Notes

A General disclosures

>> 01 Basis of preparation

Pursuant to section 115 of the German Securities Trading Act (WpHG) in conjunction with section 117 no. 2 WpHG, the interim consolidated financial statements of DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main, (DZ BANK) for the first half of the 2020 financial year have been prepared in accordance with the provisions of the International Financial Reporting Standards (IFRS), as adopted by the European Union (EU). In particular, the requirements of IAS 34 *Interim Financial Reporting* have been taken into account.

All figures are rounded to the nearest whole number. This may result in very small discrepancies in the calculation of totals and percentages.

>> 02 Accounting policies and estimates

Changes in accounting policies

The financial statements of the entities consolidated in the DZ BANK Group have been prepared using uniform accounting policies. The accounting policies used to prepare these financial statements were the same as those applied in the consolidated financial statements for the 2019 financial year, unless these policies are subject to the amendments described below.

First-time application in 2020 of changes in IFRS

The following amendments to IFRSs are applied for the first time in DZ BANK's interim consolidated financial statements for the first half of the 2020 financial year:

– *Amendments to References to the Conceptual Framework in IFRS Standards*,
– *Definition of a Business* (Amendments to IFRS 3),
– *Definition of Material* (Amendments to IAS 1 and IAS 8),
– *Interest Rate Benchmark Reform* (Amendments to IFRS 9, IAS 39 and IFRS 7).

The changes contained in *Amendments to References to the Conceptual Framework in IFRS Standards* became necessary because the Conceptual Framework had been revised, which meant that quotations from, and references to, the Conceptual Framework included in numerous standards and other pronouncements issued by the IASB had to be updated. Besides these changes, some of which are simply editorial, the amendments also include, in particular, clarification as to which version of the Conceptual Framework needs to be applied in individual cases. Depending on the matter concerned, users must comply with the 2001, 2010, or 2018 version of the Conceptual Framework. Where necessary, the amendments include an initial application date, which has been set in all cases as annual periods beginning on or after January 1, 2020. The implementation of the amendments had no material impact on the consolidated financial statements.

The aim of *Definition of a Business* (Amendments to IFRS 3) is to establish a better distinction between the acquisition of a business and the acquisition of a group of assets. To satisfy the new definition of the term 'business', an acquisition must include inputs and a substantive process that together significantly contribute to the ability to create outputs. The amended definition must be applied to all acquisitions for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after January 1, 2020. There was no material impact on the consolidated financial statements.

The objective of *Definition of Material* (Amendments to IAS 1 and IAS 8) is to tighten up the definition of the term 'material' without fundamentally altering the application of the principle of materiality. In particular, the amendments introduce the new notion of 'obscuring information' and place 'obscuring' on a par with omitting or misstating information. The amendments are to be applied prospectively to financial years beginning on or after January 1, 2020. There was no impact on the consolidated financial statements.

Interest-Rate Benchmark Reform (Amendments to IFRS 9, IAS 39 and IFRS 7) provides for temporary exceptions in relation to the accounting treatment of hedges in the period before the initiated reform of key interest-rate benchmarks, such as Euribor, Libor, and EONIA (interbank offered rate (IBOR) reform). The scope of the exceptions covers those hedges directly affected by the IBOR reform. A hedge is only directly affected if the reform leads to uncertainties in relation to the interest rate designated as the hedged risk or in relation to the timing or amount of the cash flows from the hedged item or hedging instrument based on interest-rate benchmarks.

When, in accordance with IFRS 9 or IAS 39, an entity determines whether the cash flows arising from a forecast transaction in a cash flow hedge are highly probable, the exceptions specify that the entity must assume that the interest-rate benchmark on which the hedged cash flows are based is not altered as a result of the reform. Correspondingly, when assessing the need to reclassify the cash flow hedge reserve to profit or loss, an entity must assume that the hedged cash flows will still materialize at the end of the hedging relationship. If an entity hedges a component of interest-rate risk, the risk component concerned must be separately identifiable. The entity only needs to ensure that this requirement is satisfied once when the component is first designated as a hedged item. When assessing the economic relationship between the hedged item and the hedging instrument in accordance with IFRS 9 provisions, an entity must also assume that the interest-rate benchmark on which the designated cash flows and/or the hedged risk in the hedged item are based, or the interest-rate benchmark on which the cash flows from the hedging instrument are based, is not altered as a result of the interest-rate benchmark reform.

Prospective assessments of hedge effectiveness in accordance with IAS 39 requirements must be based on an unchanged interest-rate benchmark. If the retrospective assessment of a hedge in accordance with IAS 39 determines ineffectiveness outside the range of 80 percent to 125 percent, hedge accounting is not discontinued.

The amendments require disclosures containing information on the extent to which the reform of interest-rate benchmarks have an impact on existing hedges. The application of the exceptions is mandatory until the uncertainty arising from the switch in interest-rate benchmarks is eliminated or, if earlier, the hedge is terminated. In addition, the exception regarding the reclassification of the cash flow hedge reserve no longer needs to be applied if the reserve has been reclassified in full to profit or loss. The rules are required to be applied for the first time to financial years beginning on or after January 1, 2020.

The DZ BANK Group only accounts for hedges of interest-rate risk (fair value hedges). In this accounting treatment, it applies the rules of IAS 39 to hedges using a portfolio approach. The hedging instruments reference interest rates of the Euribor and Libor group. Euribor is expected to be retained in its current form as an interest-rate benchmark for the foreseeable future. The continued existence of Libor interest-rate benchmarks is subject to some uncertainty.

Changes in presentation

Upfront payments related to financial instruments initially recognized with a positive or negative fair value are now reported under net interest income instead of under other gains and losses on valuation of financial instruments, and the sub-item 'of which: interest income calculated using the effective interest method' has been included as an additional line item in the income statement below gains and losses on investments held by insurance companies and other insurance company gains and losses. These changes were presented in note 2 (Accounting policies and estimates) of the consolidated financial statements as at December 31, 2019. The related comparative figures in the income statement and the affected disclosures in the notes to the interim consolidated financial statements as at June 30, 2020 have been restated. The adjusted amounts within the comparative figures are indicated by the footnote 'Amount restated'.

In accordance with the provisions of IAS 8.41 et seq., amounts relating to the recognition of portfolio hedges, which were previously netted in the income statement and on the balance sheet, are presented without being netted from the 2020 financial year onward. The adjusted amounts within the comparative figures are indicated by the footnote 'Amount restated'.

INCOME STATEMENT FOR THE PERIOD JANUARY 1 TO JUNE 30, 2019

€ million	Jan. 1 – Jun. 30, 2019 before restatement	Amount of restatement	**Jan. 1 – Jun. 30, 2019 after restatement**
(…)			
Interest income	3,019	1	3,020
Interest income calculated using the effective interest method	2,797	1	2,798
(…)			
Interest expense	-1,780	-1	-1,781
(…)			
Profit before taxes	1,464	-	1,464
Income taxes	-430	-	-430
Net profit	**1,034**	-	**1,034**

BALANCE SHEET AS AT DECEMBER 31, 2019

ASSETS

€ million	Dec. 31, 2019 before restatement	Amount of restatement	Dec. 31, 2019 after restatement
(...)			
Fair value changes of the hedged items in portfolio hedges of interest-rate risk	1,275	93	1,368
(...)			
Total assets	**559,379**	**93**	**559,472**

EQUITY AND LIABILITIES

€ million	Dec. 31, 2019 before restatement	Amount of restatement	Dec. 31, 2019 after restatement
(...)			
Fair value changes of the hedged items in portfolio hedges of interest-rate risk	144	93	237
(...)			
Total equity and liabilities	**559,379**	**93**	**559,472**

The amounts did not need to be restated as at January 1, 2019 because the accounting rule did not apply.

There are other minor presentation changes in the statement of cash flows. The adjusted amounts within the comparative figures are indicated by the footnote ‘Amount restated’.

Sources of estimation uncertainty

It is necessary to make assumptions and estimates in accordance with the relevant financial reporting standards in order to determine the carrying amounts of assets, liabilities, income, and expenses recognized in the consolidated financial statements. These assumptions and estimates are based on historical experience, planning, and expectations or forecasts regarding future events.

Assumptions and estimates are used primarily in determining the fair value of financial assets and financial liabilities and in identifying any impairment of financial assets. Estimates also have a material impact on determining the impairment of goodwill or intangible assets acquired as part of business combinations. Furthermore, assumptions and estimates affect the measurement of insurance liabilities, provisions for employee benefits, provisions for share-based payment transactions, provisions relating to building society operations, and other provisions as well as the recognition and measurement of income tax assets and income tax liabilities.

The COVID-19 pandemic has not given rise to any further sources of estimation uncertainty with regard to the calculation of the carrying amounts of assets, liabilities, income, and expenses. The pandemic particularly affects the familiar assumptions and estimates used to calculate the fair values of loans and advances to banks, loans and advances to customers, investments, investments held by insurance companies, and financial liabilities held for trading. COVID-19 also impacts on the calculation of loss allowances and on the assumptions and estimates used in this calculation, which are described in note 44.

>> 03 Scope of consolidation

The scope of consolidation had changed only immaterially as at June 30, 2020 compared with the scope of consolidation as at December 31, 2019.

B Disclosures relating to the income statement and the statement of comprehensive income

>> 04 Segment information

INFORMATION ON OPERATING SEGMENTS FOR THE PERIOD JANUARY 1 TO JUNE 30, 2020

€ million	BSH	R+V	TeamBank	UMH
Net interest income	332	-	248	7
Net fee and commission income	-5	-	-15	768
Gains and losses on trading activities	-	-	-	-
Gains and losses on investments	-20	-	-	-6
Other gains and losses on valuation of financial instruments	6	-	-1	-81
Gains and losses from the derecognition of financial assets measured at amortized cost	11	-	-	-
Premiums earned	-	9,221	-	-
Gains and losses on investments held by insurance companies and other insurance company gains and losses	-	-622	-	-
Insurance benefit payments	-	-6,883	-	-
Insurance business operating expenses	-	-1,617	-	-
Gains and losses from the derecognition of financial assets measured at amortized cost in the insurance business	-	-10	-	-
Loss allowances	-13	-	-71	-
Administrative expenses	-253	-	-119	-442
Other net operating income	17	13	7	18
Profit/loss before taxes	**75**	**102**	**49**	**264**
Cost/income ratio (%)	74.2	-	49.8	62.6
Regulatory RORAC (%)	12.7	1.9	17.2	>100.0
Average own funds/solvency requirement	1,184	10,877	571	420
Total assets/total equity and liabilities as at Jun. 30, 2020	79,001	123,547	9,383	2,720

	DZ BANK – CICB	DZ HYP	DZ PRIVAT-BANK	VR Smart Finanz	DVB	DZ BANK – holding function	Other/ Consolidation	**Total**
	414	358	44	72	20	-23	33	1,505
	230	1	93	-11	16	-	-25	1,052
	521	5	9	-	2	-	2	539
	2	1	-	-	-	-	8	-15
	7	-126	-1	-	-68	-	17	-247
	3	-	-	-	-	-	-7	7
	-	-	-	-	-	-	-	9,221
	-	-	-	-	-	-	-29	-651
	-	-	-	-	-	-	-	-6,883
	-	-	-	-	-	-	64	-1,553
	-	-	-	-	-	-	-	-10
	-256	-6	-1	-26	-148	-	-1	-522
	-643	-135	-121	-52	-78	-101	-72	-2,016
	7	8	4	-7	28	-	35	130
	285	**106**	**27**	**-24**	**-228**	**-124**	**25**	**557**
	54.3	54.7	81.2	96.3	>100.0	-	-	65.1
	10.5	13.3	13.7	-17.1	>100.0	-	-	5.3
	5,438	1,597	400	276	166	-	-	20,929
	331,923	94,997	19,003	4,186	11,852	20,383	-92,799	604,196

INFORMATION ON OPERATING SEGMENTS FOR THE PERIOD JANUARY 1 TO JUNE 30, 2019

€ million	BSH	R+V	TeamBank	UMH
Net interest income [1]	217	-	239	9
Net fee and commission income	-15	-	-11	706
Gains and losses on trading activities	-	-	-	-
Gains and losses on investments	120	-	-	-
Other gains and losses on valuation of financial instruments [1]	17	-	-	20
Gains and losses from the derecognition of financial assets measured at amortized cost	15	-	-	-
Premiums earned	-	8,328	-	-
Gains and losses on investments held by insurance companies and other insurance company gains and losses	-	3,551	-	-
Insurance benefit payments	-	-9,634	-	-
Insurance business operating expenses	-	-1,524	-	-
Gains and losses from the derecognition of financial assets measured at amortized cost in the insurance business	-	-6	-	-
Loss allowances	6	-	-54	-
Administrative expenses	-249	-	-114	-436
Other net operating income	38	-4	3	85
Profit/loss before taxes	**149**	**711**	**63**	**384**
Cost/income ratio (%)	63.5	-	49.4	53.2
Regulatory RORAC (%)	26.2	18.0	26.3	>100.0
Average own funds/solvency requirement	1,139	7,923	482	339
Total assets/total equity and liabilities as at Dec. 31, 2019 [1]	77,469	121,973	9,455	3,012

1 Amount restated (see note 2).

	DZ BANK – CICB	DZ HYP	DZ PRIVAT-BANK	VR Smart Finanz	DVB	DZ BANK – holding function	Other/ Consolidation	**Total**
	361	309	30	75	102	-31	21	1,332
	198	1	85	-1	27	-	-32	958
	130	1	4	-	-4	-	10	141
	-2	10	-	-	2	-	-	130
	24	70	5	-	-16	-	6	126
	15	-	-	-	-	-	-15	15
	-	-	-	-	-	-	-	8,328
	-	-	-	-	-	-	-35	3,516
	-	-	-	-	-	-	-	-9,634
	-	-	-	-	-	-	81	-1,443
	-	-	-	-	-	-	-	-6
	1	4	-	-12	-50	-	-	-105
	-641	-139	-114	-70	-109	-107	-67	-2,046
	11	12	3	9	-19	-	14	152
	97	**268**	**13**	**1**	**-67**	**-138**	**-17**	**1,464**
	87.0	34.5	89.8	84.3	>100.0	-	-	56.6
	3.9	35.8	8.4	0.7	-42.7	-	-	17.0
	4,928	1,505	308	305	289	-	-	17,218
	288,841	92,377	19,464	4,283	14,239	20,191	-91,832	559,472

General information on operating segments

The information on operating segments has been prepared using the management approach in accordance with IFRS 8. Under this standard, external reporting must include segment information that is used internally for the management of the entity and for the purposes of quantitative reporting to the chief operating decision-makers. The DZ BANK Group's information on operating segments has therefore been prepared on the basis of the internal management reporting system.

