Consolidated financial statements

Income statement
for the period January 1 to December 31, 2019

€ million	(Note)	2019	2018
Net interest income	(34)	2,738	2,858
Interest income		6,281	5,903
Interest income calculated using the effective interest method		5,734	5,442[1]
Interest income not calculated using the effective interest method		547	461[1]
Current income and expense		83	73
Interest expense		-3,626	-3,118[1]
Net fee and commission income	(35)	1,975	1,955
Fee and commission income		4,044	3,760
Fee and commission expenses		-2,069	-1,805
Gains and losses on trading activities	(36)	472	285
Gains and losses on investments	(37)	182	24[1]
Other gains and losses on valuation of financial instruments	(38)	255	-186[1]
Gains and losses from the derecognition of financial assets measured at amortized cost	(39)	15	133[1]
Premiums earned	(40)	17,249	15,997
Gains and losses on investments held by insurance companies and other insurance company gains and losses	(41)	6,157	1,274[1]
of which: interest income calculated using the effective interest method		1,561	1,634
Insurance benefit payments	(42)	-19,340	-14,208
Insurance business operating expenses	(43)	-2,823	-2,572
Gains and losses from the derecognition of financial assets measured at amortized cost in the insurance business	(44)	-15	-1[1]
Loss allowances	(45)	-329	-21
Administrative expenses	(46)	-4,074	-4,059
Other net operating income	(47)	250	-109
Profit before taxes		2,712	1,370
Income taxes	(48)	-839	-452
Net profit		**1,873**	**918**
Attributable to:			
Shareholders of DZ BANK		1,693	824
Non-controlling interests		180	94

1 Amount restated (see note 2).

APPROPRIATION OF PROFITS

€ million	2019	2018
Net profit	1,873	918
Non-controlling interests	-180	-94
Appropriation to retained earnings	-1,369	-500
Unappropriated earnings	**324**	**324**

Statement of comprehensive income for the period January 1 to December 31, 2019

€ million	(Note)	2019	2018
Net profit		1,873	918
Other comprehensive income/loss		1,429	-483
Items that may be reclassified to the income statement		**1,174**	**-445**
Gains and losses on debt instruments measured at fair value through other comprehensive income	(49)	1,669	-654
Gains and losses on cash flow hedges	(49)	-	-6
Exchange differences on currency translation of foreign operations	(49)	-1	24
Gains and losses on hedges of net investments in foreign operations	(49)	3	-6
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method	(49)	1	-
Income taxes	(50)	-498	197
Items that will not be reclassified to the income statement		**255**	**-38**
Gains and losses on equity instruments for which the fair value OCI option has been exercised		453	-8
Gains and losses in relation to financial liabilities for which the fair value option has been exercised, attributable to changes in own credit risk		-96	35
Gains and losses arising from remeasurement of defined benefit plans		-175	-84
Income taxes	(50)	73	19
Total comprehensive income		**3,302**	**435**
Attributable to:			
Shareholders of DZ BANK		2,978	417
Non-controlling interests		324	18

Balance sheet as at December 31, 2019

ASSETS

€ million	(Note)	Dec. 31, 2019	Dec. 31, 2018
Cash and cash equivalents	(14, 51)	52,545	51,845
Loans and advances to banks	(15, 52)	97,544	91,627
Loans and advances to customers	(15, 53)	186,224	174,549[1]
Hedging instruments (positive fair values)	(16, 54)	201	883
Financial assets held for trading	(17, 55)	44,781	37,942
Investments	(18, 56)	56,927	48,262
Investments held by insurance companies	(57, 62)	113,549	100,840
Property, plant and equipment, investment property, and right-of-use assets	(19, 58, 62)	1,632	1,423
Income tax assets	(20, 59)	1,018	1,457
Other assets	(21, 60, 62)	5,444	4,655
Loss allowances	(22, 61)	-2,277	-2,416[1]
Non-current assets and disposal groups classified as held for sale	(23, 63)	516	7,133
Fair value changes of the hedged items in portfolio hedges of interest-rate risk		1,275	533
Total assets		**559,379**	**518,733**

1 Amount restated (see note 2).

EQUITY AND LIABILITIES

€ million	(Note)	Dec. 31, 2019	Dec. 31, 2018
Deposits from banks	(24, 64)	141,121	142,486
Deposits from customers	(24, 65)	131,516	132,548
Debt certificates issued including bonds	(25, 66)	85,123	63,909
Hedging instruments (negative fair values)	(16, 67)	1,306	2,516
Financial liabilities held for trading	(17, 68)	51,762	44,979
Provisions	(26, 69)	3,835	3,380
Insurance liabilities	(11, 70)	104,346	93,252
Income tax liabilities	(20, 59)	1,069	920
Other liabilities	(21, 71)	9,173	7,919
Subordinated capital	(27, 72)	2,187	2,897
Liabilities included in disposal groups classified as held for sale	(23, 63)	1	281
Fair value changes of the hedged items in portfolio hedges of interest-rate risk		144	134
Equity	(73)	27,796	23,512
Shareholders' equity		24,787	20,775
Subscribed capital		4,926	4,926
Capital reserve		5,551	5,551
Retained earnings		10,047	8,530
Reserve from other comprehensive income		1,694	599
Additional equity components		2,245	845
Unappropriated earnings		324	324
Non-controlling interests		3,009	2,737
Total equity and liabilities		**559,379**	**518,733**

Statement of changes in equity

€ million	Sub-scribed capital	Capital reserve	Equity earned by the group	Reserve from other compre-hensive income	Addi-tional equity compo-nents	**Share-holders' equity**	Non-control-ling interests	**Total equity**
Equity as at Jan. 1, 2018	4,926	5,551	8,450	965	848	20,740	2,810	23,550
Net profit	-	-	824	-	-	824	94	918
Other comprehensive income/loss	-	-	-53	-354	-	-407	-76	-483
Total comprehensive income/loss	**-**	**-**	**771**	**-354**	**-**	**417**	**18**	**435**
Capital increase/capital repaid	-	-	-1	-	-3	-4	-9	-13
Changes in scope of consolidation	-	-	-12	13	-	1	4	5
Acquisition/disposal of non-controlling interests	-	-	-41	7	-	-34	-36	-70
Reclassifications within equity	-	-	32	-32	-	-	-	-
Dividends paid	-	-	-322	-	-	-322	-50	-372
Distribution of dividend on additional equity components	-	-	-23	-	-	-23	-	-23
Equity as at Dec. 31, 2018	4,926	5,551	8,854	599	845	20,775	2,737	23,512
Net profit	-	-	1,693	-	-	1,693	180	1,873
Other comprehensive income/loss	-	-	-114	1,399	-	1,285	144	1,429
Total comprehensive income/loss	**-**	**-**	**1,579**	**1,399**	**-**	**2,978**	**324**	**3,302**
Capital increase/capital repaid	-	-	-	-	1,400	1,400	9	1,409
Changes in scope of consolidation	-	-	3	-7	-	-4	-	-4
Acquisition/disposal of non-controlling interests	-	-	-7	1	-	-6	-7	-13
Reclassifications within equity	-	-	298	-298	-	-	-	-
Dividends paid	-	-	-322	-	-	-322	-54	-376
Distribution of dividend on additional equity components	-	-	-34	-	-	-34	-	-34
Equity as at Dec. 31, 2019	**4,926**	**5,551**	**10,371**	**1,694**	**2,245**	**24,787**	**3,009**	**27,796**

In 2018, equity had been adjusted by €45 million as a result of the first-time adoption of IFRS 9.

The composition of equity is explained in note 73.

Statement of cash flows

€ million	2019	2018
Net profit	**1,873**	**918**
Non-cash items included in net profit and reconciliation to cash flows from operating activities		
Depreciation, amortization, impairment losses, reversals of impairment losses on assets, and other non-cash changes in financial assets and liabilities	-3,977	1,706
Non-cash changes in provisions	804	297
Changes in insurance liabilities	10,815	4,366
Other non-cash income and expenses	1,531	125
Gains and losses on the disposal of assets and liabilities	-619	-77
Other adjustments (net)	-2,564	-2,609
Subtotal	7,863	4,726
Cash changes in assets and liabilities arising from operating activities		
Loans and advances to banks	-5,883	-2,264
Loans and advances to customers	-6,505	-8,340
Other assets from operating activities	238	-895
Hedging instruments (positive and negative fair values)	-2,594	-1,550
Financial assets and financial liabilities held for trading	775	2,284
Deposits from banks	-734	6,428
Deposits from customers	-1,043	6,773
Debt certificates issued including bonds	20,809	-3,448
Other liabilities from operating activities	1,144	-329
Interest, dividends, and operating lease payments received	6,723	7,653
Interest paid	-3,654	-3,746
Income taxes paid	-469	-379
Cash flows from operating activities	**16,670**	**6,913**
Proceeds from the sale of investments	9,464	19,219
Proceeds from the sale of investments held by insurance companies	19,426	23,566
Proceeds from the sale of property, plant and equipment, and investment property (excluding assets subject to operating leases)	7	3
Proceeds from the sale of intangible non-current assets	2	12
Payments for the acquisition of investments	-17,730	-10,583
Payments for the acquisition of investments held by insurance companies	-27,523	-30,487
Payments for the acquisition of property, plant and equipment, and investment property (excluding assets subject to operating leases)	-74	-49
Payments for the acquisition of intangible non-current assets	-154	-147
Changes in scope of consolidation	131	2
of which: proceeds from the sale of investments in consolidated subsidiaries net of cash divested	128	-
Cash flows from investing activities	**-16,451**	**1,536**
Proceeds from capital increases by shareholders of DZ BANK	1,400	-
Proceeds from capital increases by non-controlling interests	9	-
Dividends paid to shareholders of DZ BANK	-322	-322
Dividends paid to non-controlling interests	-54	-50
Distribution of dividend on additional equity components	-34	-23
Other payments to shareholders of DZ BANK	-	-4
Other payments to non-controlling interests	-	-9
Net change in cash and cash equivalents from other financing activities (including subordinated capital)	-518	-106
Cash flows from financing activities	**481**	**-514**

€ million	2019	2018
Cash and cash equivalents as at January 1	51,845	43,910
Cash flows from operating activities	16,670	6,913
Cash flows from investing activities	-16,451	1,536
Cash flows from financing activities	481	-514
Cash and cash equivalents as at December 31	**52,545**	**51,845**

The statement of cash flows shows the changes in cash and cash equivalents during the reporting period. Cash and cash equivalents consist of cash on hand and balances with central banks. The cash and cash equivalents do not include any financial investments with maturities of more than 3 months at the date of acquisition. Changes in cash and cash equivalents are broken down into operating, investing, and financing activities.

Cash flows from operating activities comprise cash flows mainly arising in connection with the revenue-producing activities of the group and other activities that cannot be classified as investing or financing activities. Cash flows related to the acquisition and disposal of non-current assets are allocated to investing activities. Cash flows from financing activities include cash flows arising from transactions with equity owners and from other borrowing to finance business activities.

Cash payments from lessees for repayment of lease liabilities, which are included in cash flows from financing activities, amounted to €138 million.

The first-time consolidation of subsidiaries generated a cash inflow of €3 million (2018: €2 million). There were no cash outflows as a result of the deconsolidation of subsidiaries (2018: €1 million).

Notes

A General disclosures

>> 01 Basis of preparation

Pursuant to *Regulation (EC) 1606/2002 of the European Parliament and of the Council of July 19, 2002*, the consolidated financial statements of DZ BANK AG Deutsche Zentral-Genossenschaftsbank, Frankfurt am Main, (DZ BANK) for the 2019 financial year have been prepared in accordance with the provisions of the International Financial Reporting Standards (IFRS), as adopted by the European Union (EU).

The provisions specified in section 315e (1) of the German Commercial Code (HGB) for companies whose securities are admitted to trading on a regulated market in the EU have also been applied in the consolidated financial statements of DZ BANK. In addition, further standards adopted by Deutsches Rechnungslegungs Standards Committee e.V. [German Accounting Standards Committee] have generally been taken into account where such standards have been published in the German Federal Gazette by the Bundesministerium der Justiz und für Verbraucherschutz [Federal Ministry of Justice and Consumer Protection] pursuant to section 342 (2) HGB.

DZ BANK is entered in the commercial register at the Frankfurt am Main local court under the number HRB 45651.

The DZ BANK Group's financial year is the same as the calendar year. In the interest of clarity, some items on the income statement, the statement of comprehensive income, and the balance sheet have been aggregated and are explained by additional disclosures in the notes. Unless stated otherwise, all amounts are shown in millions of euros (€ million). All figures are rounded to the nearest whole number. This may result in very small discrepancies in the calculation of totals and percentages.

The consolidated financial statements of DZ BANK have been released for publication by the Board of Managing Directors following approval by the Supervisory Board on March 26, 2020.

>> 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.

First-time application in 2019 of changes in IFRS

The following new accounting standards, amendments to IFRS, interpretations from the IFRS Interpretations Committee (IFRIC interpretations), and the specified improvements to IFRS are applied for the first time in DZ BANK's consolidated financial statements for the 2019 financial year:

– IFRS 16 *Leases*,
– *Prepayment Features with Negative Compensation* (Amendments to IFRS 9),
– *Long-term Interests in Associates and Joint Ventures* (Amendments to IAS 28),
– *Plan Amendment, Curtailment or Settlement* (Amendments to IAS 19),
– IFRIC 23 *Uncertainty over Income Tax Treatments*,
– *Annual Improvements to IFRSs 2015–2017 Cycle*.

The provisions in IFRS 16 *Leases* supersede the content of IAS 17 *Leases* and the following interpretations: IFRIC 4 *Determining Whether an Arrangement Contains a Lease*, SIC-15 *Operating Leases – Incentives*, and SIC-27 *Evaluating the Substance of Transactions Involving the Legal Form of a Lease*. Application of the new rules is mandatory for financial years beginning on or after January 1, 2019. The DZ BANK Group has adopted IFRS 16 using the modified retrospective application method, in which it has recognized any cumulative effect resulting from initial application of the standard as at January 1, 2019 in retained earnings while complying with the transitional provisions. Under this method, IFRS 16 is applied to new contracts and to existing contracts that were not yet completed on the date of initial application.

With the exception of some enhanced disclosure requirements, the IFRS 16 accounting rules for lessors are largely unchanged compared with the previous requirements under IAS 17, whereas the lease accounting requirements for lessees are now based on a right-of-use model. The lessor transfers the right to use the underlying asset in the lease to the lessee at the commencement date of the lease. The lessee enters into a corresponding payment obligation for the period of use. For virtually all leases, lessees therefore need to recognize right-of-use assets and lease liabilities. In the income statement, this gives rise to depreciation on the right-of-use assets and interest expenses from unwinding the discount on lease liabilities instead of the previous operating lease expenses under IAS 17. The new standard also includes additional regulations on defining and recognizing a lease and on providing disclosures in the notes. The new provisions under IFRS 16 mainly affect the DVB and VR Smart Finanz subgroups as lessors and all group companies that are lessees with leased or rented assets.

As part of the first-time adoption of IFRS 16, the liabilities from non-cancelable leases to be recognized by the lessee at the time of initial application are measured at the present value of the remaining lease payments, discounted at the lessee's incremental borrowing rate of interest as at January 1, 2019. Uniform discount rates are used for portfolios comprising former operating leases of a similar nature. The incremental borrowing rates of interest are determined individually for each entity on the basis of the rate of interest that the lessee would have to pay to borrow the necessary funds over a similar term. The weighted average incremental borrowing rates of interest for land and buildings and for office furniture and equipment were 0.9 percent in each case at the date of initial application.

In the DZ BANK Group, the right-of-use assets are measured in the amount of the lease liabilities, adjusted for the amount of any lease payments made or accrued in advance. Initial direct costs are not included. When first applying IFRS 16, the DZ BANK Group investigated whether there were any provisions for onerous leases that could be included in the right-of-use assets in accordance with the practical expedient specified in IFRS 16.C10 b). The analysis could not identify any provisions for onerous leases at all on the date of initial application.

Lessees took into account the latest available information when assessing the lease term where leases included extension or termination options.

Based on the total amount of future minimum lease payments under non-cancelable operating leases as at December 31, 2018, the following table shows a reconciliation to the total lease liabilities of €387 million recognized under other liabilities as at January 1, 2019. A sum of €80 million was attributable to insurance company lease liabilities reported under other liabilities of insurance companies.

€ million	Land and buildings	Office furniture and equipment	Total
Total future minimum lease payments under non-cancelable operating leases as at December 31, 2018	**634**	**309**	**943**
Leases signed but not yet active	-235	-	-235
Reassessment of definition of a lease	15	-210	-195
Exemptions for short-term leases and for leases for low-value assets	-5	-59	-64
Other effects	-33	-4	-37
Gross lease liabilities as at January 1, 2019	376	36	412
Discount	-21	-4	-25
Lease liabilities as at January 1, 2019	**355**	**32**	**387**

In the reconciliation, the rule that lessees must recognize both an asset for the granted right of use and a lease liability on the date on which the asset is made available led, in the case of leases in which the date on which the asset was made available was after the reporting date (leases signed but not yet active), to a total reduction of €235 million in the liabilities to be recognized as at January 1, 2019.

On the date of initial application, the DZ BANK Group carried out a reassessment to establish whether an arrangement represented or contained a lease. Notably, software licensing agreements and IT operating service agreements no longer constitute leases. This led to a total reduction of €195 million in the liabilities to be recognized as at January 1, 2019.

No right-of-use assets or lease liabilities were recognized on the date of initial application for former operating leases that were due to expire within 12 months of that date or that related to leases for low-value assets on that date, provided that these leases were to be accounted for subsequently in accordance with the provisions in IFRS 16.6. This reduced the lease liabilities to be recognized as at January 1, 2019 by a total of €64 million.

The other effects in the reconciliation included the impact of changes in the assessment of lease terms when extension and termination options were taken into account. Lessors base their assessments on the legal useful life. Lessees use the estimated useful life. The latter is determined from the change in legal useful life resulting from the inclusion of existing options, such as extension or termination rights.

The initial application of IFRS 16 led to the first-time recognition of right-of-use assets from leases amounting to a total of €368 million and of lease liabilities in an amount of €387 million. In connection with the transition to IFRS 16, no effects were identified as at the date of initial application that needed to be recognized directly in retained earnings. The implementation of the provisions in IFRS 16 had no material impact on the consolidated financial statements.

The figures for the comparative period have not been restated because the modified retrospective method has been used.

Prepayment Features with Negative Compensation (Amendments to IFRS 9) provides clarity on the classification and measurement of financial instruments with symmetric termination rights. The amendments explicitly state that the SPPI criterion under IFRS 9 is not breached in the event of reasonable negative compensation for early termination of the contract. The amendments were required to be applied for the first time from January 1, 2019. There was no impact on the consolidated financial statements.

Long-term Interests in Associates and Joint Ventures (Amendments to IAS 28) clarifies that an entity applies the rules of IFRS 9 to long-term interests in associates or joint ventures that form part of its net investment in the associate or joint venture but to which the equity method is not applied. The date of initial application for the amendments was January 1, 2019. There was no impact on the consolidated financial statements.

As a result of *Plan Amendment, Curtailment or Settlement* (Amendments to IAS 19), there is a mandatory requirement for any amendment, curtailment, or settlement of a defined benefit plan to be accompanied by a recalculation of the current service cost and the net interest for the remainder of the financial year using the latest actuarial assumptions that have been used for the necessary remeasurement of the net liability (asset). The amendments to the standard also include additions to clarify the effect of a plan amendment, curtailment, or settlement on the requirements regarding the asset ceiling. The amendments have been required to be applied since January 1, 2019. The implementation of the amendments to IAS 19 had no material impact on the consolidated financial statements.

IFRIC 23 *Uncertainty over Income Tax Treatments* sets out rules on the recognition and measurement of tax risk exposures, thereby closing gaps in this regard in IAS 12 *Income Taxes*. IFRIC 23 addresses the decision as to whether an entity should consider the uncertain tax treatment of specific circumstances independently or collectively. It also addresses assumptions to be made by an entity in relation to the examination of tax treatments by tax authorities. In addition, IFRIC 23 governs the determination of taxable profit (tax loss), tax bases, unused tax losses, unused tax credits, and tax rates as well as the effects of changes in facts and circumstances. The tax risks must be measured using the most likely amount or the expected value. IFRIC 23 specifies that an entity should use the measurement method that best reflects the risk involved. The interpretation was required to be applied from January 1, 2019. The application of IFRIC 23 had no material impact on the consolidated financial statements.

In accordance with the amendments to IFRS 3 *Business Combinations* as part of the *Annual Improvements to IFRSs 2015–2017 Cycle*, if an entity acquires further interests in a business that was previously a joint operation and thereby obtains control pursuant to IFRS 10, the rules in IFRS 3 regarding a business combination achieved in stages must be applied and the interests already held in that business must be remeasured. All of the interests previously held in the joint operation must be remeasured, not only the share of the assets and liabilities that was previously recognized. The amendments must be applied prospectively to business combinations occurring in financial years beginning on or after January 1, 2019.

In accordance with the amendments to IFRS 11 *Joint Arrangements* as part of the *Annual Improvements to IFRSs 2015–2017 Cycle*, if an entity acquires further interests in a joint operation and thereby obtains joint control, the interests already held in the joint operation do not have to be remeasured. The amendments must be applied prospectively to business combinations occurring in financial years beginning on or after January 1, 2019.

The amendments to IAS 12 *Income Taxes* as part of the *Annual Improvements to IFRSs 2015–2017 Cycle* clarify that the income tax consequences of dividends are more directly linked to previous transactions or events that generated distributable profits than to distributions to shareholders. An entity therefore recognizes the income tax consequences of dividends in profit or loss, in other comprehensive income, or in equity, depending on where these previous transactions or events were originally recorded. As a result of these amendments, the taxes on the payments deemed to be distributions in respect of AT1 bonds are recognized in profit or loss. The amendments apply to financial years beginning on or after January 1, 2019.

The amendments to IAS 23 *Borrowing Costs* as part of the *Annual Improvements to IFRSs 2015–2017 Cycle* clarify that borrowing – where the original purpose of such borrowing was to obtain a specific qualifying asset – that remains outstanding after this qualifying asset is essentially ready for its intended use or sale must be included in the calculation of the capitalization rate on general borrowing for other qualifying assets for which no specific borrowing was obtained. The amendments must be applied prospectively to borrowing costs that are incurred in financial years beginning on or after January 1, 2019.

The *Annual Improvements to IFRSs 2015–2017 Cycle* described above had no material impact on DZ BANK's consolidated financial statements.

Changes in IFRS endorsed by the EU but not yet adopted

The DZ BANK Group has decided against voluntary early adoption of the following amendments to IFRS:

- *Amendments to References to the Conceptual Framework in IFRS Standards*,
- *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 had become 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. Early adoption is permitted, provided that it is applied to all the amendments. The DZ BANK Group will not apply the amendments before the required initial application date. The implementation of the amendments has 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 is no impact on the consolidated financial statements.

Interest-Rate Benchmark Reform (Amendments to IFRS 9, IAS 39 and IFRS 7), which was published in the Official Journal of the European Union on January 16, 2019, 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. These rules must be applied to financial years beginning on or after January 1, 2020. Early adoption is permitted.

The DZ BANK Group has not adopted the amendments to IFRS 9, IAS 39, and IFRS 7 earlier than the prescribed application date. The group only accounts for hedges of interest-rate risk. In this accounting treatment, it applies the rules of IAS 39 to hedges using a portfolio approach. The DZ BANK Group does account for hedges that involve the interest-rate benchmarks affected by the IBOR reform. No material impact is anticipated from the application of the amendments from January 1, 2020. If uncertainties arising from the IBOR reform would have required hedges to be discontinued, such hedges will not now be discontinued as a result of the new amendments.

Changes in IFRS that have not been endorsed by the EU

The following new accounting standard issued by the IASB and amendments to one other accounting standard have not yet been endorsed by the EU:
- IFRS 17 *Insurance Contracts*,
- Amendments to IFRS 3 *Business Combinations*.

IFRS 17 *Insurance Contracts* supersedes IFRS 4 *Insurance Contracts* and has the objective of ensuring consistent, principles-based accounting treatment of all insurance contracts. It includes principles for recognition, measurement, presentation, and disclosures in respect of insurance contracts and requires insurance liabilities to be measured using the latest amount equating to the fulfillment cash flows. In the general model, measurement is based on a ‘3 building blocks’ approach. Insurance contracts with a term of less than a year can be recognized using a simplified method, the premium allocation approach. The group companies are currently examining the impact on DZ BANK’s consolidated financial statements. IFRS 17 must be applied for financial years beginning on or after January 1, 2021. The IASB is currently proposing that the initial application of IFRS 17 be postponed by a year to January 1, 2022. Early adoption of IFRS 17 is permitted.

The aim of the amendments to IFRS 3 *Business Combinations* 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. Earlier adoption is permitted subject to incorporation of the amendments into EU law. No material impact on the consolidated financial statements is expected.

The initial application dates for the issued amendments to IFRS are subject to the proviso that the amendments must first be incorporated into EU law.

Changes in presentation

To increase transparency and improve the reliability and relevance of the information provided, the gains and losses from the derecognition of financial assets measured at amortized cost and the gains and losses from the derecognition of financial assets measured at amortized cost in the insurance business are presented as separate line items in the income statement from 2019 onward. Previously, these gains and losses from the derecognition of financial assets measured at amortized cost were explained below the income statement and in the affected notes to the financial statements. The adjusted amounts within the comparative figures are indicated by the footnote ‘Amount restated’.

Income statement for the period January 1 to December 31, 2018

€ million	2018 before restatement	Amount of restatement	**2018 after restatement**
Net interest income	2,799	-7	2,792
Interest income	5,785	-7	5,778
Interest income calculated using the effective interest method	3,846	-7	3,839
(...)			
Gains and losses on investments	150	-126	24
(...)			
Gains and losses from the derecognition of financial assets measured at amortized cost		133	133
(...)			
Gains and losses on investments held by insurance companies and other insurance company gains and losses	1,273	1	1,274
(...)			
Gains and losses from the derecognition of financial assets measured at amortized cost in the insurance business		-1	-1
(...)			
Profit before taxes	1,370	-	1,370
Income taxes	-452	-	-452
Net profit	**918**	-	**918**

In accordance with the provisions in IAS 8.41 et seq., some interest income that was previously reported within the income statement under interest income not calculated using the effective interest method will now be shown under interest income using the effective interest method. The adjusted amounts within the comparative figures are indicated by the footnote ‘Amount restated’.

Income statement for the period January 1 to December 31, 2018

€ million	2018 before restatement	Amount of restatement	2018 after restatement
Net interest income	2,799	-	2,799
Interest income	5,785	-	5,785
Interest income calculated using the effective interest method	3,846	1,478	5,324
Interest income not calculated using the effective interest method	1,939	-1,478	461
(...)			
Profit before taxes	1,370	-	1,370
Income taxes	-452	-	-452
Net profit	**918**	**-**	**918**

In accordance with the provisions in IAS 8.41 et seq., the amortization of upfront payments related to financial instruments initially recognized with a positive or negative fair value will now be reported under net interest income because the amounts concerned represent adjustments to the current net interest income. The amortization was previously recognized under other gains and losses on valuation of financial instruments. The adjusted amounts within the comparative figures are indicated by the footnote 'Amount restated'.

Income statement for the period January 1 to December 31, 2018

€ million	2018 before restatement	Amount of restatement	2018 after restatement
Net interest income	2,799	66	2,865
Interest income	5,785	125	5,910
Interest income calculated using the effective interest method	3,846	125	3,971
(...)			
Interest expense	-3,059	-59	-3,118
(...)			
Other gains and losses on valuation of financial instruments	-120	-66	-186
(...)			
Profit before taxes	1,370	-	1,370
Income taxes	-452	-	-452
Net profit	**918**	**-**	**918**

To increase transparency and improve the reliability and relevance of the information provided, 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 from 2019 onward.

From 2019, loans and advances to customers at stage 3 that are measured at amortized cost are shown at a nominal amount of €1,082 million, inclusive of the interest entitlement attributable to this line item (gross interest entitlement). The adjustment resulted in a corresponding increase in both loans and advances to customers and loss allowances and changes to the affected disclosures in the notes. Due to a lack of materiality, presentation was previously on a net basis. The adjusted amounts within the comparative figures are indicated by the footnote ‘Amount restated’.

Balance sheet as at December 31, 2018

ASSETS

€ million	Dec. 31, 2018 before restatement	Amount of restatement	Dec. 31, 2018 after restatement
(...)			
Loans and advances to customers	174,438	111	174,549
(...)			
Loss allowances	-2,305	-111	-2,416
(...)			
Total assets	**518,733**	-	**518,733**

Balance sheet as at January 1, 2018

ASSETS

€ million	Jan. 1, 2018 before restatement	Amount of restatement	Jan. 1, 2018 after restatement
(...)			
Loans and advances to customers	175,091	72	175,163
(...)			
Loss allowances	-2,862	-72	-2,934
(...)			
Total assets	**507,388**	-	**507,388**

From 2019, due to an adjustment to reflect industry practice, assets related to unit-linked contracts – where the investment risk is borne in full by the policyholder – are now also shown under financial assets mandatorily measured at fair value through profit or loss in note 74 (Classes, categories, and fair values of financial instruments). The adjusted amounts within the comparative figures are indicated by the footnote ‘Amount restated’.

There are other minor presentation changes in notes 33 (Segment information), 34 (Net interest income), 37 (Gains and losses on investments), 38 (Other gains and losses on valuation of financial instruments), 41 (Gains and losses on investments held by insurance companies and other insurance company gains and losses), 42 (Insurance benefit payments), 59 (Income tax assets and liabilities), 69 (Provisions), 74 (Classes, categories, and fair values of financial instruments), 82 (Items of income, expense, gains, and losses), 84 (Hedge accounting), 85 (Nature and extent of risks arising from financial instruments and insurance contracts), and 86 (Maturity analysis). 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 these 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.

Fair values of financial assets and financial liabilities

If there are no prices available for certain financial instruments from active markets, the fair values of such financial assets and financial liabilities have to be determined on the basis of estimates, resulting in some uncertainty. Uncertainties associated with estimates arise primarily if fair values are determined using valuation techniques involving significant valuation parameters that are not observable in the market. This affects both financial instruments measured at fair value and financial instruments measured at amortized cost whose fair values are disclosed in the notes. The measurement parameter assumptions and measurement methods used to determine fair values are described in the financial instruments disclosures in notes 76 and 77.

Impairment of financial assets

When an impairment test (as described in note 5) is carried out for financial assets that constitute debt instruments or for loan commitments and financial guarantee contracts, it is necessary to determine estimated future cash flows from interest payments and the repayment of principal as well as from any recovery of collateral. This requires estimates and assumptions regarding the amount and timing of future cash flows, in turn giving rise to some uncertainty. The factors influencing impairment that are defined on a discretionary basis include economic conditions, the financial performance of the counterparty, and the value of the collateral held. When an impairment test for portfolios is carried out, parameters such as probability of default, which are calculated with the help of statistical models, are used in the estimates and assumptions.

Goodwill and intangible assets

The recognition of goodwill is largely based on estimated future income, synergies, and non-recognizable intangible assets generated by business combinations or acquired as part of business combinations. The recoverability of the carrying amount is verified by means of budget accounts that are largely based on estimates. Identifiable intangible assets acquired as part of business combinations are recognized on the basis of their future economic benefits. These benefits are assessed by management using reasonable, well-founded assumptions. The estimates applied in the case of business combinations are described in note 91.

Insurance liabilities

The measurement of insurance liabilities involves the exercise of discretion, estimates, and assumptions, especially in relation to mortality, rates of return on investment, cancellations, and costs. Actuarial calculation methods, statistical estimates, blanket estimates, and measurements based on past experience are used. The basic approaches used in the measurement of insurance liabilities are described in the insurance business disclosures in note 11.

Provisions for employee benefits, provisions for share-based payment transactions, and other provisions

Uncertainty associated with estimates in connection with provisions for employee benefits arises primarily from the measurement of defined benefit obligations, on which actuarial assumptions have a material effect. Actuarial assumptions are based on a large number of long-term, forward-looking factors, such as salary increases, annuity trends, and average life expectancy.

In the case of provisions for share-based payment transactions, estimation uncertainty arises from the way in which fair value is determined. This fair value is based on assumptions regarding the payout amount, which in turn depends on the performance of the variables specified in the underlying agreements.

Building society simulations (collective simulations) are used to forecast building society customers' future behavior in order to measure the provisions relating to building society operations. Uncertainty in connection with the measurement of these provisions is linked to assumptions to be made about future customer behavior, which take account of various scenarios and measures. The main inputs for the collective simulations are presented in note 26.

Actual cash outflows in the future related to items for which other provisions have been recognized may differ from the forecast utilization of the provisions.

The basis for measurement and the assumptions and estimates underlying the calculation of provisions are described in note 26.

Income tax assets and liabilities

The deferred tax assets and liabilities described in note 59 are calculated on the basis of estimates of future taxable income in taxable entities. In particular, these estimates have an effect on any assessment of the extent to which it will be possible to make use of deferred tax assets in the future. In addition, the calculation of current tax assets and liabilities for the purposes of preparing financial statements involves estimates of details relevant to income tax.

>> 03 Scope of consolidation

In addition to DZ BANK as the parent, the consolidated financial statements for the year ended December 31, 2019 include 25 subsidiaries (2018: 25) and 6 subgroups (2018: 6) comprising a total of 159 subsidiaries (2018: 359). An investee is included in the scope of consolidation as a subsidiary from the date on which DZ BANK obtains control over it. DZ BANK controls an investee when DZ BANK directly or indirectly has power over the investee, is therefore exposed to significant variable returns from its involvement with the investee, and has the ability to affect the variable returns from the investee through this power. In some cases, discretion is required to be exercised when deciding whether DZ BANK controls an investee. All the relevant facts and circumstances are considered when making this decision. This is particularly applicable to principal/agent relationships, which require an assessment of whether DZ BANK or other parties with decision-making rights are acting as principal or as an agent. With regard to principal/agent relationships, a considerable amount of discretion has to be exercised in order to assess the appropriateness of contractually agreed remuneration and of the level of the variable returns received.

In 2019, the scope of consolidation changed as a result of the disposal of 179 fully consolidated subsidiaries of the VR Smart Finanz subgroup, in particular in connection with the sale of shares in VR-IMMOBILIEN-Leasing GmbH, Eschborn, and BFL Leasing GmbH, Eschborn. In addition, the disposals from the DVB subgroup involved the deconsolidation of the shares in LogPay Financial Services GmbH together with shares in various entities in the land transport finance and aviation finance businesses.

The consolidated financial statements include 12 joint arrangements in the form of joint ventures with at least one other entity outside the group (2018: 20) and 29 associates (2018: 44) over which DZ BANK has significant influence. These entities are accounted for using the equity method. There are currently no joint arrangements classified as joint operations. DZ BANK has joint control over an arrangement when there is a contractual agreement in place that requires decisions about the arrangement’s relevant activities to be reached with the unanimous consent of all the parties sharing control. DZ BANK has a significant influence over an investee if it can participate in the financial and operating policy decisions of the investee without having control or joint control over it. This is assumed to be the case where between 20 and 50 percent of the voting shares are held.

