30, 2021	Long-term mean[2]
Compliance risk	35.3	45.2
Legal risk	43.2	37.3
Information risk including ICT risk	1.8	5.6
Security risk	1.1	1.9
Outsourcing risk	3.1	0.5
Project risk	-	0.3
Other operational risk	15.5	9.1

1 Internal losses.
2 The long-term mean is derived from loss data recorded since 2006.

In the past four quarters, which is the relevant observation period for the analysis of net losses, internal losses were dominated by **compliance risk** and **legal risk**. The internal losses attributable to these risk subtypes had still been significantly below their twelve-month mean as at December 31, 2020. However, the long-term mean determined as at June 30, 2021 was almost reached in the case of compliance risk and slightly exceeded in the case of legal risk. This was primarily due to a provision for the potential reimbursement of fees following a ruling by the German Federal Court of Justice (BGH) on April 27, 2021 concerning the ineffectiveness of clauses in general terms and conditions. Further disclosures on the recognized provisions can be found in note 36 of the notes to the consolidated financial statements under ‘Other provisions’.

The net losses for the other risk subtypes as at June 30, 2021 were on a par with the end of 2020, although the proportion of the total internal net losses attributable to these risk subtypes had declined owing to the increase in losses attributable to compliance risk and legal risk.

13.2 Risk position

The **risk capital requirement** for operational risk was calculated at €914 million as at June 30, 2021 (December 31, 2020: €844 million). At €1,020 million, the **limit** was unchanged compared with the end of 2020.

Insurance sector

14 Actuarial risk

14.1 Claims rate trend in non-life insurance

In **direct non-life insurance**, the claims rate trend was in line with expectations in the first half of 2021. The overall claims rate was below the level of the corresponding prior-year period. Claims expenses for major claims and basic claims have recently fallen. Although June saw an accumulation of natural disaster claims owing to storms, the claims incurred as at the reporting date were still below the expected level of claims for the year as a whole. In view of the severe weather in July, however, the expected level of claims is likely to have been exceeded by the end of the year. Nevertheless, the adverse impact of natural disaster claims will be reduced by reinsurance arrangements.

In the first six months of this year, there was again a mitigating impact on the level of claims from motor vehicle insurance as a result of the fallout from the COVID-19 pandemic.

In the **inward reinsurance business**, the net claims ratio was down by 6.8 percentage points compared with the first half of 2020. The ratios for major and basic claims were below those in the corresponding period of last year. By contrast, the ratio for medium claims went up. In the first half of this year, the overall claims rate was therefore lower than in the prior-year period, which had been more badly affected by the COVID-19 pandemic. By the end of the first half of 2021, major claims of €77 million had arisen in connection with the Texas Freeze winter storm in the United States.

14.2 Risk position

As at June 30, 2021, the **overall solvency requirement for life actuarial risk** amounted to €1,043 million (December 31, 2020: €1,070 million) with a **limit** of €1,310 million (December 31, 2020: €1,400 million).

As at the reporting date, the **overall solvency requirement for health actuarial risk** was measured at €236 million (December 31, 2020: €293 million). The **limit** was set at €420 million (December 31, 2020: €700 million).

As at June 30, 2021, the **overall solvency requirement for non-life actuarial risk** amounted to €3,952 million (December 31, 2020: €3,780 million) with a **limit** of €4,900 million (December 31, 2020: €4,500 million). The increase in risk was mainly due to the regular updating of the sums insured.

15 Market risk

15.1 Change in lending volume

In accordance with the breakdown specified in Solvency II, the bulk of credit risk within market risk is assigned to spread risk. The capital requirements for spread risk are calculated using a factor approach based on the relevant lending volume.

As at June 30, 2021, the **total lending volume** of R+V had advanced by 1 percent to €104.2 billion (December 31, 2020: €103.0 billion). The volume increase was attributable to the expansion of the investment portfolios in connection with the growth of the insurance business and higher fair values because of the narrowing of spreads.