Definition of operating segments

Segmentation is fundamentally based on the integrated risk and capital management system in the DZ BANK Group, the function of which is to create transparency, notably in respect of the risk structure and risk-bearing capacity of the individual management units in the group. The segment information presents separate disclosures for the management units DZ HYP AG, Hamburg/Münster, (DZ HYP), TeamBank AG Nürnberg, Nuremberg, (TeamBank), DZ PRIVATBANK, and the BSH, DVB, R+V, UMH, and VR Smart Finanz subgroups. Since December 31, 2019, the previous DZ BANK management unit has been broken down into central institution and corporate bank (DZ BANK – CICB) and the group management function (DZ BANK – holding function) because of changes to the internal business management structure and the associated modification of the internal financial reporting system. The related reorganization of the management units in the internal financial reporting system has been adopted for the presentation of the operating segments. The DZ BANK – CICB operating segment comprises the cooperative central institution function, which supports the operating activities of the local cooperative banks, and the corporate bank function. DZ BANK – holding function is mainly used to pool tasks carried out on behalf of the DZ BANK Group in relation to commercial law, tax, and prudential supervision. The total assets of DZ BANK – holding function include the equity, plus a number of other items such as a notional carrying amount for the long-term equity investment in DZ BANK – CICB, together with the carrying amounts of the long-term equity investments in the other management units. The notional long-term equity investment in DZ BANK – CICB is measured in an amount equating to 11 percent of the risk-weighted assets of DZ BANK – CICB. The dividend payments of the management units and the intragroup income relating to the liabilities to dormant partners, which were previously included in the DZ BANK operating segment, are reported under Other/Consolidation from the financial year. The relevant consolidation activities are still included under Other/Consolidation. DZ BANK – holding function does not constitute an operating segment within the meaning of IFRS 8.5 but is presented separately in line with the internal reporting structure. The figures for the prior-year period have been restated accordingly. All other companies in the DZ BANK Group, which are not required to provide regular quantitative reports to the chief operating decision-makers, and the consolidations are reported on an aggregated basis under Other/Consolidation.

Presentation of operating segments

Interest income and associated interest expenses generated by the operating segments are offset and reported as net interest income in the information on operating segments because, from a group perspective, the operating segments are managed solely on the basis of the net figure.

Measurement

Internal reporting to the chief operating decision-makers in the DZ BANK Group is primarily based on the generally accepted accounting and measurement principles applicable to the DZ BANK Group.

Intragroup transactions between operating segments are carried out on an arm's-length basis. These transactions are reported internally using the financial reporting standards applied to external financial reporting.

The key indicators for assessing the performance of the operating segments are profit/loss before taxes, the cost/income ratio, and the return on risk-adjusted capital (regulatory RORAC).

The cost/income ratio shows the ratio of administrative expenses to operating income and reflects the economic efficiency of the operating segment concerned.

Operating income comprises net interest income, net fee and commission income, gains and losses on trading activities, gains and losses on investments, other gains and losses on valuation of financial instruments, gains and losses from the derecognition of financial assets measured at amortized cost, net income from insurance business, and other net operating income.

Regulatory RORAC is a risk-adjusted performance measure. In the reporting period, it reflected the relationship between profit before taxes and the average own funds for the year (calculated as an average of the figure for the four quarters) in accordance with the own funds/solvency requirements for the financial conglomerate. It therefore shows the return on the regulatory risk capital employed.

Other/Consolidation

The consolidation-related adjustments shown under Other/Consolidation to reconcile operating segment profit/loss before taxes to consolidated profit/loss before taxes are attributable to the elimination of intragroup transactions and to the fact that investments in joint ventures and associates were accounted for using the equity method.

The adjustments to net interest income were primarily the result of the elimination of intragroup dividend payments and profit distributions in connection with intragroup liabilities to dormant partners and were also attributable to the early redemption of issued bonds and commercial paper that had been acquired by entities in the DZ BANK Group other than the issuer.

The figure under Other/Consolidation for net fee and commission income largely relates to the fee and commission business of TeamBank and the BSH subgroup with the R+V subgroup.

The remaining adjustments are mostly also attributable to the consolidation of income and expenses.

>> 05 Net interest income

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
INTEREST INCOME AND CURRENT INCOME AND EXPENSE	**2,975**	**3,114**
Interest income from	**2,911**	**3,074**
Lending and money market business	2,730	3,041[1]
Bonds and other fixed-income securities	321	285[1]
Portfolio hedges of interest-rate risk	-65	-117[1]
Financial assets with a negative effective interest rate	-71	-135
Other assets	-4	-
Current income and expense from	**64**	**40**
Shares and other variable-yield securities	13	9
of which: income from other shareholdings	12	8
Investments in subsidiaries	2	2
Operating leases	1	11
Entities accounted for using the equity method	47	17
of which relating to: investments in joint ventures	39	12
investments in associates	8	5
Income from profit-pooling, profit-transfer and partial profit-transfer agreements	1	1
INTEREST EXPENSE ON	**-1,470**	**-1,782**
Deposits from banks and customers	-1,281	-1,650[1]
Debt certificates issued including bonds	-328	-275[1]
Subordinated capital	-24	-39
Portfolio hedges of interest-rate risk	20	68[1]
Financial liabilities with a positive effective interest rate	146	118
Provisions and other liabilities	-3	-4
Total	**1,505**	**1,332**

1 Amount restated (see note 2).

The interest income from other assets included losses of €4 million from non-credit-risk-related modifications resulting from financial assets (first half of 2019: no losses). The interest expense on provisions and other liabilities included interest expense on lease liabilities of €2 million (first half of 2019: €2 million).

>> 06 Net fee and commission income

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Fee and commission income	**2,136**	**1,985**
Securities business	1,667	1,497
Asset management	126	112
Payments processing including card processing	153	146
Lending business and trust activities	54	70
Financial guarantee contracts and loan commitments	32	29
International business	6	5
Building society operations	19	17
Other	79	109
Fee and commission expenses	**-1,084**	**-1,027**
Securities business	-748	-673
Asset management	-81	-74
Payments processing including card processing	-69	-77
Lending business	-47	-42
Financial guarantee contracts and loan commitments	-5	-5
Building society operations	-35	-44
Other	-99	-112
Total	**1,052**	**958**

In the reporting period, fee and commission income included revenue from contracts with customers pursuant to IFRS 15 in an amount of €2,131 million (first half of 2019: €1,980 million); see note 49.

>> 07 Gains and losses on trading activities

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Gains and losses on non-derivative financial instruments and embedded derivatives	1,309	-1,129
Gains and losses on derivatives	-767	1,258
Gains and losses on exchange differences	-3	12
Total	**539**	**141**

>> 08 Gains and losses on investments

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Gains and losses on the disposal of bonds and other fixed-income securities	**16**	28
Gains and losses on the disposal of shares and other variable-yield securities	**-4**	-
Gains and losses on the disposal of investments in subsidiaries	**6**	-
Gains and losses on investments in joint ventures	**-33**	98
Disposals	-	98
Impairment losses	-33	-
Gains and losses on investments in associates	**-**	4
Disposals	-	4
Impairment losses	-	-7
Reversals of impairment losses	-	7
Total	**-15**	130

In the first half of 2019, the bulk of the gains from the sale of investments in joint ventures had been derived from the disposal of Českomoravská stavební spořitelna, a.s., Prague, Czech Republic, (ČMSS).

>> 09 Other gains and losses on valuation of financial instruments

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Gains and losses from hedge accounting	**9**	2
Gains and losses on derivatives used for purposes other than trading	**-114**	27
Gains and losses on financial instruments designated as at fair value through profit or loss	**-141**	70
Gains and losses on non-derivative financial instruments and embedded derivatives	-87	-212[1]
Gains and losses on derivatives	-54	282[1]
Gains and losses on financial assets mandatorily measured at fair value through profit or loss	**-1**	27
Total	**-247**	126

1 Amount restated (see note 2).

Gains and losses on derivatives used for purposes other than trading result from the recognition and measurement of derivatives that are used for economic hedging but are not included in hedge accounting.

>> 10 Premiums earned

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Net premiums written	**10,113**	**9,164**
Gross premiums written	10,193	9,237
Reinsurance premiums ceded	-80	-73
Change in provision for unearned premiums	**-892**	**-836**
Gross premiums	-908	-857
Reinsurers' share	16	21
Total	**9,221**	**8,328**

>> 11 Gains and losses on investments held by insurance companies and other insurance company gains and losses

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Income from investments held by insurance companies	**4,324**	**4,624**
Interest income and current income	1,149	1,273
Income from reversals of impairment losses and reversals of loss allowances, and unrealized gains	212	241
Gains on valuation through profit or loss of investments	2,296	2,764
Gains on disposals	667	346
Expenses in connection with investments held by insurance companies	**-5,270**	**-1,040**
Administrative expenses	-113	-104
Depreciation/amortization expense, additions to loss allowances, and impairment losses and unrealized losses	-459	-239
Losses on valuation through profit or loss of investments	-3,768	-469
Losses on disposals	-930	-228
Other gains and losses of insurance companies	**295**	**-68**
Other insurance gains and losses	138	154
Other non-insurance gains and losses	157	-222
Total	**-651**	**3,516**

Income from and expenses in connection with investments held by insurance companies included additions to loss allowances of €45 million (first half of 2019: €2 million) and reversals of loss allowances of €4 million (first half of 2019: €2 million). There were no directly recognized impairment losses in the reporting period (first half of 2019: €1 million).

Around €29 million of the expenses for additions to loss allowances were related to the effects of the COVID-19 pandemic. The additions required because of the pandemic resulted from the updates to the macroeconomic forecasts that are used in the calculation of expected losses. In the event of an extreme weighting of 100 percent for both the baseline scenario and the risk scenario underlying the calculation of loss allowances, the additions to loss allowances required because of the pandemic would reduce by approximately 33 percent and increase by approximately 50 percent respectively.

>> 12 Insurance benefit payments

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Expenses for claims	**-5,588**	**-5,570**
Gross expenses for claims	-5,608	-5,579
Reinsurers' share	20	9
Changes in the benefit reserve and in other insurance liabilities	**-1,171**	**-2,479**
Expenses for premium refunds	**-124**	**-1,585**
Gross expenses for premium refunds	-307	-409
Expenses for deferred premium refunds	183	-1,176
Total	**-6,883**	**-9,634**

>> 13 Insurance business operating expenses

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Gross expenses	-1,563	-1,451
Reinsurers' share	10	8
Total	**-1,553**	**-1,443**

>> 14 Loss allowances

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Loss allowances for cash and cash equivalents	**-2**	-
Additions	-3	-
Reversals	1	-
Loss allowances for loans and advances to banks	**-10**	2
Additions	-17	-8
Reversals	7	8
Recoveries on loans and advances to banks previously impaired	-	2
Loss allowances for loans and advances to customers	**-454**	-104
Additions	-1,237	-799
Reversals	760	673
Directly recognized impairment losses	-21	-14
Recoveries on loans and advances to customers previously impaired	34	26
Other	10	10
Loss allowances for investments	**-17**	2
Additions	-26	-5
Reversals	9	7
Loss allowances for other assets	**-1**	-
Directly recognized impairment losses	-1	-
Other loss allowances for loans and advances	**-38**	-5
Additions to and reversals of provisions for loan commitments	-24	-11
Additions to and reversals of provisions for financial guarantee contracts	-4	7
Additions to and reversals of other provisions for loans and advances	-10	-1
Total	**-522**	-105

Gains and losses from credit-risk-related modifications and other gains and losses on POCI assets are reported under the 'Other' line item. Other gains and losses on POCI assets consist of the changes in the loss allowances for these assets within the reporting period.

Of the net addition of €522 million to loss allowances for loans and advances to banks and to customers, investments, and other lending business, €165 million was related to the effects of the COVID-19 pandemic. The additions required because of the pandemic resulted from the adjusted macroeconomic forecasts that are used in the calculation of expected losses. In the event of an extreme weighting of 100 percent for both the baseline scenario and the risk scenario underlying the calculation of loss allowances, the additions to loss allowances required because of the pandemic would reduce by approximately 27 percent and increase by approximately 43 percent respectively.

>> 15 Administrative expenses

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Staff expenses	-924	-923
General and administrative expenses	-954	-993
Depreciation and amortization	-138	-130
Total	**-2,016**	**-2,046**

>> 16 Other net operating income

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Gains and losses on non-current assets and disposal groups classified as held for sale	56	108
Income from the reversal of provisions and accruals	52	67
Restructuring expenses	-1	-50
Expenses for other taxes	-5	-11
Residual other net operating income	28	38
Total	**130**	**152**

>> 17 Income taxes

IAS 34 states that income taxes in interim financial statements are to be calculated on the basis of the best possible estimate of the weighted average tax rate for the year as a whole. This tax rate is based on the legislation that is in force or has been adopted at the relevant balance sheet date.