The shareholdings of the DZ BANK Group are listed in full in note 104.

>> 04 Procedures of consolidation

Financial information in the consolidated financial statements contains data from the parent company, which incorporates data from its consolidated subsidiaries. The parent company and the consolidated subsidiaries are presented as a single economic entity.

The subsidiaries of the DZ BANK Group are the directly or indirectly controlled entities. An entity is deemed to be controlled by DZ BANK if the bank is exposed to variable returns from its relationship with the entity and can affect those returns through its power over the entity.

Unless otherwise contractually agreed, DZ BANK controls an entity if it holds more than half of the voting rights, either directly or indirectly. The assessment of whether control exists also takes account of potential voting rights, provided they are considered substantial.

DZ BANK also considers itself to have control over an entity in cases where it does not hold the majority of the voting rights but does have the ability to unilaterally direct the relevant activities of the entity concerned.

A review is carried out at least once every six months to decide which subsidiaries are to be consolidated.

When preparing the consolidated financial statements, uniform accounting policies are used for like transactions.

The consolidated subsidiaries have generally prepared their financial statements on the basis of a financial year ended December 31, 2019. There is one subsidiary (2018: 1 subsidiary) included in the consolidated financial statements with a different reporting date for its annual financial statements. With 21 (2018: 47) exceptions, the separate financial statements of the entities accounted for using the equity method are prepared to the same balance sheet date as that of the parent company. There is no resulting material impact in respect of the subsidiaries and associates concerned, and therefore no interim financial statements have been prepared.

Intragroup assets and liabilities, as well as intragroup income and expenses, are eliminated in full. Intragroup profits or losses resulting from transactions within the group are also eliminated in full.

When a subsidiary is consolidated, the carrying amount of the investment in the subsidiary is offset against the proportionate equity of the subsidiary. Any share of a subsidiary's equity not attributable to the parent company is reported under equity as non-controlling interests.

Goodwill resulting from offsetting the acquisition cost of a subsidiary against the equity remeasured at fair value on the acquisition date is recognized as goodwill when the acquisition method is applied. It is recognized under other assets. Goodwill is tested for impairment at least once a year. Any negative goodwill is recognized in profit or loss on the acquisition date.

If DZ BANK loses control over a subsidiary, the assets and liabilities of this former subsidiary, together with the carrying amount of any non-controlling interests in the former subsidiary, are derecognized when control is lost. The fair value of any consideration received is recognized at the same time. The gain or loss arising in connection with the loss of control is also recognized.

Investments in joint ventures and associates are accounted for using the equity method and reported on the balance sheet under investments or investments held by insurance companies.

Under the equity method, the DZ BANK Group's investments in associates and joint ventures are initially recognized at cost. Subsequently, the carrying amount is increased (or decreased) to recognize the group's share of the profit/loss or other changes to the net assets of the associate or joint venture after the acquisition.

If significant influence over an associate or joint venture is lost, the gain or loss arising from the disposal of the long-term equity investment accounted for under the equity method is recognized.

>> 05 Financial instruments

Categories of financial instruments

Financial assets measured at fair value through profit or loss (fair value PL)

Financial assets that are not measured at amortized cost or at fair value through other comprehensive income are classified as 'financial assets measured at fair value through profit or loss'. This category is broken down into the following subcategories:

Financial assets mandatorily measured at fair value through profit or loss

The subcategory 'financial assets mandatorily measured at fair value through profit or loss' covers financial assets that do not meet the IFRS 9 SPPI criterion or that were acquired for the purpose of selling them in the near term. To this end, these financial assets must be part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit-taking, or must be derivatives, except for derivatives that are designated hedging instruments.

Contingent considerations in a business combination

This subcategory covers contingent considerations that the acquirer has classified as financial assets in the context of a business combination.

Financial assets designated as at fair value through profit or loss (fair value option)

Financial assets may be assigned to the subcategory 'financial assets designated as at fair value through profit or loss' by exercising the fair value option, provided that the application of this option eliminates or significantly reduces measurement or recognition inconsistencies (accounting mismatches). The fair value option is applied to eliminate or significantly reduce accounting mismatches that arise if non-derivative financial instruments and related derivatives used to hedge such instruments are measured differently. Derivatives are measured at fair value through profit or loss, whereas non-derivative financial instruments are measured at amortized cost or changes in fair value may be recognized in other comprehensive income. If no hedge accounting takes place, this gives rise to accounting mismatches that can be significantly reduced by applying the fair value option. The fair value option is used in the context of financial assets to prevent accounting mismatches that could arise in connection with loans and advances to banks and customers and bearer bonds.

Financial assets measured at fair value through other comprehensive income (fair value OCI)

This category is broken down into the following subcategories:

Financial assets mandatorily measured at fair value through other comprehensive income

A financial asset is assigned to this subcategory if it is held in accordance with a business model aimed both at collecting contractual cash flows and at selling financial assets. Moreover, the contractual terms of the financial asset must give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding (SPPI criterion).

Because of the SPPI criterion, these financial assets only comprise debt instruments. They are measured at fair value. Interest income, loss allowances, and currency translation effects must be recognized in profit or loss. Differences between the amortized cost and the fair value are recognized in other comprehensive income. The amounts recognized in other comprehensive income must be recycled to the income statement upon derecognition.

Financial assets designated as at fair value through other comprehensive income (fair value OCI option)

There is an irrevocable option to designate equity instruments as 'financial assets designated as at fair value through other comprehensive income' (fair value OCI option) upon initial recognition. Changes in fair value are recognized in other comprehensive income, except in the case of dividends that do not constitute repayment of capital. The cumulative other comprehensive income is not subsequently recycled to the income statement, e.g. due to derecognition of the instrument. After derecognition of these equity instruments, the cumulative other comprehensive income is reclassified to retained earnings. The fair value OCI option can generally only be exercised for equity instruments that are not held for trading and do not constitute contingent consideration recognized by the acquirer in a business combination pursuant to IFRS 3.

Financial assets measured at amortized cost (AC)

A financial asset is assigned to this category if it is held in accordance with a business model aimed at holding financial assets for the purpose of collecting contractual cash flows. The contractual terms of the financial asset must give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Because of the SPPI criterion, financial assets in this category only comprise debt instruments. They are measured at amortized cost using the effective interest method. Interest income, loss allowances, and currency translation effects must be recognized in profit or loss.

Financial liabilities measured at fair value through profit or loss (fair value PL)

Financial liabilities that are not measured at amortized cost are classified as ‘financial liabilities measured at fair value through profit or loss’. This category is broken down into the following subcategories:

Financial liabilities mandatorily measured at fair value through profit or loss

The subcategory ‘financial liabilities mandatorily measured at fair value through profit or loss’ covers financial liabilities that are issued with the intention of repaying them in the near term. To this end, these financial liabilities must be part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit-taking, or must be derivatives, except for derivatives that are designated hedging instruments.

Contingent considerations in a business combination

This subcategory covers contingent considerations that the acquirer has classified as financial liabilities in the context of a business combination.

Financial liabilities designated as at fair value through profit or loss (fair value option)

Financial liabilities may be assigned to the ‘financial instruments designated as at fair value through profit or loss’ subcategory by exercising the fair value option, provided that the application of this option eliminates or significantly reduces measurement or recognition inconsistencies (accounting mismatches), the financial liabilities are managed as a portfolio on a fair value basis, or they include one or more embedded derivatives required to be separated from the host contract. In the case of financial liabilities, the fair value option is exercised to eliminate or significantly reduce accounting mismatches for loan liabilities to banks and customers, issued registered or bearer Pfandbriefe, other bonds and commercial paper, and registered or bearer subordinated liabilities. Some of the promissory notes and bonds are structured financial instruments containing derivatives (in the form of caps, floors, collars, or call options) for which bifurcation is not required. The derivative components of these instruments are subject to economic hedging that does not meet the criteria for the application of hedge accounting.

The fair value option is also applied to structured financial liabilities containing embedded derivatives requiring bifurcation, provided that the embedded derivatives cannot be measured separately and the financial liabilities are not designated as held for trading. The issued financial instruments in this case are primarily guarantee certificates, discount certificates, profit-participation certificates, variable-rate bonds, inflation-linked notes, collateralized loan obligations, and credit-linked notes.

As regards financial liabilities designated as at fair value through profit or loss, any gains/losses resulting from a change in the fair value of a financial liability that is attributable to a change in the liability’s credit risk must be recognized in other comprehensive income. The rest of the change in the fair value of this liability is recognized in profit or loss. The amounts recognized in other comprehensive income are reclassified to retained earnings on derecognition of the relevant financial liability.

Financial liabilities measured at amortized cost (AC)

For measurement subsequent to initial recognition, financial liabilities are generally categorized as ‘financial liabilities measured at amortized cost’, except in the following cases: financial liabilities measured at fair value through profit or loss, financial liabilities that arise when a transfer of a financial asset does not satisfy the condition for derecognition or accounting treatment is based on a continuing involvement, financial guarantee contracts, loan commitments with an interest rate below the market interest rate, and contingent consideration recognized by the acquirer in a business combination pursuant to IFRS 3.

In accordance with IAS 32, shares in partnerships are normally categorized as debt instruments. Given their subordinated status compared with the liabilities of the partnerships concerned, non-controlling interests in partnerships are reported as subordinated capital. Profit attributable to non-controlling interests is recognized under other liabilities, provided that the resulting liability is not of a subordinated nature. Non-controlling interests in partnerships are classified as 'share capital repayable on demand' and are assigned to the 'financial liabilities measured at amortized cost' category.

This category also includes liabilities under compensation payment obligations owed to non-controlling interests in consolidated subsidiaries. These liabilities arise if DZ BANK or some other entity controlled by DZ BANK has concluded a profit transfer agreement with a subsidiary in accordance with section 291 (1) of the German Stock Corporation Act (AktG) under which there are non-controlling interests. Liabilities under compensation payment obligations are recognized at the amount of the discounted obligation.

In addition, this category includes liabilities from capitalization transactions that are not designated as unit-linked insurance products. There is no significant transfer of insurance risk in these transactions and they do not therefore satisfy the criteria for an insurance contract under IFRS 4. As a consequence, such transactions need to be treated as financial instruments in accordance with IFRS 9.

Other financial instruments

Hedging instruments
The designation of derivative and non-derivative financial assets and liabilities as hedging instruments is governed by IFRS 9. The recognition and measurement of these hedging instruments is described in note 16.

Liabilities from financial guarantee contracts
Liabilities from financial guarantee contracts measured in accordance with IFRS 9 must be recognized as a liability at fair value by the issuer of the guarantee at the date of issue. The fair value is normally equivalent to the present value of the consideration received for issuing the financial guarantee contract. In any subsequent measurement, the obligation must be measured at the higher of the amount determined in accordance with the impairment model and the amount initially recognized less, where appropriate, the cumulative amount of income recognized in accordance with the principles of IFRS 15. In the presentation of financial guarantee contracts, the guarantee commission receivables due from the beneficiary to the DZ BANK Group as the issuer of the guarantee are offset against guarantee obligations (net method).

Finance lease receivables and lease liabilities
Finance lease receivables and lease liabilities fall within the scope of IFRS 16.

Financial assets and financial liabilities specific to insurance business
In addition to financial instruments that fall within the scope of IFRS 9, financial assets and financial liabilities arising from the insurance business are recognized and measured in accordance with the provisions of the HGB and other German accounting provisions applicable to insurance companies, as required by IFRS 4.25(c).

Deposits with ceding insurers are recognized at their nominal amounts. Receivables arising out of direct insurance operations and receivables arising out of reinsurance operations are recognized at their nominal amounts net of payments made. Impairment losses on receivables arising out of direct insurance operations and on receivables arising out of reinsurance operations are recognized directly in the carrying amounts. Assets related to unit-linked contracts are measured at fair value through profit or loss on the basis of the underlying investments.

Deposits received from reinsurers, payables arising out of direct insurance operations and payables arising out of reinsurance operations are recognized at their nominal amounts.

Deposits with ceding insurers as well as assets related to unit-linked contracts are reported on the balance sheet under investments held by insurance companies. Deposits received from reinsurers, receivables and payables arising out of direct insurance operations, and receivables and payables arising out of reinsurance operations are recognized under other assets or other liabilities.

Initial recognition and derecognition of financial assets and financial liabilities

Derivatives are initially recognized and derecognized on the trade date. Regular way purchases and sales of non-derivative financial assets are generally recognized and derecognized using settlement date accounting. In the case of consolidated investment funds and the issue of certain securities, the financial instruments are also recognized on the trade date. Changes in fair value between the trade date and settlement date are recognized in accordance with the category of the financial instrument.

All financial instruments are generally measured at fair value on initial recognition. In the case of financial assets or financial liabilities not measured at fair value through profit or loss, transaction costs directly attributable to the acquisition of the financial asset or issue of the financial liability concerned are added or deducted on initial recognition.

Differences between transaction prices and fair values are recognized in profit or loss on initial recognition if the fair values correspond to the price quoted in an active market for an identical asset or identical liability or are based on a valuation technique that only uses data from observable markets. If the fair value is derived from transaction prices at the time of acquisition and this value is then used as a basis for any subsequent measurement, any changes in fair value are only recognized in profit or loss if they can be attributed to a change in observable market data. Any differences not recognized at the time of initial recognition are allocated over the maturity of the financial instruments concerned and recognized in profit or loss accordingly.

Financial assets are derecognized if the contractual rights to the cash flows from the financial assets have expired or these rights have been transferred to third parties, and substantially no risks or rewards of ownership in the financial assets remain. If the criteria for derecognizing financial assets are not satisfied, the transfer to third parties is recognized as a secured loan. Financial liabilities are derecognized when the contractual obligations have been settled, extinguished or have expired.

Gains and losses from the derecognition of financial assets measured at amortized cost are reported as a separate line item in the income statement.

Loss allowances for financial assets

Under IFRS 9, loss allowances are recognized for those financial assets that constitute debt instruments and for loan commitments and financial guarantee contracts. Equity instruments do not fall within the scope of the IFRS 9 impairment model. Loss allowances are recognized in respect of the following financial assets:

- Financial assets in the IFRS 9 category ‘financial assets measured at amortized cost’,
- Financial assets (only debt instruments) in the IFRS 9 category ‘financial assets measured at fair value through other comprehensive income’,
- Undrawn loan commitments where there is a current legal obligation to grant credit (irrevocable loan commitments), provided they are not measured at fair value through profit or loss,
- Financial guarantee contracts, provided they are not measured at fair value through profit or loss,
- Lease receivables, and
- Trade receivables and contract assets that fall within the scope of IFRS 15.

Upon initial recognition, all financial assets are assigned to stage 1 with the exception of financial assets that are purchased or originated credit-impaired assets (POCI assets). Loss allowances for assets in stage 1 must be recognized in an amount equal to the 12-month expected credit loss.

At each balance sheet date, assets are assigned to stage 2 if their credit risk has significantly increased since initial recognition but there is no objective evidence of impairment. For these assets, the loss allowances are measured at the amount of the lifetime expected credit losses.

Trade receivables and contract assets that fall within the scope of IFRS 15 are allocated directly to stage 2 (simplified approach).

To simplify matters, it can be assumed that the credit risk of a financial instrument has not increased significantly since initial recognition if the financial instrument has a low credit risk at the balance sheet date (low credit risk exemption). The DZ BANK Group does not exercise the low credit risk exemption for loans and, consequently, not for promissory notes either.

Financial assets deemed to be impaired on the basis of objective evidence are assigned to stage 3. For these assets, the loss allowances are measured at the amount of the lifetime expected credit losses.

Financial assets subject to the IFRS 9 impairment rules must be reviewed at every balance sheet date to ascertain whether one or more events have occurred with an adverse impact on the estimated future cash flows of these financial assets.

Financial assets that are purchased or originated credit-impaired assets (POCI assets) are initially recognized at their carrying amount less the lifetime expected credit losses and amortized using a risk-adjusted effective interest rate. At the balance sheet date, only the cumulative changes to the lifetime expected credit losses since initial recognition are recognized as a loss allowance. Stage allocation is not required for these assets. Please refer to note 85 for more detailed information on loss allowances for financial assets.

Embedded derivatives

An embedded derivative is a component of a hybrid contract that also includes a non-derivative financial instrument (host contract), with the effect that some of the cash flows of the combined financial instrument vary in a way similar to those of a standalone derivative. A derivative that is attached to a financial instrument but is contractually transferable independently of that instrument, or has a different counterparty, is not an embedded derivative, but a separate financial instrument.

If a hybrid contract contains a host contract that is a financial asset, the categorization rules for financial assets are applied to the entire hybrid contract.

If a hybrid contract contains a host contract that is a financial liability, an embedded derivative is separated from the host contract and accounted for separately if:

– the economic characteristics and risks of the derivative are not closely related to the economic characteristics and risks of the host contract,
– a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative, and
– the hybrid contract is not measured at fair value through profit or loss.

If the embedded derivative does not meet all of these conditions, it may not be separated from the host contract. When an embedded derivative is separated, the host contract is accounted for in accordance with the pertinent standards.

If a contract includes one or more embedded derivatives and the host contract is not a financial asset, the entire hybrid contract can be categorized as measured at fair value through profit or loss. This is not the case where embedded derivatives only have an insignificant impact on the contractually specified cash flows or, upon initial comparison with similar hybrid instruments, it is evident without – or with only minor – analysis that separation of the embedded derivative is not permitted.

Classes of financial instruments

For the purposes of the disclosures on the importance of financial instruments to financial position and financial performance, financial instruments falling within the scope of IFRS 7 are classified using the 7 classes of financial instruments described below.

Classes of financial assets

Financial assets measured at fair value

The class of financial assets measured at fair value comprises the following categories defined by IFRS 9:

– 'Financial assets measured at fair value through profit or loss' with the subcategories 'financial assets mandatorily measured at fair value through profit or loss', 'contingent considerations', and 'financial assets designated as at fair value through profit or loss' (fair value option), and
– 'Financial assets measured at fair value through other comprehensive income' with the subcategories 'financial assets mandatorily measured at fair value through other comprehensive income' and 'financial assets designated as at fair value through other comprehensive income' (fair value OCI option).

In addition to the financial assets in the categories specified above, this class of financial assets measured at fair value includes derivatives used for hedging (positive fair values).

Financial assets measured at amortized cost
The ‘financial assets measured at amortized cost’ class includes, in particular, loans and advances to banks and customers measured at amortized cost and investments measured at amortized cost.

Finance leases
The ‘finance leases’ class comprises solely finance lease receivables.

Classes of financial liabilities

Financial liabilities measured at fair value
The ‘financial liabilities measured at fair value’ class comprises financial liabilities in the category ‘financial liabilities measured at fair value through profit or loss’ with the subcategories ‘financial liabilities mandatorily measured at fair value through profit or loss’, ‘contingent considerations’, ‘financial liabilities designated as at fair value through profit or loss’ (fair value option), and derivatives used for hedging (negative fair values).

Financial liabilities measured at amortized cost
The class known as ‘financial liabilities measured at amortized cost’ is identical to the category of financial liabilities of the same name.

Leases
The ‘leases’ class comprises solely lease liabilities.

Financial guarantee contracts and loan commitments
Provisions for financial guarantee contracts and provisions for loan commitments within the scope of IAS 37 are aggregated in the class ‘financial guarantee contracts and loan commitments’.

>> 06 Hedge accounting

General information on hedge accounting

As an integral part of its risk management strategy, the DZ BANK Group hedges against risks arising in connection with financial instruments.

If the hedging of risk in connection with financial instruments gives rise to accounting mismatches between the hedged item and the hedging instrument used, the DZ BANK Group designates the hedging transaction as a hedge in accordance with the hedge accounting requirements of IFRS 9 in order to eliminate or reduce such mismatches. In exercise of the option available under IFRS 9.6.1.3, the DZ BANK Group continues to account for portfolio hedges in application of the rules under IAS 39.

Fair value hedges

A fair value hedge is intended to ensure that changes in the fair value of the hedged item are offset by countervailing changes in the fair value of the hedging instrument. Changes in the fair value of the hedged item attributable to the hedged risk and changes in the fair value of the hedging instrument are recognized in profit or loss. Where equity instruments are hedged whose changes in fair value are recognized in other comprehensive income, the changes in the fair value of the hedging instruments are also recognized in other comprehensive income. Risks may be hedged by designating hedges either on an individual or on a portfolio basis.

Hedged items categorized as 'financial assets measured at amortized cost' or 'financial liabilities measured at amortized cost' are measured in accordance with the general measurement principles for these financial instruments. The values are adjusted for the change in fair value attributable to the hedged risk. Hedged items categorized as 'financial assets measured at fair value through other comprehensive income' are measured at fair value, although only changes not attributable to the hedged changes in fair value are recognized in other comprehensive income. Interest income and interest expense arising from hedged items or hedging instruments are recognized under net interest income.

If the fair value is hedged against interest-rate risks on a portfolio basis, the cumulative changes in fair value attributable to the hedged risk are reported on the balance sheet under fair value changes of the hedged items in portfolio hedges of interest-rate risk, either under assets or liabilities depending on whether the portfolio comprises financial assets or financial liabilities.

In fully effective hedges, the changes in fair value (attributable to the hedged risk) recognized in profit or loss over the lifetime of the hedge completely cancel each other out. Any changes in fair value recognized in the carrying amount of the hedged items are amortized through profit or loss by the time the hedge has been terminated.

Cash flow hedges

The purpose of cash flow hedges is to ensure that changes in uncertain future cash flows from hedged items are offset by changes in cash flows from hedging instruments.

Hedging instruments are measured at fair value. Changes in fair value attributable to the effective portion of the hedge are recognized in other comprehensive income. Changes in fair value attributable to the ineffective portion of the hedge are recognized in profit or loss. Hedged items are recognized and measured in accordance with the general principles for the relevant measurement category. At the end of a hedging relationship, any changes in fair value recognized in other comprehensive income must be reclassified to profit or loss on the date on which the hedged items or transactions are also recognized in profit or loss.

Hedges of net investments in foreign operations

The purpose of hedges of net investments in foreign operations is to offset exchange differences resulting from net investments denominated in foreign currency.

Hedges of net investments in foreign operations are accounted for in the same way as cash flow hedges.

>> 07 Currency translation

All monetary assets and liabilities, together with unsettled spot transactions, are translated at the closing rate into the relevant functional currency of the entities in the DZ BANK Group. Cash in foreign currency is translated using the buying rate for cash on the balance sheet date. The translation of non-monetary assets and liabilities depends on the way in which these assets and liabilities are measured. If non-monetary assets are measured at amortized cost, they are translated using the historical exchange rate. Non-monetary assets measured at fair value are translated at the closing rate. Income, expenses, gains, and losses are translated on the date they are recognized either in profit or loss or in other comprehensive income.

If the functional currency of subsidiaries consolidated in the DZ BANK Group is different from the group's reporting currency (euros), all assets and liabilities are translated at the closing rate. Equity is translated at the historical rate. Income and expenses are translated at the spot rate on the transaction date or, in a simplified procedure, at the average rate. The closing rate can also be used if there is no material impact compared with the use of average rates. Any differences arising from currency translation are reported in the currency translation reserve. In most cases, the functional currency of the entities included in the consolidated financial statements is the euro, i.e. the group reporting currency.

>> 08 Offsetting of financial assets and financial liabilities

Financial assets and financial liabilities are offset and reported as a net amount on the balance sheet if the group currently has a legally enforceable right to set off the amounts and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously.

The legal right of set-off cannot be contingent on a future event and must be exercisable in the normal course of business, in the event of default, and in the event of insolvency of the entity or any of the counterparties.

>> 09 Sale and repurchase agreements, securities lending

Sale and repurchase agreements (repos) are transactions in which the parties agree the sale and subsequent repurchase of securities at a fixed price and time. The risks and rewards of ownership of the sold securities remain in full with the original seller, provided that the buyer is under an obligation to sell back the securities. If the DZ BANK Group enters into repos as the original seller, the securities sold continue to be recognized on the balance sheet because the derecognition criteria in IFRS 9 are not satisfied. A liability corresponding to the amount of the purchase price received is recognized. If the group enters into reverse repos as a buyer, the securities purchased must not be recognized on the balance sheet. A receivable corresponding to the amount of the purchase price paid is recognized.

Securities lent as part of securities lending transactions remain on the balance sheet. Where collateral is received in this regard, and this collateral is in cash, a liability is recognized. Borrowed securities do not meet the recognition criteria set out in IFRS 9 and must therefore not be recognized on the balance sheet. Any cash collateral furnished in connection with borrowed securities is reported as a receivable.

Sale and repurchase agreements and securities lending transactions result in transfers in which the transferred assets remain on the balance sheet in their entirety. The DZ BANK Group is not involved in any transfers in which the transferred assets are recognized according to the extent of continuing involvement or transfers of financial assets with a continuing involvement that are fully derecognized.

>> 10 Collateral

Receivables are recognized for assets pledged as collateral in the form of cash deposits. Other assets pledged as collateral continue to be reported on the balance sheet unchanged. Where collateral is received, and this collateral is in cash, a liability for a corresponding amount is recognized. Other financial or non-financial assets received as collateral are not recognized on the balance sheet unless the assets are obtained in connection with the recovery of collateral or a purchase of real estate that was previously held as collateral.

>> 11 Insurance business

General information on the accounting treatment of insurance business

The DZ BANK Group's insurance business comprises insurance contracts, capitalization transactions, and service contracts. It also includes financial guarantee contracts with insured parties.

Insurance contracts govern the transfer of significant insurance risk from the insured party to the insurer and the payment of compensation if a future contingent event materializes and adversely impacts the insured party. Insurance contracts are recognized in accordance with the requirements of IFRS 4. Capitalization transactions comprise, in particular, fund-linked or index-linked life insurance contracts without policyholder participation, pension fund contracts based on defined benefit plans, and contracts to protect semi-retirement employment models. Capitalization transactions are classified as financial instruments within the scope of IFRS 9. Service contracts comprise, in particular, separable and transferable administrative components of insurance and capitalization contracts. Such service contracts are subject to the revenue recognition requirements specified in IFRS 15. Any financial guarantee contracts in connection with insurance business are recognized in accordance with the accounting requirements applicable to insurance contracts.

The insurance business of the DZ BANK Group is reported under specific insurance items on the income statement and balance sheet. Material components of the specific insurance items are described below.

Financial assets and financial liabilities

Financial assets and financial liabilities held or acquired as part of insurance business are accounted for in accordance with the accounting policies for financial instruments described in note 5. These financial assets and financial liabilities are reported under investments held by insurance companies, other assets held by insurance companies, and other liabilities of insurance companies. Any loss allowances related to financial assets reported under investments held by insurance companies or other assets held by insurance companies are recognized for the categories 'financial assets measured at amortized cost' and 'financial assets measured at fair value through other comprehensive income' and are applied as a deduction on the assets side of the balance sheet. Within the investments held by insurance companies and other assets held by insurance companies balance sheet items, carrying amounts are presented on a net basis. However, the loss allowances are shown separately (gross presentation) in the balance sheet disclosures.

Other liabilities of insurance companies include the benefit obligations under capitalization transactions for which no material insurance risk is assumed when the policy is concluded. They are reported under liabilities from capitalization transactions. The underlying financial instruments in these transactions are reported as part of assets related to unit-linked contracts under investments held by insurance companies.

Investment property

The investment property included in the investments held by insurance companies is measured at amortized cost in accordance with the cost model. In subsequent years, straight-line depreciation is applied over the asset's useful life on the basis of cost.

Any expenditure that increases value and extends the useful life of real estate or results in a significant improvement in the fabric of a building is capitalized. Maintenance and repair costs are expensed as incurred.

Recoverable amounts are determined for real estate so that this information can be used in impairment tests and provided in the disclosures required in the notes to the financial statements in accordance with the provisions of IFRS 13. For this purpose, standard valuation methods are generally used that are based on the requirements of the German Real Estate Valuation Guidelines (WertR 2006) and the German Building Code (BauGB). Accordingly, the current value of real estate is determined by using the sales comparison approach, income approach, or cost approach and taking into account the provisions of any relevant contracts.

Non-interest-bearing, low-interest or forgivable loans are recognized in the same way as government grants. The amount of financial assistance or any government grant is deducted when the carrying amount of the asset is identified and is then recognized in profit or loss over the period covered by the assistance or grant by means of a reduced depreciation charge.

Insurance liabilities

Insurance companies are permitted to continue applying existing accounting policies to certain insurance-specific items during a transition period. Insurance liabilities are therefore recognized and measured in accordance with HGB and other German accounting provisions applicable to insurance companies. Insurance liabilities are shown before the deduction of the share of reinsurers, which is reported as an asset.

Provision for unearned premiums

The provision for unearned premiums represents premiums that have already been collected but that relate to future periods.

The provision for unearned premiums from direct non-life insurance operations is calculated from the gross premiums using the 360-day system. Calculation of non-transferable income components is based on the letter from the Bundesministerium der Finanzen (BMF) [German Federal Ministry of Finance] dated April 30, 1974.

Unearned premiums from life insurance are calculated taking into account the starting date and maturity date of each individual policy after deduction of non-transferable premium components. As far as life insurance is concerned, imputed collection expenses equivalent to up to 4 percent of premiums may not be transferred.

The provision for unearned premiums in health insurance predominantly relates to international travel healthcare insurance business.

The proportion of the provision for unearned premiums relating to ceded insurance business is calculated as specified in the individual reinsurance contracts.

Benefit reserve

The purpose of the benefit reserve is to ensure that guaranteed entitlements to future insurance benefits can be satisfied on a permanent basis. Guaranteed entitlements for insured persons in respect of life insurance and casualty insurance with premium refund as well as the provision for increasing age in health insurance are reported under the benefit reserve.

The benefit reserve for life insurance and casualty insurance with premium refund is generally calculated in Germany on the basis of individual policies taking into account starting dates in accordance with approved business plans and the principles declared to the relevant regulatory authorities. The prospective method is used for life insurance (except for unit-linked insurance products and account management arrangements) and for casualty insurance (with the exception of premium-based policies that started prior to 1982). The retrospective method is used for other types of insurance. Negative benefit reserves on an individual policy basis are generally recognized with an amount of zero.

The assumptions used in calculations are determined in accordance with current recommendations issued by the Deutsche Aktuarvereinigung e.V., Cologne, (DAV) [German Actuarial Association] and the regulator and in accordance with other national statutory provisions and regulations. As a rule, calculation of the benefit reserve is based on interest rates of between 0.0 percent and 4.0 percent, as was the case in the previous year. These interest rates are generally determined by the legally prescribed maximum discount rates. The calculation assumptions apply from the date on which the policy is written until the policy expires.

For policies entered into before or in 2014, calculation of the benefit reserve is generally based on the Zillmer method. Following the introduction of the German Life Insurance Reform Act (LVRG), zillmerizing has not been applied to most new business entered into since 2015. In particular, zillmerizing is not applied to subsidized pension insurance policies under the German Personal Pension Plan Act (AVmG) or to pension insurance policies under reinsured pension plans.

The benefit reserve implicitly includes administrative expenses for contracts with ongoing payment of premiums. A provision for administrative costs has been recognized to cover premium-free years under insurance policies, fully paid-up insurance, and some legacy insurance commitments.

In health insurance, benefit reserves are computed prospectively on an individual policy basis using the technical parameters for calculating rates. Negative benefit reserves and positive benefit reserves are netted. The parameters for the computation of the reserves involve, in particular, assumptions regarding rates of return on investment, mortality, cancellations, and other costs. The company actuarial discount rate calculated in accordance with the procedure developed by the DAV is used in determining the health insurance discount rate. This procedure is based on a fundamental professional principle issued by the DAV for determining an appropriate discount rate. For observation units with a premium adjustment effective January 1, 2019, there was only a reduction in the discount rate if a premium adjustment had not already been carried out with effect from January 1, 2018. The reason for this action is the persistently low level of interest rates. The group uses mortality tables issued by the Verband der Privaten Krankenversicherung e. V., Cologne, (PKV) [Association of German private healthcare insurers], entity-specific probability rates for policy cancellations, and profiles of benefit drawdown. These assumptions are regularly reviewed in accordance with actuarial principles and updated, where appropriate.

When the benefit reserves are prospectively calculated, the parameters used are generally retained throughout the term of the policy. If the actuarial analyses conducted once a year reveal that the level of cover offered is inadequate in terms of either biometric parameters or discount rate, appropriate adjustments are made. The biometric parameters used in such computations are based primarily on the mortality and invalidity tables published by the DAV.

Since 2011, supplementary change-in-discount-rate reserves have been recognized for policies with a discount rate in excess of the reference rate. For new policies, this requirement results from the provisions of the German Regulation on the Principles Underlying the Calculation of the Premium Reserve (DeckRV). A supplementary change-in-discount-rate reserve is recognized for policies with a discount rate in excess of the reference rate specified in the DeckRV. In 2018, the BMF modified the procedure for determining this reference rate to soften the changes resulting from the previous arrangements. This led to a modest increase in the supplementary change-in-discount-rate reserves for new business compared with prior years. With the approval of the Bundesanstalt für Finanzdienstleistungsaufsicht, Bonn, (BaFin) [German Federal Financial Supervisory Authority], the supplementary change-in-discount-rate reserve has been increased for existing policies. Entity-specific probabilities for cancellation and lump-sum payments have been used since 2016.

Provision for claims outstanding

The provision for claims outstanding represents benefit obligations arising from claims in which it is not yet possible to reliably determine the amount and/or the timing of the payment. The provision is recognized for claims that have already been reported and also for insured events that have occurred but have not yet been reported. It includes both internal and external expenses as well as the cost of settling claims.

The provision for claims outstanding in direct non-life insurance business is determined on a case-by-case basis for all known claims. Recourse claims, excess proceeds, and claims under loss sharing agreements are netted. Based on the level of delayed claims reports observed in previous years, an additional claims provision is recognized for claims that occur or are caused before the balance sheet date but have not yet been reported by this date. Statistical estimates are used in this measurement. The provision for claims outstanding is not discounted, except in the case of the pension benefits reserve. The provisions for claims settlement expenses, which are also included in this item, have been calculated in accordance with the requirements set out in the coordinated regulations issued by the German federal states on February 2, 1973 and in accordance with the flat-rate calculation method (including claims incurred but not reported, IBNR) developed by the Gesamtverband der Deutschen Versicherungswirtschaft e. V., Berlin, (GDV) [German Insurance Association].

The provision for claims outstanding as regards life insurance and pension funds is determined on a case-by-case basis. The provision is recognized for claims that have already been incurred and reported by the balance sheet date, but have not yet been settled.

A provision for settlement expenses is recognized in an amount equivalent to 1 percent of the claims provision to cover claims incurred and reported by the balance sheet date (excluding maturing policies) and also IBNR losses.