The volume of lending in the **home finance** business totaled €12.7 billion as at June 30, 2021 (December 31, 2020: €11.9 billion). Of this amount, 86 percent was accounted for by loans for less than 60 percent of the value of the property (December 31, 2020: 88 percent).

The volume of home finance was broken down by finance type as at the reporting date as follows (figures as at December 31, 2020 shown in parentheses):
- Consumer home finance: €11.5 billion (€10.8 billion)
- Commercial home finance: €0.1 billion (€0.1 billion)
- Commercial finance: €1.0 billion (€1.0 billion).

In the case of home finance, the entire volume disbursed is backed by traditional **loan collateral**.

The financial sector and the public sector, which are the dominant **asset classes**, together accounted for 68 percent of the total lending volume as at June 30, 2021 (December 31, 2020: 69 percent). This lending mainly comprised loans and advances in the form of German and European Pfandbriefe backed by collateral in accordance with statutory requirements. Loans and advances to the public sector and consumer home finance (retail) highlight the safety of this investment.

The explanation of the asset class concept in the Bank sector (see section 8.1.1) applies analogously to the Insurance sector. Fig. 27 shows the breakdown of the lending volume by asset class.

FIG. 27 – INSURANCE SECTOR: LENDING VOLUME, BY ASSET CLASS

€ billion	Jun. 30, 2021	Dec. 31, 2020
Financials	47.5	47.1
Corporates	16.1	15.7
Public sector	23.1	23.7
Real estate (commercial and retail customers)	15.9	15.1
ABSs and ABCPs	1.5	1.4
Other	0.1	0.1
Total	**104.2**	**103.0**

An analysis of the **geographical breakdown** of lending in Fig. 28 reveals that Germany and other industrialized countries continued to account for the lion's share of the lending volume as at June 30, 2021 – as they also did at December 31, 2020 – with an unchanged share of 91 percent.

FIG. 28 – INSURANCE SECTOR: LENDING VOLUME, BY COUNTRY GROUP

€ billion	Jun. 30, 2021	Dec. 31, 2020
Germany	38.3	37.8
Other industrialized countries	56.3	55.5
of which: France	12.7	12.6
of which: USA	7.3	6.6
of which: Netherlands	5.5	5.3
Advanced economies	1.3	1.3
Emerging markets	5.2	5.1
Supranational institutions	3.1	3.3
Total	**104.2**	**103.0**

Obligations in connection with the life insurance business require investments with longer maturities. This is also reflected in the breakdown of **residual maturities** shown in Fig. 29. As at June 30, 2021, 85 percent (December 31, 2020: 84 percent) of the total lending volume had a residual maturity of more than five years. By contrast, 3 percent of the total lending volume was due to mature within one year as at the reporting date (unchanged on the value as at December 31, 2020).

FIG. 29 – INSURANCE SECTOR: LENDING VOLUME, BY RESIDUAL MATURITY

€ billion	Jun. 30, 2021	Dec. 31, 2020
≤ 1 year	2.9	2.7
> 1 year to ≤ 5 years	13.1	13.5
> 5 years	88.2	86.8
Total	**104.2**	**103.0**

The **rating structure** of the lending volume in the Insurance sector is shown in Fig. 30. Of the total lending volume as at June 30, 2021, 79 percent was attributable to investment-grade borrowers (December 31, 2020: 80 percent). The lending volume that is not rated, which made up 20 percent of the total lending volume (December 31, 2020: 19 percent), essentially comprised low-risk consumer home finance for which external ratings were not available. The unrated lending volume is deemed to be low-risk because the lending is based on a selective approach and the mortgageable value of the assets is limited.