>> 18 Items reclassified to the income statement

The following amounts were recognized in other comprehensive income/loss or reclassified from other comprehensive income/loss to the income statement in the reporting period:

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Gains and losses on debt instruments measured at fair value through other comprehensive income	**275**	**1,830**
Gains (+)/losses (-) arising during the reporting period	482	1,913
Gains (-)/losses (+) reclassified to the income statement during the reporting period	-207	-83
Exchange differences on currency translation of foreign operations	**-9**	**1**
Gains (+)/losses (-) arising during the reporting period	-9	1
Gains and losses on hedges of net investments in foreign operations	**2**	**2**
Gains (+)/losses (-) arising during the reporting period	2	2

>> 19 Income taxes relating to components of other comprehensive income

The table below shows the income taxes on the various components of other comprehensive income:

	Jan. 1 – Jun. 30, 2020			Jan. 1 – Jun. 30, 2019		
€ million	Amount before taxes	Income taxes	Amount after taxes	Amount before taxes	Income taxes	Amount after taxes
Items that may be reclassified to the income statement	**268**	**-228**	**40**	**1,833**	**-511**	**1,322**
Gains and losses on debt instruments measured at fair value through other comprehensive income	275	-227	48	1,830	-510	1,320
Exchange differences on currency translation of foreign operations	-9	-	-9	1	-	1
Gains and losses on hedges of net investments in foreign operations	2	-1	1	2	-1	1
Items that will not be reclassified to the income statement	**96**	**-85**	**11**	**-107**	**77**	**-30**
Gains and losses on equity instruments for which the fair value OCI option has been exercised	-227	16	-211	258	-41	217
Gains and losses in relation to financial liabilities for which the fair value option has been exercised, attributable to changes in own credit risk	318	-99	219	-135	42	-93
Gains and losses arising from remeasurement of defined benefit plans	5	-2	3	-230	76	-154
Total	**364**	**-313**	**51**	**1,726**	**-434**	**1,292**

C Balance sheet disclosures

>> 20 Cash and cash equivalents

€ million	Jun. 30, 2020	Dec. 31, 2019
Cash on hand	239	378
Balances with central banks	75,525	52,167
Total	**75,764**	**52,545**

>> 21 Loans and advances to banks

	Repayable on demand		Other loans and advances		Total	
€ million	Jun. 30, 2020	Dec. 31, 2019	Jun. 30, 2020	Dec. 31, 2019	Jun. 30, 2020	Dec. 31, 2019
Domestic banks	**6,676**	**5,811**	**88,440**	**83,288**	**95,116**	**89,099**
Affiliated banks	1,955	2,720	82,473	76,286	84,428	79,006
Other banks	4,721	3,091	5,967	7,002	10,688	10,093
Foreign banks	**6,633**	**4,923**	**4,219**	**3,522**	**10,852**	**8,445**
Total	**13,309**	**10,734**	**92,659**	**86,810**	**105,968**	**97,544**

>> 22 Loans and advances to customers

€ million	Jun. 30, 2020	Dec. 31, 2019
Loans and advances to domestic customers	162,167	157,573
Loans and advances to foreign customers	27,930	28,651
Total	**190,097**	**186,224**

>> 23 Hedging instruments (positive fair values)

Hedging instruments (positive fair values) amounted to €225 million (December 31, 2019: €201 million) and resulted solely from derivatives used as fair value hedges.

>> 24 Financial assets held for trading

€ million	Jun. 30, 2020	Dec. 31, 2019
DERIVATIVES (POSITIVE FAIR VALUES)	**22,893**	**19,291**
Interest-linked contracts	20,698	17,063
Currency-linked contracts	1,155	1,270
Share-/index-linked contracts	738	554
Other contracts	31	30
Credit derivatives	271	374
BONDS AND OTHER FIXED-INCOME SECURITIES	**12,449**	**12,644**
Money market instruments	1,672	978
Bonds	10,777	11,666
SHARES AND OTHER VARIABLE-YIELD SECURITIES	**1,000**	**1,210**
Shares	976	1,208
Investment fund units	23	1
Other variable-yield securities	1	1
RECEIVABLES	**13,721**	**11,636**
of which: from affiliated banks	196	400
from other banks	12,573	8,505
Money market placements	**12,774**	**10,594**
with banks	12,275	8,242
with customers	499	2,352
Promissory notes and registered bonds	**947**	**1,042**
from banks	494	663
from customers	453	379
Total	**50,063**	**44,781**

>> 25 Investments

€ million	Jun. 30, 2020	Dec. 31, 2019
Bonds and other fixed-income securities	**56,506**	**54,231**
Money market instruments	557	419
Bonds	55,949	53,812
Shares and other variable-yield securities	**1,840**	**1,872**
Shares and other shareholdings	332	321
Investment fund units	1,498	1,541
Other variable-yield securities	10	10
Investments in subsidiaries	**262**	**310**
Investments in joint ventures	**311**	**313**
Investments in associates	**177**	**201**
Total	**59,096**	**56,927**

The carrying amount of investments in joint ventures accounted for using the equity method totaled €311 million (December 31, 2019: €313 million). €177 million of the investments in associates has been accounted for using the equity method (December 31, 2019: €201 million).

>> 26 Investments held by insurance companies

€ million	Jun. 30, 2020	Dec. 31, 2019
Investment property	3,683	3,558
Investments in subsidiaries	767	785
Investments in joint ventures	18	17
Investments in associates	1	1
Mortgage loans	10,234	9,749
Promissory notes and loans	7,189	7,235
Registered bonds	9,389	9,146
Other loans	778	716
Variable-yield securities	10,402	11,300
Fixed-income securities	58,832	55,811
Derivatives (positive fair values)	438	417
Loss allowances	-6	-3
Deposits with ceding insurers and other investments	422	449
Assets related to unit-linked contracts	13,283	14,368
Total	**115,430**	**113,549**

>> 27 Property, plant and equipment, investment property, and right-of-use assets

€ million	Jun. 30, 2020	Dec. 31, 2019
Land and buildings	877	917
Office furniture and equipment	180	182
Assets subject to operating leases	-	17
Investment property	239	238
Right-of-use assets	249	278
Total	**1,545**	**1,632**

>> 28 Other assets

€ million	Jun. 30, 2020	Dec. 31, 2019
Other assets held by insurance companies	3,515	3,759
Goodwill	41	41
Other intangible assets	456	462
of which: software	417	419
acquired customer relationships	4	4
Other loans and advances	357	382
Residual other assets	1,114	800
Total	**5,483**	**5,444**

The breakdown of other assets held by insurance companies is as follows:

€ million	Jun. 30, 2020	Dec. 31, 2019
Intangible assets	150	157
Reinsurers' share of insurance liabilities	149	130
Receivables	1,625	1,593
Credit balances with banks, checks and cash on hand	333	826
Residual other assets	1,260	1,055
Loss allowances	-2	-2
Total	**3,515**	**3,759**

Residual other assets included right-of-use assets amounting to €56 million (December 31, 2019: €56 million).

>> 29 Loss allowances

Loss allowances for loans and advances to banks and for loans and advances to customers also comprise the loss allowances recognized for finance lease receivables.

The following table shows the changes in loss allowances, which are reported on the assets side of the balance sheet, broken down by individual balance sheet item:

	Cash and cash equivalents	Loans and advances to banks			Loans and advances to customers			
€ million	Stage 1	Stage 1	Stage 2	Stage 3	Stage 1	Stage 2	Stage 3	POCI assets
Balance as at Jan. 1, 2019	-	8	-	4	218	164	1,957	3
Additions	-	6	-	2	144	217	435	3
Utilizations	-	-	-	-	-	-4	-237	-
Reversals	-	-6	-	-2	-212	-95	-359	-5
Other changes	-	-	-	-	73	-110	71	-
Balance as at Jun. 30, 2019	**-**	**8**	**-**	**4**	**223**	**172**	**1,867**	**1**
Balance as at Jan. 1, 2020	1	7	-	5	202	203	1,807	1
Additions	3	11	3	3	159	385	688	3
Utilizations	-	-	-	-	-	-	-151	-1
Reversals	-1	-6	-	-1	-177	-136	-440	-7
Other changes	-	-	-	-	57	-107	44	8
Balance as at Jun. 30, 2020	**3**	**12**	**3**	**7**	**241**	**345**	**1,948**	**4**

	Investments			Other assets	Total
€ million	Stage 1	Stage 2	Stage 3	Stage 1	
Balance as at Jan. 1, 2019	5	40	17	-	2,416
Additions	-	3	-	-	810
Utilizations	-	-	-	-	-241
Reversals	-1	-4	-	-	-684
Other changes	-	-	-	-	34
Balance as at Jun. 30, 2019	**4**	**39**	**17**	**-**	**2,335**
Balance as at Jan. 1, 2020	6	26	18	1	2,277
Additions	3	16	3	-	1,277
Utilizations	-	-	-	-	-152
Reversals	-1	-2	-4	-	-775
Other changes	-2	-	1	-	1
Balance as at Jun. 30, 2020	**6**	**40**	**18**	**1**	**2,628**

>> 30 Non-current assets and disposal groups classified as held for sale

The non-current assets and disposal groups classified as held for sale include individual non-current assets together with assets and liabilities from disposal groups not qualifying as discontinued operations, as described below. Gains and losses arising from the classification of assets and disposal groups as held for sale are reported under other net operating income.

At the level of the DVB subgroup, a further part of the aviation finance business, which previously constituted a disposal group not qualifying as a discontinued operation, was sold in the first half of the year. The disposal gave rise to a net gain of €60 million, which was recognized under other net operating income. The impairment loss requirement of €10 million identified for this disposal group was also recognized under other net operating income.

The disposal group not qualifying as a discontinued operation, which was classified as such in 2019 and consists of associates and joint ventures of the DVB subgroup, was expanded to include two further fully consolidated subsidiaries. As at June 30, 2020, this disposal group included assets totaling €127 million and a small volume of liabilities. An impairment loss requirement of €11 million arose and was recognized under other net operating income. The sale of the shares in these entities is expected to be completed by the end of 2020.

Furthermore, the property, plant and equipment, and investment property held as at December 31, 2019 were sold in the first half of 2020. The net gain on disposal of €17 million was recognized under other net operating income.

Other disposal groups not qualifying as discontinued operations included units in various investment funds. The individual non-current assets classified as held for sale comprise items of property, plant and equipment, and investment property that were classified as held for sale in the first half of 2020.

>> 31 Deposits from banks

	Repayable on demand		With agreed maturity or notice period		Total	
€ million	Jun. 30, 2020	Dec. 31, 2019	Jun. 30, 2020	Dec. 31, 2019	Jun. 30, 2020	Dec. 31, 2019
Domestic banks	**48,552**	43,890	**100,102**	84,059	**148,654**	127,949
Affiliated banks	42,145	38,831	20,299	20,237	62,444	59,068
Other banks	6,407	5,059	79,803	63,822	86,210	68,881
Foreign banks	**4,922**	3,566	**14,554**	9,606	**19,476**	13,172
Total	**53,474**	47,456	**114,656**	93,665	**168,130**	141,121

>> 32 Deposits from customers

	Repayable on demand		With agreed maturity or notice period		Total	
€ million	Jun. 30, 2020	Dec. 31, 2019	Jun. 30, 2020	Dec. 31, 2019	Jun. 30, 2020	Dec. 31, 2019
Domestic customers	22,994	17,158	96,002	95,887	118,996	113,045
Foreign customers	18,618	12,144	5,789	6,327	24,407	18,471
Total	**41,612**	**29,302**	**101,791**	**102,214**	**143,403**	**131,516**

>> 33 Debt certificates issued including bonds

€ million	Jun. 30, 2020	Dec. 31, 2019
Bonds issued	**58,609**	**51,536**
Mortgage Pfandbriefe	23,181	22,445
Public-sector Pfandbriefe	2,253	2,180
Other bonds	33,175	26,911
Other debt certificates issued	**20,164**	**33,587**
Total	**78,773**	**85,123**

All other debt certificates issued are commercial paper.

>> 34 Hedging instruments (negative fair values)

Hedging instruments (negative fair values) amounted to €1,672 million (December 31, 2019: €1,306 million) and resulted solely from derivatives used as fair value hedges.

>> 35 Financial liabilities held for trading

€ million	Jun. 30, 2020	Dec. 31, 2019
DERIVATIVES (NEGATIVE FAIR VALUES)	**24,055**	**18,901**
Interest-linked contracts	19,315	15,768
Currency-linked contracts	2,099	1,772
Share-/index-linked contracts	2,341	1,181
Other contracts	194	105
Credit derivatives	106	75
SHORT POSITIONS	**2,822**	**1,128**
BONDS ISSUED	**21,617**	**22,261**
DEPOSITS	**13,111**	**9,472**
of which: from affiliated banks	3,219	2,616
from other banks	9,567	6,659
Money market deposits	**12,903**	**9,306**
from banks	12,689	9,167
from customers	214	139
Promissory notes and registered bonds issued	**208**	**166**
to banks	97	108
to customers	111	58
Total	**61,605**	**51,762**

Bonds issued mainly comprise share certificates and index-linked certificates.

>> 36 Provisions

€ million	Jun. 30, 2020	Dec. 31, 2019
Provisions for employee benefits	**1,664**	**1,706**
Provisions for defined benefit plans	1,204	1,198
Provisions for other long-term employee benefits	155	165
of which: for semi-retirement schemes	27	27
Provisions for termination benefits	283	305
of which: for early retirement schemes	14	15
for restructuring	244	263
Provisions for short-term employee benefits	22	38
Provisions for share-based payment transactions	**30**	**39**
Other provisions	**1,964**	**2,090**
Provisions for onerous contracts	15	15
Provisions for restructuring	11	24
Provisions for loan commitments	95	71
Provisions for financial guarantee contracts	127	124
Other provisions for loans and advances	31	33
Provisions relating to building society operations	1,347	1,406
Residual provisions	338	417
Total	**3,658**	**3,835**

>> 37 Insurance liabilities

€ million	Jun. 30, 2020	Dec. 31, 2019
Provision for unearned premiums	2,094	1,188
Benefit reserve	67,678	65,502
Provision for claims outstanding	13,926	13,415
Provision for premium refunds	11,508	12,149
Other insurance liabilities	54	59
Reserve for unit-linked insurance contracts	11,036	12,033
Total	**106,296**	**104,346**

In connection with the COVID-19 pandemic, €282 million was added to the provisions for claims outstanding in respect of the direct insurance companies in the non-life insurance division and in respect of inward reinsurance business. Of this amount, €80 million was attributable to claims already reported and €202 million to the provision for claims incurred but not reported. This was mitigated by a positive effect of €100 million in the provisions for individual claims in the branches of insurance not adversely affected by COVID-19 (particularly motor vehicle insurance). COVID-19 had no material impact on the provision for claims outstanding or on the partial provisions for surrenders at the R+V life insurance companies and at the R+V health insurance company.