In health insurance, the provision for claims outstanding is determined on the basis of the costs paid out in the financial year in connection with claims during the year. The calculation is based on claims experience over the previous 3 financial years. Recourse claims are deducted from the provision for claims outstanding, as are reimbursements due under the German Act on the Reform of the Pharmaceuticals Market (AMNOG). The recognized provision includes the costs of settling claims, calculated in accordance with tax rules. The reinsurers' share of the provision is determined in accordance with reinsurance treaties. Where appropriate, provisions for claims outstanding are recognized on a case-by-case basis for claims relevant to reinsurance.

Provision for premium refunds

The provision for premium refunds represents obligations not yet due for settlement on the balance sheet date relating to premium refunds to insured parties. It includes amounts allocated to policyholders under statutory or contractual arrangements for bonuses and rebates. In addition, the provision for premium refunds includes provisions resulting from time-restricted cumulative recognition and measurement differences between items in the financial statements prepared in accordance with IFRS and those prepared in accordance with HGB. In the case of measurement differences recognized in other comprehensive income, such as unrealized gains and losses on financial assets measured at fair value through other comprehensive income, corresponding expenses for deferred premium refunds are recognized in other comprehensive income; otherwise, changes in the provision are recognized in profit or loss.

The expenses for deferred premium refunds in the non-life insurance business are recognized in an amount equivalent to 90 percent of the difference between the carrying amounts for items in the financial statements prepared in accordance with IFRS and those in the financial statements prepared in accordance with HGB net of deferred taxes.

The provision for premium refunds related to life insurance policies and pension funds is recognized to cover the entitlement of policyholders to profit-related premium refunds. Funds earmarked in this way are therefore made available for future allocation of bonuses to policyholders on an individual policy basis. Within the overall provision for premium refunds, a distinction is made between provisions attributable to bonuses already declared but not yet allocated (including participation in valuation reserves in accordance with HGB), the funding used to finance future terminal bonuses, and the free provision for premium refunds. Under section 140 of the German Act on the Supervision of Insurance Undertakings (VAG), that element of the provision for premium refunds not attributable to bonuses already declared but not yet allocated may be used to avert an imminent crisis and may therefore be seen as mitigating risk. Expenses for deferred premium refunds are recognized in an amount equivalent to 90 percent of the difference between the carrying amounts for items in the financial statements prepared in accordance with IFRS and those in the financial statements prepared in accordance with HGB net of deferred taxes.

The provision for premium refunds related to health insurance includes amounts allocated to policyholders under statutory or contractual arrangements for bonuses and rebates. Expenses for deferred premium refunds are recognized in an amount equivalent to 80 percent of the difference between the carrying amounts for items in the financial statements prepared in accordance with IFRS and those in the financial statements prepared in accordance with HGB net of deferred taxes.

Other insurance liabilities

Other insurance liabilities relating to non-life insurance include obligations arising from membership of the Verein Verkehrsopferhilfe e.V. (VOH) [road casualty support organization], Berlin, in line with the object of this organization and the provision for unearned premiums under dormant vehicle insurance policies, the provision being determined on an individual policy basis. The cancellation provision is calculated on the basis of past experience. The provision for onerous contracts is calculated on the basis of prior-year figures and a forecast of other insurance gains and losses, taking into account interest income and residual maturities.

Other insurance liabilities for life insurance are computed on the basis of individual policies from premiums that are already due but have yet to be paid and have not yet been included in the life insurance liability to the extent that the investment risk is borne by the policyholders.

Other insurance liabilities for health insurance contain a cancellation provision. It contains the expected losses arising from the premature loss, not previously accounted for, of the negative portions of the provision for increasing age in health insurance.

Reinsurance business

In the case of reinsurance business, the insurance liabilities are recognized in accordance with the requirements specified by the ceding insurers. If no such details are available as at the balance sheet date, the provision for the financial year is estimated. The critical factors in estimating the provision are the contractual terms and conditions and the pattern of this business to date. In a few instances, loss provision details provided by ceding insurers are deemed to be too low in the experience of DZ BANK; in such cases, appropriate increases are applied, the increases having been determined in accordance with prudent business practice, past experience, and actuarial calculation methods.

Reserve for unit-linked insurance contracts

The reserve for unit-linked insurance contracts is an item largely corresponding to assets related to unit-linked contracts. This item is used to report policyholders' entitlements to their individual investment fund units where the related investments arise out of contracts to be reported in accordance with IFRS 4. The reserve is measured at fair value on the basis of the underlying investments. Gains and losses on the fund assets result in corresponding changes on the equity and liabilities side of the balance sheet.

Adequacy test for insurance liabilities

Insurance liabilities must be regularly reviewed and subjected to an adequacy test. The adequacy test determines, on the basis of a comparison with estimated future cash flows, whether the carrying amount of insurance liabilities needs to be increased.

To review the insurance liabilities in the health insurance companies, a regular comparison is made between the present values of estimated future insurance benefits and costs, on the one hand, and the present values of estimated future premium payments on the other. In the event of any deficits, the insurance company has the option of adjusting premiums.

>> 12 Leases

DZ BANK Group as lessor

A lease is classified as a finance lease if substantially all the risks and rewards incidental to the ownership of an asset are transferred to the lessee. If the risks and rewards remain substantially with the lessor, the lease is an operating lease.

If a lease is classified as a finance lease, a receivable due from the lessee must be recognized. The receivable is measured at an amount equal to the net investment in the lease at the inception of the lease. Lease payments are apportioned into a payment of interest and repayment of principal. The interest portion based on the lessor's internal discount rate for a constant periodic rate of return is recognized as interest income, whereas the repayment of principal reduces the carrying amount of the receivable.

If a lease is classified as an operating lease, the entities in the DZ BANK Group retain beneficial ownership of the leased asset. These leased assets are reported as assets. The leased assets are measured at cost less depreciation and any impairment losses. Unless another systematic basis is more representative of the pattern of income over time, lease income is recognized in profit or loss on a straight-line basis over the term of the lease and is included in the current income from operating leases reported under net interest income. Gains on disposal, reversals of impairment losses, depreciation, losses on disposal, and impairment losses relating to the underlying leased assets are also included in the current income from operating leases.

DZ BANK Group as lessee

For every lease, the lessee recognizes a right-of-use asset for a leased asset as well as a corresponding lease liability. The only exceptions are short-term leases and leases for low-value assets; in these cases, the lease payments are recognized as an expense.

The amount of the right-of-use asset initially corresponds to the amount of the lease liability. In subsequent periods, the right-of-use asset is measured at amortized cost. Depreciation is recognized on a straight-line basis over the entire lease term and reported as an administrative expense.

The lease liability is measured as the present value of the future lease payments and is shown under other liabilities. Lease payments must be broken down into an interest portion and a repayment portion. The interest portion based on the internal discount rate or the incremental borrowing rate of interest is recognized as interest expense, whereas the repayment of principal reduces the liability.

The DZ BANK Group uses the practical expedient that enables a lessee to elect not to separate non-lease components from lease components and instead account for all components as a lease.

Under IAS 17, lease payments under operating leases were recognized on a straight-line basis over the term of the leases concerned and reported as administrative expenses.

>> 13 Income

Interest and dividends received

Interest is recognized in the relevant period. If the effective interest method is used to calculate interest income, such income is reported under interest income calculated using the effective interest method.

The cash flows used to calculate the effective interest rate take into account contractual agreements in connection with the financial assets and financial liabilities concerned.

Premiums and discounts are allocated over the expected life of financial instruments using the effective interest method. Any additional costs incurred that are directly connected with the acquisition or sale of a financial asset or financial liability, and thus can be directly assigned to the transaction, are factored into the calculation of the effective interest rate. Such costs include sales charges directly associated with the origination of home savings contracts and commitment fees for loans.

Dividends are recognized as soon as a legal entitlement to the payment of such a dividend is established.

Interest income and interest expense arising in connection with derivatives that were not entered into for trading purposes or are used to hedge financial instruments for which the fair value option has been exercised are reported under net interest income. Interest income and interest expense on overnight money and fixed-term deposits arranged for economic management purposes between different organizational units and timing effects from currency swaps used for economic management of net interest income are recognized under net interest income or under gains and losses on trading activities, depending on their economic classification.

Revenue from contracts with customers

Revenue from contracts with customers is recognized when the underlying services have been performed, it is probable that the economic benefits will flow to the group, and the amount of the revenue can be reliably measured.

In the DZ BANK Group, revenue from contracts with customers primarily consists of fee and commission income. Revenue from contracts with customers is also included in gains and losses on investments held by insurance companies and other insurance company gains and losses as well as in other net operating income. The main components of fee and commission income are fee and commission income from securities business, fee and commission income from payments processing (including card processing), fee and commission income from lending and trust activities, and fee and commission income from asset management.

Fee and commission income from securities business is generated from funds business and brokerage, and also includes custody charges. The income is generally recognized as soon as the service has been performed. Fee and commission income from payments processing (including card processing) and fee and commission income from lending and trust activities is recognized immediately after the service has been provided.

Fees and commissions earned over the period in which a service is performed include certain types of fees for administration and safe custody as part of the securities business and asset management, and fees in connection with the furnishing of financial guarantees. In the case of performance-related management fees, income is recognized when the contractually agreed performance criteria have been satisfied. This is either when the service is contracted (brokering of life insurance or fund contracts, or brokering of home savings loans) or when the service is performed (fee and commission income from building society operations).

Fees and charges that form an integral part of the effective interest rate do not fall within the scope of IFRS 15 and are accounted for in accordance with IFRS 9 regardless of whether the financial assets are measured at fair value or at amortized cost.

The DZ BANK Group applies the following practical expedients as permitted by IFRS 15: it applies the standard to a portfolio of contracts, does not adjust the promised amount of consideration for the effects of a significant financing component, recognizes the incremental costs of obtaining a contract as an expense when incurred, and does not disclose certain information for some performance obligations.

Insurance business

For each insurance contract, gross premiums written are calculated pro rata for an exact number of days based on the actual start date of the insurance. These premiums comprise all amounts that become due in the financial year in connection with insurance premiums, premium installments, and single premiums for direct insurance and reinsurance business. Premiums for unit-linked life insurance, except capitalization transactions without policyholder participation, are also recognized as gross premiums written.

The components of premiums covering administration fees are reported pro rata as income in the income statement. In the case of index-linked policies and service contracts, additional administration charges, fees, and commissions from the service and brokerage business are deferred in accordance with IFRS 15 and apportioned over the relevant periods for the duration of the policy or contract concerned in line with the service performed.

>> 14 Cash and cash equivalents

Cash and cash equivalents are cash on hand and balances with central banks.

Cash on hand comprises euros and foreign currencies. Cash in euros is measured at nominal value; foreign currency cash is translated at the buying rate. Balances with central banks are allocated to the 'financial assets measured at amortized cost' category. Interest income on cash and cash equivalents is recognized as interest income from lending and money market business.

>> 15 Loans and advances to banks and customers

All receivables attributable to registered debtors that are categorized as 'financial assets measured at amortized cost', 'financial assets measured at fair value through profit or loss', or 'financial assets measured at fair value through other comprehensive income' are recognized as loans and advances to banks and customers. To eliminate or significantly reduce accounting mismatches, certain loans and advances are designated as at fair value through profit or loss. In addition to fixed-term receivables and receivables payable on demand in connection with lending, lease, and money market business, loans and advances to banks and to customers include promissory notes and registered bonds.

Loans and advances to banks and customers are measured predominantly at amortized cost using the effective interest method. In fair value hedges, the carrying amounts of hedged receivables are adjusted for the change in fair value attributable to the hedged risk. The resulting hedge adjustments are recognized within other gains and losses on valuation of financial instruments under gains and losses arising on hedging transactions. Finance lease receivables are recognized and measured in accordance with the requirements for the accounting treatment of leases.

Loss allowances for loans and advances to banks and customers are determined on the basis of the IFRS 9 requirements applicable to the relevant category of financial assets. Depending on these requirements, the loss allowances are reported as a separate line item deduction on the assets side of the balance sheet or in the reserve from other comprehensive income. Finance lease receivables are also subject to the IFRS 9 impairment requirements.

Interest income on loans and advances to banks and customers is recognized as interest income from lending and money market business. This also includes the amortization of hedge adjustments to carrying amounts due to fair value hedges. Realized gains and losses on loans and advances to banks and customers that are categorized as financial assets measured at amortized cost are included in the gains and losses from the derecognition of financial assets measured at amortized cost. Gains and losses on the valuation of loans and advances for which the fair value option has been exercised are shown under the item of the same name as part of other gains and losses on valuation of financial instruments.

>> 16 Hedging instruments (positive and negative fair values)

The carrying amounts of financial instruments designated as hedging instruments in effective and documented hedging relationships are reported under either hedging instruments (positive fair values) or hedging instruments (negative fair values).

These financial instruments are measured at fair value. Changes in the fair value of hedging instruments in the category 'financial assets measured at fair value through profit or loss' used in fair value hedges are recognized in the income statement as an element of other gains and losses on valuation of financial instruments under gains and losses from hedge accounting. If the hedged item is an equity instrument in which changes in fair value are recognized in other comprehensive income, the changes in the fair value of the hedging instruments are also recognized in other comprehensive income.

In the case of financial instruments used for cash flow hedges or hedges of net investments in foreign operations, changes in fair value attributable to the effective portion of the hedges are recognized in other comprehensive income. The cumulative amounts are recognized in the reserve from other comprehensive income as part of equity. Changes in fair value attributable to the ineffective portion of hedges are included in other gains and losses on valuation of financial instruments under gains and losses from hedge accounting.

>> 17 Financial assets and financial liabilities held for trading

Financial assets and financial liabilities held for trading comprise solely financial assets and financial liabilities that are held for trading.

Derivatives with positive fair values are classified as financial assets held for trading if they were entered into for trading purposes or, despite being intended to be used as hedges, do not meet the requirements for an accounting treatment as hedging instruments. Financial assets held for trading also include bonds and other fixed-income securities, shares and other variable-yield securities, and receivables held for trading purposes.

Financial liabilities held for trading include short positions, bonds and other debt certificates issued, and liabilities held for trading purposes. The procedure for classifying derivatives with negative fair values as financial liabilities held for trading is the same as that used for financial assets held for trading.

Financial instruments reported as financial assets or financial liabilities held for trading are always measured at fair value through profit or loss. Gains and losses on valuation, interest income and expense, and dividends arising from financial assets and financial liabilities held for trading are recognized under gains and losses on trading activities, provided that there is an actual intent to trade the instruments concerned.

Gains and losses on valuation of derivatives that are entered into for hedging purposes, but are not recognized as hedging transactions, are recognized under other gains and losses on valuation of financial instruments as gains and losses on derivatives used for purposes other than trading. If, to avoid accounting mismatches, hedged items are allocated to the category 'financial assets measured at fair value through profit or loss', valuation gains and losses on the related hedging derivatives are recognized under gains and losses on financial instruments designated as at fair value through profit or loss. Interest income and interest expense arising in connection with derivatives that were not entered into for trading purposes or are used to hedge financial instruments designated as at fair value through profit or loss are reported under net interest income.

>> 18 Investments

The following are recognized as investments: bearer bonds and other fixed-income securities, shares and other variable-yield securities, and other bearer or registered shareholdings in entities in which the DZ BANK Group has no significant influence, provided that these securities or shares are not held for trading purposes. Investments also include investments in subsidiaries, joint ventures, and associates.

Investments are initially recognized at fair value. Investments in joint ventures and associates that are accounted for using the equity method are initially recognized at cost. These investments are subsequently measured in accordance with the principles applicable to the relevant measurement category. In the case of investments in joint ventures and associates, the equity method is used for subsequent measurement.

Impairment losses on investments are determined on the basis of the IFRS 9 requirements applicable to the relevant category of financial assets or on the basis of accounting standards relevant to the financial assets concerned. They are generally reported as a separate line item on the assets side of the balance sheet or in the reserve from other comprehensive income.

Interest and any investment premiums or discounts amortized over the maturity of the investment using the effective interest method are recognized under net interest income. Dividends derived from equity instruments are recognized as current income under net interest income. Gains or losses on investments accounted for using the equity method are also reported under net interest income.

Gains and losses realized on the sale of investments that are not categorized as financial assets measured at amortized cost, as well as impairment losses and reversals thereof on investments in associates and joint ventures that are accounted for using the equity method, are reported under gains and losses on investments. Realized gains and losses on investments that are categorized as financial assets measured at amortized cost are included in the gains and losses from the derecognition of financial assets measured at amortized cost.

Fair value gains and losses on investments that are measured at fair value through profit or loss are reported under other gains and losses on valuation of financial instruments.

>> 19 Property, plant and equipment, investment property, and right-of-use assets

Property, plant and equipment, investment property, and right-of-use assets comprises land and buildings as well as office furniture and equipment with an estimated useful life of more than one year used by the entities in the DZ BANK Group. This item also includes assets subject to operating leases and right-of-use assets arising from leases. Investment property is real estate held for the purposes of generating rental income or capital appreciation.

Property, plant and equipment, and investment property is measured at cost less cumulative depreciation and cumulative impairment losses in subsequent financial years. Depreciation is largely recognized on a straight-line basis over the useful life of the asset. In most cases, external valuations are used to measure recoverability.

Right-of-use assets arising from leases are measured in accordance with the lease accounting provisions and reduced by cumulative depreciation and cumulative impairment losses in subsequent financial years. Depreciation is largely recognized on a straight-line basis over the useful life of the asset.

If facts or circumstances give rise to indications that assets might be impaired, the recoverable amount is determined. An impairment loss is recognized if the recoverable amount is lower than the asset's carrying amount. The recoverable amount is the higher of fair value less costs to sell and value in use.

Borrowing costs directly assignable to property, plant and equipment, and investment property are capitalized as part of the asset cost, provided that the asset concerned is a qualifying asset.

Depreciation on property, plant and equipment, investment property, and right-of-use assets is reported as an administrative expense. Impairment losses and reversals of impairment losses are reported under other net operating income.

>> 20 Income tax assets and liabilities

Current and deferred tax assets are shown under the income tax assets balance sheet item; current and deferred tax liabilities are reported under income tax liabilities. Current income tax assets and liabilities are recognized in the amount of any expected refund or future payment.

Deferred tax assets and liabilities are recognized for temporary differences between the carrying amounts recognized in the financial statements in accordance with IFRS and those in the financial statements for tax purposes. Deferred tax assets are also recognized in respect of as yet unused tax loss carryforwards, provided that utilization of these loss carryforwards is sufficiently probable. Deferred tax assets are measured using the national and entity-specific tax rates expected to apply at the time of recovery. A uniform tax rate is applied in the case of group companies forming a tax group with DZ BANK.

Deferred tax assets and liabilities are not discounted. Where temporary differences arise in relation to items recognized in other comprehensive income, the resulting deferred tax assets and liabilities are also recognized in other comprehensive income. Current and deferred tax income and expense to be recognized through profit or loss are reported under income taxes in the income statement.

>> 21 Other assets and other liabilities

Other assets also include intangible assets and contract assets. Intangible assets are recognized at cost. In the subsequent measurement of software, acquired customer relationships, and other intangible assets with a finite useful life, carrying amounts are reduced by cumulative amortization and cumulative impairment losses. Goodwill and other intangible assets with an indefinite useful life are not amortized but are subject to an impairment test at least once during the financial year.

If the group has satisfied its performance obligation in respect of a customer, but the customer has not yet paid the consideration and payment of the consideration still depends on a condition other than simply a due date, then the group recognizes a contract asset on the balance sheet in place of a receivable. As soon as an unconditional right to the consideration arises, the contract asset is reclassified as a receivable. Contract assets are not amortized, but are included in the calculation of the loss allowances in accordance with IFRS 9.

Other liabilities include other liabilities of insurance companies, accrued expenses, and lease liabilities.

The other assets and other liabilities line items are used to report assets and liabilities that cannot be allocated to any of the other asset or liability line items.

>> 22 Loss allowances

Loss allowances for cash and cash equivalents, loans and advances to banks and customers, investments, and other assets that are measured at amortized cost or designated as finance leases are reported as a separate line item on the assets side of the balance sheet. Additions to loss allowances for these balance sheet items, and any reversals of such allowances, are recognized under loss allowances in the income statement.

Loss allowances for investments held by insurance companies and other assets held by insurance companies measured at amortized cost are netted with the carrying amounts of these assets within the investments held by insurance companies and other assets held by insurance companies line items on the balance sheet. Additions to loss allowances for these balance sheet items, and any reversals of such allowances, are recognized under gains and losses on investments held by insurance companies and other insurance company gains and losses in the income statement.

Loss allowances for loans and advances to banks and customers, for investments, and for investments held by insurance companies that are measured at fair value through other comprehensive income are not reported on the assets side of the balance sheet but instead in the reserve from other comprehensive income.

Any additions to, or reversals of, provisions for loan commitments and financial guarantee contracts and other provisions for loans and advances are also recognized in profit or loss under loss allowances.

>> 23 Non-current assets and disposal groups classified as held for sale

The carrying amount of non-current assets or disposal groups for which a sale is planned is recovered principally through a sale transaction rather than through their continuing use. These assets and disposal groups therefore need to be classified as held for sale if the criteria set out below are satisfied.

To be classified as held for sale, the assets or disposal groups must be available for immediate sale in their present condition subject only to terms that are usual and customary for sales of such assets or disposal groups, and it must be highly probable that a sale will take place. A sale is deemed to be highly probable if there is a commitment to a plan to sell the asset or disposal group and an active program to locate a buyer and complete the plan has been initiated. In addition, the asset or disposal group must be actively marketed for sale at a price that is reasonable in relation to the current fair value. A sale must be expected to be completed within one year of the date on which the asset or disposal group is classified as held for sale.

Assets classified as held for sale are measured at the lower of carrying amount and fair value less costs to sell. The assets are no longer depreciated from the date on which they are classified as held for sale.

Assets and disposal groups classified as held for sale are shown separately on the balance sheet under non-current assets and disposal groups classified as held for sale and liabilities included in disposal groups classified as held for sale. Gains and losses arising on measurement as well as gains and losses on the sale of these assets or disposal groups that do not belong to a discontinued operation are recognized in the income statement under other net operating income. If the assets or disposal groups belong to discontinued operations, all gains and losses arising from these assets and disposal groups must be shown separately as ‘profit/loss from discontinued operations, net of tax’.

>> 24 Deposits from banks and customers

All liabilities attributable to registered creditors not classified as ‘financial liabilities mandatorily measured at fair value through profit or loss’ are recognized as deposits from banks and customers. In addition to fixed-maturity liabilities and liabilities repayable on demand arising from the deposit, home savings and loan, and money market businesses, these liabilities also include, in particular, registered bonds and promissory notes issued.

Deposits from banks and customers are measured at amortized cost using the effective interest method. Where deposits from banks and customers are designated as a hedged item in an effective fair value hedge, the carrying amount is adjusted for any change in the fair value attributable to the hedged risk. If, to eliminate or significantly reduce accounting mismatches, the fair value option is applied for deposits from banks and customers, the liabilities are measured at fair value as at the balance sheet date.

Interest expense on deposits from banks and customers is recognized separately under net interest income. Interest expense also includes gains and losses on early redemptions and the amortization of hedge adjustments to carrying amounts due to fair value hedges. Hedge adjustments to the carrying amount due to fair value hedges are reported within other gains and losses on valuation of financial instruments under gains and losses from hedge accounting. If the fair value option has been exercised for deposits from banks and customers, valuation gains and losses are recognized under gains and losses on non-derivative financial instruments and embedded derivatives within other gains and losses on valuation of financial instruments.

>> 25 Debt certificates issued including bonds

Debt certificates issued including bonds cover ‘Pfandbriefe’, other bonds, and commercial paper for which transferable bearer certificates have been issued.

Debt certificates issued including bonds and gains and losses thereon are measured and recognized in the same way as deposits from banks and customers.

>> 26 Provisions

Provisions for employee benefits

Pension plans agreed with the employees of the entities in the DZ BANK Group are based on various types of pension schemes that depend on the legal, economic, and tax situation in each country and include both defined contribution plans and defined benefit plans.

Where a commitment is made to defined contribution plans, fixed contributions are paid to external pension providers. The amount of the contributions and the income earned from the pension assets determine the amount of future pension benefits. The risks arising from the obligation to pay such benefits in the future lie with the pension provider. No provisions are recognized for these indirect pension commitments. The contributions paid are recognized as pension and other post-employment benefit expenses under administrative expenses.

Under a defined benefit plan, the employer promises a specific benefit and bears all the risks arising from this promise. Defined benefit obligations are measured on the basis of the projected unit credit method. The measurement depends on various actuarial assumptions. These include, in particular, assumptions about long-term salary and pension trends and average life expectancy. Assumptions about salary and pension trends are based on past trends and take into account expectations regarding future changes in the labor market. Generally accepted biometric tables (2018 G mortality tables published by Professor Dr. Klaus Heubeck) are used to estimate average life expectancy. The discount rate used to discount future payment obligations is an appropriate market interest rate for investment-grade fixed-income corporate bonds with a maturity equivalent to that of the defined benefit obligations. The discount rate depends on the obligation structure (duration) and is determined using a portfolio of high-quality corporate bonds that must satisfy certain criteria in terms of quality and volume (outstanding face value). One of the notable quality criteria is an average AA rating from Moody's Investors Service, New York, Standard & Poor's, New York, Fitch Ratings, New York/London, and DBRS, Toronto. Bonds with existing call options in the form of embedded derivatives are not included in this process.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions regarding the defined benefit obligations, together with gains and losses arising from the remeasurement of plan assets and reimbursement rights, are recognized in other comprehensive income in the reporting period in which they occur.

The plan assets for the DZ BANK Group's defined benefit plans consist to a significant extent of the plan assets of DZ BANK.

In addition to the provisions for defined benefit pension plans, the provisions for employee benefits include provisions for other long-term employee benefits, provisions for termination benefits, and provisions for short-term employee benefits.

Provisions for other long-term employee benefits are recognized, in particular, to cover semi-retirement (Altersteilzeit) and long-service bonuses. Provisions for early retirement are included under the provisions for termination benefits.

Provisions for termination benefits linked with restructuring are reported separately from other restructuring provisions. The provisions for restructuring assigned to the provisions for employee benefits have been derived from a number of strategies, including DZ BANK's forward-looking 'Verbund First 4.0' initiative, VR Smart Finanz's strategy to transform itself into a digital provider of finance for the self-employed and small businesses, and the strategic agenda for DVB's business model.

Provisions for employee benefits are generally recognized as a charge to administrative expenses, although reversals of such provisions are reported under other net operating income. As an exception to the rule, provisions for restructuring are recognized under other net operating income.

Provisions for share-based payment transactions

The entities in the DZ BANK Group have entered into various agreements covering variable remuneration components to be paid to members of the Board of Managing Directors and certain other executives. The amount and timing of such remuneration depends on a number of factors, not least the performance of the entity concerned. These agreements are classified as cash-settled share-based payment transactions.

Provisions for share-based payment transactions are recognized (at fair value) if it is sufficiently probable that the remuneration will be paid out in the future. The timing of initial recognition is therefore before the grant date and before any payout in subsequent years. This results in discrepancies compared with the nominal amounts disclosed in note 98 for share-based payments granted but not yet paid out.

Provisions for share-based payment transactions are also subsequently measured at fair value. Any changes in fair value are recognized in profit or loss.

Other provisions

Provisions are liabilities in which the amounts or due dates are uncertain. Provisions are recognized for present obligations arising out of past events, in which it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and the amount of the obligation can be reliably estimated.

The provisions are recognized and measured using the best estimate of the present value of their anticipated utilization. This estimate takes account of future events as well as the risks and uncertainties relating to the issue concerned.

Provisions for irrevocable loan commitments and provisions for financial guarantee contracts are recognized with the same model used for financial assets and in the amount of the expected credit losses.

Other provisions for loans and advances factor in the usual sector-specific level of uncertainty. The underlying assumptions and estimates used include figures based on past experience as well as expectations and forecasts relating to future trends and developments.

Provisions relating to building society operations are recognized to cover the payment of any bonuses that may have been agreed in the terms and conditions of home savings contracts. These bonuses may take the form of a reimbursement of some of the sales charges or interest bonuses on deposits. The bonuses constitute independent payment obligations and must be measured and recognized in accordance with IAS 37. In order to measure these obligations, building society simulations (collective simulations) are used to forecast building society customers' future behavior. Uncertainty in connection with the measurement of these provisions arises from assumptions that need to be made about future customer behavior, which take account of various scenarios and action taken. Material inputs for the collective simulations are the rate of mortgage loans not drawn down and the pattern of customer cancellations.

Provisions are recognized for risks arising from ongoing legal disputes and cover the possible resulting losses. Such provisions are recognized when the reasons indicating that a legal dispute will result in a payment obligation for an entity in the DZ BANK Group are stronger than those indicating the opposite. Any concentration risk owing to similarities between individual cases is taken into consideration.

The amount in which provisions are recognized for risks arising from ongoing legal disputes is based on the information available at the time and is subject to assumptions and discretion in how a dispute is assessed. For example, this may be because the entity in the DZ BANK Group does not yet have at its disposal all the information required to make a final assessment of the legal dispute, particularly during the early stages of proceedings. Moreover, predictions made by entities in the DZ BANK Group in relation to changes to legal circumstances, changes to official interpretations, or – in the case of court cases – to procedural orders, decisions by the courts, or the arguments expected to be put forward by the opponent in the case may later turn out to be unfounded.

The expense incurred by the unwinding of the discount on provisions is recognized as interest expense under net interest income.

>> 27 Subordinated capital

Subordinated capital comprises all registered or bearer debt instruments that, in the event of insolvency or liquidation, are repaid only after settlement of all unsubordinated liabilities but before distribution to shareholders of any proceeds from the insolvency or liquidation.

Subordinated liabilities largely comprise subordinated bearer bonds and promissory notes. Profit-sharing rights outstanding comprise registered and bearer profit-participation certificates in issue. Regulatory Tier 1 capital that does not meet IFRS equity criteria is recognized as other hybrid capital. The share capital repayable on demand comprises the non-controlling interests in partnerships controlled by entities in the DZ BANK Group. These non-controlling interests must be classified as subordinated.

Subordinated capital and gains and losses on this capital are measured and recognized in the same way as deposits from banks and customers.

>> 28 Contingent liabilities

Contingent liabilities are possible obligations arising from past events. The existence of these obligations will only be confirmed by future events outside the control of the entities in the DZ BANK Group. Present obligations arising out of past events but not recognized as provisions because of the improbability of an outflow of resources embodying economic benefits or because the amount cannot be measured with sufficient reliability also constitute contingent liabilities.

The amount of contingent liabilities is disclosed in the notes unless the probability of an outflow of resources embodying economic benefits is remote. Contingent liabilities are measured at the best estimate of possible future outflows of resources embodying economic benefits.

Contingent liabilities in respect of litigation risk are reported when the reasons indicating that there is no current obligation are stronger than those indicating the opposite, but there is still a likelihood that a legal dispute will result in a payment obligation for an entity in the DZ BANK Group. Risks arising from legal disputes are assessed according to how likely they are to occur.

B Disclosure of interests in other entities

>> 29 Investments in subsidiaries

Proportion of the DZ BANK Group's activities and cash flow attributable to non-controlling interests

In the DZ BANK Group, material non-controlling interests in the capital and net income exist in the following subsidiaries:

€ million	Dec. 31, 2019	Dec. 31, 2018
Bausparkasse Schwäbisch Hall subgroup	238	215
DZ PRIVATBANK	64	64
R+V Versicherung subgroup	1,168	951
Union Asset Management Holding subgroup	46	38
DZ BANK Capital Funding Trust I	296	299
DZ BANK Capital Funding Trust II	499	492
DZ BANK Capital Funding Trust III	350	345
DZ BANK Perpetual Funding Issuer (Jersey) Limited	241	240
Other	107	93
Total	**3,009**	**2,737**

Bausparkasse Schwäbisch Hall
Bausparkasse Schwäbisch Hall AG – Bausparkasse der Volksbanken und Raiffeisenbanken, Schwäbisch Hall (BSH) is the parent company of the BSH subgroup. BSH is headquartered in Schwäbisch Hall. DZ BANK directly holds 96.9 percent of the shares in BSH (December 31, 2018: 96.9 percent). The share of voting rights is equal to the shareholding. Non-controlling interests account for 3.1 percent of the voting rights and shares (December 31, 2018: 3.1 percent). As was the case a year earlier, most of these non-controlling interests are held by local cooperative banks.

The net income for the year attributable to the non-controlling interests was €17 million (2018: €18 million). This included the net income for the year attributable to non-controlling interests in the BSH subgroup of €11 million (2018: €11 million). The carrying amount of the non-controlling interests in the DZ BANK Group was €238 million (December 31, 2018: €215 million). Of this amount, €79 million was attributable to non-controlling interests within the BSH subgroup (December 31, 2018: €74 million). DZ BANK has entered into a profit-transfer agreement with BSH. This guarantees a cash settlement of €6.97 per non-par-value share (after corporation tax and ancillary taxes) for the outside shareholders of BSH until the end of the 2020 financial year. Guaranteed dividends of €1 million were paid to outside shareholders of BSH in 2019 (2018: €1 million). In the BSH subgroup, dividends of €4 million were paid to non-controlling interests (2018: €4 million).

Aggregated financial information for the BSH subgroup:

€ million	Dec. 31, 2019	Dec. 31, 2018
Assets	77,469	71,667
Liabilities	71,769	66,510

€ million	2019	2018
Interest income and fee and commission income	1,681	1,693
Net profit	150	197
Other comprehensive income/loss	408	-85
Total comprehensive income	558	112
Cash flow	101	-7

DZ PRIVATBANK

DZ PRIVATBANK S.A., Strassen, Luxembourg, (DZ PRIVATBANK S.A.), headquartered in Luxembourg, together with its wholly owned subsidiaries DZ PRIVATBANK (Schweiz) AG, Zurich, Switzerland, IPConcept (Luxemburg) S.A., Strassen, Luxembourg, and IPConcept (Schweiz) AG, Zurich, Switzerland, is the cooperative center of excellence for the private banking business of the local cooperative banks in Germany.

DZ BANK directly holds 91.5 percent (December 31, 2018: 91.3 percent) of the shares in DZ PRIVATBANK S.A. The share of voting rights is equal to the shareholding. The other shares are held by local cooperative banks and cooperative investors.

The net income for the year attributable to the non-controlling interests was €2 million (2018: net loss of €14 million). The carrying amount of the non-controlling interests was €64 million (December 31, 2018: €64 million). The dividend distributed to the non-controlling interests came to €1 million in 2019 (2018: €1 million).

Aggregated financial information for DZ PRIVATBANK:

€ million	Dec. 31, 2019	Dec. 31, 2018
Assets	19,464	18,322
Liabilities	18,622	17,503

€ million	2019	2018
Interest income and fee and commission income	544	541
Net profit/loss	28	-136
Other comprehensive income	6	3
Total comprehensive income/loss	34	-133
Cash flow	640	1,516

R+V Versicherung

The R+V Group is a subgroup of the DZ BANK Group that, with its individual companies, offers all types of insurance in all of the non-life, life, and health insurance sectors. It also takes on inward reinsurance business in the international market.