FIG. 30 – INSURANCE SECTOR: LENDING VOLUME, BY RATING CLASS

€ billion		Jun. 30, 2021	Dec. 31, 2020
Investment grade	1A	27.0	27.4
	1B	12.5	14.8
	1C	-	-
	1D	12.4	10.2
	1E	-	-
	2A	9.8	9.2
	2B	6.4	7.3
	2C	6.8	6.5
	2D	3.6	3.2
	2E	-	-
	3A	3.5	3.7
Non-investment grade	3B	0.3	0.4
	3C	0.6	0.3
	3D	-	-
	3E	0.2	0.4
	4A	0.1	0.1
	4B	0.3	0.3
	4C	0.1	0.1
	4D	-	-
	4E	-	-
Default		-	-
Not rated		20.3	19.1
Total		**104.2**	**103.0**

To rate the creditworthiness of the lending volume, R+V uses external ratings that have received general approval. It also applies its own expert ratings in accordance with the provisions of Credit Rating Agency Regulation III to validate the external credit ratings. R+V has defined the external credit rating as the maximum,

even in cases where its own rating is better. The ratings calculated in this way are matched to the DZ BANK credit rating master scale using the methodology shown in Fig. 20 of the 2020 risk report.

As at the reporting date, the **ten counterparties associated with the largest lending volumes** continued to account for 18 percent of R+V's total lending volume.

15.2 Credit portfolios with increased risk content

R+V's exposure in credit portfolios with increased risk content is analyzed separately because of its significance for the risk position in the Insurance sector. The figures presented here are included in the above analyses of the total lending volume.

Investments in **eurozone periphery countries** totaled €5,933 million as at June 30, 2021 (December 31, 2020: €6,328 million), which constituted a decrease of 6 percent. There has been a further fall in the total exposure since the start of 2021 owing to reductions in fair value and disposals.

Fig. 31 shows the country breakdown of the exposure.

FIG. 31 – INSURANCE SECTOR: EXPOSURE IN EUROZONE PERIPHERY COUNTRIES

€ million	Jun. 30, 2021	Dec. 31, 2020
Portugal	**46**	**46**
of which: public sector	43	42
of which: non-public sector	4	4
of which: financial sector	3	4
Italy	**2,879**	**3,190**
of which: public sector	1,914	2,104
of which: non-public sector	964	1,086
of which: financial sector	710	826
Spain	**3,007**	**3,092**
of which: public sector	1,577	1,562
of which: non-public sector	1,431	1,529
of which: financial sector	1,189	1,295
Total	**5,933**	**6,328**
of which: public sector	3,534	3,708
of which: non-public sector	2,399	2,620
of which: financial sector	1,902	2,125

15.3 Risk position

As at June 30, 2021, the **overall solvency requirement** for market risk amounted to €3,417 million (December 31, 2020: €3,511 million) with a **limit** of €4,500 million (December 31, 2020: €5,750 million).

Fig. 32 shows the overall solvency requirement for the various types of market risk.

FIG. 32 – INSURANCE SECTOR: OVERALL SOLVENCY REQUIREMENT FOR MARKET RISK

€ million	Jun. 30, 2021	Dec. 31, 2020
Interest-rate risk	1,225	951
Spread risk	1,385	1,622
Equity risk	1,597	1,561
Currency risk	262	277
Real-estate risk	424	442
Total (after diversification)	**3,417**	**3,511**

The overall solvency requirement for market risk includes a **capital buffer requirement**. This capital buffer requirement covers the spread and migration risk arising from sub-portfolios of Italian government bonds. Furthermore, this capital buffer requirement also takes account of the increased market risk that might stem from a further refinement of the method for measuring interest-rate risk as a result of the 2020 review of Solvency II conducted by the European Insurance and Occupational Pensions Authority (EIOPA).

As at June 30, 2021, the capital buffer requirement for market risk totaled €130 million (December 31, 2020: €143 million).

16 Counterparty default risk

As at June 30, 2021, the **overall solvency requirement** for counterparty default risk was €186 million (December 31, 2020: €178 million) with a **limit** of €260 million (December 31, 2020: €220 million).

17 Operational risk

As at June 30, 2021, the **overall solvency requirement** for operational risk amounted to €733 million (December 31, 2020: €694 million). The **limit** was €810 million as at the reporting date (December 31, 2020: €800 million).

18 Risks from entities in other financial sectors

As at June 30, 2021, the **overall solvency requirement** for risks in connection with non-controlling interests in insurance companies and with entities in other financial sectors stood at €124 million (December 31, 2020: €126 million). At €140 million, the **limit** was unchanged compared with the end of 2020.