>> 38 Other liabilities

€ million	Jun. 30, 2020	Dec. 31, 2019
Other liabilities of insurance companies	6,639	6,780
Accruals	846	1,256
Financial liabilities from contingent considerations in a business combination	5	5
Other payables	201	189
Lease liabilities	249	279
Residual other liabilities	837	664
Total	**8,777**	**9,173**

The table below gives a breakdown of insurance companies' other liabilities.

€ million	Jun. 30, 2020	Dec. 31, 2019
Other provisions	412	428
Payables and residual other liabilities	6,227	6,352
Total	**6,639**	**6,780**

Payables and residual other liabilities included lease liabilities of €60 million (December 31, 2019: €63 million).

>> 39 Subordinated capital

€ million	Jun. 30, 2020	Dec. 31, 2019
Subordinated liabilities	2,003	2,106
Profit-sharing rights	66	68
Share capital repayable on demand	12	13
Total	**2,081**	**2,187**

>> 40 Equity

The table below shows a breakdown of the reserve from other comprehensive income:

	Items not reclassified to the income statement		Items reclassified to the income statement	
€ million	Reserve from equity instruments for which the fair value OCI option has been exercised	Reserve from gains and losses on financial liabilities for which the fair value option has been exercised, attributable to changes in own credit risk	Reserve from debt instruments measured at fair value through other comprehen-sive income	Currency translation reserve
Equity as at Jan. 1, 2019	361	23	131	84
Other comprehensive income/loss	198	-91	1,192	3
Total comprehensive income/loss	**198**	**-91**	**1,192**	**3**
Changes in scope of consolidation	1	-	-	-7
Reclassifications within equity	-4	-	-	-
Equity as at Jun. 30, 2019	**556**	**-68**	**1,323**	**80**
Equity as at Jan. 1, 2020	465	-42	1,186	85
Other comprehensive income/loss	-187	217	46	-2
Total comprehensive income/loss	**-187**	**217**	**46**	**-2**
Changes in scope of consolidation	-	-	-	-
Reclassifications within equity	-5	7	-	-
Equity as at Jun. 30, 2020	**273**	**182**	**1,232**	**83**

The changes in loss allowances included in the reserve from other comprehensive income, broken down by individual balance sheet item, were as follows:

€ million	Loans and advances to customers		Investments		
	Stage 1	Stage 2	Stage 1	Stage 2	Stage 3
Balance as at Jan. 1, 2019	1	2	3	1	29
Additions	-	-	2	-	-
Reversals	-1	-1	-2	-	-
Balance as at Jun. 30, 2019	**-**	**1**	**3**	**1**	**29**
Balance as at Jan. 1, 2020	1	-	4	1	30
Additions	1	1	4	-	-
Utilizations	-	-	-	-	-8
Reversals	-	-	-2	-	-
Other changes	-	-	-	-1	2
Balance as at Jun. 30, 2020	**2**	**1**	**6**	**-**	**24**

€ million	Investments held by insurance companies		Total
	Stage 1	Stage 2	
Balance as at Jan. 1, 2019	4	-	40
Additions	3	-	5
Reversals	-2	-	-6
Balance as at Jun. 30, 2019	**5**	**-**	**39**
Balance as at Jan. 1, 2020	4	-	40
Additions	7	1	14
Utilizations	-	-	-8
Reversals	-	-	-2
Other changes	-	-	1
Balance as at Jun. 30, 2020	**11**	**1**	**45**

D Financial instruments and fair value disclosures

>> 41 Classes, categories, and fair values of financial instruments

The following tables show the breakdown of net carrying amounts and fair values of financial assets and financial liabilities by class (in accordance with IFRS 7) and by category of financial instrument (in accordance with IFRS 9):

€ million	Jun. 30, 2020 Carrying amount	Jun. 30, 2020 Fair value	Dec. 31, 2019 Carrying amount	Dec. 31, 2019 Fair value
FINANCIAL ASSETS MEASURED AT FAIR VALUE	**195,621**	**195,621**	**187,377**	**187,377**
Financial assets measured at fair value through profit or loss	**87,761**	**87,761**	**84,894**	**84,894**
Financial assets mandatorily measured at fair value through profit or loss	***78,362***	***78,362***	***74,563***	***74,563***
Loans and advances to banks	7	7	-	-
Loans and advances to customers	263	263	258	258
Hedging instruments (positive fair values)	225	225	201	201
Financial assets held for trading	50,063	50,063	44,781	44,781
Investments	2,534	2,534	2,591	2,591
Investments held by insurance companies	25,270	25,270	26,732	26,732
Financial assets designated as at fair value through profit or loss	***9,399***	***9,399***	***10,331***	***10,331***
Loans and advances to banks	1,895	1,895	2,427	2,427
Loans and advances to customers	1,277	1,277	1,488	1,488
Investments	6,227	6,227	6,416	6,416
Financial assets measured at fair value through other comprehensive income	**107,687**	**107,687**	**102,169**	**102,169**
Financial assets mandatorily measured at fair value through other comprehensive income	***102,185***	***102,185***	***95,857***	***95,857***
Loans and advances to banks	117	117	152	152
Loans and advances to customers	3,444	3,444	3,569	3,569
Investments	32,879	32,879	29,731	29,731
Investments held by insurance companies	65,745	65,745	62,405	62,405
Financial assets designated as at fair value through other comprehensive income	***5,502***	***5,502***	***6,312***	***6,312***
Investments	327	327	379	379
Investments held by insurance companies	5,175	5,175	5,933	5,933
Non-current assets and disposal groups classified as held for sale	**173**	**173**	**314**	**314**
FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**395,870**	**403,948**	**359,662**	**366,937**
Cash and cash equivalents	75,522	75,525	52,166	52,167
Loans and advances to banks	103,927	107,582	94,953	97,570
Loans and advances to customers	181,272	184,601	177,165	180,501
Investments	16,577	17,445	17,246	18,148
Investments held by insurance companies	15,135	17,339	14,472	16,259
Other assets	1,450	1,450	2,094	2,094
Fair value changes of the hedged items in portfolio hedges of interest-rate risk	1,981		1,368[1]	
Non-current assets and disposal groups classified as held for sale	**6**	**6**	**198**	**198**
FINANCE LEASES	**1,303**	**1,330**	**1,531**	**1,534**
Loans and advances to customers	1,303	1,330	1,531	1,534

1 Amount restated (see note 2).

€ million	Jun. 30, 2020 Carrying amount	Jun. 30, 2020 Fair value	Dec. 31, 2019 Carrying amount	Dec. 31, 2019 Fair value
FINANCIAL LIABILITIES MEASURED AT FAIR VALUE	**94,463**	**94,463**	**84,261**	**84,261**
Financial liabilities mandatorily measured at fair value through profit or loss	**63,331**	**63,331**	**53,093**	**53,093**
Hedging instruments (negative fair values)	1,672	1,672	1,306	1,306
Financial liabilities held for trading	61,605	61,605	51,762	51,762
Other liabilities	54	54	25	25
Financial liabilities designated as at fair value through profit or loss	**31,132**	**31,132**	**31,168**	**31,168**
Deposits from banks	4,719	4,719	5,060	5,060
Deposits from customers	9,566	9,566	10,114	10,114
Debt certificates issued including bonds	16,523	16,523	15,647	15,647
Subordinated capital	324	324	347	347
FINANCIAL LIABILITIES MEASURED AT AMORTIZED COST	**363,290**	**369,931**	**330,704**	**336,160**
Deposits from banks	163,411	167,272	136,061	139,028
Deposits from customers	133,837	135,978	121,402	123,345
Debt certificates issued including bonds	62,250	63,063	69,476	70,137
Other liabilities	1,735	1,736	1,688	1,689
Subordinated capital	1,757	1,882	1,840	1,961
Fair value changes of the hedged items in portfolio hedges of interest-rate risk	300		237[1]	
LEASES	**309**	**309**	**342**	**342**
Other liabilities	309	309	342	342
FINANCIAL GUARANTEE CONTRACTS AND LOAN COMMITMENTS	**222**	**222**	**195**	**195**
Financial guarantee contracts	**127**	**127**	**124**	**124**
Provisions	127	127	124	124
Loan commitments	**95**	**95**	**71**	**71**
Provisions	95	95	71	71

1 Amount restated (see note 2).

Given the complex structure of home savings contracts and the multitude of scales of rates and charges, there is currently no suitable method for calculating the fair value of an individual contract as at the balance sheet date. Consequently, the fair value cannot be determined using either comparable market prices or suitable option pricing models. The fair values of financial assets and financial liabilities resulting from building society operations are therefore shown in simplified form at their carrying amounts. On the basis of the models used for building society management, which comprise both collective and non-collective business including deposits, the overall amount for building society operations during the reporting period was positive.

The carrying amounts and fair values reported under investments held by insurance companies relate to receivables and fixed-income securities matched as cover for long-term insurance contract obligations as part of insurance operations. Because these instruments are normally held over their entire maturity, interest-rate-related changes in fair value during the maturity of the financial assets balance each other out in full. The fair values of the investments held by insurance companies comprise both the proportion of the fair values that is attributable to the policyholders and the proportion attributable to the shareholders of the DZ BANK Group. The fair value attributable to the shareholders of the DZ BANK Group of investments held by insurance companies measured at amortized cost was €15,832 million (December 31, 2019: €15,050 million).

>> 42 Assets and liabilities measured at fair value on the balance sheet

Fair value hierarchy

The fair value measurements are assigned to the levels of the fair value hierarchy as follows:

	Level 1		Level 2		Level 3	
€ million	Jun. 30, 2020	Dec. 31, 2019	Jun. 30, 2020	Dec. 31, 2019	Jun. 30, 2020	Dec. 31, 2019
Assets	**83,876**	**82,382**	**103,060**	**96,062**	**8,685**	**8,933**
Loans and advances to banks	-	-	2,019	2,579	-	-
Loans and advances to customers	-	-	4,057	4,408	927	907
Hedging instruments (positive fair values)	-	-	225	201	-	-
Financial assets held for trading	1,673	1,645	47,885	42,345	505	791
Investments	19,754	19,770	20,298	17,378	1,915	1,969
Investments held by insurance companies	62,339	60,873	28,522	29,106	5,329	5,091
Non-current assets and disposal groups classified as held for sale	110	94	54	45	9	175
of which: non-recurring measurement	110	94	-	-	-	41
Liabilities	**4,950**	**4,320**	**101,846**	**93,039**	**854**	**1,172**
Deposits from banks	-	-	4,719	5,060	-	-
Deposits from customers	-	-	9,566	10,114	-	-
Debt certificates issued including bonds	3,396	3,340	12,622	11,699	505	608
Hedging instruments (negative fair values)	-	-	1,672	1,306	-	-
Financial liabilities held for trading	1,540	973	59,752	50,274	313	515
Financial liabilities arising from unit-linked insurance products	-	-	13,187	14,270	-	-
Other liabilities	14	7	35	13	5	5
Subordinated capital	-	-	293	303	31	44

The investments held by insurance companies measured at fair value include assets related to unit-linked contracts. These are offset on the equity and liabilities side of the balance sheet by financial liabilities measured at fair value arising from unit-linked insurance products, which consist of the reserve for unit-linked insurance contracts and liabilities from capitalization transactions allocated to unit-linked life insurance.

Transfers

Assets and liabilities held at the balance sheet date and measured at fair value on a recurring basis were transferred as follows between Levels 1 and 2 of the fair value hierarchy:

	Transfers from Level 1 to Level 2		Transfers from Level 2 to Level 1	
€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Financial assets measured at fair value	**103**	**496**	**1,069**	**3,987**
Financial assets held for trading	-	24	-	-
Investments	-	-	-	3,710
Investments held by insurance companies	103	472	1,069	277
Financial liabilities measured at fair value	**-**	**1**	**-**	**-**
Financial liabilities held for trading	-	1	-	-

Transfers from Level 1 to Level 2 were due to quoted prices no longer being obtainable in active markets for identical assets or liabilities. Transfers from Level 2 to Level 1 were due to the availability of quoted prices in active markets that had previously not existed.

In the DZ BANK Group, transfers between Levels 1 and 2 take place when there is a change in the inputs that is relevant to categorization in the fair value hierarchy.

Fair value measurements within Levels 2 and 3

Fair value measurements within Level 2 of the fair value hierarchy either use prices available in active markets for similar, but not identical, financial instruments or use valuation techniques largely based on observable market data. If valuation techniques are used that include a significant valuation input that is not observable in the market, the relevant fair value measurements are categorized within Level 3 of the fair value hierarchy.

Generally, the discounted cash flow (DCF) method is used in the model-based measurement of the fair value of financial instruments without optionalities. Modeling of the yield curves is based on a multi-curve approach with collateral discounting. Simple products on which options exist are measured using customary standard models in which the inputs are quoted in active markets. For structured products on which options exist, a wide range of standard valuation techniques are used. Valuation models are calibrated to available market prices and validated regularly. The fair values of structured products can be measured by breaking these products into their constituent parts, which are then measured using the valuation methods described below.

The basis for measurement is the selection of an adequate yield curve for each specific instrument. The measurement is carried out by selecting appropriate tenor-specific forward curves for projecting variable cash flows. The nature and collateralization of the transactions determines how they are discounted using yield curves that can be adjusted on the basis of relevant spreads.