R+V Versicherung AG, Wiesbaden, (R+V) is the parent company of the R+V subgroup. R+V is headquartered in Wiesbaden. DZ BANK directly holds 92.1 percent of the shares in R+V (December 31, 2018: 92.1 percent). The share of voting rights is equal to the shareholding. Non-controlling interests account for 7.9 percent of the voting rights and shares (December 31, 2018: 7.9 percent). Within this figure, local cooperative banks hold 6.1 percent (December 31, 2018: 6.1 percent). The other 1.8 percent (December 31, 2018: 1.8 percent) is held by other entities in the cooperative sector.

The net income for the year attributable to the non-controlling interests was €97 million (2018: €42 million). This included the net income for the year attributable to non-controlling interests in the R+V subgroup of €47 million (2018: €20 million). The carrying amount of the non-controlling interests in the DZ BANK Group was €1,168 million (December 31, 2018: €951 million). Of this amount, €583 million was attributable to non-controlling interests within the R+V subgroup (December 31, 2018: €486 million). DZ BANK has entered into a profit-transfer agreement with R+V. This guarantees an annual cash settlement of €6.30 per non-par-value share (after corporation tax and ancillary taxes) for the outside shareholders of R+V until the end of the 2021 financial year. Guaranteed dividends of €7 million were paid to outside shareholders of R+V in 2019 (2018: €7 million). In the R+V subgroup, dividends of €8 million were paid to non-controlling interests (2018: €8 million).

Aggregated financial information for the R+V subgroup:

€ million	Dec. 31, 2019	Dec. 31, 2018
Assets	121,973	107,351
Liabilities	113,761	100,684

€ million	2019	2018
Premiums earned	17,249	15,997
Net profit	600	220
Other comprehensive income/loss	952	-497
Total comprehensive income/loss	1,552	-277

Union Asset Management Holding

Union Asset Management Holding AG, Frankfurt am Main, (UMH) is the parent company of the UMH subgroup. UMH is headquartered in Frankfurt am Main. Other major locations are Hamburg and Luxembourg. DZ BANK's aggregated shareholding in UMH is 96.6 percent (December 31, 2018: 96.6 percent). The share of voting rights is equal to the aggregated shareholding. Non-controlling interests account for 3.4 percent of the shares (December 31, 2018: 3.4 percent). Most of these non-controlling interests are held by local cooperative banks. The proportion held indirectly by DZ BANK is 95.8 percent (December 31, 2018: 95.8 percent).

The carrying amount of the non-controlling interests within the DZ BANK Group was €46 million (December 31, 2018: €38 million) and related to the multiplicative share of the capital of UMH. Of this amount, €24 million was attributable to non-controlling interests within the UMH subgroup (December 31, 2018: €24 million). The net income for the year attributable to the non-controlling interests was €23 million (2018: €18 million). This included the net income for the year attributable to non-controlling interests in the UMH subgroup of €8 million (2018: €8 million). The dividend distributed to the non-controlling interests totaled €14 million in 2019 (2018: €15 million). €7 million of this amount was paid as dividends to non-controlling interests in the UMH subgroup (2018: €6 million).

Aggregated financial information for the UMH subgroup:

€ million	Dec. 31, 2019	Dec. 31, 2018
Assets	3,012	2,559
Liabilities	1,406	1,167

€ million	2019	2018
Interest income and fee and commission income	2,671	2,474
Net profit	478	347
Other comprehensive income/loss	-2	-3
Total comprehensive income	476	344

DZ BANK Capital Funding Trust I, II, and III and DZ BANK Perpetual Funding Issuer (Jersey) Limited

DZ BANK has established companies in Delaware, USA, and Jersey, Channel Islands, in order to increase own funds in accordance with section 10a of the German Banking Act (KWG). The business activities of these companies are limited to the issuance of open-ended equity instruments without redemption incentives. These equity instruments that have been issued are held by non-voting non-controlling interests in the DZ BANK Group. The companies in question are:

- DZ BANK Capital Funding Trust I, Wilmington, Delaware,
- DZ BANK Capital Funding Trust II, Wilmington, Delaware,
- DZ BANK Capital Funding Trust III, Wilmington, Delaware,
- DZ BANK Perpetual Funding Issuer (Jersey) Limited, St. Helier, Jersey.

The companies were established at their current registered office. The Delaware companies are headquartered in New York, USA. The Channel Islands company is headquartered in Frankfurt am Main. Virtually 100 percent of the issued share capital of each of the companies is attributable to non-voting non-controlling interests, while the voting rights in the companies are attached to only a small proportion of the shares. As a result, virtually all of the profits and losses of the companies are attributable to the non-controlling interests.

The companies' net income for the year is shown in the following table:

€ million	2019	2018
DZ BANK Capital Funding Trust I	7	7
DZ BANK Capital Funding Trust II	6	6
DZ BANK Capital Funding Trust III	4	4
DZ BANK Perpetual Funding Issuer (Jersey) Limited	1	1

Distributions of dividends to the non-controlling interests generally take the form of a variable or fixed-rate coupon whose actual payment is not subject to a contractual obligation.

The dividends paid to the non-controlling interests in the financial year are shown in the following table:

€ million	2019	2018
DZ BANK Capital Funding Trust I	7	7
DZ BANK Capital Funding Trust II	6	6
DZ BANK Capital Funding Trust III	4	4
DZ BANK Perpetual Funding Issuer (Jersey) Limited	1	1

Aggregated financial information for the DZ BANK Capital Funding Trust companies and the DZ BANK Perpetual Funding Issuer company:

€ million	Dec. 31, 2019	Dec. 31, 2018
Non-current assets	1,410	1,410
Liabilities	-	-

€ million	2019	2018
Interest income and fee and commission income	18	18
Net profit	18	18
Total comprehensive income	18	18

Nature and extent of significant restrictions

National regulatory requirements, contractual provisions, and provisions of company law restrict the DZ BANK Group's ability to transfer assets within the group. Where these restrictions can be specifically assigned to individual line items on the balance sheet, the carrying amounts of the assets and liabilities subject to restrictions on the balance sheet date are shown in the following table:

€ million	Dec. 31, 2019	Dec. 31, 2018
Assets	**89,997**	**85,850**
Loans and advances to customers	2,699	2,689
Investments	5	5
Investments held by insurance companies	87,290	83,152
Other assets	3	4
Liabilities	**148,690**	**140,359**
Deposits from banks	1,788	1,793
Deposits from customers	63,226	59,996
Provisions	1,406	1,072
Insurance liabilities	82,270	77,498

Nature of the risks associated with interests in consolidated structured entities

Risks arising from interests in consolidated structured entities largely result from loans to fully consolidated funds, some of which are extended in the form of junior loans.

>> 30 Interests in joint arrangements and associates

Nature, extent, and financial effects of interests in joint arrangements

Českomoravská stavební spořitelna

Českomoravská stavební spořitelna, a.s., Prague, Czech Republic, (ČMSS) was a joint venture between BSH and the Czech Republic's largest bank, Československá obchodní banka, a.s., Prague, Czech Republic, (ČSOB) until the disposal on May 31, 2019. ČMSS is headquartered in Prague, Czech Republic. It is one of Europe's largest building societies. ČMSS is a leading provider of home savings and home finance products in the Czech Republic. Until the disposal, BSH's shareholding was 45.0 percent, as it had been at December 31, 2018. The other 55.0 percent was held by ČSOB (December 31, 2018: 55.0 percent). The carrying amount of the investment under the equity method had been €146 million as at December 31, 2018. ČMSS did not pay any dividend to BSH in 2019 (2018: €19 million).

Prvá stavebná sporiteľňa

Prvá stavebná sporiteľňa a.s., Bratislava, Slovakia, (PSS) is a joint venture between BSH and its partners Raiffeisen Bausparkasse Holding GmbH, Vienna, Austria, Slovenská sporiteľňa a.s., Bratislava, Slovakia, and Erste Group Bank AG, Vienna, Austria. PSS is headquartered in Bratislava, Slovakia. PSS is the market leader for building society operations in Slovakia. BSH's shareholding in PSS was 32.5 percent on the balance sheet date, as it had been at December 31, 2018. In the DZ BANK Group, the interests in PSS are accounted for using the equity method. PSS did not pay any dividend to BSH in 2019 (2018: no dividend).

Aggregated financial information for PSS:

€ million	Dec. 31, 2019	Dec. 31, 2018
Current assets	625	636
of which: cash and cash equivalents	13	69
Non-current assets	2,405	2,443
Current liabilities	690	762
of which: financial liabilities	670	744
Non-current liabilities	2,082	2,074
of which: financial liabilities	2,068	2,062

€ million	2019	2018
Interest income	101	96
Interest expense	-38	-47
Fee and commission income	16	17
Fee and commission expenses	-1	-1
Administrative expenses	-34	-35
Income taxes	-5	-5
Profit from continuing operations, net of tax	15	16
Other comprehensive income	-	-
Total comprehensive income	15	16

Reconciliation from the aggregated financial information to the carrying amount of the interests in PSS:

€ million	Dec. 31, 2019	Dec. 31, 2018
Total net assets	**258**	**243**
Share of net assets	**84**	**79**
Cumulative impairment losses on the carrying amount of the investment	-11	-
Carrying amount under the equity method	**73**	**79**

Zhong De Zuh Fang Chu Xu Yin Hang (Sino-German-Bausparkasse)

Zhong De Zuh Fang Chu Xu Yin Hang (Sino-German-Bausparkasse), Tianjin, China, (SGB) is a joint venture between BSH and China Construction Bank Corporation, Beijing, China. SGB is headquartered in Tianjin, China. Its business activities are concentrated in the regions of Tianjin (population of approx. 13 million) and Chongqing (population of approx. 30 million). BSH's shareholding in this Chinese building society was 24.9 percent on the balance sheet date, as it had been at December 31, 2018. In the DZ BANK Group, the interests in SGB are accounted for using the equity method. SGB did not pay a dividend in 2019, as had also been the case in the previous year.

Aggregated financial information for SGB:

€ million	Dec. 31, 2019	Dec. 31, 2018
Current assets	578	618
of which: cash and cash equivalents	502	467
Non-current assets	2,332	2,663
Current liabilities	1,931	2,497
of which: financial liabilities	1,743	2,459
Non-current liabilities	602	415
of which: financial liabilities	598	414

€ million	2019	2018
Interest income	84	129
Interest expense	-47	-86
Fee and commission income	9	9
Fee and commission expenses	-13	-11
Administrative expenses	-36	-36
Income taxes	-2	-
Profit/loss from continuing operations, net of tax	6	-2
Other comprehensive income/loss	3	-3
Total comprehensive income/loss	9	-5

Reconciliation from the aggregated financial information to the carrying amount of the interests in SGB:

€ million	Dec. 31, 2019	Dec. 31, 2018
Total net assets	**377**	**369**
Share of net assets	**94**	**92**
Cumulative impairment losses on the carrying amount of the investment	-64	-62
Carrying amount under the equity method	**30**	**30**

Deutsche WertpapierService Bank

Deutsche WertpapierService Bank AG, Frankfurt am Main, (dwpbank) is a joint venture of DZ BANK with Westfälisch-Lippische Sparkassen- und Giroverband, Münster, Rheinischer Sparkassen- und Giroverband, Düsseldorf, and 3 other regional development banks in Germany and is accounted for in the DZ BANK Group's financial statements using the equity method. dwpbank is headquartered in Frankfurt am Main. Its capital is divided into 20,000,000 voting registered shares with transfer restrictions. DZ BANK holds a 50.0 percent stake in dwpbank, as it did at December 31, 2018. The equity method is applied to dwpbank on the basis of financial statements prepared in accordance with HGB.

The shares in dwpbank are not traded in an active market. In 2019, dwpbank did not pay any dividend to DZ BANK (2018: €8 million).

Aggregated financial information for dwpbank:

€ million	Dec. 31, 2019	Dec. 31, 2018
Assets	583	590
Liabilities	373	386
of which: financial liabilities	150	177

dwpbank only has a small amount of cash and cash equivalents.

€ million	2019	2018
Interest income	4	4
Interest expense	-3	-2
Fee and commission income	321	299
Fee and commission expenses	-76	-59
Administrative expenses	-211	-211
Income taxes	-10	-3
Profit from continuing operations, net of tax	6	23
Total comprehensive income	6	23

Reconciliation from the aggregated financial information to the carrying amount of the interests in dwpbank:

€ million	Dec. 31, 2019	Dec. 31, 2018
Total net assets	**210**	**204**
Share of net assets	**105**	**102**
Capitalization of goodwill	29	29
Carrying amount under the equity method	**134**	**131**

Other joint ventures

The carrying amount of the equity-accounted joint ventures that, individually, are not material totaled €76 million on the balance sheet date (December 31, 2018: €96 million).

Aggregated financial information for equity-accounted joint ventures that, individually, are not material:

€ million	2019	2018
Share of profit from continuing operations, net of tax	4	5
Share of other comprehensive income	-	-
Share of total comprehensive income	4	5

Nature, extent, and financial effects of investments in associates

Other associates

The carrying amount of the equity-accounted associates that, individually, are not material totaled €201 million on the balance sheet date (December 31, 2018: €288 million).

Aggregated financial information for equity-accounted associates that, individually, are not material:

€ million	2019	2018
Share of profit from continuing operations, net of tax	21	5
Share of profit from discontinued operations, net of tax	7	-
Share of other comprehensive income	-	-
Share of total comprehensive income	28	5

>> 31 Interests in unconsolidated structured entities

Structured entities are entities that have been designed so that voting rights or similar rights are not the dominant factor in deciding who controls the entity. The DZ BANK Group distinguishes between the following types of interests in unconsolidated structured entities, based on their design and the related risks:
– Interests in investment funds issued by the DZ BANK Group,
– Interests in investment funds not issued by the DZ BANK Group,
– Interests in securitization vehicles,
– Interests in asset-leasing vehicles.

Interests in investment funds issued by the DZ BANK Group

The interests in the investment funds issued by the DZ BANK Group largely comprise investment funds issued by entities in the Union Investment Group in accordance with the contractual form model without voting rights and, to a lesser extent, those that are structured as a company with a separate legal personality. The number of unit/share types and volume of investment funds issued and managed by the UMH subgroup can be broken down as follows:

	Dec. 31, 2019		Dec. 31, 2018	
€ million	Volume	Number	Volume	Number
Mutual funds	184,703	334	165,032	387
of which: guarantee funds	1,703	25	2,809	36
Special funds	116,299	418	99,899	392
of which: guarantee funds	-	-	-	-
Total	**301,002**	**752**	**264,931**	**779**
of which: guarantee funds	1,703	25	2,809	36

Furthermore, DVB Bank SE, Frankfurt am Main, (DVB) makes subordinated loans available to fully consolidated funds for the purpose of transport finance. In turn, these funds make subordinated loans or direct equity investments available to unconsolidated entities.

The maximum exposure of the investment funds issued and managed by the DZ BANK Group is shown in the following tables as a gross value, excluding deduction of available collateral:

AS AT DECEMBER 31, 2019

€ million	Mutual funds	of which: guarantee funds	Special funds	of which: guarantee funds	Total
Assets	**1,824**	**-**	**6,012**	**-**	**7,836**
Loans and advances to customers	5	-	7	-	12
Investments	1,464	-	35	-	1,499
Investments held by insurance companies	122	-	5,477	-	5,599
Property, plant and equipment, investment property, and right-of-use assets	46	-	-	-	46
Other assets	149	-	19	-	168
Non-current assets and disposal groups classified as held for sale	38	-	474	-	512
Liabilities	**57**	**10**	**-**	**-**	**57**
Hedging instruments (negative fair values)	10	10	-	-	10
Other liabilities	47	-	-	-	47
Net exposure recognized on the balance sheet	1,767	-10	6,012	-	7,779
Contingent liabilities	**-**	**-**	**-**	**-**	**-**
Financial guarantee contracts, loan commitments and other obligations	**1,573**	**1,573**	**-**	**-**	**1,573**
Financial guarantee contracts	-	-	-	-	-
Loan commitments	-	-	-	-	-
Other obligations	1,573	1,573	-	-	1,573
Actual maximum exposure	**3,340**	**1,563**	**6,012**	**-**	**9,352**

AS AT DECEMBER 31, 2018

€ million	Mutual funds	of which: guarantee funds	Special funds	of which: guarantee funds	Total
Assets	**1,207**	**-**	**5,025**	**-**	**6,232**
Loans and advances to customers	3	-	77	-	80
Investments	964	-	201	-	1,165
Investments held by insurance companies	97	-	4,573	-	4,670
Property, plant and equipment, investment property, and right-of-use assets	-	-	-	-	-
Other assets	121	-	17	-	138
Non-current assets and disposal groups classified as held for sale	22	-	157	-	179
Liabilities	**6**	**6**	**-**	**-**	**6**
Hedging instruments (negative fair values)	6	6	-	-	6
Other liabilities	-	-	-	-	-
Net exposure recognized on the balance sheet	1,201	-6	5,025	-	6,226
Contingent liabilities	**-**	**-**	**-**	**-**	**-**
Financial guarantee contracts, loan commitments and other obligations	**2,629**	**2,629**	**-**	**-**	**2,629**
Financial guarantee contracts	-	-	-	-	-
Loan commitments	-	-	-	-	-
Other obligations	2,629	2,629	-	-	2,629
Actual maximum exposure	**3,830**	**2,623**	**5,025**	**-**	**8,855**

Regarding the disclosure of the maximum exposure, it must be noted that the 'Other obligations' line item in the table above includes market price guarantees in the amount of the nominal amounts of the guarantee commitments for guarantee funds of €1,584 million (December 31, 2018: €2,635 million), less negative fair values of €10 million (December 31, 2018: €6 million) recognized as a liability for the put options embedded in these products. The maximum exposure for market price guarantees for the guarantee funds does not represent the economic risk of this product type because the economic risk also has to reflect these guarantee funds' net assets of €1,703 million on the balance sheet date (December 31, 2018: €2,809 million) (net asset value) and the management model used with these products to safeguard the minimum payment commitments. The benefit under a market price guarantee is triggered if the fair value of the affected units does not reach the specified guaranteed level on particular dates. The put options embedded in the guarantee funds are reported as derivatives (negative fair values) under equity and liabilities on the balance sheet.

The interests in investment funds issued and managed by the DZ BANK Group resulted in losses of €13 million in the financial year (2018: losses of €85 million). Distributions in 2019 relating to each investment fund were offset in the calculation of the losses incurred in respect of each fund. An amount of €146 million was also added to loss allowances (2018: €80 million).

The revenue generated from investment funds issued by the DZ BANK Group was as follows:

2019

€ million	Mutual funds	of which: guarantee funds	Special funds	of which: guarantee funds	Total
Interest income and current income and expense	8	-	-1	-	7
Fee and commission income	2,190	16	173	-	2,363
Gains and losses on investments	2	-	1	-	3
Other gains and losses on valuation of financial instruments	16	-	-1	-	15
Gains and losses on investments held by insurance companies and other insurance company gains and losses	-	-	33	-	33
Total	**2,216**	**16**	**205**	**-**	**2,421**

2018

€ million	Mutual funds	of which: guarantee funds	Special funds	of which: guarantee funds	Total
Interest income and current income and expense	8	-	9	-	17
Fee and commission income	2,025	29	167	-	2,192
Gains and losses on investments	-23	-	-	-	-23
Other gains and losses on valuation of financial instruments	-17	-	-	-	-17
Gains and losses on investments held by insurance companies and other insurance company gains and losses	-	-	23	-	23
Total	**1,993**	**29**	**199**	**-**	**2,192**

Interests in investment funds not issued by the DZ BANK Group

The interests in the investment funds not issued by the DZ BANK Group above all comprise investment funds managed by entities in the Union Investment Group within the scope of their own decision-making powers that have been issued by entities outside the DZ BANK Group and parts of such investment funds. Their total volume amounted to €40,256 million (December 31, 2018: €37,405 million). The DZ BANK Group also extends loans to investment funds in order to generate interest income.

In addition, there were investment funds issued by entities outside the group in connection with unit-linked life insurance amounting to €8,837 million (December 31, 2018: €7,244 million) that, however, do not result in a maximum exposure.

The maximum exposure arising from the investment funds not issued by the DZ BANK Group is shown as a gross value, excluding deduction of available collateral. The following assets and liabilities have been recognized on the DZ BANK Group's balance sheet in connection with interests in investment funds not issued by the DZ BANK Group:

€ million	Dec. 31, 2019	Dec. 31, 2018
Assets	**6,771**	**4,311**
Loans and advances to customers	6,771	4,311
Liabilities	**-**	**-**
Net exposure recognized on the balance sheet	6,771	4,311
Contingent liabilities	**-**	**-**
Financial guarantee contracts, loan commitments and other obligations	**229**	**182**
Financial guarantee contracts	-	-
Loan commitments	229	182
Other obligations	-	-
Maximum exposure	**7,000**	**4,493**

The revenue generated from interests in investment funds not issued by the DZ BANK Group was as follows:

€ million	2019	2018
Interest income	82	74
Fee and commission income	83	80
Total	**165**	**154**

Interests in securitization vehicles

The interests in securitization vehicles are interests in vehicles where the DZ BANK Group's involvement goes beyond that of an investor. The assets and liabilities listed below have been recognized on the DZ BANK Group's balance sheet in connection with these interests. There is also an additional exposure from contingent liabilities and from financial guarantee contracts, loan commitments, and other obligations, which are shown at their nominal amounts. Only financial guarantee contracts, loan commitments, and other obligations for which no liability or contingent liability has been recognized are included. The maximum exposure is determined as a gross value, excluding deduction of available collateral.

€ million	Dec. 31, 2019	Dec. 31, 2018
Assets	**1,529**	**1,432**
Loans and advances to customers	1,386	1,354
Financial assets held for trading	82	21
Investments	61	57
Liabilities	**4**	**4**
Deposits from customers	3	2
Financial liabilities held for trading	-	1
Provisions	1	1
Net exposure recognized on the balance sheet	1,525	1,428
Contingent liabilities	**-**	**-**
Financial guarantee contracts, loan commitments and other obligations	**2,479**	**2,467**
Financial guarantee contracts	-	-
Loan commitments	2,479	2,467
Other obligations	-	-
Maximum exposure	**4,004**	**3,895**

The revenue generated from interests in securitization vehicles was as follows:

€ million	2019	2018
Interest income	7	7
Fee and commission income	45	46
Gains and losses on trading activities	10	-6
Gains and losses on investments	1	1
Total	**63**	**48**

The material interests in securitization vehicles comprise the two multi-seller asset-backed commercial paper (ABCP) programs: CORAL and AUTOBAHN.

DZ BANK acts as sponsor and program agent for both programs. It is also the program administrator for AUTOBAHN. As sponsor, DZ BANK was involved in setting up the structured entities and provides various services for them. Under the CORAL program, customers of the bank sell assets to separate special-purpose entities. The assets purchased essentially consist of trade receivables, loans, and lease receivables. Under the AUTOBAHN program, assets of North American customers are sold to specially established special-purpose entities and funded through the issuing company by means of ABCP issues.

The special-purpose entities are unconsolidated structured entities. Owing to the cellular structure of the transactions, there are no investee companies to be assessed. DZ BANK does not have control over the individual silos because it acts as agent and not as principal.

The purchase of the assets is funded using liquidity lines and by issuing money market-linked ABCPs. DZ BANK is a liquidity agent for the program, which involves making liquidity facilities available.

In 2019, DZ BANK did not provide either of the programs with any non-contractual support. Moreover, it currently has no intention to provide financial or other support. Because the ABCP programs are fully supported programs, DZ BANK bears all the credit risk.

Interests in asset-leasing vehicles

In 2018, the interests in asset-leasing vehicles comprised shares in limited partnerships and voting shares, other than the shares in limited partnerships, in partnerships established by VR Smart Finanz for the purpose of real estate leasing (asset-leasing vehicles), in which the asset, and the funding occasionally provided by the DZ BANK Group, were placed.

The assets and liabilities listed below were recognized on the DZ BANK Group's balance sheet in connection with the interests in real estate asset-leasing vehicles. There was also an additional exposure from contingent liabilities and from financial guarantee contracts, loan commitments, and other obligations, which were shown at their nominal amounts. Only financial guarantee contracts, loan commitments, and other obligations for which no liability or contingent liability had been recognized were included. The actual maximum exposure was determined as a gross value, excluding deduction of any collateral available.

Following the disposal of the asset-leasing vehicles by VR Smart Finanz, no assets or liabilities were recognized on the DZ BANK Group's balance sheet as at December 31, 2019. Moreover, there was no longer any additional exposure from contingent liabilities or from financial guarantee contracts, loan commitments, or other obligations.

€ million	Dec. 31, 2018
Assets	**5**
Loans and advances to customers	4
Investments	1
Liabilities	**11**
Deposits from customers	11
Net exposure recognized on the balance sheet	-6
Contingent liabilities	**-**
Financial guarantee contracts, loan commitments and other obligations	**2**
Financial guarantee contracts	2
Loan commitments	-
Other obligations	-
Maximum exposure	**-4**

The interests in asset-leasing vehicles gave rise to interest income and current income and expense of €1 million (2018: €5 million) and other net operating income of €2 million. These interests did not generate other net operating income in 2018.

>> 32 Sponsoring arrangements for unconsolidated structured entities

The DZ BANK Group sponsors an unconsolidated structured entity within the meaning of IFRS 12 if it was involved in establishing the structured entity or if the structured entity is linked by name to DZ BANK or a subsidiary within the DZ BANK Group and there are no interests, within the meaning of IFRS 12, in the structured entity.

The DZ BANK Group acts as sponsor for an unconsolidated structured entity because it is linked with the structured entity by name and it does not have any interests in the structured entity within the meaning of IFRS 12. The structured entity is an open-ended real estate fund for which the DZ BANK Group receives a fee for sales and for services. In 2019, the fees amounted to €28 million (2018: €4 million) under net fee and commission income and €1 million under other net operating income. No fees were recognized under other net operating income in 2018.

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

>> 33 Segment information

Information on operating segments

2019

€ million	BSH	R+V	TeamBank	UMH
Net interest income	450	-	482	40
Net fee and commission income	-28	-	-28	1,468
Gains and losses on trading activities	-	-	-	-
Gains and losses on investments	163	-	-	2
Other gains and losses on valuation of financial instruments	18	-	-	-43
Gains and losses from the derecognition of financial assets measured at amortized cost	18	-	-	-
Premiums earned	-	17,249	-	-
Gains and losses on investments held by insurance companies and other insurance company gains and losses	-	6,204	-	-
Insurance benefit payments	-	-19,340	-	-
Insurance business operating expenses	-	-2,973	-	-
Gains and losses from the derecognition of financial assets measured at amortized cost in the insurance business	-	-12	-	-
Loss allowances	-4	-	-77	-
Administrative expenses	-486	-	-230	-910
Other net operating income	58	-11	5	91
Profit/loss before taxes	**189**	**1,117**	**152**	**648**
Cost/income ratio (%)	71.6	-	50.1	58.4
Regulatory RORAC (%)	16.5	13.3	30.0	>100.0
Average own funds/solvency requirement	1,147	8,415	506	357
Total assets/total equity and liabilities as at Dec. 31, 2019	77,469	121,973	9,455	3,012

	DZ BANK – CICB	DZ HYP	DZ PRIVAT-BANK	VR Smart Finanz	DVB	DZ BANK – holding function	Other/ Consolidation	**Total**
	772	656	65	147	146	-55	35	2,738
	388	2	176	-10	48	-	-41	1,975
	437	-2	9	-	6	-	22	472
	-3	10	-	-	-1	-	11	182
	39	275	2	1	-36	-	-1	255
	50	-	-	-	-	-	-53	15
	-	-	-	-	-	-	-	17,249
	-	-	-	-	-	-	-47	6,157
	-	-	-	-	-	-	-	-19,340
	-	-	-	-	-	-	150	-2,823
	-	-	-	-	-	-	-3	-15
	-77	1	-	-30	-141	-	-1	-329
	-1,296	-259	-220	-127	-202	-203	-141	-4,074
	-17	4	4	9	72	-	35	250
	293	**687**	**36**	**-10**	**-108**	**-258**	**-34**	**2,712**
	77.8	27.4	85.9	86.4	86.0	-	-	57.3
	5.8	44.5	11.2	-3.4	-42.1	-	-	15.2
	5,056	1,543	319	291	256	-	-	17,890
	288,841	92,284	19,464	4,283	14,239	20,191	-91,832	559,379

2018

€ million	BSH	R+V	TeamBank	UMH
Net interest income [1]	760	-	449	25
Net fee and commission income	-40	-	-13	1,416
Gains and losses on trading activities	-	-	-	-
Gains and losses on investments [1]	5	-	-	-23
Other gains and losses on valuation of financial instruments [1]	8	-	-	-51
Gains and losses from the derecognition of financial assets measured at amortized cost [1]	14	-	-	-
Premiums earned	-	15,997	-	-
Gains and losses on investments held by insurance companies and other insurance company gains and losses [1]	-	1,343	-	-
Insurance benefit payments	-	-14,208	-	-
Insurance business operating expenses	-	-2,721	-	-
Gains and losses from the derecognition of financial assets measured at amortized cost in the insurance business [1]	-	-1	-	-
Loss allowances	-11	-	-70	-
Administrative expenses	-480	-	-222	-895
Other net operating income	39	3	1	30
Profit/loss before taxes	**295**	**413**	**145**	**502**
Cost/income ratio (%)	61.1	-	50.8	64.1
Regulatory RORAC (%)	26.8	5.5	31.8	>100.0
Average own funds/solvency requirement	1,098	7,564	458	346
Total assets/total equity and liabilities as at Dec. 31, 2018 [1]	71,667	107,351	8,536	2,559

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**
	713	588	64	153	177	-71	-	**2,858**
	362	2	182	7	84	-	-45	**1,955**
	258	1	10	-	-3	-	19	**285**
	24	-10	-	22	-18	-	24	**24**
	36	-86	-	-	-105	-	12	**-186**
	119	-	-	-	-	-	-	**133**
	-	-	-	-	-	-	-	**15,997**
	-	-	-	-	-	-	-69	**1,274**
	-	-	-	-	-	-	-	**-14,208**
	-	-	-	-	-	-	149	**-2,572**
	-	-	-	-	-	-	-	**-1**
	140	12	-	-13	-80	-	1	**-21**
	-1,256	-299	-219	-142	-200	-210	-136	**-4,059**
	-34	24	-188	-26	15	-	27	**-109**
	362	**232**	**-151**	**1**	**-130**	**-281**	**-18**	**1,370**
	85.0	57.6	>100.0	91.0	>100.0	-	-	**74.5**
	7.6	16.0	-44.8	0.2	-33.8	-	-	**8.2**
	4,772	1,460	336	325	352	-	-	**16,711**
	259,904	85,882	18,322	4,768	20,566	19,484	-80,306	**518,733**

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. From 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 2019. 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 prior-year figures 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 financial year, 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.

DZ BANK Group-wide disclosures

Information about geographical areas

The DZ BANK Group's operating income was generated in the following geographical areas:

€ million	2019	2018
Germany	6,327	4,630
Rest of Europe	836	727
Rest of World	103	309
Consolidation/reconciliation	-151	-216
Total	**7,115**	**5,450**

Information on geographical areas is presented according to the home countries of the companies included in the consolidated financial statements.

This information does not include the separate disclosure of certain non-current (largely tangible) assets because these assets are of minor significance in the DZ BANK Group's business model.

Information about products and services

Information on products and services offered by the DZ BANK Group is included in the income statement disclosures below.

>> 34 Net interest income

€ million	2019	2018
INTEREST INCOME AND CURRENT INCOME AND EXPENSE	**6,364**	**5,976**
Interest income from	**6,281**	**5,903**
Lending and money market business	6,053	6,013[1]
of which relating to: mortgage loans	918	860
home savings loans advanced by building society	1,073	1,044
pass-through loans	674	696
registered securities	356	378
finance leases	76	115
Bonds and other fixed-income securities	656	401[1]
Portfolio hedges of interest-rate risk	-162	-259[1]
Financial assets with a negative effective interest rate	-266	-253
Other assets	-	1
Current income and expense from	**83**	**73**
Shares and other variable-yield securities	27	29
of which: income from other shareholdings	16	18
Investments in subsidiaries	2	3
Investments in associates	2	-
Operating leases	13	-1
Entities accounted for using the equity method	35	38
of which relating to: investments in joint ventures	7	24
investments in associates	28	14
Income from profit-pooling, profit-transfer and partial profit-transfer agreements	4	4
INTEREST EXPENSE ON	**-3,626**	**-3,118**
Deposits from banks and customers	-3,181	-2,980[1]
of which relating to: home savings deposits	-1,145	-852[1]
Debt certificates issued including bonds	-695	-433[1]
Subordinated capital	-71	-110
Portfolio hedges of interest-rate risk	76	174
Financial liabilities with a positive effective interest rate	252	237
Provisions and other liabilities	-7	-6
Total	**2,738**	**2,858**

1 Amount restated (see note 2).

The interest expense on provisions and other liabilities included interest expense on lease liabilities of €4 million in the financial year.

>> 35 Net fee and commission income

€ million	2019	2018
Fee and commission income	**4,044**	**3,760**
Securities business	3,051	2,793
Asset management	251	222
Payments processing including card processing	289	270
Lending business and trust activities	149	164
Financial guarantee contracts and loan commitments	58	52
International business	10	11
Building society operations	34	31
Other	202	217
Fee and commission expenses	**-2,069**	**-1,805**
Securities business	-1,369	-1,145
Asset management	-163	-149
Payments processing including card processing	-144	-134
Lending business	-88	-74
Financial guarantee contracts and loan commitments	-10	-9
Building society operations	-84	-89
Other	-211	-205
Total	**1,975**	**1,955**

In the financial year, fee and commission income included revenue from contracts with customers pursuant to IFRS 15 in an amount of €4,032 million (2018: €3,749 million); see note 93.

>> 36 Gains and losses on trading activities

€ million	2019	2018
Gains and losses on non-derivative financial instruments and embedded derivatives	-1,373	548
Gains and losses on derivatives	1,794	-364
Gains and losses on exchange differences	51	101
Total	**472**	**285**

>> 37 Gains and losses on investments

€ million	2019	2018
Gains and losses on the disposal of bonds and other fixed-income securities	**70**	16[1]
Gains and losses on the disposal of shares and other variable-yield securities	**2**	-23
Gains and losses on the disposal of investments in subsidiaries	**-1**	11
Gains and losses on investments in joint ventures	**116**	46
Disposals	116	27
Impairment losses	-	-4
Reversals of impairment losses	-	23
Gains and losses on investments in associates	**-5**	-26
Disposals	4	7
Impairment losses	-16	-33
Reversals of impairment losses	7	-
Total	**182**	24

1 Amount restated (see note 2).

In the financial year, the bulk of the gains from the sale of interests in joint ventures were derived from the disposal of ČMSS.

>> 38 Other gains and losses on valuation of financial instruments

€ million	2019	2018
Gains and losses from hedge accounting	**-2**	-21
Gains and losses on fair value hedges	-2	-22
Gains and losses (ineffective portion) on hedges of net investments in foreign operations	-	1
Gains and losses on derivatives used for purposes other than trading	**-45**	-53
Gains and losses on financial instruments designated as at fair value through profit or loss	**273**	-104
Gains and losses on non-derivative financial instruments and embedded derivatives	211	-226[1]
Gains and losses on derivatives	62	122[1]
Gains and losses on financial assets mandatorily measured at fair value through profit or loss	**29**	3
Gains and losses on contingent considerations in a business combination	**-**	-11
Total	**255**	-186

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.

>> 39 Gains and losses from the derecognition of assets measured at amortized cost

€ million	2019	2018
Gains from the derecognition of financial assets measured at amortized cost	**47**	**141**
Loans and advances to banks and customers	9	12
Investments	38	129
Losses from the derecognition of financial assets measured at amortized cost	**-32**	**-8**
Loans and advances to banks and customers	-	-5
Investments	-2	-3
Fair value changes of the hedged items in portfolio hedges of interest-rate risk	-30	-
Total	**15**	**133**

The derecognition of financial assets measured at amortized cost was primarily attributable to the sale of impaired loans and advances to customers and early redemptions at the request of customers.

>> 40 Premiums earned

€ million	2019	2018
Net premiums written	**17,255**	**16,009**
Gross premiums written	17,398	16,133
Reinsurance premiums ceded	-143	-124
Change in provision for unearned premiums	**-6**	**-12**
Gross premiums	-10	-7
Reinsurers’ share	4	-5
Total	**17,249**	**15,997**

>> 41 Gains and losses on investments held by insurance companies and other insurance company gains and losses

€ million	2019	2018
Income from investments held by insurance companies	**8,961**	**5,209**
Interest income and current income	2,476	2,437
Income from reversals of impairment losses and reversals of loss allowances, and unrealized gains	655	512
Gains on valuation through profit or loss of investments held by insurance companies	5,058	1,475
Gains on disposals	772	785[1]
Expenses in connection with investments held by insurance companies	**-2,694**	**-4,107**
Administrative expenses	-171	-150
Depreciation/amortization expense, additions to loss allowances, and impairment losses and unrealized losses	-507	-381
Losses on valuation through profit or loss of investments held by insurance companies	-1,539	-2,792
Losses on disposals	-477	-784[1]
Other gains and losses of insurance companies	**-110**	**172**
Other insurance gains and losses	317	251
Other non-insurance gains and losses	-427	-79
Total	**6,157**	**1,274**

1 Amount restated (see note 2).

Other non-insurance gains and losses included interest expenses on lease liabilities amounting to €1 million.

Income from and expenses in connection with investments held by insurance companies and other gains and losses of insurance companies included currency translation gains of €123 million. The currency translation gains included in the previous year amounted to €196 million (amount restated; see note 2).

Income from and expenses in connection with investments held by insurance companies included additions to loss allowances of €5 million (2018: €8 million), reversals of loss allowances of €8 million (2018: €9 million), and directly recognized impairment losses of €1 million (2018: none).

>> 42 Insurance benefit payments

€ million	2019	2018
EXPENSES FOR CLAIMS	**-11,953**	**-10,742**
Payments for claims	**-10,710**	**-9,721**
Gross payments for claims	-10,753	-9,765
Reinsurers' share	43	44
Change in the provision for claims outstanding	**-1,243**	**-1,021**
Gross change in the provision for claims outstanding	-1,228	-1,021
Reinsurers' share	-15	-
CHANGE IN THE BENEFIT RESERVE AND IN OTHER INSURANCE LIABILITIES	**-5,649**	**-3,130**
Change in the benefit reserve	**-5,654**	**-3,134**
Gross change in the benefit reserve	-5,669	-3,151
Reinsurers' share	15	17
Change in other insurance liabilities	**5**	**4**
EXPENSES FOR PREMIUM REFUNDS	**-1,738**	**-336**
Gross expenses for premium refunds	-622	-878
Expenses for deferred premium refunds	-1,116	542
Total	**-19,340**	**-14,208**

The net reinsurance expense amounted to €76 million. The corresponding figure in the prior year was a net expense of €46 million (amount restated; see note 2).

Claims rate trend for direct non-life insurance business including claim settlement costs

Gross claims provisions in direct business and payments made against the original provisions:

€ million	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
At the end of the year	4,716	4,551	4,276	4,173	3,856	3,634	3,901	3,345	3,341	3,324	2,953
1 year later		4,471	4,142	4,103	3,767	3,523	3,847	3,336	3,359	3,135	2,901
2 years later			4,067	4,046	3,682	3,457	3,769	3,247	3,279	3,160	2,763
3 years later				4,020	3,647	3,389	3,731	3,220	3,254	3,139	2,756
4 years later					3,625	3,382	3,696	3,189	3,241	3,122	2,756
5 years later						3,389	3,691	3,198	3,250	3,139	2,768
6 years later							3,626	3,126	3,183	3,080	2,710
7 years later								3,118	3,172	3,065	2,685
8 years later									3,165	3,060	2,680
9 years later										3,059	2,680
10 years later											2,674
Settlements	**-**	**80**	**209**	**153**	**231**	**245**	**275**	**227**	**176**	**265**	**279**

Net claims provisions in direct business and payments made against the original provisions:

€ million	**2019**	2018	2017	2016	2015	2014	2013	2012	2011	2010
At the end of the year	4,702	4,518	4,255	4,110	3,827	3,574	3,669	3,313	3,298	3,254
1 year later		4,438	4,118	4,050	3,736	3,460	3,613	3,300	3,317	3,056
2 years later			4,044	3,994	3,655	3,393	3,533	3,211	3,236	3,077
3 years later				3,965	3,624	3,331	3,490	3,180	3,208	3,057
4 years later					3,601	3,361	3,465	3,139	3,194	2,939
5 years later						3,369	3,670	3,166	3,191	3,049
6 years later							3,605	3,095	3,144	2,957
7 years later								3,087	3,134	2,981
8 years later									3,127	2,977
9 years later										2,977
Settlements	-	**80**	**211**	**145**	**226**	**205**	**64**	**226**	**171**	**277**

Claims rate trend for inward reinsurance business

Gross claims provisions in inward reinsurance business and payments made against the original provisions:

€ million	**2019**	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Gross provisions for claims outstanding	**4,411**	**3,642**	**3,197**	**2,718**	**2,433**	**1,976**	**1,710**	**1,506**	**1,409**	**1,190**	**892**
Cumulative payments for the year concerned and prior years											
1 year later		955	852	569	622	464	481	385	463	437	282
2 years later			1,237	852	867	783	685	630	640	632	399
3 years later				1,062	1,022	919	897	764	345	739	468
4 years later					1,154	1,026	987	930	891	856	516
5 years later						1,117	1,051	996	1,029	922	588
6 years later							1,114	1,035	1,072	1,043	626
7 years later								1,085	1,103	1,067	652
8 years later									1,140	1,090	668
9 years later										1,106	684
10 years later											696
Gross provisions for claims outstanding and payments made against the original provision											
At the end of the year	4,411	3,642	3,197	2,718	2,433	1,976	1,710	1,506	1,409	1,190	892
1 year later		3,951	3,392	2,654	2,434	2,157	1,840	1,593	1,536	1,401	1,026
2 years later			3,315	2,561	2,271	2,004	1,859	1,569	1,472	1,343	872
3 years later				2,486	2,224	1,915	1,779	1,628	1,014	1,338	826
4 years later					2,179	1,887	1,720	1,580	1,528	1,360	837
5 years later						1,848	1,699	1,550	1,501	1,396	858
6 years later							1,677	1,536	1,486	1,379	870
7 years later								1,526	1,481	1,368	876
8 years later									1,468	1,354	873
9 years later										1,337	864
10 years later											856
Settlements	-	**-309**	**-118**	**232**	**254**	**128**	**33**	**-20**	**-59**	**-147**	**36**

Net claims provisions in inward reinsurance business and payments made against the original provisions:

€ million	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Net provisions for claims outstanding	**4,408**	**3,639**	**3,193**	**2,710**	**2,428**	**1,970**	**1,695**	**1,491**	**1,389**	**1,164**
Cumulative payments for the year concerned and prior years										
1 year later		955	851	567	622	464	473	383	461	432
2 years later			1,236	849	866	782	677	620	636	625
3 years later				1,058	1,020	918	888	754	333	729
4 years later					1,153	1,025	978	919	878	839
5 years later						1,115	1,042	985	1,016	904
6 years later							1,105	1,024	1,059	1,025
7 years later								1,074	1,090	1,049
8 years later									1,126	1,071
9 years later										1,086
Net provisions for claims outstanding and payments made against the original provision										
At the end of the year	4,408	3,639	3,193	2,710	2,428	1,970	1,695	1,491	1,389	1,164
1 year later		3,950	3,388	2,648	2,429	2,152	1,827	1,576	1,519	1,377
2 years later			3,312	2,555	2,267	1,999	1,845	1,554	1,454	1,321
3 years later				2,482	2,219	1,911	1,766	1,612	997	1,314
4 years later					2,176	1,883	1,708	1,566	1,510	1,337
5 years later						1,845	1,687	1,536	1,484	1,372
6 years later							1,666	1,522	1,470	1,357
7 years later								1,513	1,464	1,346
8 years later									1,453	1,332
9 years later										1,317
Settlements	**-**	**-311**	**-119**	**228**	**252**	**125**	**29**	**-22**	**-64**	**-153**

>> 43 Insurance business operating expenses

€ million	2019	2018
Gross expenses	-2,842	-2,593
Reinsurers' share	19	21
Total	**-2,823**	**-2,572**

>> 44 Gains and losses from the derecognition of financial assets measured at amortized cost in the insurance business

The derecognition of financial assets measured at amortized cost in the insurance business gave rise to gains of €9 million (2018: €11 million) and losses of €24 million (2018: €12 million).

The gains and losses from the derecognition of financial assets measured at amortized cost may include gains and losses from disposals and also gains and losses from derecognition as a result of substantial modification.

>> 45 Loss allowances

€ million	2019	2018
Loss allowances for cash and cash equivalents	**-1**	**-**
Additions	-3	-2
Reversals	2	2
Loss allowances for loans and advances to banks	**2**	**22**
Additions	-26	-17
Reversals	26	36
Recoveries on loans and advances to banks previously impaired	2	3
Loss allowances for loans and advances to customers	**-307**	**-144**
Additions	-1,907	-1,811
Reversals	1,525	1,601
Directly recognized impairment losses	-28	-39
Recoveries on loans and advances to customers previously impaired	76	87
Other	27	18
Loss allowances for investments	**7**	**17**
Additions	-21	-43
Reversals	28	60
Loss allowances for other assets	**-1**	**-**
Additions	-1	-
Other loss allowances for loans and advances	**-29**	**84**
Additions to and reversals of provisions for loan commitments	-22	27
Additions to and reversals of provisions for financial guarantee contracts	-13	7
Additions to and reversals of other provisions for loans and advances	6	50
Total	**-329**	**-21**

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 financial year.

>> 46 Administrative expenses

€ million	2019	2018
Staff expenses	**-1,878**	**-1,843**
Wages and salaries	-1,562	-1,535
Social security contributions	-198	-191
Pension and other post-employment benefit expenses	-109	-108
Expenses for share-based payment transactions	-9	-9
General and administrative expenses	**-1,921**	**-2,030**
Expenses for temporary staff	-31	-32
Contributions and fees	-199	-189
of which: contributions to the resolution fund for CRR credit institutions	-68	-80
Consultancy	-517	-580
Office expenses	-198	-217
IT expenses	-486	-465
Property and occupancy costs	-122	-176
Information procurement	-85	-78
Public relations and marketing	-161	-168
Other general and administrative expenses	-116	-119
Expenses for administrative bodies	-6	-6
Depreciation and amortization	**-275**	**-186**
Property, plant and equipment, and investment property	-81	-81
Right-of-use assets	-72	
Other assets	-122	-105
Total	**-4,074**	**-4,059**

>> 47 Other net operating income

€ million	2019	2018
Gains and losses on non-current assets and disposal groups classified as held for sale	211	2
Income from the reversal of provisions and accruals	103	130
Restructuring expenses	-84	-103
Expenses for other taxes	-24	-9
Impairment losses, reversals of impairment losses, and disposal gains and losses on software and other intangible assets	-1	-48
Impairment losses on goodwill	-	-128
Residual other net operating income	45	47
Total	**250**	**-109**

Gains and losses on non-current assets and disposal groups classified as held for sale included realized gains of €333 million on disposals (2018: €8 million) and impairment losses of €122 million (2018: €6 million).

Restructuring expenses included additions of €72 million to provisions for termination benefits linked with restructuring (2018: €86 million).

Residual other net operating income included rental income from investment property of €13 million (2018: €13 million) and directly assignable expenses of €3 million (2018: €3 million).

>> 48 Income taxes

€ million	2019	2018
Current tax expense	-615	-724
Deferred tax income/expense	-224	272
Total	**-839**	**-452**

The total for current taxes includes expenses of €19 million (2018: €13 million) attributable to previous years. Deferred taxes include expenses of €228 million (2018: income of €336 million) related to temporary differences and their reversal.

Current taxes in relation to the German limited companies in the group are calculated using an effective corporation tax rate of 15.825 percent based on a corporation tax rate of 15.0 percent plus the solidarity surcharge. The corporation tax rate applied in 2019 was unchanged from the rate used in 2018. The effective rate of trade tax for DZ BANK and subsidiaries that are members of the tax group is 15.435 percent (2018: 15.365 percent).

Deferred taxes must be calculated using tax rates expected to apply when the tax asset is recovered or liability settled. The tax rates used are therefore those that are valid or have been announced for the periods in question as at the balance sheet date.

The following table shows a reconciliation from expected income taxes to recognized income taxes based on application of the current tax law in Germany:

€ million	2019	2018
Profit before taxes	**2,712**	**1,370**
Group income tax rate	31.26%	31.19%
Expected income taxes	**-848**	**-427**
Income tax effects	**9**	**-25**
Impact of tax-exempt income and non-deductible expenses	29	-72
Adjustments resulting from other types of income tax, other trade tax multipliers, and changes in tax rates	17	28
Tax rate differences on income subject to taxation in other countries	10	-20
Current and deferred taxes relating to prior years	-12	32
Change in impairment losses on deferred tax assets	-37	3
Other effects	-2	4
Recognized income taxes	**-839**	**-452**

>> 49 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	2019	2018
Gains and losses on debt instruments measured at fair value through other comprehensive income	**1,669**	-654
Gains (+)/losses (-) arising during the reporting period	1,887	-489
Gains (-)/losses (+) reclassified to the income statement during the reporting period	-218	-165
Gains and losses on cash flow hedges	**-**	-6
Gains (+)/losses (-) arising during the reporting period	-	-3
Gains (-)/losses (+) reclassified to the income statement during the reporting period	-	-3
Exchange differences on currency translation of foreign operations	**-1**	24
Gains (+)/losses (-) arising during the reporting period	5	32
Gains (-)/losses (+) reclassified to the income statement during the reporting period	-6	-8
Gains and losses on hedges of net investments in foreign operations	**3**	-6
Gains (+)/losses (-) arising during the reporting period	3	-13
Gains (-)/losses (+) reclassified to the income statement during the reporting period	-	7
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method	**1**	-
Gains (+)/losses (-) arising during the reporting period	1	-
Gains (-)/losses (+) reclassified to the income statement	-	-

>> 50 Income taxes relating to components of other comprehensive income

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

	2019			2018		
€ 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	**1,672**	**-498**	**1,174**	-642	197	-445
Gains and losses on debt instruments measured at fair value through other comprehensive income	1,669	-501	1,168	-654	190	-464
Gains and losses on cash flow hedges	-	-	-	-6	-	-6
Exchange differences on currency translation of foreign operations	-1	-	-1	24	-1	23
Gains and losses on hedges of net investments in foreign operations	3	3	6	-6	8	2
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method	1	-	1	-	-	-
Items that will not be reclassified to the income statement	**182**	**73**	**255**	-57	19	-38
Gains and losses on equity instruments for which the fair value OCI option has been exercised	453	-13	440	-8	1	-7
Gains and losses in relation to financial liabilities for which the fair value option has been exercised, attributable to changes in own credit risk	-96	30	-66	35	-11	24
Gains and losses arising from remeasurement of defined benefit plans	-175	56	-119	-84	29	-55
Total	**1,854**	**-425**	**1,429**	-699	216	-483

D Balance sheet disclosures

>> 51 Cash and cash equivalents

€ million	Dec. 31, 2019	Dec. 31, 2018
Cash on hand	378	386
Balances with central banks	52,167	51,459
Total	**52,545**	**51,845**

The average target minimum reserve for 2019 was €3,971 million (2018: €2,103 million).

>> 52 Loans and advances to banks

	Repayable on demand		Other loans and advances		Total	
€ million	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Domestic banks	**5,811**	**4,392**	**83,288**	**80,599**	**89,099**	**84,991**
Affiliated banks	2,720	1,443	76,286	72,625	79,006	74,068
Other banks	3,091	2,949	7,002	7,974	10,093	10,923
Foreign banks	**4,923**	**4,107**	**3,522**	**2,529**	**8,445**	**6,636**
Total	**10,734**	**8,499**	**86,810**	**83,128**	**97,544**	**91,627**

The following table shows the breakdown of loans and advances to banks by type of business:

€ million	Dec. 31, 2019	Dec. 31, 2018
Mortgage loans	99	110
Registered securities	9,823	9,843
Pass-through loans	51,773	50,716
Other bank loans	16,596	15,854
Money market placements	16,214	12,425
Current account debit balances	2,882	2,384
Other loans and advances	157	295
Total	**97,544**	**91,627**

>> 53 Loans and advances to customers

€ million	Dec. 31, 2019	Dec. 31, 2018
Loans and advances to domestic customers	157,573	145,932
Loans and advances to foreign customers	28,651	28,617 [1]
Total	**186,224**	**174,549**

1 Amount restated (see note 2).

The following table shows the breakdown of loans and advances to customers by type of business:

€ million	Dec. 31, 2019	Dec. 31, 2018
Mortgage loans	50,935	46,826
Ship mortgage loans	583	788
Home savings loans advanced by building society	50,372	45,454
Finance leases	1,547	2,020
Registered securities	10,033	8,630
Pass-through loans	6,275	5,844
Other bank loans	44,338	42,302
Money market placements	3,056	1,887
Current account debit balances	5,443	5,722
Other loans and advances	13,642	15,076 [1]
Total	**186,224**	**174,549**

1 Amount restated (see note 2).

>> 54 Hedging instruments (positive fair values)

Hedging instruments (positive fair values) amounted to €201 million (December 31, 2018: €883 million) and resulted solely from derivatives used as fair value hedges.

>> 55 Financial assets held for trading

€ million	Dec. 31, 2019	Dec. 31, 2018
DERIVATIVES (POSITIVE FAIR VALUES)	**19,291**	**15,647**
Interest-linked contracts	17,063	13,773
Currency-linked contracts	1,270	1,194
Share-/index-linked contracts	554	403
Other contracts	30	52
Credit derivatives	374	225
BONDS AND OTHER FIXED-INCOME SECURITIES	**12,644**	**10,939**
Money market instruments	978	187
Bonds	11,666	10,752
SHARES AND OTHER VARIABLE-YIELD SECURITIES	**1,210**	**989**
Shares	1,208	959
Investment fund units	1	29
Other variable-yield securities	1	1
RECEIVABLES	**11,636**	**10,367**
of which: from affiliated banks	400	485
from other banks	8,505	7,927
Money market placements	**10,594**	**9,619**
with banks	8,242	7,975
with customers	2,352	1,644
Promissory notes and registered bonds	**1,042**	**748**
from banks	663	437
from customers	379	311
Total	**44,781**	**37,942**

>> 56 Investments

€ million	Dec. 31, 2019	Dec. 31, 2018
Bonds and other fixed-income securities	**54,231**	**45,614**
Money market instruments	419	466
Bonds	53,812	45,148
Shares and other variable-yield securities	**1,872**	**1,577**
Shares and other shareholdings	321	526
Investment fund units	1,541	1,041
Other variable-yield securities	10	10
Investments in subsidiaries	**310**	**300**
Investments in joint ventures	**313**	**482**
Investments in associates	**201**	**289**
Total	**56,927**	**48,262**

The carrying amount of investments in joint ventures accounted for using the equity method totaled €313 million (December 31, 2018: €482 million). €201 million of the investments in associates has been accounted for using the equity method (December 31, 2018: €288 million).

>> 57 Investments held by insurance companies

€ million	Dec. 31, 2019	Dec. 31, 2018
Investment property	3,558	2,842
Investments in subsidiaries	785	758
Investments in joint ventures	17	15
Investments in associates	1	3
Mortgage loans	9,749	9,307
Promissory notes and loans	7,235	7,386
Registered bonds	9,146	9,567
Other loans	716	654
Variable-yield securities	11,300	9,186
Fixed-income securities	55,811	48,954
Derivatives (positive fair values)	417	168
Loss allowances	-3	-4
Deposits with ceding insurers and other investments	449	294
Assets related to unit-linked contracts	14,368	11,710
Total	**113,549**	**100,840**

The fair value of investment property was €4,601 million as at the balance sheet date (December 31, 2018: €3,799 million). Government grants of €18 million were deducted from the carrying amount of investment property (December 31, 2018: €18 million). The grants are non-interest-bearing, low-interest or forgivable loans.

Some investment property has been pledged as collateral and is subject to restrictions on disposal, the total furnished collateral value of the property being €760 million (December 31, 2018: €762 million). The group also has capital expenditure commitments amounting to €394 million (December 31, 2018: €100 million). A total of €30 million was spent on the repair and maintenance of investment property in 2019 (2018: €22 million). Vacant property resulted in repair and maintenance expenses of €1 million (2018: €1 million).

Loss allowances in stage 3 declined from €4 million to €3 million in the financial year (2018: increase from €3 million to €4 million).

>> 58 Property, plant and equipment, investment property, and right-of-use assets

€ million	Dec. 31, 2019	Dec. 31, 2018
Land and buildings	917	911
Office furniture and equipment	182	182
Assets subject to operating leases	17	72
Investment property	238	258
Right-of-use assets	278	
Total	**1,632**	**1,423**

The fair value of investment property was €273 million as at the balance sheet date (December 31, 2018: €286 million). Payments in advance are allocated to the relevant item of property, plant and equipment.

>> 59 Income tax assets and liabilities

€ million	Dec. 31, 2019	Dec. 31, 2018
Income tax assets	**1,018**	**1,457**
Current income tax assets	372	401
Deferred tax assets	646	1,056
Income tax liabilities	**1,069**	**920**
Current income tax liabilities	293	384
Deferred tax liabilities	776	536

In addition to deferred tax assets recognized for tax loss carryforwards, deferred tax assets and liabilities are also recognized for temporary differences in respect of the items shown below:

	Deferred tax assets		Deferred tax liabilities	
€ million	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Tax loss carryforwards	43	39		
Loans and advances to banks and customers	51	129	1,115	1,106[1]
Financial assets and liabilities held for trading, hedging instruments (positive and negative fair values)	837	764[1]	169	197
Investments	19	42[1]	840	403[1]
Loss allowances	202	145	5	2
Investments held by insurance companies	115	123	1,150	641
Property, plant and equipment, investment property, and right-of-use assets	24	32	146	46
Deposits from banks and customers	1,021	1,053[1]	174	239
Debt certificates issued including bonds	177	152	-	4
Provisions for employee benefits and for share-based payment transactions	685	621	59	36
Other provisions	206	193[1]	30	39[1]
Insurance liabilities	77	78	115	195
Other balance sheet items	247	159	31	102
Total (gross)	**3,704**	**3,530**	**3,834**	**3,010**
Netting of deferred tax assets and deferred tax liabilities	-3,058	-2,474[1]	-3,058	-2,474[1]
Total (net)	**646**	**1,056**	**776**	**536**

1 Amount restated (see note 2).

Deferred tax assets for temporary differences and tax loss carryforwards are only recognized if it is sufficiently probable that the asset can be recovered in the future. No deferred tax assets have been recognized for corporation tax loss carryforwards amounting to €308 million (December 31, 2018: €369 million), which can be carried forward indefinitely, or for trade tax loss carryforwards amounting to €224 million (December 31, 2018: €296 million). There remained foreign loss carryforwards of €1,049 million (December 31, 2018: €879 million) for which no deferred tax assets are recognized. Of this total, €483 million will expire by 2031 and €566 million can be used indefinitely. As regards companies (or permanent establishments of companies) in the DZ BANK Group that have suffered tax losses in 2019 or 2018 in their tax jurisdiction, it will be possible to utilize deferred tax assets amounting to €4 million (December 31, 2018: €27 million) in the future if a corresponding level of taxable income is available. It is assumed that this will in fact be the case based on information available from planning of taxable income.

Overall, there was a net deferred tax liability recognized through other comprehensive income of €330 million (December 31, 2018: net deferred tax asset of €92 million).

Deferred tax assets of €5 million (December 31, 2018: €394 million) and deferred tax liabilities of €313 million (December 31, 2018: €181 million) are expected to be realized only after a period of 12 months.

As at December 31, 2019, no deferred tax liabilities were recognized for temporary differences of €290 million (December 31, 2018: €186 million) relating to long-term equity investments in subsidiaries.

>> 60 Other assets

€ million	Dec. 31, 2019	Dec. 31, 2018
Other assets held by insurance companies	3,759	3,372
Goodwill	41	41
Other intangible assets	462	436
of which: software	419	394
acquired customer relationships	4	4
Other loans and advances	382	338
Residual other assets	800	468
Total	**5,444**	**4,655**

Other intangible assets include internally generated intangible assets amounting to €23 million (December 31, 2018: €22 million).

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

€ million	Dec. 31, 2019	Dec. 31, 2018
Intangible assets	**157**	**140**
Reinsurers' share of insurance liabilities	**130**	**139**
Provision for unearned premiums	11	6
Benefit reserve	38	36
Provision for claims outstanding	81	97
Receivables	**1,593**	**1,650**
Receivables arising out of direct insurance operations	422	450
Receivables arising out of reinsurance operations	282	271
Other receivables	889	929
Credit balances with banks, checks and cash on hand	**826**	**409**
Residual other assets	**1,055**	**1,036**
Property, plant and equipment	425	379
Prepaid expenses	67	34
Remaining assets held by insurance companies	563	623
Loss allowances	**-2**	**-2**
Total	**3,759**	**3,372**

The intangible assets in the other assets held by insurance companies include internally generated intangible assets amounting to €1 million (December 31, 2018: €7 million).

Property, plant and equipment includes right-of-use assets amounting to €56 million.

The following tables show the reinsurers' share of the changes in insurance liabilities:

REINSURERS' SHARE OF THE CHANGES IN THE PROVISION FOR UNEARNED PREMIUMS

€ million	2019	2018
Balance as at Jan. 1	6	11
Additions	17	14
Utilizations/reversals	-12	-19
Balance as at Dec. 31	**11**	**6**

REINSURERS' SHARE OF THE CHANGES IN THE BENEFIT RESERVE

€ million	2019	2018
Balance as at Jan. 1	36	60
Additions	2	5
Utilizations/reversals	-	-29
Balance as at Dec. 31	**38**	**36**

REINSURERS' SHARE OF THE CHANGES IN THE PROVISION FOR CLAIMS OUTSTANDING

€ million	2019	2018
Balance as at Jan. 1	97	97
Claims expenses	19	32
less payments	-35	-32
Balance as at Dec. 31	**81**	**97**

The breakdown of maturities for the reinsurers’ share of insurance liabilities is shown in the following tables:

AS AT DECEMBER 31, 2019

€ million	≤ 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provision for unearned premiums	8	2	1	-
Benefit reserve	1	2	10	25
Provision for claims outstanding	34	20	27	-
Total	**43**	**24**	**38**	**25**

AS AT DECEMBER 31, 2018

€ million	≤ 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provision for unearned premiums	4	1	1	-
Benefit reserve	1	2	7	26
Provision for claims outstanding	38	24	33	2
Total	**43**	**27**	**41**	**28**

>> 61 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 equiva-lents	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, 2018	-	9	-	22	217	185	2,420[1]	11
Additions	-	11	2	4	258	387	1,148	18
Utilizations	-	-	-	-	-	-1	-805[1]	-
Reversals	-	-12	-2	-22	-406	-196	-972	-25
Other changes	-	-	-	-	149	-211	166[1]	-1
Balance as at Dec. 31, 2018	-	8	-	4	218	164	1,957	3
Additions	3	22	-	4	288	457	1,150	12
Utilizations	-	-	-	-	-	-1	-559	-1
Reversals	-2	-23	-	-3	-432	-202	-876	-13
Other changes	-	-	-	-	128	-215	135	-
Balance as at Dec. 31, 2019	**1**	**7**	**-**	**5**	**202**	**203**	**1,807**	**1**

1 Amount restated (see note 2).

	Investments			Other assets	Total
€ million	Stage 1	Stage 2	Stage 3	Stage 1	
Balance as at Jan. 1, 2018	10	36	24	-	2,934
Additions	25	13	-	-	1,866
Utilizations	-	-	-1	-	-807
Reversals	-28	-11	-7	-	-1,681
Other changes	-2	2	1	-	104
Balance as at Dec. 31, 2018	5	40	17	-	2,416
Additions	3	8	1	1	1,949
Utilizations	-	-	-	-	-561
Reversals	-7	-16	-	-	-1,574
Other changes	5	-6	-	-	47
Balance as at Dec. 31, 2019	**6**	**26**	**18**	**1**	**2,277**

>> 62 Changes in non-current assets

The following table shows the changes in investment property included in the investments held by insurance companies, the changes in property, plant and equipment, and investment property, and the changes in intangible assets included in other assets:

€ million	Investments held by insurance companies Investment property
Carrying amounts as at Jan. 1, 2018	2,539
Cost as at Jan. 1, 2018	2,986
Additions	381
Reclassifications	-
Reclassifications to/from non-current assets and disposal groups classified as held for sale	-32
Disposals	-5
Changes attributable to currency translation	-
Changes in scope of consolidation	-
Cost as at Dec. 31, 2018	**3,330**
Reversals of impairment losses as at Jan. 1, 2018	16
Additions	9
Reclassifications to/from non-current assets and disposal groups classified as held for sale	-
Reversals of impairment losses as at Dec. 31, 2018	**25**
Depreciation/amortization and impairment losses as at Jan. 1, 2018	-463
Depreciation/amortization expense for the year	-60
Impairment losses for the year	-2
Reclassifications to/from non-current assets and disposal groups classified as held for sale	11
Disposals	1
Changes attributable to currency translation	-
Changes in scope of consolidation	-
Depreciation/amortization and impairment losses as at Dec. 31, 2018	**-513**
Carrying amounts as at Dec. 31, 2018	2,842
Cost as at Jan. 1, 2019	3,330
Adjustment due to first-time adoption of IFRS 16	19
Adjusted cost as at Jan. 1, 2019	3,349
Additions	671
Additions in respect of borrowing costs eligible for capitalization	1
Reclassifications	-
Reclassifications to/from non-current assets and disposal groups classified as held for sale	9
Disposals	-14
Changes attributable to currency translation	-
Changes in scope of consolidation	108
Cost as at Dec. 31, 2019	**4,124**
Reversals of impairment losses as at Jan. 1, 2019	25
Additions	1
Reclassifications	8
Changes attributable to currency translation	-
Reversals of impairment losses as at Dec. 31, 2019	**34**
Depreciation/amortization and impairment losses as at Jan. 1, 2019	-513
Depreciation/amortization expense for the year	-77
Impairment losses for the year	-
Reclassifications	-8
Reclassifications to/from non-current assets and disposal groups classified as held for sale	-3
Disposals	1
Changes attributable to currency translation	-
Depreciation/amortization and impairment losses as at Dec. 31, 2019	**-600**
Carrying amounts as at Dec. 31, 2019	**3,558**

	Property, plant and equipment, and investment property				**Other assets**	
	Land and buildings	Office furniture and equipment	Assets subject to operating leases	Investment property	Goodwill	Other intangible assets
	928	178	138	254	169	466
	1,291	537	278	274	272	1,563
	7	61	6	9	-	149
	-	-	-	-	-	1
	-	-4	-	-	-	-10
	-4	-44	-121	-	-	-29
	-	-	10	-	-	-1
	-	-	-4	-	-	-
	1,294	**550**	**169**	**283**	**272**	**1,673**
	13	-	59	5	-	-
	-	-	5	-	-	-
	-	-	-	-	-	5
	13	**-**	**64**	**5**	**-**	**5**
	-376	-359	-199	-25	-103	-1,097
	-24	-52	-16	-5	-	-123
	-	-	-5	-	-128	-45
	-	2	-	-	-	2
	4	41	61	-	-	21
	-	-	-6	-	-	-
	-	-	4	-	-	-
	-396	**-368**	**-161**	**-30**	**-231**	**-1,242**
	911	182	72	258	41	436
	1,294	550	169	283	272	1,673
	-	-	-	-	-	-
	1,294	550	169	283	272	1,673
	12	65	-	2	-	154
	-	-	-	-	-	-
	20	-	-	-19	-	-
	-	-	-	-	-	-
	-	-77	-98	-	-3	-16
	-	1	3	-	-	-
	-	-	-	-	-	-
	1,326	**539**	**74**	**266**	**269**	**1,811**
	13	-	64	5	-	5
	-	-	13	-	-	-
	-	-	-	-	-	-
	-	-	4	-	-	-
	13	**-**	**81**	**5**	**-**	**5**
	-396	-368	-161	-30	-231	-1,242
	-24	-52	-8	-5	-	-122
	-	-	-5	-	-	-1
	-2	-	-	2	-	-
	-	-	-	-	-	-
	-	64	42	-	3	11
	-	-1	-6	-	-	-
	-422	**-357**	**-138**	**-33**	**-228**	**-1,354**
	917	**182**	**17**	**238**	**41**	**462**

In 2019, the useful life of the assets ranged from 2 to 61 years for buildings (2018: 7 to 62 years), from 3 to 25 years for office furniture and equipment (2018: 2.5 to 25 years), and – as in 2018 – from 6 months to 25 years for assets subject to an operating lease; the useful life for investment property was 1 to 67 years (2018: 1 to 68 years). Software included in other intangible assets was amortized over a useful life of 1 to 20 years (2018: 1 to 10 years) while acquired customer relationships were amortized over 10 to 12 years (as in 2018). Depreciation and amortization are recognized on a straight-line basis over the useful life of the asset.

The assets subject to an operating lease comprised office furniture and equipment.

Payments in advance are allocated to the relevant item of property, plant and equipment.

In 2019, borrowing costs relating to investment property held by insurance companies were capitalized in an amount of €1 million (2018: no borrowing costs capitalized). The capitalization rate used for borrowing costs was 1.07 percent for investment property held by insurance companies (2018: 0.0 percent).

Disclosures regarding the changes in goodwill are included in note 91.