The DZ BANK Group uses prices in active markets (provided these prices are available) for the fair value measurement of loans and advances as well as unstructured bonds. Otherwise, it mainly uses the DCF method. Discounting is based on yield curves that are adjusted for liquidity-related and credit rating-related costs using spreads. Product-dependent funding spreads are added to the yield curve for liabilities attributable to registered creditors, debt certificates issued including bonds, and subordinated capital. Debt instruments held are adjusted using issuer-specific spreads or spreads derived from the issuer's internal and external credit rating, sector, and risk category. Customer-appropriate spreads and collateralization rates are taken into account for the measurement of loans when the DCF method is used. If significant unobservable inputs are used for measurement and there are no indications that the transaction price is not identical to the fair value at the time of first-time recognition on the balance sheet, the valuation method is calibrated in such a way that the model price at the time of acquisition corresponds to the transaction price. In exceptional cases, the nominal amount of the debt instrument in question provides the best evidence of fair value.

The fair value measurements of shares and other variable-yield securities and of long-term equity investments accounted for in accordance with IFRS 9 are determined by applying income capitalization approaches and observing transaction prices. The best indicator of fair value is deemed to be the transaction prices for recent transactions involving the relevant financial instruments, provided there have been any such transactions. Otherwise, the fair value is measured using income capitalization approaches in which future income and dividends – calculated on the basis of forecasts and estimates – are discounted, taking risk parameters into account.

The fair value measurements of investment fund units are determined using the pro rata net asset value. This is adjusted for any outstanding performance-related remuneration entitlements of fund managers; risk adjustments are also taken into account. Some long-term equity investments in real-estate companies are also measured at net asset value. In this case, the liabilities are subtracted from the fair values of the real estate tied up in the company and the result is multiplied by the percentage of shareholding. The prices of units in real-estate funds that are not managed by the DZ BANK Group are provided by the asset management company that manages these funds. These units are measured regularly at net asset value. Fair value measurements are also based on valuations, current values, and prices in recent transactions.

The fair value measurement of standardized derivatives traded in liquid markets is based on observable market prices and/or industry-standard models using observable inputs. To discount the cash flows of derivatives, a distinction is made between non-collateralized and collateralized transactions when using yield curves in order to take into account the specific funding costs. Moreover, calculation of the model prices for products on which options exist mostly requires the input of additional market data (e.g. volatilities, correlations, repo rates). As far as possible, this data is derived implicitly from quoted market prices that are available. If observable quoted market prices are not available, or only available to a limited extent, the DZ BANK Group uses customary interpolation and extrapolation mechanisms, historical time series analyses, and fundamentals analyses of economic variables to generate the required inputs. It also uses expert assessments on a small scale.

The fair value measurement of OTC financial derivatives applies the option in IFRS 13.48, which enables the total net amount to be measured. In the first step, credit risk is not taken into account. Counterparty-specific credit risk arising from derivatives is recognized after the total net amount has been determined. Credit valuation adjustments (CVAs) are recognized to take into account counterparty credit risk and debt valuation adjustments (DVAs) are recognized to take into account the group's own credit risk. Their measurement also takes account of collateral and uses market-implied parameters with matching maturities or internal parameters with matching maturities for the probability of default and loss given default.

The measurement of financial instruments also involves carrying out measurement adjustments to a suitable degree. These include, among other things, model reserves that enable uncertainties regarding model selection, model parameters, and model configuration to be taken into account. The DZ BANK Group measures financial instruments at the price at which these financial instruments can be realized in the market. If this differs from the measurement of the individual instruments (e.g. measurement at middle rates), the bid/ask adjustments (close-out reserves) are determined on a net basis applying the option in IFRS 13.48. Measurement takes account of the group's funding structure.

The following table shows the valuation techniques, the unobservable inputs, and the spreads of the unobservable inputs used for the fair value measurements at Level 3 of the fair value hierarchy as at June 30, 2020.

Class according to IFRS 13	Assets/liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs	Spread of unobservable inputs (%)
Loans and advances to customers	Loans	614	DCF method	BVAL price adjustment	-4.0 to 4.0
		104	DCF method	Credit spread	0.0 to 5.6
	Profit-participation certificates	46	DCF method	Internal credit ratings	4.4 to 19.1
	Shareholders' loans	109	DCF method	Internal credit ratings	4.4 to 19.1
	Receivables arising from silent partnerships	54	DCF method	Internal credit ratings	4.4 to 19.1
Financial assets held for trading	ABSs	3	DCF method	Credit spread	8.3
	Equity/commodity basket products	3	Local volatility model	Correlation of the risk factors considered	9.9 to 85.3
	Loans and advances to issuers in default	6	DCF method	Recovery rate	-
	Collateralized loan obligations	119	Gaussian copula model	Liquidity spread	1.9 to 5.2
	Bearer securities	232	DCF method	BVAL price adjustment	0.2 to 2.6
	Registered securities	114	DCF method	BVAL price adjustment	-4.0 to 4.0
	Option in connection with acquisition of long-term equity investments	28	Black-Scholes model	Earnings indicator	-
Investments	ABSs	76	DCF method	Credit spread	0.6 to 7.3
	Other variable-yield securities	10	DCF method	Assumptions for measurement of risk parameters	10.1 to 13.5
	Investments in subsidiaries	30	DCF method	Assumptions for measurement of risk parameters	10.1 to 13.5
		232	Income capitalization approach, net asset value method	Future income	-
	Collateralized loan obligations	4	Gaussian copula model	Liquidity spread	0.0 to 2.6
	Loans and advances to issuers in default	6	DCF method	Recovery rate	-
	Bearer securities	369	DCF method	BVAL price adjustment	0.2 to 140.8
	Investment fund units	18	Net asset value	-	-
	Mortgage-backed securities	293	DCF method	Duration	-
		39	DCF method	Recovery rate	0.0 to 94.5
	Other shareholdings	77	DCF method	Capitalization rate, growth factor	1.0 to 10.9
		255	Income capitalization approach, net asset value method	Future income	-
	VR Circle	506	DCF method	Multiple-year default probabilities	0 to 100

Class according to IFRS 13	Assets/liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs	Spread of unobservable inputs (%)
Investments held by insurance companies	ABSs	1,166	Third-party pricing information	-	-
	Investments in subsidiaries, associates, and joint ventures, real estate funds, profit-participation certificates, and other long-term equity investments	2,687	Net asset value	-	-
	Investments in subsidiaries, associates, and joint ventures, other long-term equity investments, and shares in cooperatives	396	Income capitalization approach	Future income	6.8 to 10.6
	Fixed-income securities, convertible bonds, shares, and shares in cooperatives	620	Third-party pricing information	-	-
	Profit-participation certificates and promissory notes	450	DCF method	Credit spread	5.0 to 6.8
	Other shareholdings	10	Approximation	-	-
Non-current assets and disposal groups classified as held for sale	Loans	9	DCF method	Credit spread	0.0 to 8.3
Debt certificates issued including bonds	VR Circle	505	DCF method	Multiple-year default probabilities	0 to 100
Financial liabilities held for trading	Equity/commodity basket products	285	Local volatility model	Correlation of the risk factors considered	9.9 to 85.3
	Option in connection with acquisition of long-term equity investments	10	Black-Scholes model	Earnings indicators	-
	Products with commodity volatility derived from comparable instruments	18	Local volatility model	Volatility	7.0 to 115.5
Other liabilities	Incentivization commitment in connection with acquisition of long-term equity investments	5	Expected value	-	-
Subordinated capital	Loans	31	DCF method	Credit spread	-4.0 to 4.0

The following table shows the valuation techniques, the unobservable inputs, and the spreads of the unobservable inputs used for the fair value measurements at Level 3 of the fair value hierarchy as at December 31, 2019.

Class according to IFRS 13	Assets/liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs	Spread of unobservable inputs (%)
Loans and advances to customers	Loans	632	DCF method	BVAL price adjustment	-4.0 to 4.0
		69	DCF method	Credit spread	0.0 to 8.3
	Profit-participation certificates	46	DCF method	Internal credit ratings	5.2 to 16.5
	Shareholders' loans	102	DCF method	Internal credit ratings	5.2 to 16.5
	Receivables arising from silent partnerships	58	DCF method	Internal credit ratings	5.2 to 16.5
Financial assets held for trading	ABSs	4	DCF method	Credit spread	6.5
	Equity/commodity basket products	6	Local volatility model	Correlation of the risk factors considered	9.9 to 85.3
	Loans and advances to issuers in default	20	DCF method	Recovery rate	-
	Collateralized loan obligations	99	Gaussian copula model	Liquidity spread	1.1 to 4.5
	Bearer securities	466	DCF method	BVAL price adjustment	-1.7 to 0.6
	Registered securities	168	DCF method	BVAL price adjustment	-4.0 to 4.0
	Option in connection with acquisition of long-term equity investments	28	Black-Scholes model	Earnings indicator	-
Investments	ABSs	79	DCF method	Credit spread	0.5 to 5.4
	Other variable-yield securities	10	DCF method	Assumptions for measurement of risk parameters	9.6 to 13.5
	Investments in subsidiaries	37	DCF method	Assumptions for measurement of risk parameters	9.6 to 13.5
		273	Income capitalization approach, net asset value method	Future income	-
	Collateralized loan obligations	6	Gaussian copula model	Liquidity spread	0.0 to 1.7
	Bearer securities	342	DCF method	BVAL price adjustment	-1.7 to 132
	Investment fund units	20	Net asset value	-	-
	Mortgage-backed securities	334	DCF method	Duration	-
		41	DCF method	Recovery rate	0.0 to 94.6
	Other shareholdings	72	DCF method	Capitalization rate, growth factor	0.0 to 11.6
		249	Income capitalization approach, net asset value method	Future income	-
	VR Circle	506	DCF method	Multiple-year default probabilities	0 to 100

Class according to IFRS 13	Assets/liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs	Spread of unobservable inputs (%)
Investments held by insurance companies	ABSs	1,044	Third-party pricing information	-	-
	Investments in subsidiaries, associates, and joint ventures, real estate funds, profit-participation certificates, and other long-term equity investments	2,455	Net asset value	-	-
	Investments in subsidiaries, associates, and joint ventures, other long-term equity investments, and shares in cooperatives	404	Income capitalization approach	Future income	7.8 to 8.4
	Fixed-income securities, convertible bonds, shares, and shares in cooperatives	719	Third-party pricing information	-	-
	Profit-participation certificates and promissory notes	462	DCF method	Credit spread	4.4 to 6.0
	Other shareholdings	7	Approximation	-	-
Non-current assets and disposal groups classified as held for sale	Loans	175	DCF method	Credit spread	0.0 to 8.3
Debt certificates issued including bonds	Bearer issue	102	DCF method	BVAL price adjustment	0.1
	VR Circle	506	DCF method	Multiple-year default probabilities	0 to 100
Financial liabilities held for trading	Equity/commodity basket products	479	Local volatility model	Correlation of the risk factors considered	9.9 to 85.3
	Option in connection with acquisition of long-term equity investments	10	Black-Scholes model	Earnings indicators	-
	Products with commodity volatility derived from comparable instruments	26	Local volatility model	Volatility	7.0 to 59.5
Other liabilities	Incentivization commitment in connection with acquisition of long-term equity investments	5	Expected value	-	-
Subordinated capital	Loans	44	DCF method	Credit spread	0.3 to 3.2

Fair value measurements within Level 3 of the fair value hierarchy

The table below shows the changes in the fair value measurements of assets within Level 3 of the fair value hierarchy:

€ million	Loans and advances to customers	Financial assets held for trading	Investments	Investments held by insurance companies	Non-current assets and disposal groups classified as held for sale
Balance as at Jan. 1, 2019	928	554	2,179	4,261	388
Additions (purchases)	30	-	138	482	122
Transfers	-36	-34	-143	-74	-
from Level 3 to Levels 1 and 2	-36	-51	-157	-109	-
from Levels 1 and 2 to Level 3	-	17	14	35	-
Disposals (sales)	-26	-53	-80	-255	-247
Changes resulting from measurement at fair value	6	3	72	61	-
through profit or loss	-6	3	23	17	-
through other comprehensive income	12	-	49	44	-
Other changes	9	3	3	-	-2
Balance as at Jun. 30, 2019	**911**	**473**	**2,169**	**4,475**	**261**
Balance as at Jan. 1, 2020	907	791	1,969	5,091	175
Additions (purchases)	42	393	49	562	-
Transfers	-	71	38	-81	-
from Level 3 to Levels 1 and 2	-	-28	-270	-136	-
from Levels 1 and 2 to Level 3	-	99	308	55	-
Disposals (sales)	-17	-746	-141	-148	-163
Changes resulting from measurement at fair value	-2	-5	-14	-95	-3
through profit or loss	-5	-5	-22	-78	-3
through other comprehensive income	3	-	8	-17	-
Other changes	-3	1	14	-	-
Balance as at Jun. 30, 2020	**927**	**505**	**1,915**	**5,329**	**9**

The table below shows the changes in the fair value measurements of liabilities within Level 3 of the fair value hierarchy:

€ million	Debt certificates issued including bonds	Financial liabilities held for trading	Other liabilities	Subordinated capital
Balance as at Jan. 1, 2019	565	907	7	45
Additions (issues)	-	2	-	-
Transfers	-	-242	-	-
from Level 3 to Level 2	-	-243	-	-
from Level 2 to Level 3	-	1	-	-
Disposals (settlements)	-26	-	-	-3
Changes resulting from measurement at fair value	-12	22	1	3
through profit or loss	-12	22	1	-1
through other comprehensive income	-	-	-	4
Other changes	-	1	-	-1
Balance as at Jun. 30, 2019	**527**	**690**	**8**	**44**
Balance as at Jan. 1, 2020	608	515	5	44
Additions (issues)	-	37	-	-
Transfers	-102	-174	-	-
from Level 3 to Level 2	-102	-308	-	-
from Level 2 to Level 3	-	134	-	-
Disposals (settlements)	-	-57	-	-13
Changes resulting from measurement at fair value	-1	-8	-	1
through profit or loss	-	-8	-	2
through other comprehensive income	-1	-	-	-1
Other changes	-	-	-	-1
Balance as at Jun. 30, 2020	**505**	**313**	**5**	**31**

As part of the processes for fair value measurement, the DZ BANK Group reviews whether the valuation methods used for the measurement are typical and whether the valuation inputs used in the valuation methods are observable in the market. This review takes place at every balance sheet date, i.e. at least every 6 months. On the basis of this review, the fair value measurements are assigned to the levels of the fair value hierarchy. In the DZ BANK Group, transfers between the levels generally take place as soon as there is a change in the inputs that is relevant to categorization in the fair value hierarchy.