Other intangible assets include acquired customer relationships amounting to €4 million (December 31, 2018: €4 million). The associated amortization expense was not material (2018: €17 million).

The changes in right-of-use assets are described in note 92 (Leases).

>> 63 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, the entire credit portfolio for the land transport finance business, which previously constituted a disposal group not qualifying as a discontinued operation, was sold in 2019, as was the fully consolidated subsidiary LogPay Financial Services GmbH, Eschborn, (LogPay). The net gain on disposal was reported under other net operating income. €12 million was attributable to the sale of the land transport finance business and €28 million to the disposal of LogPay.

Most of the aviation finance business in the DVB subgroup, which was reported with assets of €5,009 million and liabilities of €5 million as at December 31, 2018, was sold in 2019. The disposal gave rise to a net gain of €206 million, which was recognized under other net operating income. The remainder of the aviation finance business continues to be reported as a disposal group not qualifying as a discontinued operation because the subgroup still intends to sell this business. As at December 31, 2019, the assets amounted to €380 million and the liabilities €1 million. The impairment loss requirement of €95 million identified for this disposal group was recognized accordingly and is also included under other net operating income. The sale is expected to be completed by the end of 2020.

In the fourth quarter of 2019, associates and joint ventures in the DVB subgroup with a total value of €94 million were identified as a disposal group not qualifying as a discontinued operation. In connection with this reclassification, the assets were no longer recognized using the equity method but, instead, at fair value less costs of disposal, which gave rise to a net loss of €24 million.

BFL Leasing GmbH, Eschborn, which previously constituted a disposal group not qualifying as a discontinued operation and no longer formed part of the core business of VR Smart Finanz, was sold in the financial year, as was VR-IMMOBILIEN-LEASING GmbH, Eschborn. The net loss on disposal of €1 million was reported under other net operating income.

A fully consolidated subsidiary was also sold. The net gain on disposal of €72 million was reported under other net operating income.

In further transactions, one associate and one long-term equity investment that had been reported as assets held for sale as at December 31, 2018 were sold in the financial year.

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.

>> 64 Deposits from banks

	Repayable on demand		With agreed maturity or notice period		Total	
€ million	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Domestic banks	**43,890**	**44,142**	**84,059**	**84,606**	**127,949**	**128,748**
Affiliated banks	38,831	38,365	20,237	22,193	59,068	60,558
Other banks	5,059	5,777	63,822	62,413	68,881	68,190
Foreign banks	**3,566**	**3,968**	**9,606**	**9,770**	**13,172**	**13,738**
Total	**47,456**	**48,110**	**93,665**	**94,376**	**141,121**	**142,486**

The following table shows the breakdown of deposits from banks by type of business:

€ million	Dec. 31, 2019	Dec. 31, 2018
Home savings deposits	1,653	1,652
Money market deposits	24,576	24,991
Other deposits	114,892	115,843
Total	**141,121**	**142,486**

>> 65 Deposits from customers

€ million	Repayable on demand		With agreed maturity or notice period		Total	
	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Domestic customers	17,158	19,907	95,887	97,084	113,045	116,991
Foreign customers	12,144	10,555	6,327	5,002	18,471	15,557
Total	**29,302**	**30,462**	**102,214**	**102,086**	**131,516**	**132,548**

The following table shows the breakdown of deposits from customers by type of business:

€ million	Dec. 31, 2019	Dec. 31, 2018
Home savings deposits	63,226	59,996
Money market deposits	21,880	20,694
Other deposits	46,410	51,858
Total	**131,516**	**132,548**

>> 66 Debt certificates issued including bonds

€ million	Dec. 31, 2019	Dec. 31, 2018
Bonds issued	**51,536**	**50,958**
Mortgage Pfandbriefe	22,445	19,318
Public-sector Pfandbriefe	2,180	2,452
Other bonds	26,911	29,188
Other debt certificates issued	**33,587**	**12,951**
Total	**85,123**	**63,909**

All other debt certificates issued are commercial paper.

>> 67 Hedging instruments (negative fair values)

Hedging instruments (negative fair values) amounted to €1,306 million (December 31, 2018: €2,516 million) and resulted solely from derivatives used as fair value hedges.

>> 68 Financial liabilities held for trading

€ million	Dec. 31, 2019	Dec. 31, 2018
DERIVATIVES (NEGATIVE FAIR VALUES)	**18,901**	**16,079**
Interest-linked contracts	15,768	12,099
Currency-linked contracts	1,772	1,975
Share-/index-linked contracts	1,181	1,853
Other contracts	105	78
Credit derivatives	75	74
SHORT POSITIONS	**1,128**	**1,102**
BONDS ISSUED	**22,261**	**20,250**
DEPOSITS	**9,472**	**7,548**
of which: from affiliated banks	2,616	2,582
from other banks	6,659	4,346
Money market deposits	**9,306**	**7,292**
from banks	9,167	6,816
from customers	139	476
Promissory notes and registered bonds issued	**166**	**256**
to banks	108	112
to customers	58	144
Total	**51,762**	**44,979**

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

>> 69 Provisions

€ million	Dec. 31, 2019	Dec. 31, 2018
Provisions for employee benefits	**1,706**	**1,635**
Provisions for defined benefit plans	1,198	1,161
Provisions for other long-term employee benefits	165	155
of which: for semi-retirement schemes	27	26
Provisions for termination benefits	305	282
of which: for early retirement schemes	15	11
for restructuring	263	242
Provisions for short-term employee benefits	38	37
Provisions for share-based payment transactions	**39**	**42**
Other provisions	**2,090**	**1,703**
Provisions for onerous contracts	15	13
Provisions for restructuring	24	25
Provisions for loan commitments	71	49
Provisions for financial guarantee contracts	124	113
Other provisions for loans and advances	33	39
Provisions relating to building society operations	1,406	1,072
Residual provisions	417	392
Total	**3,835**	**3,380**

Provisions for defined benefit plans

The provisions for defined benefit plans predominantly result from pension plans that employees can no longer join (closed plans). There are also defined benefit pension plans for members of boards of managing directors. New employees in Germany are almost always only offered defined contribution pension plans, for which it is not generally necessary to recognize a provision. The picture outside Germany is more varied because there are both defined contribution and defined benefit plans that are open to new employees. However, the proportion of the group's total obligations accounted for by obligations outside Germany is not material. The expense for defined contribution pension plans came to €21 million in 2019 (2018: €22 million).

The present value of the defined benefit obligations is broken down by risk category as follows:

	Germany		Other countries		Total	
€ million	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Final-salary-dependent plans	2,703	2,459	124	102	2,827	2,561
Defined benefit contributory plans	519	471	243	219	762	690
Accessorial plans	70	64	4	2	74	66
Total	**3,292**	**2,994**	**371**	**323**	**3,663**	**3,317**

A significant risk factor for all plans is the level of market interest rates for investment-grade fixed-income corporate bonds because the discount rate determined from this data affects both the amount of the obligations and the measurement of the plan assets.

Final-salary-dependent plans are pension obligations to employees, the amount of which depends on the employee's final salary before the pension trigger event occurs and that, for the most part, can be assumed to constitute a life-long payment obligation. In Germany, section 16 (1) of the Occupational Pensions Act (BetrAVG) requires the amount of the pension to be adjusted every 3 years to reflect the change in consumer prices or net wages. The main risk factors for final-salary-dependent pension plans are longevity, changes in salary, inflation risk, and the discount rate.

The majority of defined benefit contributory plans comprise obligations to pay fixed capital amounts or amounts at fixed interest rates. An annuitization option exists for around half of the obligations. As a result, there may be lifelong payment obligations as well as lump-sum payments and installments. For most obligations, the contributions are linked to remuneration. Most of these plans are closed.

Accessorial plans are when the employer commits to a benefit that essentially corresponds to the benefit that is provided when an insured event occurs if the contributions are invested in a financial product of a third-party pension provider or insurer. The amount of the pension benefits therefore depends on the pension plan of the third-party pension provider, which is directly exposed to the risk factors longevity, changes in salary, and market interest rate risk. Accessorial plans are almost risk free for the employer.

The pension plans agreed in Germany are not subject to minimum funding requirements. Minimum funding is required for some pension plans outside Germany owing to local regulations.

The changes in the present value of the defined benefit obligations were as follows:

€ million	2019	2018
Present value of defined benefit obligations as at Jan. 1	3,317	3,282
Current service cost	57	59
Interest expense	58	57
Employee contributions	6	7
Pension benefits paid including plan settlements	-118	-116
of which: relating to plan settlements	-5	-1
Actuarial gains (-)/losses (+)	340	8
of which: due to changes in demographic assumptions	-1	23
due to changes in financial assumptions	334	-
experience-based	7	-15
Changes attributable to currency translation	5	1
Changes in scope of consolidation	-	19
Reclassifications	-2	-
Present value of defined benefit obligations as at Dec. 31	**3,663**	**3,317**

The actuarial losses from the change in financial assumptions mainly resulted from the decrease in the underlying discount rate to 1.0 percent (2018: 1.75 percent).

The following actuarial assumptions were used in the measurement of the defined benefit obligations:

%	Dec. 31, 2019	Dec. 31, 2018
Discount rate	1.00	1.75
Weighted salary increases	1.97	1.95
Weighted pension increases	1.67	1.78

Sensitivity analysis

The following table shows the sensitivity of the present value of the defined benefit obligations to changes in the actuarial parameters. The effects shown are based on an isolated change to one parameter, with the other parameters remaining constant. Correlation effects between individual parameters are not considered.

	Dec. 31, 2019		Dec. 31, 2018	
	€ million	%	€ million	%
Change in the present value of defined benefit obligations as at balance sheet date if				
the discount rate were 100 basis points higher	-479	-13.08	-421	-12.69
the discount rate were 100 basis points lower	604	16.49	529	15.95
the future salary increase were 50 basis points higher	38	1.04	36	1.09
the future salary increase were 50 basis points lower	-38	-1.04	-35	-1.06
the future pension increase were 25 basis points higher	87	2.38	75	2.26
the future pension increase were 25 basis points lower	-84	-2.29	-72	-2.17

The duration of the defined benefit obligations as at December 31, 2019 was 15.22 years (December 31, 2018: 14.78 years).

Plan assets

Defined benefit obligations are offset by plan assets. €1,904 million of the plan assets (December 31, 2018: €1,677 million) are attributable to contractual trust arrangements (CTAs) at DZ BANK and BSH, and are managed as trust assets by DZ BANK Pension Trust e.V., Frankfurt am Main. The relevant CTA investment committee defines the investment policy and strategy for the asset management company. Plan assets relating to obligations in the United States and United Kingdom are also managed by independent trusts. In Luxembourg, the assets were transferred to a pension fund and, in Switzerland, to a foundation. Trustees/administrators are responsible for the administration and management of the pension plans and for compliance with regulatory requirements.

The changes in the funding status of the defined benefit obligations were as follows:

€ million	Dec. 31, 2019	Dec. 31, 2018
Present value of defined benefit obligations funded by plan assets	3,025	2,732
Present value of defined benefit obligations not funded by plan assets	638	585
Present value of defined benefit obligations	**3,663**	**3,317**
less fair value of plan assets	-2,466	-2,158
Recognized surplus	1	2
Provisions for defined benefit plans	**1,198**	**1,161**
Reimbursement rights recognized as assets	3	3

The following table shows the changes in plan assets:

€ million	2019	2018
Fair value of plan assets as at Jan. 1	2,158	2,016
Interest income	38	37
Return on/expenses from plan assets (excluding interest income)	196	-65
Contributions to plan assets	139	231
of which: contributions by employer	133	225
employee contributions	6	6
Pension benefits paid	-70	-69
Changes attributable to currency translation	5	5
Changes in scope of consolidation	-	3
Fair value of plan assets as at Dec. 31	**2,466**	**2,158**

Contributions to plan assets of €18 million are expected for 2020 (2019: €19 million).

As at of December 31, 2019, 62 percent of the plan assets (December 31, 2018: 67 percent) were invested in fixed-income assets, thereby allowing for the defined benefit obligations' sensitivity to interest rates. The defined benefit obligations and the plan assets are largely in the euro, US dollar, and pound sterling currency areas. If the defined benefit obligations and the plan assets are in different currencies, derivative hedges are entered into in order to hedge the currency risk. The fixed-income investments in the form of Pfandbriefe, government bonds, and corporate bonds are generally of high quality. The bulk of the investments (particularly Pfandbriefe and government bonds) are of prime quality (AAA to AA). Most of the corporate bonds have ratings of AAA to BBB, although there is some diversification involving investments with ratings of BB and B.

The other investments are predominantly floating-rate securities (equities and investment fund units) from around the world, plus entitlements arising from insurance policies, short-term investments, and real estate assets.

The fair value of the plan assets is broken down by asset class as follows:

	Dec. 31, 2019			Dec. 31, 2018		
€ million	With quoted market price in an active market	Without quoted market price in an active market	Total	With quoted market price in an active market	Without quoted market price in an active market	Total
Cash and money market investments	-	50	50	-	43	43
Bonds and other fixed-income securities	1,531	-	1,531	1,440	-	1,440
Shares	130	-	130	99	-	99
Investment fund units	297	134	431	177	105	282
Other variable-yield securities	-	-	-	3	-	3
Other shareholdings	-	35	35	-	34	34
Derivatives	1	1	2	1	-	1
Land and buildings	-	5	5	-	5	5
Entitlements arising from insurance policies	-	158	158	-	134	134
Other assets	-	124	124	-	117	117
Total	**1,959**	**507**	**2,466**	**1,720**	**438**	**2,158**

As at December 31, 2019, the plan assets included €244 million of the group's own financial instruments (December 31, 2018: €158 million). The real estate and other assets contained in the plan assets are not used by the companies themselves.

In Luxembourg, there is a joint plan with other employers. Provisions and contributions are allocated to the contributors as stipulated in the regulations. The gains or losses on investments are distributed to the contributors on the basis of the proportion of the net assets attributable to them at the start of the year.

Other provisions

The following table shows the changes in other provisions in 2019:

€ million	Provisions for onerous contracts	Provisions for restructu-ring	Provisions for loan commit-ments	Provisions for financial guarantee contracts	Other provisions for loans and advances	Provisions relating to building society operations	Residual provisions	**Total**
Balance as at Jan. 1, 2019	13	25	49	113	39	1,072	392	1,703
Additions	4	17	191	89	12	480	243	1,036
Utilizations	-	-5	-	-	-1	-146	-176	-328
Reversals	-3	-13	-169	-76	-18	-	-46	-325
Interest expense/changes in discount rate	1	-	-	-	1	-	1	3
Other changes	-	-	-	-2	-	-	3	1
Balance as at Dec. 31, 2019	**15**	**24**	**71**	**124**	**33**	**1,406**	**417**	**2,090**

The residual provisions include provisions totaling €36 million for litigation risk (December 31, 2018: €42 million). In particular, provisions have been recognized in connection with capital market and lending products. No information pursuant to IAS 37.84 and IAS 37.85 is disclosed for these provisions because it is believed that disclosure of this information would seriously harm the outcome of the proceedings.

The expected maturities of other provisions are shown in the tables below.

AS AT DECEMBER 31, 2019

€ million	≤ 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provisions for onerous contracts	-	-	-	15	-
Provisions for restructuring	1	2	21	-	-
Provisions for loan commitments	7	6	38	16	4
Provisions for financial guarantee contracts	21	22	65	16	-
Other provisions for loans and advances	-	30	1	2	-
Provisions relating to building society operations	6	883	454	63	-
Residual provisions	63	153	64	109	28
Total	**98**	**1,096**	**643**	**221**	**32**

AS AT DECEMBER 31, 2018

€ million	≤ 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provisions for onerous contracts[1]	-	-	-	13	-
Provisions for restructuring	3	3	19	-	-
Provisions for loan commitments	2	8	22	15	2
Provisions for financial guarantee contracts	19	29	49	16	-
Other provisions for loans and advances	2	32	2	2	1
Provisions relating to building society operations	5	495	450	122	-
Residual provisions	26	128	48	13	177
Total	**57**	**695**	**590**	**181**	**180**

1 Amount restated for the maturity bands '≤ 3 months' and '> 5 years' (see note 2)

The changes in loss allowances recognized under provisions for loan commitments and provisions for financial guarantee contracts were as follows:

€ million	Loss allowances for loan commitments			Loss allowances for financial guarantee contracts			Total
	Stage 1	Stage 2	Stage 3	Stage 1	Stage 2	Stage 3	
Balance as at Jan. 1, 2018	27	5	44	12	4	103	195
Additions	80	37	38	15	13	53	236
Reversals	-83	-47	-52	-19	-19	-50	-270
Other changes	3	11	-14	-	5	-4	1
Balance as at Dec. 31, 2018	27	6	16	8	3	102	162
Additions	123	21	47	11	7	71	280
Reversals	-111	-15	-43	-16	-4	-56	-245
Other changes	1	-4	3	2	-4	-	-2
Balance as at Dec. 31, 2019	**40**	**8**	**23**	**5**	**2**	**117**	**195**

>> 70 Insurance liabilities

€ million	Dec. 31, 2019	Dec. 31, 2018
Provision for unearned premiums	1,188	1,171
Benefit reserve	65,502	61,709
Provision for claims outstanding	13,415	12,079
Provision for premium refunds	12,149	8,283
Other insurance liabilities	59	64
Reserve for unit-linked insurance contracts	12,033	9,946
Total	**104,346**	**93,252**

CHANGES IN THE PROVISION FOR UNEARNED PREMIUMS

€ million	2019	2018
Balance as at Jan. 1	1,171	1,169
Additions	1,252	1,235
Utilizations/reversals	-1,241	-1,228
Changes attributable to currency translation	6	-5
Balance as at Dec. 31	**1,188**	**1,171**

CHANGES IN THE BENEFIT RESERVE

€ million	2019	2018
Balance as at Jan. 1	61,709	58,670
Additions	7,095	5,876
Interest component	1,015	1,045
Utilizations/reversals	-4,318	-3,882
Changes attributable to currency translation	1	-
Balance as at Dec. 31	**65,502**	**61,709**

Supplementary change-in-discount-rate reserves totaling €3,957 million have been recognized for policies with a discount rate in excess of the reference rate specified in the DeckRV (December 31, 2018: €3,306 million).

CHANGES IN THE PROVISION FOR CLAIMS OUTSTANDING

€ million	2019	2018
Balance as at Jan. 1	12,079	11,064
Claims expenses	7,504	6,650
less payments	-6,276	-5,630
Changes attributable to currency translation	108	-5
Balance as at Dec. 31	**13,415**	**12,079**

CHANGES IN THE PROVISION FOR PREMIUM REFUNDS

€ million	2019	2018
Balance as at Jan. 1	8,283	10,140
Additions	689	878
Utilizations/reversals	-794	-705
Changes resulting from unrealized gains and losses on investments (through other comprehensive income)	2,850	-1,488
Changes resulting from other remeasurements (through profit or loss)	1,116	-542
Changes attributable to currency translation	5	-
Balance as at Dec. 31	**12,149**	**8,283**

The breakdown of maturities for insurance liabilities is shown in the following tables:

AS AT DECEMBER 31, 2019

€ million	≤ 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provision for unearned premiums	983	168	37	-
Benefit reserve	1,749	5,998	13,181	44,574
Provision for claims outstanding	4,868	4,918	3,629	-
Provision for premium refunds	843	685	734	9,887
Other insurance liabilities	37	10	8	4
Total	**8,480**	**11,779**	**17,589**	**54,465**

AS AT DECEMBER 31, 2018

€ million	≤ 1 year	> 1 year – 5 years	> 5 years	Indefinite
Provision for unearned premiums	950	166	55	-
Benefit reserve	1,810	6,178	13,050	40,671
Provision for claims outstanding	4,388	4,301	3,390	-
Provision for premium refunds	833	644	713	6,093
Other insurance liabilities	41	13	7	3
Total	**8,022**	**11,302**	**17,215**	**46,767**

>> 71 Other liabilities

€ million	Dec. 31, 2019	Dec. 31, 2018
Other liabilities of insurance companies	6,780	5,806
Accruals	1,256	1,155
Financial liabilities from contingent considerations in a business combination	5	5
Other payables	189	399
Lease liabilities	279	
Residual other liabilities	664	554
Total	**9,173**	**7,919**

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

€ million	Dec. 31, 2019	Dec. 31, 2018
Other provisions	**428**	**373**
Provisions for employee benefits	389	336
Provisions for share-based payment transactions	3	2
Other provisions	36	35
Payables and residual other liabilities	**6,352**	**5,433**
Subordinated capital	89	87
Deposits received from reinsurers	41	43
Payables arising out of direct insurance operations	1,464	1,500
Payables arising out of reinsurance operations	442	342
Debt certificates issued including bonds	31	30
Deposits from banks	581	580
Derivatives (negative fair values)	20	11
Liabilities from capitalization transactions	2,751	2,086
Insurance lease liabilities	63	
Other payables	284	120
Residual other liabilities	586	634
Total	**6,780**	**5,806**

>> 72 Subordinated capital

€ million	Dec. 31, 2019	Dec. 31, 2018
Subordinated liabilities	2,106	2,810
Profit-sharing rights	68	68
Other hybrid capital	-	6
Share capital repayable on demand	13	13
Total	**2,187**	**2,897**

>> 73 Equity

Subscribed capital

The subscribed capital of DZ BANK consists of 1,791,344,757 registered non-par-value shares each with an imputed value of €2.75. All shares in issue are fully paid-up.

For the 2018 financial year, DZ BANK paid a dividend of €0.18 per share in 2019 (paid in 2018: €0.18 per share). A dividend of €0.18 per share for 2019 will be proposed to the Annual General Meeting.

Authorized capital

The Board of Managing Directors is authorized, subject to the approval of the Supervisory Board, to increase the share capital by May 31, 2021 on one or more occasions by up to a total of €100 million by way of issuing new registered non-par-value shares in return for cash or non-cash contributions. The Board of Managing Directors is authorized, subject to the approval of the Supervisory Board, to exclude the subscription right of shareholders both in the case of capital increases in return for non-cash contributions and in the case of capital increases in return for cash contributions if the capital is increased for the purpose of

- issuing new shares to employees of the corporation (employee shares),
- issuing new shares to one or more cooperative banks which, measured in terms of their total assets, directly and indirectly have a below-average stake in the corporation's share capital, i.e. less than 0.5 percent of their total assets (based on the nominal value of €2.75 per DZ BANK share),
- acquiring companies, equity investments in companies or for granting equity investments in the corporation in order to back strategic partnerships.

The Board of Managing Directors is also authorized, subject to the approval of the Supervisory Board, to exclude fractions from the subscription right of shareholders ('Authorized Capital I').

The Board of Managing Directors is authorized, subject to the approval of the Supervisory Board, to increase the share capital by May 31, 2021 on one or more occasions by up to a total of €300 million by issuing new registered non-par-value shares in return for cash contributions. The Board of Managing Directors is authorized, subject to the approval of the Supervisory Board, to exclude fractions from the subscription right of shareholders ('Authorized Capital II').

The new shares issued on the basis of utilizing Authorized Capital I or Authorized Capital II can also be acquired by credit institutions determined by the Board of Managing Directors if aforesaid credit institutions agree to offer said shares to the shareholders (indirect subscription right).

The Board of Managing Directors did not make use of any of this authorized action in 2019.

Contingent capital

The share capital is to be contingently raised by up to €52,859,413.75 by issuing up to 19,221,605 new, registered non-par-value shares (Contingent Capital). The increase in the Contingent Capital shall serve to grant registered non-par value shares (subscription shares) for the fulfillment of corresponding conversion rights and/or conversion obligations of creditors of convertible bonds or registered bonds, as the case may be, that were issued until June 24, 2015 in return for a cash contribution on the basis of the authorization resolution of the

Annual General Meeting of WGZ BANK AG Westdeutsche Genossenschafts-Zentralbank of June 24, 2014. The increase in the Contingent Capital must only be carried out to the extent that the creditors of aforesaid convertible bonds or registered bonds, as the case may be, entitled or obliged to convert make use of their conversion right or fulfill their conversion obligation and that no own shares are used for aforesaid fulfillment. The subscription shares shall at all times be issued at a ratio of one registered bond to 7,435.824 subscription shares.

The subscription shares participate from the beginning of the financial year in which they come into existence in the profits of the current financial year as well as in the profits of previous years if a resolution of the appropriation of said profits has yet to be passed.

The Board of Managing Directors is authorized, subject to the approval of the Supervisory Board, to determine the further details pertaining to the execution of the increase in the Contingent Capital.

Disclosures on shareholders

At the end of 2019, 99.5 percent of shares were held by cooperative enterprises (December 31, 2018: 99.4 percent). These cooperative enterprises include the cooperative banks and other legal entities and trading companies economically associated with the cooperative movement or cooperative housing sector.

Capital reserve

The capital reserve comprises the amounts from the issue of DZ BANK shares in excess of the imputed par value of the shares.

Retained earnings

Retained earnings comprise earned, undistributed consolidated profit together with gains and losses arising from remeasurement of defined benefit plans after taking into account deferred taxes. Cumulative gains and losses arising from remeasurement of defined benefit plans amounted to a loss of €682 million (December 31, 2018: loss of €568 million).

Reserve from other comprehensive income

Reserve from equity instruments for which the fair value OCI option has been exercised

The reserve from equity instruments for which the fair value OCI option has been applied is used to report the changes in the fair value of equity instruments measured at fair value through other comprehensive income after taking into account deferred taxes. If the equity instruments are sold, the related reserve is reclassified to retained earnings.

Reserve from gains and losses on financial liabilities for which the fair value option has been exercised, attributable to changes in own credit risk

The portion of the changes in fair value of financial liabilities designated as at fair value through profit or loss attributable to changes in the DZ BANK Group's own credit risk is also recognized in the reserve from other comprehensive income. If the liabilities are derecognized, the cumulative gains and losses recognized through other comprehensive income are reclassified to retained earnings.

Reserve from debt instruments measured at fair value through other comprehensive income

The reserve from debt instruments measured at fair value through other comprehensive income is used to report the changes in fair value after taking into account deferred taxes. In the case of debt instruments, gains and losses are only recognized in profit or loss when the relevant asset is sold. Loss allowances are recognized for these assets in accordance with IFRS 9.

Cash flow hedge reserve

The cash flow hedge reserve comprises the gains and losses on the measurement of hedging instruments attributable to the effective portion of the hedge after taking into account deferred taxes.

Currency translation reserve

The currency translation reserve is the result of the translation of financial statements of subsidiaries denominated in foreign currency into euros (the group reporting currency). It also includes the gains and losses on hedges of net investments in foreign operations and the change in the currency translation reserve for entities accounted for using the equity method.

Additional equity components

Additional Tier 1 notes

In 2019, DZ BANK issued a tranche of additional Tier 1 notes ('AT1 bonds') with a total volume of €1,400 million.

The AT1 bonds are split into 4 types depending on their interest-rate arrangements (types A to D). Type A has a variable interest rate, whereas types B to D have fixed interest rates. At the end of the fixed-interest period, types B and C are aligned with the variable interest rate attaching to type A. In the case of type D, a new interest rate is fixed for a further period of 5 years. Interest is payable annually. The date for the payment of interest has been specified as August 1 each year.

Under the terms and conditions of the bond, interest payments are at the discretion of the issuer. They may be canceled, either wholly or in part, depending on the items eligible for distribution or by order of the competent supervisory authority. Interest payments are not cumulative; canceled or reduced payments will not be made up in subsequent periods.

The bonds do not have any maturity date and are subject to the terms and conditions set out in the relevant prospectus. Among other things, the terms and conditions specify that DZ BANK may only call the bonds in their entirety, and not in part, provided that there are certain regulatory or tax reasons for doing so. In all instances, DZ BANK must obtain the consent of the competent supervisory authority in order to call the bonds.

In previous years, DZ BANK had issued a tranche of additional Tier 1 notes (AT1 bonds) with a total volume of €750 million.

The tranches of AT1 bonds issued are shown in the 'Additional equity components' sub-item. According to the provisions of IAS 32, the AT1 bonds have characteristics of equity. The AT1 bonds are unsecured, subordinated bearer bonds of DZ BANK.

Other hybrid capital

As a result of the merger of DZ BANK with WGZ BANK, the convertible bond issued by WGZ BANK was taken over by DZ BANK as the legal successor. Upon initial recognition when the convertible bond was taken over, the components had to be defined as a financial liability or an equity instrument. The portion of the convertible bond that was not classified as a component of equity was recognized under subordinated capital. As was the case in the previous year, the equity component of €95 million is included as an additional equity component within the equity of the DZ BANK Group until such time as it is potentially converted into non-par-value shares of DZ BANK. Further disclosures on conversion into non-par-value shares of DZ BANK can be found in the section on contingent capital.

Non-controlling interests

Non-controlling interests comprise the equity of subsidiaries not attributable to DZ BANK.

Breakdown of changes in equity by component of other comprehensive income

2019

€ million	Equity earned by the group	Reserve from other comprehen-sive income	Non-controlling interests
Gains and losses on debt instruments measured at fair value through other comprehensive income	-	1,055	113
Exchange differences on currency translation of foreign operations	-	-	-1
Gains and losses on hedges of net investments in foreign operations	-	6	-
Gains and losses on equity instruments for which the fair value OCI option has been exercised	-	401	39
Gains and losses in relation to financial liabilities for which the fair value option has been exercised, attributable to changes in own credit risk	-	-64	-2
Gains and losses arising from remeasurement of defined benefit plans	-114	-	-5
Share of other comprehensive income/loss of joint ventures and associates accounted for using the equity method	-	1	-
Other comprehensive income/loss	**-114**	**1,399**	**144**

2018

€ million	Equity earned by the group	Reserve from other comprehen-sive income	Non-controlling interests
Gains and losses on debt instruments measured at fair value through other comprehensive income	-	-407	-57
Gains and losses on cash flow hedges	-	-6	-
Exchange differences on currency translation of foreign operations	-	25	-2
Gains and losses on hedges of net investments in foreign operations	-	2	-
Gains and losses on equity instruments for which the fair value OCI option has been exercised	-	9	-16
Gains and losses in relation to financial liabilities for which the fair value option has been exercised, attributable to changes in own credit risk	-	23	1
Gains and losses arising from remeasurement of defined benefit plans	-53	-	-2
Other comprehensive income/loss	**-53**	**-354**	**-76**

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

€ million	Items not reclassified to the income statement		Items reclassified to the income statement		
	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 comprehensive income	Cash flow hedge reserve	Currency translation reserve
Equity as at Jan. 1, 2018	380	-	537	5	43
Other comprehensive income/loss	9	23	-409	-6	29
Total comprehensive income/loss	**9**	**23**	**-409**	**-6**	**29**
Changes in scope of consolidation	-	-	-	1	12
Acquisition/disposal of non-controlling interests	4	-	3	-	-
Reclassifications within equity	-32	-	-	-	-
Equity as at Dec. 31, 2018	361	23	131	-	84
Other comprehensive income/loss	401	-65	1,055	-	8
Total comprehensive income/loss	**401**	**-65**	**1,055**	**-**	**8**
Changes in scope of consolidation	-	-	-	-	-7
Acquisition/disposal of non-controlling interests	1	-	-	-	-
Reclassifications within equity	-298	-	-	-	-
Equity as at Dec. 31, 2019	**465**	**-42**	**1,186**	**-**	**85**

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

	Loans and advances to customers			Investments		
€ million	Stage 1	Stage 2	Stage 3	Stage 1	Stage 2	Stage 3
Balance as at Jan. 1, 2018	1	3	-	4	7	33
Additions	-	-	-	4	1	-
Utilizations	-	-	-	-1	-	-5
Reversals	-	-2	-	-9	-5	-
Other changes	-	1	-	5	-2	1
Balance as at Dec. 31, 2018	1	2	-	3	1	29
Additions	-	-	-	5	-	4
Reversals	-1	-1	-	-4	-	-1
Other changes	1	-1	-	-	-	-2
Balance as at Dec. 31, 2019	**1**	**-**	**-**	**4**	**1**	**30**

€ million	Investments held by insurance companies			Total
	Stage 1	Stage 2	Stage 3	
Balance as at Jan. 1, 2018	4	-	-	52
Additions	7	-	-	12
Utilizations	-	-	-	-6
Reversals	-7	-	-	-23
Other changes	-	-	-	5
Balance as at Dec. 31, 2018	4	-	-	40
Additions	5	-	-	14
Reversals	-5	-	-	-12
Other changes	-	-	-	-2
Balance as at Dec. 31, 2019	**4**	**-**	**-**	**40**

E Financial instruments and fair value disclosures

>> 74 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 instruments (in accordance with IFRS 9):

€ million	Dec. 31, 2019 Carrying amount	Dec. 31, 2019 Fair value	Dec. 31, 2018 Carrying amount	Dec. 31, 2018 Fair value
FINANCIAL ASSETS MEASURED AT FAIR VALUE	**187,377**	**187,377**	**159,271**	**159,271**
Financial assets measured at fair value through profit or loss	**84,894**	**84,894**	**73,091**	**73,091**
Financial assets mandatorily measured at fair value through profit or loss	***74,563***	***74,563***	***63,324***	***63,324***
Loans and advances to banks	-	-	1	1
Loans and advances to customers	258	258	234	234
Hedging instruments (positive fair values)	201	201	883	883
Financial assets held for trading	44,781	44,781	37,942	37,942
Investments	2,591	2,591	2,219	2,219
Investments held by insurance companies	26,732	26,732	22,045[1]	22,045[1]
Financial assets designated as at fair value through profit or loss	***10,331***	***10,331***	***9,767***	***9,767***
Loans and advances to banks	2,427	2,427	1,874	1,874
Loans and advances to customers	1,488	1,488	1,629	1,629
Investments	6,416	6,416	6,264	6,264
Financial assets measured at fair value through other comprehensive income	**102,169**	**102,169**	**85,764**	**85,764**
Financial assets mandatorily measured at fair value through other comprehensive income	***95,857***	***95,857***	***80,275***	***80,275***
Loans and advances to banks	152	152	230	230
Loans and advances to customers	3,569	3,569	3,716	3,716
Investments	29,731	29,731	19,774	19,774
Investments held by insurance companies	62,405	62,405	56,555	56,555
Financial assets designated as at fair value through other comprehensive income	***6,312***	***6,312***	***5,489***	***5,489***
Investments	379	379	603	603
Investments held by insurance companies	5,933	5,933	4,886	4,886
Non-current assets and disposal groups classified as held for sale	**314**	**314**	**416**	**416**
FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**359,569**	**366,937**	**346,553**	**352,762**
Cash and cash equivalents	52,166	52,167	51,459	51,459
Loans and advances to banks	94,953	97,570	89,510	91,398
Loans and advances to customers	177,165	180,501	164,628	167,011
Investments	17,246	18,148	18,570	19,382
Investments held by insurance companies	14,472	16,259	14,218	15,744
Other assets	2,094	2,094	1,674	1,676
Fair value changes of the hedged items in portfolio hedges of interest-rate risk	1,275		533	
Non-current assets and disposal groups classified as held for sale	**198**	**198**	**5,961**	**6,092**
FINANCE LEASES	**1,531**	**1,534**	**2,000**	**2,005**
Loans and advances to customers	1,531	1,534	2,000	2,005

1 Amount restated (see note 2).

€ million	Dec. 31, 2019 Carrying amount	Dec. 31, 2019 Fair value	Dec. 31, 2018 Carrying amount	Dec. 31, 2018 Fair value
FINANCIAL LIABILITIES MEASURED AT FAIR VALUE	**84,261**	**84,261**	**81,126**	**81,126**
Financial liabilities mandatorily measured at fair value through profit or loss	**53,093**	**53,093**	**47,511**	**47,511**
Hedging instruments (negative fair values)	1,306	1,306	2,516	2,516
Financial liabilities held for trading	51,762	51,762	44,979	44,979
Other liabilities	25	25	16	16
Financial liabilities designated as at fair value through profit or loss	**31,168**	**31,168**	**33,607**	**33,607**
Deposits from banks	5,060	5,060	5,767	5,767
Deposits from customers	10,114	10,114	10,697	10,697
Debt certificates issued including bonds	15,647	15,647	16,763	16,763
Subordinated capital	347	347	380	380
Liabilities included in disposal groups classified as held for sale	**-**	**-**	**8**	**8**
FINANCIAL LIABILITIES MEASURED AT AMORTIZED COST	**330,611**	**336,160**	**310,201**	**313,569**
Deposits from banks	136,061	139,028	136,719	138,765
Deposits from customers	121,402	123,345	121,851	123,031
Debt certificates issued including bonds	69,476	70,137	47,146	47,299
Other liabilities	1,688	1,689	1,629	1,630
Subordinated capital	1,840	1,961	2,517	2,616
Fair value changes of the hedged items in portfolio hedges of interest-rate risk	144		134	
Liabilities included in disposal groups classified as held for sale	**-**	**-**	**205**	**228**
LEASES	**342**	**342**		
Other liabilities	342	342		
FINANCIAL GUARANTEE CONTRACTS AND LOAN COMMITMENTS	**195**	**195**	**162**	**162**
Financial guarantee contracts	**124**	**124**	**113**	**113**
Provisions	124	124	113	113
Loan commitments	**71**	**71**	**49**	**49**
Provisions	71	71	49	49

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 €15,050 million (December 31, 2018: €14,771 million).