In each step of these processes, both the distinctive features of the particular product type and the distinctive features of the business models of the group entities are taken into consideration.

Transfers of fair values from Levels 1 and 2 to Level 3 of the fair value hierarchy during the reporting period are largely attributable to a revised estimate of the market observability of the valuation inputs used in the valuation methods. Transfers from Level 3 to Levels 1 or 2 are essentially due to the availability of a price listed in an active market and to the inclusion in the valuation method of material valuation inputs observable in the market.

The amount of gains or losses recognized in profit or loss resulting from the recurring fair value measurements within Level 3 of assets and liabilities held at the balance sheet date constituted a loss of €44 million during the reporting period (first half of 2019: gain of €67 million). The gains or losses are included in the line items net interest income, gains and losses on trading activities, other gains and losses on valuation of financial instruments, gains and losses on investments held by insurance companies and other insurance company gains and losses, loss allowances, and other net operating income.

For the fair values of investments held by insurance companies reported within Level 3, a worsening in the credit rating or a rise in the interest rate of 1 percent would lead to the recognition of a €38 million loss in the income statement (December 31, 2019: loss of €40 million) and a loss of €1 million under other comprehensive income/loss (December 31, 2019: loss of €1 million). In the case of the fair values of loans and advances to customers, the same change would lead to the recognition of a €9 million loss in the income statement (December 31, 2019: loss of €8 million). For the fair values of investments, there would be a €24 million loss under other comprehensive income/loss (December 31, 2019: loss of €26 million) and a €26 million loss in the income statement (December 31, 2019: loss of €24 million). Within financial assets held for trading, the changes would give rise to a loss of €8 million recognized in the income statement (December 31, 2019: loss of €8 million); however, changes within financial liabilities held for trading would result in a gain of €3 million recognized in the income statement (December 31, 2019: gain of €3 million). In the case of debt certificates issued including bonds, a worsening in the credit rating or a rise in the interest rate of 1 percent would not lead to any material change in fair value. As at December 31, 2019, a gain of €3 million would have been recognized under other comprehensive income/loss.

The fair values of bonds without liquid markets that are reported within financial assets held for trading, financial liabilities held for trading, investments, and loans and advances to customers are given an individual adjustment spread or are measured using Bloomberg Valuation Service prices, which are observable in the market. All other things being equal, an increase in the pertinent measurement assumptions of 1 percent would lead to the recognition of a €19 million loss in the income statement (December 31, 2019: loss of €14 million) and a loss of €18 million under other comprehensive income/loss (December 31, 2019: loss of €19 million). Historical spreads are used for bonds recognized under subordinated capital whose spread components are no longer observable in the market. All other things being equal, an increase of 1 percent in the spread would lead to a €2 million increase in fair value that would be recognized in the income statement (December 31, 2019: increase of €4 million).

An alternative assumption about the credit spreads used could lead to a significant change in the fair values of some of the ABSs reported under financial assets held for trading and under investments. All other things being equal, an increase of 1 percent in these spreads would lead to the recognition of a €2 million loss in the income statement (December 31, 2019: loss of €2 million) and a loss of €1 million under other comprehensive income/loss (December 31, 2019: loss of €1 million).

An alternative assumption about the liquidity spreads used could lead to a significant change in respect of collateralized loan obligations reported under investments and under financial assets held for trading. All other things being equal, a rise in the liquidity spread assumptions by 1 percent would lead to a €5 million decrease in the fair values of these financial assets that would be recognized in the income statement (December 31, 2019: decrease of €5 million).

Sensitivity analysis is used to calculate the aforementioned changes in the fair value measurements. Non-performing exposures and strategically held investments in subsidiaries and other shareholdings whose fair values are calculated using an income capitalization approach are not included in the sensitivity analysis.

Exercise of option pursuant to IFRS 13.48

The option offered by IFRS 13.48 of measuring a net risk position for financial assets and financial liabilities is used for portfolios whose components are recognized under the balance sheet items loans and advances to banks, loans and advances to customers, financial assets held for trading, investments, and financial liabilities held for trading.

>> 43 Hedge accounting

Gains and losses arising on hedging instruments and hedged items that need to be recognized in profit or loss are reported in the gains and losses from hedge accounting under other gains and losses on valuation of financial instruments. The breakdown of gains and losses from hedge accounting, by type of hedge, is as follows:

€ million	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Gains and losses on fair value hedges	**-3**	1
Gains and losses on hedging instruments	-103	-131
Gains and losses on hedged items	100	132
Gains and losses on portfolio fair value hedges	**12**	1
Gains and losses on hedging instruments	-1,087	-1,337
Gains and losses on hedged items	1,099	1,338
Total	**9**	**2**

>> 44 Nature and extent of risks arising from financial instruments and insurance contracts

With the exception of the qualitative and quantitative disclosures pursuant to IFRS 7.35-36, selected disclosures on the nature and extent of risks arising from financial instruments (IFRS 7.31-42) and insurance contracts (IFRS 4.38-39A) are included in the opportunity and risk report within the interim group management report. The selected disclosures pursuant to IFRS 7.35-36 can be found in the notes to the interim consolidated financial statements.

Credit risk management practices

The rules for recognizing loss allowances are based on the calculation of expected losses in the lending business, on investments, on investments held by insurance companies, and on other assets. The impairment rules are applied only to those financial assets that are not measured at fair value through profit or loss. These are:

– Financial assets measured at amortized cost and
– Debt instruments held as financial assets measured at fair value through other comprehensive income.

The impairment rules are also applied to:

– Financial guarantee contracts and loan commitments that fall within the scope of IFRS 9 and are not recognized at fair value through profit or loss,
– Lease receivables, and
– Trade receivables and contract assets pursuant to IFRS 15.

In accordance with IFRS 9, the three-stage approach is used, additionally taking POCI assets into account, to determine the expected losses:

- Stage 1: For financial assets whose credit risk has not increased significantly since initial recognition that were not impaired upon initial recognition, the 12-month credit loss is recognized. Interest is recognized on the basis of the gross carrying amount.
- Stage 2: For financial assets whose credit risk has increased significantly since initial recognition, the loss allowances are determined in the amount of the assets' lifetime expected credit losses. Interest is recognized on the basis of the gross carrying amount.
- Stage 3: Financial assets are classified as impaired if they are deemed to be in default pursuant to article 178 of the Capital Requirements Regulation (CRR) as operationalized in the DZ BANK Group's definition of default. Here too, loss allowances are recognized in the amount of the lifetime expected credit losses. Interest income is calculated on the amortized cost after loss allowances using the effective interest method.
- POCI assets: Financial assets that are already deemed impaired upon initial recognition are not assigned to the 3-stage model and are reported separately. Credit-impaired financial assets are initially recognized at fair value rather than at their gross carrying amount. Consequently, interest is recognized for these assets using a risk-adjusted effective interest rate.

The review of whether the credit risk of financial assets, financial guarantee contracts, and loan commitments has increased significantly since initial recognition is carried out on an ongoing basis. The assessment is conducted both for individual financial assets and for portfolios of assets using quantitative and qualitative analysis. As a rule, quantitative analysis looks at the expected credit risk over the entire residual life of the financial instruments in question. Macroeconomic information is also factored in. To this end, the credit risk as at the balance sheet date for the residual life is compared with the assets' credit risk over the same maturity period estimated at the time of initial recognition. The thresholds that indicate a significant increase in credit risk are determined for each portfolio separately relative to the portfolio's past migrations of default probability. Internal risk measurement systems, external credit ratings, and risk forecasts are also used to assess the credit risk of financial assets. This test is extended to look at qualitative criteria that increase credit risk. Furthermore, allocation to stage 2 is generally assumed no later than when payments become more than 30 days past due. Depending on the business line, this criterion has been defined as an additional backstop. As a rule, however, the other transfer criteria mean that financial assets are allocated to stage 2 well before payments become more than 30 days past due.

Securities with low credit risk are not tested to ascertain whether credit risk has increased significantly. Investment-grade securities are thus assigned to stage 1. This exemption does not apply to loans and receivables.

If, on the balance sheet date, it is found that there is no longer a significant increase in credit risk compared with previous balance sheet dates, the financial assets in question are transferred back to stage 1 and the loss allowances are brought back down to the level of the 12-month expected credit loss. If a financial instrument in stage 3 recovers, the difference between the interest income determined for the period of credit impairment on the basis of amortized cost and the actual interest income recognized in respect of the financial instrument for the period concerned is reported as a reversal of an impairment loss or a reversal of loss allowances. In the case of a transfer back from stage 3, the default status (as defined in the regulatory requirements) is only revoked after the necessary cure period, which is thereby taken into account in the transfer criterion.

Expected losses are calculated as the probability-weighted present value of the expected defaults over the estimated lifetime from default events within the next 12 months for assets assigned to stage 1 of the impairment model and from default events over the entire residual life for assets assigned to stage 2. The expected losses are discounted with their original effective interest rate. This calculation uses the regulatory model (probability of default, loss given default, and expected loan amount at the time of default), with adjustments to satisfy the requirements of IFRS 9. The estimated probability of default incorporates both historical and forward-looking default information. This is applied when loss allowances are determined, in the form of shifts in the default probabilities calculated using statistical methods (known as shift factors). Depending on the portfolio, the calculation of the expected loss for specific exposures in stage 3 also uses this type of parameter-based approach or draws on individual expert appraisals of the achievable cash flows and probability-weighted scenarios at individual transaction level.

Loss histories, adjusted to reflect forecast future defaults, serve as the basis for determining expected losses. Two macroeconomic scenarios based on empirical estimates are also factored in. These scenarios specifically look at future trends in the labor market, interest rates in the money market, changes in gross domestic product, inflation, and real estate prices. To ensure that the expected loss is not distorted, the DZ BANK Group uses a number of scenarios when determining the risk parameters, which are then factored into the level of the loss allowance with a probability weighting. The methods and assumptions, including the forecasts, are validated regularly.

For the purpose of calculating loss allowances for portfolios, the portfolios are grouped according to shared credit risk characteristics, e.g. credit rating, date of origination, residual life, industry and origin of the borrower, and type of asset.

Directly recognized impairment losses reduce the carrying amounts of assets directly. Unlike loss allowances, which are estimates, directly recognized impairment losses are specified in an exact amount if this is justified because the receivable is not collectible (e.g. as a result of the notification of an insolvency ratio). Impairment losses can be recognized directly by writing down the asset value and/or by using existing loss allowances. As a rule, asset values are written down directly after all recovery and enforcement measures have been completed. Directly recognized impairment losses are also applied to insignificant amounts.

Impact of COVID-19

During the COVID-19 pandemic, the established models and processes for calculating expected losses in accordance with IFRS 9 have generally been retained.

Current economic conditions against the backdrop of COVID-19 are mainly taken into consideration by updating the macroeconomic forecasts. In this context, the entities in the DZ BANK Group are guided by the Research division’s macroeconomic forecasts for 2020 to 2024, which are used in the calculation of expected losses.

The expected macroeconomic conditions are taken into account by adjusting the model-driven default probability profiles used in economic and regulatory risk management (known as shift factors). These shift factors are derived from macroeconomic inputs for various levels of default probability using existing stress test models. As is the case for strategic planning, the basis for the shift factors applied as at the balance sheet date are the macroeconomic forecasts provided by the Research division in March 2020. As at the balance sheet date, two macroeconomic scenarios (baseline scenario and risk scenario) were taken into account with a weighting of 60 percent (baseline scenario) and 40 percent (risk scenario). The shift factors were used to include current economic conditions (known as a point-in-time focus) and forecasts of future economic conditions for the years covered by the macroeconomic forecast period in these scenarios.

The baseline scenario is based on the assumption that large swathes of the economy took a severe macroeconomic hit during the reporting period as a result of the lockdown imposed due to COVID-19. Supported by fiscal measures, a strong recovery will begin at the end of 2020/start of 2021 and continue into 2022. The adverse effects on the real economy are of a similar magnitude in Germany and in the eurozone as a whole. In the United States, the macroeconomic effects are greater than in the eurozone. US government debt is rising very rapidly due to extensive fiscal packages.

The risk scenario is based on the assumption that the recession triggered by COVID-19 will be deeper and longer than assumed in the baseline scenario. Because of the weaker global economy, the oil price will stay at a very low level for longer and will not return to a level of US$ 35 per barrel before 2021. Consequently, there continues to be more downward pressure on inflation rates than in the baseline scenario. The recovery will remain lackluster in this risk scenario. Growth rates are very weak, even in the medium term, and inflation rates are low. The ECB will therefore not consider raising interest rates any further, even after it has ended the phase of negative interest rates.

The main macroeconomic forecasts for 2020 to 2024 used to calculate the expected loss as at the balance sheet date were as follows.

		2020		2021		2022		2023		2024	
		Baseline	Risk	Baseline	Risk	Baseline	Risk	Baseline	Risk	Baseline	Risk
DAX 30, Germany	Index	10,600	8,600	12,720	10,750	13,100	11,830	13,490	11,830	13,760	11,830
EURO STOXX 50, EU	Index	2,800	2,250	3,360	2,810	3,460	3,090	3,560	3,090	3,630	3,090
Unemployment rate, Germany	%	6.00	7.00	6.00	7.00	5.75	6.50	5.50	6.00	5.25	5.75
Harmonized unemployment rates, EU	%	8.00	9.00	9.00	10.00	8.10	9.00	7.50	8.50	7.25	8.00
Real GDP growth, Germany (seasonally and calendar-adjusted)	Compared with prior year (%)	-4.00	-6.00	3.50	2.00	2.50	1.50	1.25	1.00	1.25	1.00
Real GDP growth, EU (seasonally and calendar-adjusted)	Compared with prior year (%)	-5.25	-7.00	3.25	2.50	2.25	2.25	1.25	1.50	1.25	1.00

For selected portfolio segments, the shift factors determined using statistical methods were overridden because of the extreme macroeconomic changes, which have not been seen on this scale before, and because of the extensive government support measures. The values determined using the stress test model were validated by conducting surveys of economic experts and were supplemented with management estimates. This ensures that the shift factors used are in line both with experts' expectations and with the forecast changes in macroeconomic factors for the calculation of expected losses.