>> 75 Equity instruments designated as at fair value through other comprehensive income

Investments and investments held by insurance companies include shares and other variable-yield securities and investments in subsidiaries, joint ventures, and associates that the DZ BANK Group has elected to measure at fair value through other comprehensive income. These investments and investments held by insurance companies are not held for trading or to generate returns. The DZ BANK Group believes that it would be inappropriate to report gains and losses in profit or loss in this case.

€ million	Dec. 31, 2019	Dec. 31, 2018
Investments	**379**	**603**
Shares and other variable-yield securities	222	440
Investments in subsidiaries	157	163
Investments held by insurance companies	**5,933**	**4,886**
Shares and other variable-yield securities	5,537	4,519
Investments in subsidiaries	378	349
Investments in joint ventures	17	15
Investments in associates	1	3
Total	**6,312**	**5,489**

Dividends of €176 million (2018: €159 million) were recognized in 2019 in respect of investments and investments held by insurance companies as at the reporting date.

Investments and investments held by insurance companies with a carrying amount of €712 million (2018: €745 million) were derecognized in 2019. The derecognition of these investments was attributable to capital repayments, liquidations, and disposals. No further current gains or losses are expected from these assets. These derecognitions resulted in cumulative net gains of €350 million (2018: €53 million), which were reclassified to retained earnings or the provision for premium refunds in the financial year. In 2019, dividends of €13 million (2018: €15 million) were recognized in respect of investments and investments held by insurance companies that have been sold.

>> 76 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	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Assets	**82,382**	**70,070**	**96,062**	**81,558**	**8,933**	**8,310**
Loans and advances to banks	-	-	2,579	2,105	-	-
Loans and advances to customers	-	-	4,408	4,651	907	928
Hedging instruments (positive fair values)	-	-	201	883	-	-
Financial assets held for trading	1,645	1,351	42,345	36,037	791	554
Investments	19,770	14,829	17,378	11,852	1,969	2,179
Investments held by insurance companies	60,873	53,889	29,106	25,336	5,091	4,261
Non-current assets and disposal groups classified as held for sale	94	1	45	694	175	388
of which: non-recurring measurement	94	-	-	667	41	-
Liabilities	**4,320**	**3,873**	**93,039**	**87,348**	**1,172**	**1,524**
Deposits from banks	-	-	5,060	5,767	-	-
Deposits from customers	-	-	10,114	10,697	-	-
Debt certificates issued including bonds	3,340	2,488	11,699	13,710	608	565
Hedging instruments (negative fair values)	-	-	1,306	2,516	-	-
Financial liabilities held for trading	973	1,376	50,274	42,696	515	907
Financial liabilities arising from unit-linked insurance products	-	-	14,270	11,619	-	-
Other liabilities	7	9	13	-	5	7
Subordinated capital	-	-	303	335	44	45
Liabilities included in disposal groups classified as held for sale	-	-	-	8	-	-

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	2019	2018	2019	2018
Financial assets measured at fair value	**957**	267	**3,759**	348
Financial assets held for trading	-	-	-	87
Investments	-	35	3,577	-
Investments held by insurance companies	957	232	182	261
Financial liabilities measured at fair value	**-**	-	**-**	5
Financial liabilities held for trading	-	-	-	5

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 fundamental 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. This includes, 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 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

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, 2018.

Class according to IFRS 13	Assets/liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs	Spread of unobservable inputs (%)
Loans and advances to customers	Loans	670	DCF method	BVAL price adjustment	-1.4 to 1.9
		56	DCF method	Credit spread	0.0 to 8.3
	Profit-participation certificates	57	DCF method	Internal credit ratings	5.2 to 16.7
	Shareholders' loans	89	DCF method	Internal credit ratings	5.2 to 16.7
	Receivables arising from silent partnerships	56	DCF method	Internal credit ratings	5.2 to 16.7
Financial assets held for trading	ABSs	4	DCF method	Credit spread	0.6 to 5.3
	Equity/commodity basket products	5	Local volatility model	Correlation of the risk factors considered	11.9 to 85.3
	Loans and advances to issuers in default	5	DCF method	Recovery rate	-
	Collateralized loan obligations	141	Gaussian copula model	Liquidity spread	0.0 to 4.4
	Bearer securities	335	DCF method	BVAL price adjustment	-1.3 to 0.7
	Registered securities	15	DCF method	BVAL price adjustment	-1.4 to 1.9
	Option in connection with acquisition of long-term equity investments	49	Black-Scholes model	Earnings indicator	-
Investments	ABSs	31	DCF method	Credit spread	0.6 to 5.3
	Other variable-yield securities	10	DCF method	Assumptions for measurement of risk parameters	9.7 to 13.4
	Investments in subsidiaries	22	DCF method	Assumptions for measurement of risk parameters	9.7 to 13.4
		277	Income capitalization approach, net asset value method	Future income	-
		1	Liquidation value	-	-
	Collateralized loan obligations	7	Gaussian copula model	Liquidity spread	0.0 to 4.4
	Bearer securities	293	DCF method	BVAL price adjustment	-1.3 to 125.0
	Investment fund units	21	Net asset value	-	-
	Mortgage-backed securities	367	DCF method	Duration	-
		62	DCF method	Recovery rate	15.8 to 95.3
	Other shareholdings	57	DCF method	Capitalization rate, growth factor	0.0 to 11.2
		14	DCF method	Assumptions for measurement of risk parameters	9.7 to 13.4
		455	Income capitalization approach, net asset value method	Future income	-
	VR Circle	562	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	621	Third-party pricing information	-	-
	Investments in subsidiaries, associates, and joint ventures, real estate funds, profit-participation certificates, and other long-term equity investments	2,128	Net asset value	-	-
	Investments in subsidiaries, associates, and joint ventures, other long-term equity investments, and shares in cooperatives	296	Income capitalization approach	Future income	6.9 to 11.6
	Fixed-income securities, convertible bonds, shares, and shares in cooperatives	804	Third-party pricing information	-	-
	Profit-participation certificates and promissory notes	403	DCF method	Credit spread	5.3 to 7.5
	Derivatives (positive fair values)	3	Third-party pricing information	-	-
	Other shareholdings	6	Approximation	-	-
Non-current assets and disposal groups classified as held for sale	Loans	378	DCF method	Credit spread	0.0 to 8.3
	Other shareholdings	10	Income capitalization approach, net asset value method	Future income	-
Debt certificates issued including bonds	VR Circle	565	DCF method	Multiple-year default probabilities	0 to 100
Financial liabilities held for trading	Equity/commodity basket products	863	Local volatility model	Correlation of the risk factors considered	11.9 to 85.3
	Option in connection with acquisition of long-term equity investments	8	Black-Scholes model	Earnings indicators	-
	Products with commodity volatility derived from comparable instruments	36	Local volatility model	Earnings indicators	7.0 to 64.2
Other liabilities	Incentivization commitment in connection with acquisition of long-term equity investments	5	Expected value	-	-
	Derivatives (negative fair values)	2	Third-party pricing information	-	-
Subordinated capital	Loans	45	DCF method	Credit spread	0.0 to 3.6

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, 2018	1,522	660	2,255	3,430	50
Additions (purchases)	68	60	132	1,216	1
Transfers	-27	-56	185	-1	-
from Level 3 to Levels 1 and 2	-27	-134	-108	-99	-
from Levels 1 and 2 to Level 3	-	78	293	98	-
Disposals (sales)	-619	-114	-550	-506	-51
Changes resulting from measurement at fair value	-19	-4	163	122	-
through profit or loss	-20	-4	29	72	-
through other comprehensive income	1	-	134	50	-
Other changes	3	8	-6	-	388
Balance as at Dec. 31, 2018	928	554	2,179	4,261	388
Additions (purchases)	51	774	187	1,488	289
Transfers	-10	223	-36	-137	-
from Level 3 to Levels 1 and 2	-10	-71	-266	-234	-
from Levels 1 and 2 to Level 3	-	294	230	97	-
Disposals (sales)	-132	-732	-201	-679	-780
Changes resulting from measurement at fair value	-26	-28	65	158	46
through profit or loss	-33	-28	43	89	-59
through other comprehensive income	7	-	22	69	105
Other changes	96	-	-225	-	232
Balance as at Dec. 31, 2019	**907**	**791**	**1,969**	**5,091**	**175**

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, 2018	543	1,078	15	254
Additions (issues)	21	25	-	-
Transfers	-	-187	-	-
from Level 3 to Level 2	-	-252	-	-
from Level 2 to Level 3	-	65	-	-
Disposals (settlements)	-	-	-7	-205
Changes resulting from measurement at fair value through profit or loss	1	-18	-1	-4
Other changes	-	9	-	-
Balance as at Dec. 31, 2018	565	907	7	45
Additions (issues)	-	103	-	-
Transfers	101	-367	-	-
from Level 3 to Level 2	-	-468	-	-
from Level 2 to Level 3	101	101	-	-
Disposals (settlements)	-42	-154	-2	-1
Changes resulting from measurement at fair value	-16	26	-	-
through profit or loss	-16	26	-	-2
through other comprehensive income	-	-	-	2
Balance as at Dec. 31, 2019	**608**	**515**	**5**	**44**

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 financial year 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 net gain of €54 million during the year under review (2018: net gain of €124 million). The gains or losses are included in the line items net interest income, gains and losses on trading activities, gains and losses on investments, other gains and losses on valuation of financial instruments, and gains and losses on investments held by insurance companies and other insurance company gains and losses.

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 €40 million loss in the income statement (2018: loss of €32 million) and a loss of €1 million under other comprehensive income/loss (2018: 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 an €8 million loss in the income statement (2018: loss of €27 million). For the fair values of investments, there would be a €26 million loss under other comprehensive income/loss (2018: loss of €27 million) and a €24 million loss in the income statement (2018: loss of €23 million). Within financial assets held for trading, the changes would give rise to a loss of €8 million recognized in profit or loss (2018: loss of €11 million); however, changes within financial liabilities held for trading would result in a gain of €3 million recognized in profit or loss (2018: gain of €2 million). In the case of debt certificates issued including bonds, the change would give rise to a gain of €3 million recognized in other comprehensive income/loss (2018: no gain or loss recognized in 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 €14 million loss in the income statement (2018: loss of €7 million) and a loss of €19 million under other comprehensive income/loss (2018: loss of €22 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 €4 million increase in fair value that would be recognized in the income statement (2018: 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 (2018: loss of €2 million) and a loss of €1 million in other comprehensive income/loss (2018: no gain or loss in other comprehensive income/loss).

Measurement of the commodities reported under financial assets and financial liabilities held for trading is based on the benchmark volatility of a comparable underlying. All other things being equal, an increase in volatility of 1 percent would not lead to any material change in fair value. In 2018, such an increase would have led to the recognition of a gain of €2 million in profit or loss.

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 (2018: decrease of €7 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.

>> 77 Assets and liabilities not measured at fair value on the balance sheet

Fair value hierarchy

Fair value measurements of assets and liabilities that are not recognized at fair value on the balance sheet, but whose fair value must be disclosed, are assigned to the levels of the fair value hierarchy as follows:

	Level 1		Level 2		Level 3	
€ million	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Assets	**800**	**529**	**205,088**	**196,735**	**165,927**	**159,583**
Cash and cash equivalents	-	-	52,167	51,459	-	-
Loans and advances to banks	-	-	92,984	87,008	4,586	4,390
Loans and advances to customers	-	-	37,758	34,675	142,743	132,336
Investments	431	529	17,320	18,411	397	442
Investments held by insurance companies	369	-	4,357	4,693	16,134	14,850
Property, plant and equipment, and investment property	-	-	121	131	152	155
Other assets	-	-	381	338	1,713	1,338
Non-current assets and disposal groups classified as held for sale	-	-	-	20	202	6,072
Liabilities	**16,992**	**3,158**	**250,466**	**244,535**	**68,897**	**66,038**
Deposits from banks	-	-	137,288	137,017	1,740	1,748
Deposits from customers	-	-	59,747	62,675	63,598	60,356
Debt certificates issued including bonds	16,992	3,158	53,145	44,141	-	-
Provisions	-	-	19	21	176	141
Other liabilities	-	-	201	338	1,488	1,292
Subordinated capital	-	-	66	115	1,895	2,501
Liabilities included in disposal groups classified as held for sale	-	-	-	228	-	-

Fair value measurements within Levels 2 and 3

The fair value measurements of assets and liabilities that are not recognized at fair value on the balance sheet largely correspond to the fair value measurements of assets and liabilities that are recognized at fair value on the balance sheet.

The following table shows the valuation techniques and the unobservable inputs used in these techniques for the fair value measurements at Level 3 of the fair value hierarchy as at the balance sheet date.

Class according to IFRS 13	Assets/liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs
Loans and advances to banks	Loans	4,586	DCF method	Credit spread, recovery rate
Loans and advances to customers	Building loans	50,209	Amortized cost	-
	Loans	92,534	DCF method	Credit spread, recovery rate, internal spread
Investments	ABSs	108	DCF method	Credit spread
	Bonds with adjustment spread	289	DCF method	BVAL price adjustment
Investments held by insurance companies		111	Cost	Nominal amounts
	Investment property	4,490	DCF method	Future rent, reference prices in the market
	Loans and bank accounts	11,482	DCF method	Yield curves, credit spread
	Loans	51	Cost	Nominal amounts
Property, plant and equipment	Investment property	152	Valuation reports	-
Other assets	Credit balances with banks	825	Cost	Nominal amounts
	Other receivables	888	Cost	Nominal amounts
Non-current assets and disposal groups classified as held for sale	Loans	198	DCF method	Credit spread
	Property, plant and equipment, and investment property	4	Cost	Nominal amounts

Class according to IFRS 13	Assets/liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs
Deposits from banks	Home savings deposits	1,653	Cost	-
	Loans	87	DCF method	Credit spread
Deposits from customers	Home savings deposits	63,222	Cost	-
	Loans	358	DCF method	Credit spread
	Overpayments on consumer finance loans	18	Cost	-
Provisions	Provisions for loan commitments	176	Settlement amount	-
Other liabilities	Loans	542	Cost	Nominal amounts
	Non-controlling interests in special funds	153	Cost	Nominal amounts
	Subordinated liabilities	73	DCF method	Yield curves, credit spread
	Registered securities	31	Cost	Nominal amounts
	Other payables	169	Cost	Nominal amounts
	Liabilities arising from rented software recognized as an asset	6	Carrying amount	Assumptions regarding the exercise of extension or termination options
	Liabilities from capitalization transactions	514	Cost	Nominal amounts
Subordinated capital	Bonds with adjustment spread	1,895	DCF method	Credit spread

The following table shows the valuation techniques and the unobservable inputs used in these techniques for the fair value measurements at Level 3 of the fair value hierarchy as at December 31, 2018.

Class according to IFRS 13	Assets/liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs
Loans and advances to banks	Loans	4,390	DCF method	Credit spread, recovery rate
Loans and advances to customers	Building loans	45,449	Amortized cost	-
	Loans	86,887	DCF method	Credit spread, recovery rate, internal spread
Investments	ABSs	181	DCF method	Credit spread
	Bonds with adjustment spread	261	DCF method	BVAL price adjustment
Investments held by insurance companies		255	Cost	Nominal amounts
	Investment property	3,544	DCF method	Future rent, reference prices in the market
	Loans and bank accounts	10,989	DCF method	Yield curves, credit spread
	Loans	62	Cost	Nominal amounts
Property, plant and equipment	Investment property	155	Valuation reports	-
Other assets	Credit balances with banks	409	Cost	Nominal amounts
	Other receivables	929	Cost	Nominal amounts
Non-current assets and disposal groups classified as held for sale	Loans	6,072	DCF method	Credit spread

Class according to IFRS 13	Assets/liabilities	Fair value (€ million)	Valuation technique	Unobservable inputs
Deposits from banks	Home savings deposits	1,652	Cost	-
	Loans	96	DCF method	Credit spread
Deposits from customers	Home savings deposits	59,996	Cost	-
	Loans	339	DCF method	Credit spread
	Other payables	4	Cost	-
	Overpayments on consumer finance loans	17	Cost	-
Provisions	Provisions for loan commitments	141	Settlement amount	-
Other liabilities	Loans	484	Cost	Nominal amounts
	Non-controlling interests in special funds	95	Cost	Nominal amounts
	Subordinated liabilities	59	DCF method	Yield curves, credit spread
	Registered securities	30	Cost	Nominal amounts
	Other payables	211	Cost	Nominal amounts
	Liabilities from capitalization transactions	413	Cost	Nominal amounts
Subordinated capital	Bonds with adjustment spread	2,501	DCF method	Credit spread

>> 78 Financial liabilities designated as at fair value through profit or loss

A residual value method is used to determine changes in fair value attributable to changes in the DZ BANK Group's own credit risk. In this method, the measurement effect caused by changes in own credit risk is determined by deducting the measurement effect caused by factors other than the change in own credit risk from the overall change in fair value. The cumulative changes in fair value resulting from changes in own credit risk amounted to a loss of €56 million in 2019 (2018: gain of €35 million). The use of this method ensures that the changes in fair value attributable to changes in own credit risk are not distorted by other effects caused by changes in market risk.

The following overview compares fair values with the amounts contractually required to be paid at maturity to the creditors concerned for liabilities designated as at fair value through profit or loss, but whose changes in fair value attributable to own credit risk are reported in other comprehensive income:

€ million	Fair value		Repayment amount	
	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Deposits from banks	5,060	5,767	4,962	5,689
Deposits from customers	10,114	10,697	9,555	9,297
Debt certificates issued including bonds	15,647	16,763	15,383	16,716
Subordinated capital	347	380	332	358
Total	**31,168**	**33,607**	**30,232**	**32,060**

As in the previous year, only a negligible loss was reclassified to retained earnings within equity in the financial year as a result of the recognition of measurement effects in connection with changes in the DZ BANK Group's own credit risk.

The derecognition of financial liabilities gave rise to a gain of €9 million that had previously been reported in other comprehensive income/loss. Only a negligible amount had been recognized in the previous year.

>> 79 Offsetting of financial assets and financial liabilities

Financial assets and financial liabilities reference standard master agreements, such as ISDA Master Agreements and German Master Agreements for Financial Futures. However, these standard master agreements do not generally satisfy the offsetting criteria in IAS 32.42 because the legal right to set off the amounts under these agreements is contingent on the occurrence of a future event.

The following tables show financial assets that were offset or that were subject to a legally enforceable global netting agreement or a similar arrangement:

AS AT DECEMBER 31, 2019

€ million	Gross amount of financial assets before offsetting	Gross amount of offset financial liabilities	Net amount of financial assets (carrying amount)	Associated amounts not offset on the balance sheet		Net amount
				Financial instruments	Cash collateral received	
Derivatives	48,375	27,698	20,677	13,855	4,130	2,692
Reverse repos/securities borrowing	11,920	-	11,920	11,769	-	151
Total	**60,295**	**27,698**	**32,597**	**25,624**	**4,130**	**2,843**

AS AT DECEMBER 31, 2018

€ million	Gross amount of financial assets before offsetting	Gross amount of offset financial liabilities	Net amount of financial assets (carrying amount)	Associated amounts not offset on the balance sheet		Net amount
				Financial instruments	Cash collateral received	
Derivatives	25,348	8,606	16,742	12,015	2,764	1,963
Reverse repos/securities borrowing	10,677	-	10,677	10,192	-	485
Total	**36,025**	**8,606**	**27,419**	**22,207**	**2,764**	**2,448**

The following tables show financial liabilities that were offset or that were subject to a legally enforceable global netting agreement or a similar arrangement:

AS AT DECEMBER 31, 2019

€ million	Gross amount of financial liabilities before offsetting	Gross amount of offset financial assets	Net amount of financial liabilities (carrying amount)	Associated amounts not offset on the balance sheet		Net amount
				Financial instruments	Cash collateral furnished	
Derivatives	50,401	30,543	19,858	13,325	6,343	190
Repos/securities lending	7,050	-	7,050	6,998	-	52
Other financial instruments	77	77	-	-	-	-
Total	**57,528**	**30,620**	**26,908**	**20,323**	**6,343**	**242**

AS AT DECEMBER 31, 2018

€ million	Gross amount of financial liabilities before offsetting	Gross amount of offset financial assets	Net amount of financial liabilities (carrying amount)	Associated amounts not offset on the balance sheet		Net amount
				Financial instruments	Cash collateral furnished	
Derivatives	29,441	10,753	18,688	12,328	5,637	723
Repos/securities lending	7,188	-	7,188	7,164	-	24
Other financial instruments	43	43	-	-	-	-
Total	**36,672**	**10,796**	**25,876**	**19,492**	**5,637**	**747**

>> 80 Sale and repurchase agreements, securities lending

Transfers of financial assets

In 2019, the only transfers carried out by the DZ BANK Group in which the transferred assets remained on the balance sheet in their entirety were transfers under sale and repurchase agreements (repos), in which the DZ BANK Group was the original seller, and transfers as part of securities lending transactions.

Sale and repurchase agreements

The entities in the DZ BANK Group enter into sale and repurchase agreements using standard banking industry master agreements, notably the Global Master Repurchase Agreement (GMRA) and the master agreement provided by the International Securities Market Association (ISMA). Under these agreements, the buyer of the securities is permitted to make use of the securities without restriction (with no requirement for a prior counterparty default) and return securities of the same type. If the fair value of the securities received or transferred in such transactions increases or decreases, the entity concerned may be required to furnish additional collateral or may demand additional collateral.

As at the balance sheet date, the sale and repurchase agreements entered into by companies in the DZ BANK Group were exclusively genuine sale and repurchase agreements, i.e. the buyer is obliged to sell back the securities.

Sale and repurchase agreements in which DZ BANK acts as a seller (repos)

Under sale and repurchase agreements, bonds and other fixed-income securities classified as financial assets measured at fair value and financial assets measured at amortized cost are temporarily transferred to another party. As at the balance sheet date, the carrying amounts of securities subject to such sale and repurchase agreements were:

€ million	Dec. 31, 2019	Dec. 31, 2018
FINANCIAL ASSETS MEASURED AT FAIR VALUE	**959**	**2,097**
Financial assets measured at fair value through profit or loss	**959**	**1,300**
Financial assets mandatorily measured at fair value through profit or loss	***945***	***500***
Financial assets held for trading	945	500
Financial assets designated as at fair value through profit or loss	***14***	***800***
Investments	14	800
Financial assets measured at fair value through other comprehensive income	**-**	**797**
Financial assets mandatorily measured at fair value through other comprehensive income	***-***	***797***
Investments	-	797
FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**966**	**1,139**
Investments	966	1,139
Total	**1,925**	**3,236**

As at the balance sheet date, additional collateral with a carrying amount of €127 million had been furnished in connection with repos (December 31, 2018: €83 million). This collateral is recognized under financial assets held for trading and may be sold or repledged by the recipient even if the provider is not in default.

The carrying amounts of liabilities arising from sale and repurchase agreements were as follows:

€ million	Dec. 31, 2019	Dec. 31, 2018
LIABILITIES ASSOCIATED WITH FINANCIAL ASSETS MEASURED AT FAIR VALUE	**956**	**2,009**
Liabilities associated with financial assets measured at fair value through profit or loss	**956**	**1,249**
Liabilities associated with financial assets mandatorily measured at fair value through profit or loss	***942***	***500***
Liabilities associated with financial assets held for trading	942	500
Liabilities associated with financial assets designated as at fair value through profit or loss	***14***	***749***
Liabilities associated with investments	14	749
Liabilities associated with financial assets measured at fair value through other comprehensive income	**-**	**760**
Liabilities associated with financial assets mandatorily measured at fair value through other comprehensive income	***-***	***760***
Liabilities associated with investments	-	760
LIABILITIES ASSOCIATED WITH FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**967**	**1,087**
Liabilities associated with investments	967	1,087
Total	**1,923**	**3,096**

Sale and repurchase agreements in which DZ BANK acts as the buyer (reverse repos)

In reverse repo transactions, bonds and other fixed-income securities are bought on a temporary basis. As at December 31, 2019, the fair value of securities involved in such transactions was €11,754 million (December 31, 2018: €10,653 million).

The receivables arising from these reverse repo transactions and reported under financial assets held for trading and under investments amounted to €11,687 million as at the balance sheet date (December 31, 2018: €10,642 million). As part of the collateral management requirements, the original seller provides the DZ BANK Group with additional collateral for reverse repo transactions in which the fair value of the securities purchased is less than the amounts receivable from the seller.

Securities lending

Securities lending transactions are undertaken on the basis of the Global Master Securities Lending Agreement (GMSLA) or on the basis of individual contractual arrangements. Under these agreements, the borrower of the securities is permitted to make use of the securities without restriction and return securities of the same type. If the fair value of the securities received or transferred in such transactions increases or decreases, the entity concerned may be required to furnish additional collateral or may demand additional collateral.

Securities lending

In securities lending transactions, shares and other variable-yield securities and/or bonds and other fixed-income securities are temporarily transferred to another party. All securities lent by the DZ BANK Group are classified as financial assets at fair value. As at the balance sheet date, the carrying amounts of securities lent under securities lending arrangements were as follows:

€ million	Dec. 31, 2019	Dec. 31, 2018
Financial assets measured at fair value through profit or loss	**614**	715
Financial assets mandatorily measured at fair value through profit or loss	***614***	*715*
Financial assets held for trading	614	715
Financial assets measured at fair value through other comprehensive income	**2,435**	2,189
Financial assets mandatorily measured at fair value through other comprehensive income	***2,084***	*2,123*
Investments held by insurance companies	2,084	2,123
Financial assets designated as at fair value through other comprehensive income	***351***	*66*
Investments held by insurance companies	351	66
Total	**3,049**	**2,904**

Collateral is provided or received as part of collateral management arrangements in connection with financial assets held for trading and investments held by insurance companies that are lent under securities lending agreements. In this process, all positions with the counterparty concerned are netted to determine the collateral to be provided or received.

As at the balance sheet date, additional collateral with a carrying amount of €6 million had been furnished in connection with securities lending (December 31, 2018: €9 million). This collateral is recognized under financial assets held for trading and may be sold or repledged by the recipient even if the provider is not in default.

Securities borrowing

The fair value of borrowed securities as at the balance sheet date was as follows:

€ million	Dec. 31, 2019	Dec. 31, 2018
Bonds and other fixed-income securities	1,955	2,377
Shares and other variable-yield securities	26	28
Total	**1,981**	**2,405**

In addition to securities subject to sale and repurchase agreements or that have been borrowed, bonds and other fixed-income securities and shares and other variable-yield securities are accepted as additional collateral. These may be sold or repledged as collateral by the recipient, even if there is no default. As at December 31, 2019, the fair value of the additional collateral received was €75 million (December 31, 2018: €23 million).

Securities subject to a sale and repurchase or lending agreement that the recipient may sell or repledge as collateral with no requirement for a prior counterparty default

All securities transferred to another party by entities in the DZ BANK Group under sale and repurchase agreements or securities lending agreements may be sold or repledged as collateral by the recipient without restriction.

The carrying amounts of the individual balance sheet items concerned are as follows:

€ million	Dec. 31, 2019	Dec. 31, 2018
Financial assets held for trading	1,559	1,215
Investments	980	2,736
Investments held by insurance companies	2,435	2,189
Total	**4,974**	**6,140**

>> 81 Collateral

The breakdown of the carrying amount of financial assets pledged as collateral for liabilities is as follows:

€ million	Dec. 31, 2019	Dec. 31, 2018
Loans and advances to banks	57,142	56,023
Loans and advances to customers	136	220
Financial assets held for trading	12,677	10,752
Investments	11	1,013
Investments held by insurance companies	1,099	895
Total	**71,065**	**68,903**

Of the total financial assets pledged as collateral for liabilities, financial assets held for trading and investments with a carrying amount of €4,667 million (December 31, 2018: €4,709 million) may be sold or repledged as collateral by the recipient, even if the relevant entity in the DZ BANK Group is not in default.

Funds received from German federal and state development banks that are to be specifically used for the purposes of development program loans are mainly passed on to affiliated banks. The corresponding loans and advances to affiliated banks serve as collateral with the German federal and state development banks.

The loans and advances to customers pledged as collateral are building loans issued as part of KfW development program loans. The amounts due to Germany's KfW development bank are secured by assigning to KfW the receivables arising from the forwarding of the development loans together with the collateral furnished by the borrowers.

Securities and money market placements recognized as financial assets held for trading are pledged as collateral for exchange-traded forward transactions, non-exchange-traded derivatives and for forward forex transactions. These arrangements are governed by standard industry collateral agreements.

In the prior year, the investments pledged as collateral for the most part comprised securities furnished as collateral for transactions with central banks.

The investments held by insurance companies are predominantly securities pledged as collateral as part of the reinsurance business; this collateral may only be sold or pledged by the recipient in the event of default by the provider.

>> 82 Items of income, expense, gains, and losses

Net gains and losses

The breakdown of net gains or net losses on financial instruments by IFRS 9 category for financial assets and financial liabilities is as follows:

€ million	2019	2018
Financial instruments measured at fair value through profit or loss	**3,159**	**-640**
Financial instruments mandatorily measured at fair value through profit or loss	3,172	-96[1]
Contingent considerations in a business combination	-	-11
Financial instruments designated as at fair value through profit or loss	-13	-533
Financial assets measured at fair value through other comprehensive income	**4,619**	**1,739**
Financial assets mandatorily measured at fair value through other comprehensive income	3,974	1,571
of which: gains and losses recognized in profit or loss	1,869	1,895
gains and losses recognized in other comprehensive income	1,887	-489
gains and losses reclassified on derecognition from cumulative other comprehensive income to profit or loss	218	165
Financial assets designated as at fair value through other comprehensive income	645	168
Financial assets measured at amortized cost	**5,510**	**5,964**
Financial liabilities measured at amortized cost	**-3,135**	**-2,818**

1 Amount restated (see note 2).

Net gains or net losses comprise gains and losses on fair value measurement, impairment losses and reversals of impairment losses, and gains and losses on the sale or early repayment of the financial instruments concerned. These items also include interest income and interest expense, current income, income from profit-pooling, profit-transfer agreements, partial profit-transfer agreements, and expenses from the transfer of losses.

In connection with financial liabilities designated as at fair value through profit or loss, a loss of €96 million (2018: gain of €35 million) was recognized in other comprehensive income/loss and a loss of €849 million (2018: loss of €639 million) in profit or loss, which predominantly related to interest expense.