In addition, the ongoing monitoring process for the customer rating was supplemented with an ad hoc review (known as a re-rating) for significant parts of the portfolio. Given the extreme macroeconomic situation, the re-ratings were operationalized by means of an override in the same way as for the adjustment of the shift factors. The ad hoc review should ensure that the assumed credit risk promptly reflects the impact of COVID-19. The re-rating took account of the likely long-term effects of the pandemic, factoring in the statutory and private support measures.

The shift factors used were also validated at sectoral level and their overall appropriateness was confirmed. Furthermore, the macroeconomic scenarios published by the ECB on June 4, 2020 were sufficiently taken into account by means of the scenario weightings used in the strategic planning, and the assumptions made in March 2020 were confirmed.

The aforementioned adjustments constitute adjustments to inputs in the models for taking account of the COVID-19 pandemic. The DZ BANK Group therefore did not need to make any additional post-model adjustments.

To mitigate the impact of COVID-19, borrowers and the entities in the DZ BANK Group reached agreement on individual support measures, including the temporary deferral of capital repayments. Besides these individual measures, there were also measures as part of general legislative and non-legislative moratoria on repayments. In the DZ BANK Group, repayments under consumer loans are deferred due to legislative moratoria in Germany, Hungary, Austria, and Slovakia. Repayments under consumer loans were also deferred due to the moratorium of Verband der Privaten Bausparkassen e.V. [Association of Private Bausparkassen]. In accordance with the EBA Guidelines on legislative and non-legislative moratoria on loan repayments applied in the light of the COVID-19 crisis, the general legislative and non-legislative moratoria are not classified as forbearance measures and therefore do not lead to a forbearance-related transfer between stages within the impairment model. A transfer between stages does take place if other transfer criteria are met. This exemption does not apply to individual support measures.

Government support measures in the form of development loans specifically in connection with the COVID-19 pandemic helped to mitigate the impact of the crisis.

No material deterioration in the value of collateral held in the form of mortgages on real estate is currently observable in connection with the COVID-19 pandemic. Any potential write-down of the value of real estate held as collateral is monitored on an ongoing basis, taking account of how the pandemic unfolds. Any pandemic-related decreases in the value of the real estate held as collateral could be offset by, for example, low interest rates, low vacancy rates, and conservative finance structures. The pandemic has a direct impact on the collateral received in connection with the financing of aircraft and ships. The value of these types of collateral is validated using stress data and market data so that any write-down caused by the pandemic can be determined. The updated collateral values are incorporated into the calculation of loss allowances for expected losses in the reporting period.

The COVID-19 pandemic resulted in transfers between the stages of the impairment model in the case of the gross carrying amounts of the financial instruments in the classes ‘financial assets measured at fair value’, ‘financial assets measured at amortized cost’, and ‘finance leases’ and in the case of the nominal amounts in the class ‘financial guarantee contracts and loan commitments’. The transfers were largely attributable to the adjusted forecast for the macroeconomic factors and to rating downgrades. In the ‘financial assets measured at fair value’ class, the pandemic also resulted in decreases in the fair values of financial instruments.

Additions to loss allowances that are presented in the tables of loss allowances and reflect the effects of the COVID-19 pandemic are also attributable to the changed macroeconomic forecasts used to calculate expected losses, the rating downgrades, and the decrease in collateral values. The updating has a direct effect on the probability of default of the financial instruments, which is reflected both in the transfer between stages and in the addition to loss allowances within a stage. Loss allowances in stage 3 also went up due to significant individual additions that were not solely attributable to the pandemic.

Loss allowances and gross carrying amounts

In the DZ BANK Group, loss allowances are recognized for the classes 'financial assets measured at fair value', 'financial assets measured at amortized cost', 'finance leases', and 'financial guarantee contracts and loan commitments' in the amount of the expected credit losses. Trade receivables and contract assets that fall within the scope of IFRS 15 are assigned to the 'financial assets measured at amortized cost' class.

Financial assets measured at fair value

	Stage 1		Stage 2		Stage 3	
€ million	Loss allowances	Fair value	Loss allowances	Fair value	Loss allowances	Fair value
Balance as at Jan. 1, 2019	8	80,068	3	182	29	25
Addition/increase in loan drawdowns	2	11,703	-	-	-	-
Change to financial assets due to transfer between stages	-	5	-	-5	-	-
Transfer from stage 2	-	5	-	-5	-	-
Derecognitions and repayments	-3	-8,624	-	-33	-	-2
Changes to models/risk parameters	1	-	-1	-	-	-
Additions	3	-	-	-	-	-
Reversals	-2	-	-1	-	-	-
Amortization, fair value changes, and other changes in measurement	-	4,805	-	4	-	-
Balance as at Jun. 30, 2019	**8**	**87,957**	**2**	**148**	**29**	**23**
Balance as at Jan. 1, 2020	9	95,779	1	59	30	19
Addition/increase in loan drawdowns	1	12,858	-	-	-	-
Change to financial assets due to transfer between stages	1	-281	-1	281	-	-
Transfer from stage 1	-	-288	-	288	-	-
Transfer from stage 2	1	7	-1	-7	-	-
Use of loss allowances/directly recognized impairment losses	-	-	-	-	-8	-
Derecognitions and repayments	-	-7,288	-	-34	-	-9
Changes to models/risk parameters	9	-	2	-	-	-
Additions	10	-	2	-	-	-
Reversals	-1	-	-	-	-	-
Amortization, fair value changes, and other changes in measurement	-	801	-	-4	-	8
Exchange differences and other changes	-	-4	-	-	-1	-
Deferred taxes	-1	-	-	-	3	-
Balance as at Jun. 30, 2020	**19**	**101,865**	**2**	**302**	**24**	**18**

Financial assets measured at amortized cost

	Stage 1		Stage 2		Stage 3		POCI assets	
€ million	Loss allowances	Gross carrying amount	Loss allowances	Gross carrying amount	Loss allowances	Gross carrying amount	Loss allowances	Gross carrying amount
Balance as at Jan. 1, 2019	231	330,226	196	7,864	1,972	4,349	3	22
Addition/increase in loan drawdowns	80	5,737,169	12	4,270	165	952	-	3
Change to financial assets due to transfer between stages	70	-451	-108	43	38	408	-	-
Transfer from stage 1	-26	-2,297	24	2,139	2	158	-	-
Transfer from stage 2	88	1,812	-149	-2,284	61	472	-	-
Transfer from stage 3	8	34	17	188	-25	-222	-	-
Use of loss allowances/directly recognized impairment losses	-	-	-	-	-237	-14	-	-1
Derecognitions and repayments	-61	-5,713,524	-26	-4,253	-113	-1,145	-	-13
Changes to models/risk parameters	-86	-	131	-	23	-	-2	-
Additions	69	-	199	-	267	-	2	-
Reversals	-155	-	-68	-	-244	-	-4	-
Amortization, fair value changes, and other changes in measurement	-	-147	-	13	-	-115	-	-
Positive change in fair value of POCI assets								10
Exchange differences and other changes	-	-500	-	-101	34	-257	-	-
Balance as at Jun. 30, 2019	**234**	**352,773**	**205**	**7,836**	**1,882**	**4,178**	**1**	**21**
Balance as at Jan. 1, 2020	218	348,217	224	8,229	1,823	3,885	1	31
Addition/increase in loan drawdowns	85	1,710,839	40	5,030	374	1,045	-	29
Change to financial assets due to transfer between stages	55	-3,404	-97	2,742	44	662	-	-
Transfer from stage 1	-34	-5,162	32	4,838	2	324	-	-
Transfer from stage 2	82	1,709	-152	-2,188	73	479	-	-
Transfer from stage 3	7	49	23	92	-31	-141	-	-
Use of loss allowances/directly recognized impairment losses	-	-1	-	-	-150	-20	-1	-2
Derecognitions and repayments	-50	-1,672,829	-53	-5,920	-269	-1,358	-7	-20
Changes to models/risk parameters	-40	-	275	-	137	-	2	-
Additions	93	-	357	-	310	-	3	-
Reversals	-133	-	-82	-	-173	-	-1	-
Amortization, fair value changes, and other changes in measurement	-	-410	-	-1	-	-57	-	-
Positive change in fair value of POCI assets								10
Exchange differences and other changes	-	-270	-7	46	2	24	9	1
Balance as at Jun. 30, 2020	**268**	**382,142**	**382**	**10,126**	**1,961**	**4,181**	**4**	**49**

The undiscounted expected credit losses on purchased or originated credit-impaired assets that were recognized for the first time during the reporting period totaled €69 million (first half of 2019: €77 million).

Non-current assets and disposal groups classified as held for sale that were previously recognized as financial assets measured at amortized cost

€ million	Stage 1		Stage 2		Stage 3	
	Loss allowances	Gross carrying amount	Loss allowances	Gross carrying amount	Loss allowances	Gross carrying amount
Balance as at Jan. 1, 2019	5	5,853	-	105	13	40
Addition/increase in loan drawdowns	-	1,174	-	-	-	-
Change to financial assets due to transfer between stages	-1	-195	1	188	-	7
Transfer from stage 1	-1	-210	1	210	-	-
Transfer from stage 2	-	15	-	-22	-	7
Derecognitions and repayments	-1	-2,923	-	-15	-7	-3
Changes to models/risk parameters	3	-	4	-	1	-
Additions	4	-	4	-	3	-
Reversals	-1	-	-	-	-2	-
Amortization, fair value changes, and other changes in measurement	-	70	-	1	-	-
Exchange differences and other changes	-1	85	-	8	2	2
Changes in scope of consolidation	-	-168	-	-3	-	-
Balance as at Jun. 30, 2019	**5**	**3,896**	**5**	**284**	**9**	**46**
Balance as at Jan. 1, 2020	-	194	-	-	3	7
Addition/increase in loan drawdowns	-	23	-	-	-	-
Derecognitions and repayments	-	-215	-	-	-	-
Balance as at Jun. 30, 2020	**-**	**2**	**-**	**-**	**3**	**7**

Finance leases

	Stage 1		Stage 2		Stage 3	
€ million	Loss allowances	Gross carrying amount	Loss allowances	Gross carrying amount	Loss allowances	Gross carrying amount
Balance as at Jan. 1, 2019	4	1,811	8	186	8	23
Addition/increase in loan drawdowns	1	158	7	2	4	1
Change to finance leases due to transfer between stages	4	-28	-2	16	-2	12
Transfer from stage 1	-	-89	-	84	-	5
Transfer from stage 2	3	56	-4	-72	1	16
Transfer from stage 3	1	5	2	4	-3	-9
Use of loss allowances/directly recognized impairment losses	-	-	-3	-	-	-
Derecognitions and repayments	-4	-343	-4	-31	-4	-16
Exchange differences and other changes	-	-	-	-	1	-
Balance as at Jun. 30, 2019	**5**	**1,598**	**6**	**173**	**7**	**20**
Balance as at Jan. 1, 2020	3	1,374	5	148	8	25
Addition/increase in loan drawdowns	1	91	7	3	8	1
Change to finance leases due to transfer between stages	1	-168	-3	124	-	44
Transfer from stage 1	-1	-237	1	223	-	14
Transfer from stage 2	2	67	-5	-103	-	36
Transfer from stage 3	-	2	1	4	-	-6
Derecognitions and repayments	-3	-258	-3	-42	-4	-18
Changes to models/risk parameters	-	-	1	-	-	-
Additions	-	-	1	-	-	-
Balance as at Jun. 30, 2020	**2**	**1,039**	**7**	**233**	**12**	**52**

Financial guarantee contracts and loan commitments

	Stage 1		Stage 2		Stage 3	
€ million	Loss allowances	Nominal amount	Loss allowances	Nominal amount	Loss allowances	Nominal amount
Balance as at Jan. 1, 2019	35	60,787	9	834	118	250
Addition/increase in loan drawdowns	57	28,480	2	334	3	66
Change to financial guarantee contracts and loan commitments due to transfer between stages	1	-94	-4	45	3	49
Transfer from stage 1	-1	-356	1	344	-	12
Transfer from stage 2	1	257	-5	-299	4	42
Transfer from stage 3	1	5	-	-	-1	-5
Derecognitions and repayments	-24	-28,361	-4	-448	-10	-103
Changes to models/risk parameters	-28	-	4	-	3	-
Additions	14	-	6	-	23	-
Reversals	-42	-	-2	-	-20	-
Amortization, fair value changes, and other changes in measurement	-	12	-	-	-	-
Exchange differences and other changes	1	176	-	1	-	1
Balance as at Jun. 30, 2019	**42**	**61,000**	**7**	**766**	**117**	**263**
Balance as at Jan. 1, 2020	45	64,937	10	575	140	282
Addition/increase in loan drawdowns	43	35,581	13	861	22	234
Change to financial guarantee contracts and loan commitments due to transfer between stages	-1	-408	1	381	-	27
Transfer from stage 1	-3	-515	3	502	-	13
Transfer from stage 2	2	105	-2	-123	-	18
Transfer from stage 3	-	2	-	2	-	-4
Derecognitions and repayments	-32	-29,144	-10	-739	-30	-268
Changes to models/risk parameters	-1	-	8	-	16	-
Additions	22	-	17	-	39	-
Reversals	-23	-	-9	-	-23	-
Amortization, fair value changes, and other changes in measurement	-	-42	-	-	-	-
Exchange differences and other changes	-	-204	-	-	-2	1
Balance as at Jun. 30, 2020	**54**	**70,720**	**22**	**1,078**	**146**	**276**

Liabilities included in disposal groups classified as held for sale that were previously recognized as financial guarantee contracts and loan commitments

	Stage 1	
€ million	Loss allowances	Nominal amount
Balance as at Jan. 1, 2019	-	549
Addition/increase in loan drawdowns	-	63
Derecognitions and repayments	-	-259
Changes to models/risk parameters	1	-
Additions	1	-
Exchange differences and other changes	-	-133
Balance as at Jun. 30, 2019	**1**	**220**
Balance as at Jan. 1, 2020	-	75
Derecognitions and repayments	-	-75
Balance as at Jun. 30, 2020	**-**	**-**

>> 45 Exposures to countries particularly affected by the sovereign debt crisis

The table below shows the carrying amounts of the DZ BANK Group's exposures to bonds issued by governments and public authorities in countries particularly affected by the sovereign debt crisis, broken down into the categories applied to financial instruments under IFRS 9.

	Jun. 30, 2020		Dec. 31, 2019	
€ million	Carrying amount	Fair value	Carrying amount	Fair value
Portugal	**820**	**836**	**814**	**831**
Financial assets measured at fair value through profit or loss	418	418	423	423
Financial assets measured at fair value through other comprehensive income	352	352	342	342
Financial assets measured at amortized cost	50	66	49	66
Italy	**4,779**	**4,859**	**4,973**	**5,058**
Financial assets measured at fair value through profit or loss	1,890	1,890	1,915	1,915
Financial assets measured at fair value through other comprehensive income	2,369	2,369	2,538	2,538
Financial assets measured at amortized cost	520	600	520	605
Spain	**2,140**	**2,188**	**2,123**	**2,170**
Financial assets measured at fair value through profit or loss	1,264	1,264	1,253	1,253
Financial assets measured at fair value through other comprehensive income	636	636	630	630
Financial assets measured at amortized cost	240	288	240	287
Total	**7,739**	**7,883**	**7,910**	**8,059**

Bonds issued by countries particularly affected by the sovereign debt crisis and held as part of the insurance business are only recognized in the proportion attributable to the shareholders of the DZ BANK Group.

Fair value hierarchy

The recurring fair value measurements as measured and recognized on the balance sheet are assigned to the levels of the fair value hierarchy as follows:

€ million	Level 1		Level 2		Level 3	
	Jun. 30, 2020	Dec. 31, 2019	Jun. 30, 2020	Dec. 31, 2019	Jun. 30, 2020	Dec. 31, 2019
Portugal	**768**	765	**2**	-	**-**	-
Financial assets measured at fair value through profit or loss	416	423	2	-	-	-
Financial assets measured at fair value through other comprehensive income	352	342	-	-	-	-
Italy	**4,173**	4,382	**56**	41	**30**	30
Financial assets measured at fair value through profit or loss	1,854	1,897	36	18	-	-
Financial assets measured at fair value through other comprehensive income	2,319	2,485	20	23	30	30
Spain	**1,602**	1,659	**167**	158	**131**	66
Financial assets measured at fair value through profit or loss	966	1,029	167	158	131	66
Financial assets measured at fair value through other comprehensive income	636	630	-	-	-	-
Total	**6,543**	6,806	**225**	199	**161**	96

Maturity analysis

AS AT JUNE 30, 2020

€ million	≤ 1 month	> 1 month – 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years
Portugal	-	-	25	104	777
Italy	6	141	290	1,360	3,850
Spain	10	2	98	518	1,871
Total	**16**	**143**	**413**	**1,982**	**6,498**

AS AT DECEMBER 31, 2019

€ million	≤ 1 month	> 1 month – 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years
Portugal	-	-	25	102	783
Italy	7	95	237	1,521	4,091
Spain	4	9	64	555	1,876
Total	**11**	**104**	**326**	**2,178**	**6,750**

The maturity analysis shows the contractually agreed cash inflows.

E Other disclosures

>> 46 Contingent liabilities

€ million	Jun. 30, 2020	Dec. 31, 2019
Contingent liabilities arising from contributions to the resolution fund for CRR credit institutions	88	37
Contingent liabilities in respect of litigation risk	12	9
Total	**100**	**46**

The contingent liabilities arising from contributions to the resolution fund for CRR credit institutions consist of irrevocable payment commitments that were made after the applications to furnish collateral in partial settlement of the contribution to the European bank levy were approved by the Single Resolution Board (SRB).

The contingent liabilities in respect of litigation risk comprise a small number of court proceedings relating to different cases. Where provisions have been recognized for particular claims, no contingent liabilities are recognized.

>> 47 Financial guarantee contracts and loan commitments

€ million	Jun. 30, 2020	Dec. 31, 2019
Financial guarantee contracts	**8,162**	**7,842**
Loan guarantees	4,397	4,187
Letters of credit	670	562
Other guarantees and warranties	3,095	3,093
Loan commitments	**63,912**	**57,952**
Credit facilities to banks	21,737	17,163
Credit facilities to customers	18,115	18,690
Guarantee credits	696	464
Letters of credit	1	1
Global limits	23,363	21,634
Total	**72,074**	**65,794**

The amounts shown for financial guarantee contracts and loan commitments are the nominal values of the commitment in each case.

>> 48 Trust activities

Trust assets and trust liabilities amounted to €1,589 million as at June 30, 2020 (December 31, 2019: €761 million).

>> 49 Disclosures on revenue from contracts with customers

Disclosures on revenue from contracts with customers, broken down by operating segment

INFORMATION ON OPERATING SEGMENTS FOR THE PERIOD JANUARY 1 TO JUNE 30, 2020

€ million	BSH	R+V	TeamBank	
Income type				
Fee and commission income from securities business	-	-	-	
Fee and commission income from asset management	-	-	-	
Fee and commission income from payments processing including card processing	-	-	-	
Fee and commission income from lending business and trust activities	-	-	2	
Fee and commission income from financial guarantee contracts and loan commitments	-	-	-	
Fee and commission income from international business	-	-	-	
Fee and commission income from building society operations	19	-	-	
Other fee and commission income	31	-	61	
Fee and commission income in gains and losses on investments held by insurance companies and other insurance company gains and losses	-	20	-	
Other income in gains and losses on investments held by insurance companies and other insurance company gains and losses	-	33	-	
Other operating income	-	-	6	
Total	**50**	**53**	**69**	
Main geographical markets				
Germany	45	53	69	
Rest of Europe	5	-	-	
Rest of World	-	-	-	
Total	**50**	**53**	**69**	
Type of revenue recognition				
At a point in time	50	2	69	
Over a period of time	-	51	-	
Total	**50**	**53**	**69**	

	UMH	DZ BANK – CICB	DZ HYP	DZ PRIVAT-BANK	VR Smart Finanz	DVB	Other/ Consolidation	Total
	1,377	224	-	102	-	-	-36	1,667
	6	-	-	122	-	-	-2	126
	-	119	-	1	-	-	33	153
	-	35	3	-	-	14	-	54
	-	27	4	-	-	1	-	32
	-	6	-	-	-	-	-	6
	-	-	-	-	-	-	-	19
	-	28	-	1	9	2	-58	74
	-	-	-	-	-	-	-	20
	-	-	-	-	-	-	-	33
	4	-	-	-	-	-	16	26
	1,387	**439**	**7**	**226**	**9**	**17**	**-47**	**2,210**
	1,073	439	7	75	9	2	-51	1,721
	314	-	-	150	-	13	4	486
	-	-	-	1	-	2	-	3
	1,387	**439**	**7**	**226**	**9**	**17**	**-47**	**2,210**
	245	158	5	98	9	2	-77	561
	1,142	281	2	128	-	15	30	1,649
	1,387	**439**	**7**	**226**	**9**	**17**	**-47**	**2,210**

INFORMATION ON OPERATING SEGMENTS FOR THE PERIOD JANUARY 1 TO JUNE 30, 2019

€ million	BSH	R+V	TeamBank	
Income type				
Fee and commission income from securities business	-	-	-	
Fee and commission income from asset management	-	-	-	
Fee and commission income from payments processing including card processing	-	-	-	
Fee and commission income from lending business and trust activities	-	-	2	
Fee and commission income from financial guarantee contracts and loan commitments	-	-	-	
Fee and commission income from international business	-	-	-	
Fee and commission income from building society operations	17	-	-	
Other fee and commission income	30	-	77	
Fee and commission income in gains and losses on investments held by insurance companies and other insurance company gains and losses	-	31	-	
Other income in gains and losses on investments held by insurance companies and other insurance company gains and losses	-	38	-	
Other operating income	-	-	6	
Total	**47**	**69**	**85**	
Main geographical markets				
Germany	42	69	85	
Rest of Europe	5	-	-	
Rest of World	-	-	-	
Total	**47**	**69**	**85**	
Type of revenue recognition				
At a point in time	47	17	85	
Over a period of time	-	52	-	
Total	**47**	**69**	**85**	

	UMH	DZ BANK – CICB	DZ HYP	DZ PRIVAT-BANK	VR Smart Finanz	DVB	Other/ Consolidation	Total
	1,265	183	-	80	-	-	-31	1,497
	8	-	-	112	-	-	-8	112
	-	111	-	-	-	1	34	146
	-	30	2	-	-	24	12	70
	-	26	3	-	-	1	-1	29
	-	5	-	-	-	-	-	5
	-	-	-	-	-	-	-	17
	-	30	1	10	17	4	-65	104
	-	-	-	-	-	-	-	31
	-	-	-	-	-	-	-	38
	2	-	-	-	-	-	5	13
	1,275	**385**	**6**	**202**	**17**	**30**	**-54**	**2,062**
	990	385	6	42	17	4	-39	1,601
	285	-	-	159	-	18	-15	452
	-	-	-	1	-	8	-	9
	1,275	**385**	**6**	**202**	**17**	**30**	**-54**	**2,062**
	211	139	4	85	17	6	-63	548
	1,064	246	2	117	-	24	9	1,514
	1,275	**385**	**6**	**202**	**17**	**30**	**-54**	**2,062**

>> 50 Employees

Average number of employees by employee group:

	Jan. 1 – Jun. 30, 2020	Jan. 1 – Jun. 30, 2019
Female employees	**14,168**	**14,045**
Full-time employees	8,592	8,600
Part-time employees	5,576	5,445
Male employees	**16,994**	**16,801**
Full-time employees	15,813	15,713
Part-time employees	1,181	1,088
Total	**31,162**	**30,846**

>> 51 Events after the balance sheet date

The transaction involving the remaining part of the aviation finance business – assets of €15 million and liabilities of €1 million – cannot be completed, as had originally been intended, because of regulatory restrictions on the buyer's business activities. Alternative options for disposing of the business units are being examined. A solution for the disposal of the remaining part of the aviation finance business is expected to be found by the end of 2020.

>> 52 Board of Managing Directors

Uwe Fröhlich
(Co-Chief Executive Officer)
Responsibilities: Cooperative Banks/Verbund; Communications & Marketing; Research and Economics; Strategy & Group Development; Structured Finance

Dr. Cornelius Riese
(Co-Chief Executive Officer)
Responsibilities: Group Audit; Legal; Strategy & Group Development

Uwe Berghaus
Responsibilities: Corporate Banking Baden-Württemberg; Corporate Banking Bavaria; Corporate Banking North and East; Corporate Banking West/Central; Investment Promotion; Central Corporate Banking

Dr. Christian Brauckmann
Responsibilities: IT; Services & Organisation

Ulrike Brouzi
Responsibilities: Bank Finance; Compliance; Group Finance; Group Financial Services

Wolfgang Köhler
Responsibilities: Capital Markets Trading; Capital Markets Institutional Clients; Capital Markets Retail Clients; Group Treasury

Michael Speth
Responsibilities: Group Risk Controlling; Credit; Credit Services

Thomas Ullrich
Responsibilities: Group Human Resources; Operations; Payments & Accounts; Transaction Management

>> 53 Supervisory Board

Henning Deneke-Jöhrens
(Chairman of the Supervisory Board)
Chief Executive Officer
Volksbank eG Hildesheim-Lehrte-Pattensen

Ulrich Birkenstock
(Deputy Chairman of the Supervisory Board)
Employee
R+V Allgemeine Versicherung AG

Martin Eul
(Deputy Chairman of the Supervisory Board)
Chief Executive Officer
Dortmunder Volksbank eG

Heiner Beckmann
Senior manager
R+V Allgemeine Versicherung AG

Hermann Buerstedde
Employee
Union Asset Management Holding AG
(until May 27, 2020)

Uwe Goldstein
Bank director (ret.)
(until May 27, 2020)

Timm Häberle
Chief Executive Officer
VR-Bank Neckar-Enz eG

Dr. Peter Hanker
Spokesman of the Board of Managing Directors
Volksbank Mittelhessen eG

Andrea Hartmann
Employee
Bausparkasse Schwäbisch Hall AG

Pilar Herrero Lerma
Employee
DZ BANK AG
Deutsche Zentral-Genossenschaftsbank

Dr. Dierk Hirschel
Head of the Economic Policy Division
ver.di Bundesverwaltung

Marija Kolak
President
Bundesverband der Deutschen Volksbanken
und Raiffeisenbanken e.V. (BVR)

Renate Mack
Employee
DZ BANK AG
Deutsche Zentral-Genossenschaftsbank

Rainer Mangels
Employee
R+V Rechtsschutz-
Schadenregulierungs-GmbH

Sascha Monschauer
Chief Executive Officer
Volksbank RheinAhrEifel eG
(since May 27, 2020)

Rolf Dieter Pogacar
Employee
R+V Allgemeine Versicherung AG
(since May 27, 2020)

Stephan Schack
Chief Executive Officer
Volksbank Raiffeisenbank eG, Itzehoe

Gregor Scheller
Chief Executive Officer
VR Bank Bamberg-Forchheim eG

Uwe Spitzbarth
Departmental coordinator
ver.di Bundesverwaltung

Sigrid Stenzel
Regional Group Director
ver.di Bayern

Ingo Stockhausen
Chief Executive Officer
Volksbank Oberberg eG

Dr. Wolfgang Thomasberger
Chief Executive Officer
VR Bank Rhein-Neckar eG