Interest income and expense

The following total interest income and expense arose in connection with financial assets and financial liabilities that are not measured at fair value through profit or loss:

€ million	2019	2018
Interest income	**7,248**	**7,468**
From financial assets measured at amortized cost including finance leases	5,868	6,074
From financial assets measured at fair value through other comprehensive income	1,380	1,394
Interest expense	**-3,139**	**-2,818**

Fee and commission income and expenses

€ million	2019	2018
Fee and commission income		
From financial instruments not at fair value through profit or loss	178	192
From trust and other fiduciary activities	3,308	3,018
Fee and commission expenses		
For financial instruments not at fair value through profit or loss	-251	-233
For trust and other fiduciary activities	-1,528	-1,290

>> 83 Derivatives

Derivatives are used primarily to hedge against market risk as well as for trading purposes. As at the balance sheet date, the breakdown of the portfolio of derivatives was as follows:

€ million	Nominal amount					Fair value			
	Time to maturity			Total amount		Positive		Negative	
	≤ 1 year	> 1 year – 5 years	> 5 years	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
INTEREST-LINKED CONTRACTS	**145,958**	**374,649**	**506,902**	**1,027,509**	**1,018,090**	**17,508**	**14,788**	**17,074**	**14,617**
OTC products									
Forward rate agreements	5,624	-	-	5,624	11,700	-	-	-	-
Interest-rate swaps	118,579	332,401	476,972	927,952	909,296	15,457	12,968	14,133	12,048
Interest-rate options – bought	7,887	19,968	13,026	40,881	38,509	1,531	1,323	105	110
Interest-rate options – written	9,857	21,820	16,904	48,581	51,061	293	391	2,836	2,459
Other interest-rate contracts	1,233	270	-	1,503	2,060	227	106	-	-
Exchange-traded products									
Interest-rate futures	2,778	190	-	2,968	5,464	-	-	-	-
CURRENCY-LINKED CONTRACTS	**114,288**	**27,326**	**10,045**	**151,659**	**136,178**	**1,326**	**1,228**	**1,785**	**1,977**
OTC products									
Cross-currency swaps (excl. portfolio hedging)	10,801	19,875	9,808	40,484	39,934	321	523	928	1,321
Forward forex transactions	95,489	6,283	165	101,937	82,459	963	643	808	590
Forex options – bought	3,420	181	-	3,601	6,163	8	23	16	15
Forex options – written	4,334	973	6	5,313	7,322	33	38	25	45
Exchange-traded products									
Forex futures	132	-	-	132	135	-	-	-	-
Forex options	112	14	66	192	165	1	1	8	6
SHARE-/INDEX-LINKED CONTRACTS	**17,451**	**12,594**	**3,451**	**33,496**	**33,772**	**671**	**405**	**1,188**	**1,860**
OTC products									
Share/index swaps	-	-	-	-	3,280	-	2	-	-
Share/index options – bought	3,105	46	11	3,162	67	122	3	-	-
Share/index options – written	195	144	-	339	302	-	-	10	42
Other share/index contracts	868	3,150	2,479	6,497	5,670	66	38	208	462
Exchange-traded products									
Share/index futures	943	75	1	1,019	608	-	-	-	-
Share/index options	12,340	9,179	960	22,479	23,845	483	362	970	1,356
OTHER CONTRACTS	**3,243**	**3,027**	**10,773**	**17,043**	**16,923**	**30**	**52**	**105**	**78**
OTC products									
Commodities contracts	22	4	-	26	39	-	-	-	4
Other contracts	2,894	3,008	10,734	16,636	16,483	28	49	97	64
Exchange-traded products									
Futures	119	1	-	120	139	-	-	-	1
Options	208	14	39	261	262	2	3	8	9
CREDIT DERIVATIVES	**1,888**	**10,378**	**5,321**	**17,587**	**17,169**	**374**	**225**	**75**	**74**
Protection buyer									
Credit default swaps	452	2,276	477	3,205	2,953	1	7	72	34
Protection seller									
Credit default swaps	1,430	8,077	4,827	14,334	14,136	373	211	3	40
Total return swaps	6	25	17	48	80	-	7	-	-
Total	**282,828**	**427,974**	**536,492**	**1,247,294**	**1,222,132**	**19,909**	**16,698**	**20,227**	**18,606**

The derivatives held at the balance sheet date involved the following counterparties:

	Fair value			
	Positive		Negative	
€ million	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
OECD central governments	63	72	19	35
OECD banks	16,636	13,967	17,247	16,250
OECD financial services institutions	258	172	680	367
Other companies, private individuals	2,946	2,421	2,152	1,855
Non-OECD banks	6	66	129	99
Total	**19,909**	**16,698**	**20,227**	**18,606**

The Union Investment Group has capital preservation commitments under section 1 (1) no. 3 of the German Personal Pension Plan Certification Act (AltZertG) amounting to €15,013 million (December 31, 2018: €13,808 million). These commitments are the total amount of the pension contributions paid by investors into the individual variants of the *UniProfiRente* and *UniProfiRente Select* products, which represent the minimum amount that must be made available at the start of the payout phase under statutory provisions, and the guaranteed payout amounts for existing contracts that are already in the payout phase. The group also has minimum payment commitments of €1,584 million (December 31, 2018: €2,635 million) in connection with genuine guarantee funds launched by fund management companies in the group.

>> 84 Hedge accounting

Risk management strategy

Fair value hedges are used as part of the risk management strategy to eliminate or reduce accounting mismatches.

Hedged items

Fair value hedges are used in the hedging of interest-rate risk. In this context, interest-rate risk refers to the risk of an adverse change in the fair value of fixed-income financial instruments caused by a change in market interest rates. The hedged financial assets are loans and advances to banks, loans and advances to customers, and investments that are categorized as ‘financial assets measured at amortized cost’ or ‘financial assets measured at fair value through other comprehensive income’. Hedged financial liabilities are deposits from banks and customers, debt certificates issued including bonds, and subordinated liabilities, all of which are measured at amortized cost. Interest-rate risk portfolios under both assets and liabilities are identified and designated as hedged items in portfolio hedges.

Hedging instruments

Swaps and swaptions are designated as hedging instruments in fair value hedges of financial assets and financial liabilities. In the DZ BANK Group, hedging instruments are reported under hedging instruments (positive fair values) and hedging instruments (negative fair values).

Assessment of hedge effectiveness

The prerequisite for recognizing a hedge is that the hedge must be highly effective on both a prospective and retrospective basis. Highly effective in this case means that the changes in fair value or expected cash flows for the hedged items must be almost fully offset by the changes in fair value or expected cash flows for the hedging instruments. In the case of the individual hedges entered into by the DZ BANK Group, this is achieved by ensuring that the main features of hedged items that influence their value match those of the hedging instruments and that there is a hedging ratio of 100 percent (1:1 hedging). In portfolio hedges, there is no direct economic relationship between hedged item and hedging instrument. An individual hedging ratio based on the sensitivities of the hedged items and hedging instruments is used to ensure that the respective changes in fair value more or less balance each other out. Hedge effectiveness must be assessed and documented at every balance sheet date as a minimum.

For individual hedges accounted for in application of the rules under IFRS 9, any hedge ineffectiveness is quantified retrospectively and recognized in profit or loss. IFRS 9 does not define effectiveness in terms of a mandatory range of values. If a hedge no longer satisfies the effectiveness criterion in relation to the hedge ratio, the hedge ratio must be adjusted (recalibration). If it is no longer possible to adjust the hedge ratio or if the risk management objective for the hedge has changed, the hedge must be de-designated.

Portfolio hedges that continue to be accounted for in application of the rules under IAS 39 are deemed to be highly effective if the changes in the fair value of the hedged items are offset by the changes in the fair value of the hedging instruments within the range of 80 percent to 125 percent specified by IAS 39. If this assessment identifies that a hedge has not achieved the required effectiveness, the hedge must be reversed retrospectively to the balance sheet date of the last assessment in which the hedge was found to be effective.

In the case of fair value hedges, prospective effectiveness is assessed by using sensitivity analyses (based on the basis point value method) and regression analyses; it is also assessed qualitatively with the critical-terms-match method. Retrospective effectiveness is assessed primarily by using the dollar offset method, a noise threshold value, and regression analysis. In these methods, the cumulative changes in the fair value of the hedged items attributable to the hedged risk are compared with the changes in the fair value of the hedging instruments.

Gains and losses and hedge ineffectiveness from hedge accounting

In hedge accounting, hedge ineffectiveness arises when the changes in the fair value of hedging instruments do not fully offset the changes in the fair value of the hedged items. The ineffective portions of hedges are recognized in profit or loss under other gains and losses on valuation of financial instruments.

Hedge ineffectiveness can arise in fair value hedges of interest-rate risk. Some of the ways in which this can occur are where the changes in the fair values of hedged items and hedging instruments do not balance each other out in full because of differences in maturities, cash flows, and/or discount rates.

Extent of risks managed by the use of hedges

The table below presents information on the volume of hedged items and hedging instruments designated as hedges for the purposes of hedging interest-rate risk:

AS AT DECEMBER 31, 2019

€ million	Carrying amount	Nominal amount of hedging instruments	Fair value hedge adjustments included in carrying amount of hedged items		Fair value changes as basis for measuring hedge ineffective-ness for the period
			Existing hedges	Terminated hedges	
Assets	**50,357**	**12,511**	**1,378**	**526**	**1,027**
Loans and advances to banks	55		1	-	-1
Loans and advances to customers	1,526		74	85	219
Investments	2,875		59	32	30
Non-current assets and disposal groups classified as held for sale	197		-	-	11
Portfolio hedges of interest-rate risk	45,503		1,244	409	1,382
Hedging instruments (positive fair values)	201	12,511			-614
Liabilities	**10,597**	**45,802**	**247**	**277**	**-1,029**
Deposits from banks	615		16	7	-26
Deposits from customers	3,828		222	21	-50
Debt certificates issued including bonds	368		13	9	-9
Subordinated capital	9		-	-	-
Portfolio hedges of interest-rate risk	4,471		-4	240	-114
Hedging instruments (negative fair values)	1,306	45,802			-830

AS AT DECEMBER 31, 2018

€ million	Carrying amount	Nominal amount of hedging instruments	Fair value hedge adjustments included in carrying amount of hedged items		Fair value changes as basis for measuring hedge ineffective-ness for the period
			Existing hedges	Terminated hedges	
Assets	**68,435**	**18,822**	**612**	**29**	**224**
Loans and advances to banks	73		2	-	-1
Loans and advances to customers	2,180		22	-1	25[1]
Investments	3,823		70	3	8
Non-current assets and disposal groups classified as held for sale	2,660		-9	4	-14[1]
Portfolio hedges of interest-rate risk	58,816		527	23	196[1]
Hedging instruments (positive fair values)	883	18,822			10[1]
Liabilities	**34,469**	**60,817**	**188**	**163**	**-246**
Deposits from banks	1,089		9	1	-1[1]
Deposits from customers	5,502		208	-6	17[1]
Debt certificates issued including bonds	447		-	5	-4
Subordinated capital	34		-	-	3[1]
Portfolio hedges of interest-rate risk	24,881		-29	163	20[1]
Hedging instruments (negative fair values)	2,516	60,817			-281[1]

1 Amount restated (see note 2).

In the course of 2018, all cash flow hedges designated in connection with hedging exposure to currency risk were discontinued. In this period, the ineffectiveness measured from the countervailing changes in fair value in respect of the corresponding hedged items and hedging instruments amounted to €5 million.

Gains and losses were also reclassified to the income statement in 2018. Of these gains and losses, a loss of €2 million was recognized under net interest income, a gain of €1 million under administrative expenses, and a loss of €2 million under net fee and commission income.

As at the reporting date, there were no hedges of net investments in foreign operations. The relevant hedges, which had been designated in connection with hedging exposure to currency risk, expired during the financial year. In 2018, hedging instruments with a total nominal amount of €173 million, but only a negligible carrying amount, gave rise to changes in fair value of approximately €1 million. On the other side of the hedging equation, there were only small changes in the fair value of the hedged items. This resulted in hedging ineffectiveness of around €1 million, which was recognized in profit or loss under other gains and losses on valuation of financial instruments.

Effects of hedging instruments on cash flows

The following tables show the residual maturities of the hedging instruments entered into by the DZ BANK Group by type of risk:

Interest-rate risk

AS AT DECEMBER 31, 2019

	≤ 1 month	>1 month – 3 months	>3 months – 1 year	>1 year – 5 years	> 5 years
Nominal amount (€ million)	72	192	5,892	25,003	27,154
Average hedged interest rate (%)	1.94	1.70	1.88	1.14	1.19

AS AT DECEMBER 31, 2018

	≤ 1 month	>1 month – 3 months	>3 months – 1 year	>1 year – 5 years	> 5 years
Nominal amount (€ million)	272	557	3,102	33,252	42,456
Average hedged interest rate (%)	3.08	1.60	1.63	1.72	2.86

Currency risk

As at the reporting date, there were no hedges in connection with hedging exposure to currency risk. In 2018, an average US dollar exchange rate of US$ 1.14 USD had been hedged by hedging instruments with a nominal amount of €173 million and a residual maturity of up to one month.

Reconciliation of hedge accounting effects to equity components by type of risk

The following table shows a reconciliation of the effects from hedge accounting to corresponding components of equity. The relevant effects were those from cash flow hedges and from hedges of net investments in foreign operations. These types of hedges were used only in connection with hedging the exposure to currency risk.

€ million	Cash flow hedge reserve	Reserve from hedges of net investments in foreign operations
Balance as at Jan. 1, 2018	5	-15
GAINS AND LOSSES ON CASH FLOW HEDGES	**-6**	
Gains (+)/losses (-) arising during the reporting period	**-3**	
Gains (-)/losses (+) reclassified to the income statement	**-3**	
Amount by which the hedged item has impacted the income statement	-3	
GAINS AND LOSSES ON HEDGES OF NET INVESTMENTS IN FOREIGN OPERATIONS		**-6**
Gains (+)/losses (-) arising during the reporting period		**-13**
Gains (-)/losses (+) reclassified to the income statement		**7**
Amount by which the hedged item has impacted the income statement		7
OTHER ADJUSTMENTS	**1**	**-**
INCOME TAXES	**-**	**8**
Balance as at Dec. 31, 2018	-	-13
GAINS AND LOSSES ON HEDGES OF NET INVESTMENTS IN FOREIGN OPERATIONS		**3**
Gains (+)/losses (-) arising during the reporting period		**3**
INCOME TAXES	**-**	**3**
Balance as at Dec. 31, 2019	-	-7

As at the reporting date, there were neither cash flow hedges nor hedges of net investments in foreign operations. The relevant reserves therefore resulted solely from hedges that expired in 2018 or in 2019.

>> 85 Nature and extent of risks arising from financial instruments and insurance contracts

With the exception of the disclosures pursuant to IFRS 7.35F(a)-36(b), the 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 group management report. The disclosures pursuant to IFRS 7.35F(a)-36(b) can be found in this note in the notes to the consolidated financial statements. Disclosures on the maturity analysis in accordance with IFRS 7.39(a) and (b) and IFRS 4.39(d)(i), together with disclosures on the claims rate trend for direct non-life insurance business and for the inward reinsurance business in accordance with IFRS 4.39(c)(iii), can be found within the notes to the consolidated financial statements in notes 42 and 86.

Credit risk management practices

The rules for recognizing loss allowances are based on the calculation of expected losses in the lending business, on investments, 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 one or more events have occurred with an adverse impact on the estimated future cash flows of these financial assets or they are deemed to be in default pursuant to article 178 of the Capital Requirements Regulation (CRR). The definition therein is the same as 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 three-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, but particularly on every balance sheet date. 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. If the analysis based on one year does not produce a significantly different outcome, the change in the expected credit risk on a one-year basis is used in some cases for reasons of simplification. In both scenarios, 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 has been extended to look at qualitative criteria that increase credit risk unless these criteria have already been incorporated into the probability of default. In general, allocation to stage 2 is assumed no later than when payments become 30 days past due. Depending on the business line, either this criterion has been defined as an additional backstop or the past-due period is already factored into the credit rating and scoring system. As a rule, however, financial assets are allocated to stage 2 well before payments become 30 days past due. Exceptions are only made in individual cases if it has been shown that there is no significant increase in credit risk, despite payments being 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 implicitly 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 stages 2 and 3. 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 within stage 2, in the form of shifts in the default probabilities calculated using statistical means. The calculation of the expected loss for specific exposures in stage 3 does not use this type of fundamental parameter-based approach but rather 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. A macroeconomic scenario based on empirical estimates is also factored in. This scenario specifically looks at future trends in the labor market, interest rates in the money market, changes in GDP, inflation, and commercial 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. type of asset, credit rating, date of origination, residual life, industry, and origin of the borrower.

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, directly recognized impairment losses are recognized after all recovery and enforcement measures have been completed. Directly recognized impairment losses are also applied to insignificant amounts.

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

€ million	Stage 1 Loss allowances	Stage 1 Fair value	Stage 2 Loss allowances	Stage 2 Fair value	Stage 3 Loss allowances	Stage 3 Fair value
Balance as at Jan. 1, 2018	9	83,114	10	402	33	26
Addition/increase in loan drawdowns	5	20,679	-	-	-	-
Change to financial assets due to transfer between stages	3	198	-3	-198	-	-
Transfer from stage 2	3	198	-3	-198	-	-
Use of loss allowances/directly recognized impairment losses	-1	-	-	-	-5	-
Derecognitions and repayments	-5	-22,283	-1	-29	-	-6
Changes to models/risk parameters	-5	-	-5	-	-	-
Additions	6	-	1	-	-	-
Reversals	-11	-	-6	-	-	-
Amortization, fair value changes, and other changes in measurement	-	-1,689	-	7	-	5
Exchange differences and other changes	1	50	-1	-	-1	-
Changes in scope of consolidation	-	-1	-	-	-	-
Deferred taxes	1	-	3	-	2	-
Balance as at Dec. 31, 2018	8	80,068	3	182	29	25
Addition/increase in loan drawdowns	8	26,216	-	-	-	4
Change to financial assets due to transfer between stages	1	93	-1	-93	-	-
Transfer from stage 2	1	93	-1	-93	-	-
Use of loss allowances/directly recognized impairment losses	-1	-	-	-	-	-
Derecognitions and repayments	-5	-15,375	-	-35	-1	-7
Changes to models/risk parameters	-2	-	-1	-	3	-
Additions	4	-	-	-	3	-
Reversals	-6	-	-1	-	-	-
Amortization, fair value changes, and other changes in measurement	-	4,773	-	5	-	-3
Exchange differences and other changes	-	4	-	-	-	-
Deferred taxes	-	-	-	-	-1	-
Balance as at Dec. 31, 2019	**9**	**95,779**	**1**	**59**	**30**	**19**

Financial assets measured at amortized cost

€ million	Stage 1 Loss allowances	Stage 1 Gross carrying amount	Stage 2 Loss allowances	Stage 2 Gross carrying amount	Stage 3 Loss allowances	Stage 3 Gross carrying amount	POCI assets Loss allowances	POCI assets Gross carrying amount
Balance as at Jan. 1, 2018	233	315,853	212	12,364	2,449[1]	5,422[1]	10	32
Addition/increase in loan drawdowns	163	11,201,850	26	10,596	386	2,500	7	61
Change to financial assets due to transfer between stages	141	-541	-206	254	70	287	-	-
Transfer from stage 1	-50	-5,791	44	5,604	6	187	-	-
Transfer from stage 2	169	5,070	-286	-5,617	114	547	-	-
Transfer from stage 3	22	180	36	267	-50	-447	-	-
Use of loss allowances/directly recognized impairment losses	-	-1	-1	-	-804[1]	-36	-	-2
Reclassifications to non-current assets and disposal groups classified as held for sale	-5	-5,847	-	-106	-13	-40	-	-
Derecognitions and repayments	-104	-11,181,684	-72	-15,013	-482	-3,442[1]	-13	-88
Changes to models/risk parameters	-196	-	235	-	240	-	-	-
Additions	127	-	357	-	745	-	12	-
Reversals	-323	-	-122	-	-505	-	-12	-
Modification gains	-	1	-	-	-	-	-	-
Amortization, fair value changes, and other changes in measurement	-	-634	-	133	-	26	-	-
Positive change in fair value of POCI assets	-	-	-	-	-	-	-	18
Exchange differences and other changes	-1	1,221	2	-364	126[1]	-368[1]	-1	1
Changes in the scope of consolidation	-	8	-	-	-	-	-	-
Balance as at Dec. 31, 2018	231	330,226	196	7,864	1,972	4,349	3	22
Addition/increase in loan drawdowns	168	10,429,453	29	20,979	393	1,898	-	14
Change to financial assets due to transfer between stages	128	1,005	-210	-2,041	87	1,036	-	-
Transfer from stage 1	-72	-5,886	64	5,487	8	399	-	-
Transfer from stage 2	184	6,829	-313	-7,818	134	989	-	-
Transfer from stage 3	16	62	39	290	-55	-352	-	-
Use of loss allowances/directly recognized impairment losses	-	-	-1	-	-559	-27	-1	-2
Derecognitions and repayments	-129	-10,411,693	-55	-18,511	-286	-2,866	-1	-31
Changes to models/risk parameters	-180	-	265	-	167	-	-	-
Additions	149	-	422	-	752	-	11	-
Reversals	-329	-	-157	-	-585	-	-11	-
Amortization, fair value changes, and other changes in measurement	-	-83	-	33	-	-277	-	-
Positive change in fair value of POCI assets	-	-	-	-	-	-	-	27
Exchange differences and other changes	-	-691	-	-95	49	-228	-	1
Balance as at Dec. 31, 2019	**218**	**348,217**	**224**	**8,229**	**1,823**	**3,885**	**1**	**31**

1 Amount restated (see note 2).

The undiscounted expected credit losses on purchased or originated credit-impaired assets that were recognized for the first time during the reporting period totaled €84 million (2018: €92 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	1,334	-	-	-	-
Change to financial assets due to transfer between stages	-1	-194	-1	92	2	102
Transfer from stage 1	-1	-232	1	210	-	22
Transfer from stage 2	-	16	-2	-118	2	102
Transfer from stage 3	-	22	-	-	-	-22
Derecognitions and repayments	-9	-6,785	-4	-206	-24	-138
Changes to models/risk parameters	4	-	5	-	10	-
Additions	6	-	6	-	13	-
Reversals	-2	-	-1	-	-3	-
Amortization, fair value changes, and other changes in measurement	-	21	-	1	-	-
Exchange differences and other changes	-	133	-	11	2	3
Changes in scope of consolidation	-	-168	-	-3	-	-
Balance as at Dec. 31, 2019	**-**	**194**	**-**	**-**	**3**	**7**

Finance leases

€ million	Stage 1 Loss allowances	Stage 1 Gross carrying amount	Stage 2 Loss allowances	Stage 2 Gross carrying amount	Stage 3 Loss allowances	Stage 3 Gross carrying amount
Balance as at Jan. 1, 2018	6	2,595	10	304	18	51
Addition/increase in loan drawdowns	7	870	17	12	22	23
Change to finance leases due to transfer between stages	13	-8	-4	10	-14	-3
Transfer from stage 1	-1	-199	1	175	-	24
Transfer from stage 2	3	150	-15	-190	15	40
Transfer from stage 3	11	41	10	25	-29	-67
Use of loss allowances/directly recognized impairment losses	-	-	-	-	-2	-
Reclassifications to non-current assets and disposal groups classified as held for sale	-1	-619	-1	-48	-2	-4
Derecognitions and repayments	-21	-1,027	-13	-93	-14	-44
Changes to models/risk parameters	-	-	-1	-	-	-
Reversals	-	-	-1	-	-	-
Exchange differences and other changes	-	-	-	1	-	-
Balance as at Dec. 31, 2018	4	1,811	8	186	8	23
Addition/increase in loan drawdowns	2	290	13	3	9	2
Change to finance leases due to transfer between stages	5	-43	-9	21	-1	22
Transfer from stage 1	-1	-151	1	141	-	10
Transfer from stage 2	5	99	-12	-127	2	28
Transfer from stage 3	1	9	2	7	-3	-16
Use of loss allowances/directly recognized impairment losses	-	-	-	-	-1	-
Derecognitions and repayments	-8	-684	-7	-62	-7	-22
Balance as at Dec. 31, 2019	**3**	**1,374**	**5**	**148**	**8**	**25**

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, 2018	38	55,702	8	627	147	469
Addition/increase in loan drawdowns	70	33,294	18	415	24	41
Change to financial guarantee contracts and loan commitments due to transfer between stages	4	-317	15	250	-19	67
Transfer from stage 1	-5	-733	5	694	-	42
Transfer from stage 2	8	412	-11	-451	3	36
Transfer from stage 3	1	4	21	7	-22	-11
Reclassifications to liabilities included in disposal groups classified as held for sale	-	-549	-	-	-	-
Derecognitions and repayments	-49	-27,379	-35	-458	-74	-329
Changes to models/risk parameters	-28	-	3	-	38	-
Additions	25	-	33	-	65	-
Reversals	-53	-	-30	-	-27	-
Amortization, fair value changes, and other changes in measurement	-	74	-	-	-	-
Exchange differences and other changes	-	-38	-	-	2	2
Balance as at Dec. 31, 2018	35	60,787	9	834	118	250
Addition/increase in loan drawdowns	103	67,567	9	637	33	206
Change to financial guarantee contracts and loan commitments due to transfer between stages	3	-158	-7	45	4	113
Transfer from stage 1	-2	-615	2	553	-	62
Transfer from stage 2	4	450	-10	-511	6	61
Transfer from stage 3	1	7	1	3	-2	-10
Derecognitions and repayments	-56	-63,803	-11	-937	-36	-282
Changes to models/risk parameters	-40	-	11	-	22	-
Additions	32	-	20	-	85	-
Reversals	-72	-	-9	-	-63	-
Amortization, fair value changes, and other changes in measurement	-	69	-	-1	-	1
Exchange differences and other changes	-	475	-1	-3	-1	-6
Balance as at Dec. 31, 2019	**45**	**64,937**	**10**	**575**	**140**	**282**

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	-	75
Derecognitions and repayments	-2	-530
Changes to models/risk parameters	2	-
Additions	2	-
Exchange differences and other changes	-	-19
Balance as at Dec. 31, 2019	-	**75**

Contractual modifications and derecognitions

The negotiation or modification of contractually agreed cash flows relating to a financial asset leads to a modified asset. The modification of contractually agreed cash flows can lead to the derecognition of the existing financial asset and the recognition of a new one. In the case of modifications that do not lead to the derecognition of the financial asset (non-substantial contractual modifications), the modifications of the contractually agreed cash flows are recognized as a modification gain or loss in the amount of the difference between the originally agreed cash flows and the modified cash flows discounted with the original effective interest rate. If substantial modifications are made to the contract for a financial asset, the asset is derecognized and then recognized as a new asset. The POCI asset rules apply to impaired assets (stage 3). If contractual modifications for a financial asset do not have a substantial impact, the asset is reviewed to ascertain whether credit risk has increased significantly since initial recognition. The assessment to determine whether there has been a significant deterioration in the credit quality of modified assets compares the probability of default based on the modified cash flows and on the residual maturity as at the reporting date against the probability of default based on the original cash flows and residual maturity on initial recognition.

In 2019, contractually agreed payments in relation to finance assets allocated to stage 2 of the impairment model with an amortized cost of €245 million (December 31, 2018: €170 million) were modified to take account of changes in contractual cash flows.

Maximum exposure to credit risk

The DZ BANK Group is exposed to credit risk from financial instruments. The maximum exposure to credit risk is represented by the fair value, amortized cost, or nominal amount of financial instruments. The following collateral is held to reduce the exposure to this maximum credit risk:

AS AT DECEMBER 31, 2019

€ million	Maximum exposure to credit risk	
FINANCIAL ASSETS MEASURED AT FAIR VALUE	**163,287**	
Financial assets measured at fair value through profit or loss	**67,429**	
Financial assets mandatorily measured at fair value through profit or loss	57,099	
Financial assets designated as at fair value through profit or loss	10,330	
Financial assets measured at fair value through other comprehensive income	**95,858**	
Financial assets mandatorily measured at fair value through other comprehensive income	95,858	
FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**359,370**	
of which: credit-impaired		
FINANCE LEASES	**1,531**	
of which: credit-impaired		
FINANCIAL GUARANTEE CONTRACTS AND LOAN COMMITMENTS	**66,202**	
of which: credit-impaired		

AS AT DECEMBER 31, 2019

€ million	Maximum exposure to credit risk	
Non-current assets and disposal groups classified as held for sale from financial assets measured at fair value	38	
Non-current assets and disposal groups classified as held for sale from financial assets measured at amortized cost	198	
Liabilities included in disposal groups classified as held for sale from financial guarantee contracts and loan commitments	74	

	of which secured with:					
	Guarantees, indemnities, risk subparticipations	Credit insurance	Land charges, mortgages, registered ship and aircraft mortgages	Pledged loans and advances, assignments, other pledged assets	Financial collateral	Other collateral
	1,117	**-**	**199**	**25**	**3,108**	**359**
	813	**-**	**29**	**25**	**896**	**68**
	441	-	29	25	896	51
	372	-	-	-	-	17
	304	**-**	**170**	**-**	**2,212**	**291**
	304	-	170	-	2,212	291
	912	**2,720**	**105,972**	**1,894**	**7,380**	**14,893**
	32	134	303	208	3	335
	11	**-**	**-**	**7**	**-**	**5**
	-	-	-	6	-	1
	374	**852**	**6,064**	**693**	**6**	**49**
	-	2	5	9	-	32

	of which secured with:					
	Guarantees, indemnities, risk subparticipations	Credit insurance	Land charges, mortgages, registered ship and aircraft mortgages	Pledged loans and advances, assignments, other pledged assets	Financial collateral	Other collateral
	-	-	-	-	-	-
	-	-	-	-	-	14
	8	-	-	-	2	10

AS AT DECEMBER 31, 2018

€ million	Maximum exposure to credit risk	
FINANCIAL ASSETS MEASURED AT FAIR VALUE	**139,120**	
Financial assets measured at fair value through profit or loss	**58,845**	
Financial assets mandatorily measured at fair value through profit or loss	49,078	
Financial assets designated as at fair value through profit or loss	9,767	
Financial assets measured at fair value through other comprehensive income	**80,275**	
Financial assets mandatorily measured at fair value through other comprehensive income	80,275	
FINANCIAL ASSETS MEASURED AT AMORTIZED COST	**340,592**	
of which: credit-impaired		
FINANCE LEASES	**2,000**	
of which: credit-impaired		
FINANCIAL GUARANTEE CONTRACTS AND LOAN COMMITMENTS	**62,271**	
of which: credit-impaired		

1 Amount restated (see note 2).

AS AT DECEMBER 31, 2018

€ million	Maximum exposure to credit risk	
Non-current assets and disposal groups classified as held for sale from financial assets measured at fair value	404	
Non-current assets and disposal groups classified as held for sale from financial assets measured at amortized cost	5,960	
Liabilities included in disposal groups classified as held for sale from financial guarantee contracts and loan commitments	549	

	of which secured with:					
	Guarantees, indemnities, risk subparticipations	Credit insurance	Land charges, mortgages, registered ship and aircraft mortgages	Pledged loans and advances, assignments, other pledged assets	Financial collateral	Other collateral
	1,141	**-**	**303**	**39**	**2,241**	**162**
	608	**-**	**31**	**39**	**12**	**40**
	180	-	31	39	12	16
	428	-	-	-	-	24
	533	**-**	**272**	**-**	**2,229**	**122**
	533	-	272	-	2,229	122
	1,014	**2,332**	**96,178**	**1,915**	**6,405**	**19,061** [1]
	24	183	401	170	24	842 [1]
	14	**-**	**-**	**10**	**1**	**7**
	-	-	-	6	-	1
	233	**908**	**6,368**	**1,245**	**3**	**150**
	1	25	4	7	-	10

	of which secured with:					
	Guarantees, indemnities, risk subparticipations	Credit insurance	Land charges, mortgages, registered ship and aircraft mortgages	Pledged loans and advances, assignments, other pledged assets	Financial collateral	Other collateral
	4	-	-	-	-	327
	56	-	-	-	37	5,583
	9	-	-	-	4	246

A range of different collateral is held in the traditional lending business to reduce the exposure to the maximum credit risk. Specifically, this collateral includes mortgages on residential and commercial real estate, registered ship and aircraft mortgages, guarantees (including indemnities and credit insurance), financial security (e.g. certain fixed-income securities, shares, and investment fund units), blanket and individual assignments of trade receivables, and various types of physical collateral. Generally, cash collateral, high-quality government bonds, and Pfandbriefe are held in the trading business in accordance with the collateral policy to reduce the risk attaching to OTC derivatives. Some financial instruments in stage 3 are not written down because they are fully covered by collateral.

As a result of changes in the credit risk, the fair value of financial assets designated as at fair value through profit or loss had increased by €4 million at the end of 2019 (December 31, 2018: decrease of €3 million). As at the balance sheet date, the cumulative amount by which the fair value had increased owing to changes in the credit risk was €129 million (December 31, 2018: €501 million (amount restated; see note 2)).

The credit risk associated with financial assets designated as at fair value through profit or loss was mitigated as at the reporting date by financial guarantee contracts with a value of €332 million (December 31, 2018: €390 million) furnished by affiliated banks.

Credit risk concentrations

The credit risk from financial instruments to which the DZ BANK Group is exposed is broken down by sector using the Deutsche Bundesbank industry codes and by geographic region using the annually updated country groups published by the International Monetary Fund (IMF). Volumes, measured on the basis of fair values and gross carrying amounts of financial assets and the credit risk from financial guarantee contracts and loan commitments, are broken down using the following credit rating classes:

- Investment grade: equates to internal rating classes 1A–3A
- Non-investment grade: equates to internal rating classes 3B–4E
- Default: equates to internal rating classes 5A–5E
- Not rated: no rating necessary or not classified

'Not rated' comprises counterparties for which a rating classification is not required.

AS AT DECEMBER 31, 2019

€ million		Financial sector	Public sector	Corporates	Retail	Industry conglome-rates
Investment grade						
Fair value	Stage 1	48,971	30,089	14,127	-	257
Gross carrying amount	Stage 1	149,404	22,031	61,507	33,598	7,437
	Stage 2	25	8	135	467	297
Nominal amount	Stage 1	21,815	401	20,233	7,641	2,133
	Stage 2	77	-	23	-	37
Non-investment grade						
Fair value	Stage 1	401	345	230	-	1
	Stage 2	28	30	-	-	1
Gross carrying amount	Stage 1	8,954	171	19,102	32,692	82
	Stage 2	35	197	1,536	3,643	35
	Stage 3	-	-	994	15	-
Nominal amount	Stage 1	606	23	7,153	138	56
	Stage 2	3	-	357	1	-

AS AT DECEMBER 31, 2018

€ million		Financial sector	Public sector	Corporates	Retail	Industry conglome-rates
Investment grade						
Fair value	Stage 1	37,120	27,267	11,931	259	702
Gross carrying amount	Stage 1	149,644	21,409	49,012	35,950	4,597
	Stage 2	24	6	298	461	-
Nominal amount	Stage 1	22,061	209	19,310	6,203	1,791
	Stage 2	93	-	129	-	166
Non-investment grade						
Fair value	Stage 1	456	948	738	-	1
	Stage 2	-	143	-	38	1
Gross carrying amount	Stage 1	6,264	146	19,740	31,071	110
	Stage 2	44	224	1,818	3,768	51
	Stage 3	-	-	1,628[1]	13	-
Nominal amount	Stage 1	363	-	5,904	339	52
	Stage 2	40	-	291	1	-

1 Amount restated (see note 2).

AS AT DECEMBER 31, 2019

€ million		Financial sector	Public sector	Corporates	Retail	Industry conglome-rates	Other
Default							
Fair value	Stage 3	19	-	-	-	-	-
Gross carrying amount	Stage 2	-	-	4	-	-	-
	Stage 3	125	-	1,620	708	144	-
	POCI assets	-	-	13	-	-	-
Nominal amount	Stage 3	3	-	279	-	-	-
Not rated							
Fair value	Stage 1	333	718	80	-	227	-
Gross carrying amount	Stage 1	2,351	870	1,416	8,540	1,436	-
	Stage 2	891	41	234	608	194	27
	Stage 3	-	-	3	301	-	-
	POCI assets	-	-	-	18	-	-
Nominal amount	Stage 1	955	9	944	2,027	803	-
	Stage 2	10	-	57	9	1	-

AS AT DECEMBER 31, 2018

€ million		Financial sector	Public sector	Corporates	Retail	Industry conglome-rates	Other
Default							
Fair value	Stage 3	-	-	-	25	-	-
Gross carrying amount	Stage 3	47	-	1,469	653	169	-
	POCI assets	-	-	10	-	-	-
Nominal amount	Stage 2	-	-	1	-	-	-
	Stage 3	27	-	213	-	-	-
Not rated							
Fair value	Stage 1	165	162	67	-	252	-
Gross carrying amount	Stage 1	2,527	947	1,128	8,096	1,380	16
	Stage 2	512	42	242	385	142	33
	Stage 3	8	-	110	275	-	-
	POCI assets	-	-	-	12	-	-
Nominal amount	Stage 1	945	9	914	2,001	686	-
	Stage 2	42	-	56	15	-	-
	Stage 3	-	-	10	-	-	-

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€ million		Germany	Other industrialized countries	Advanced economies	Emerging markets	Supranational institutions
Investment grade						
Fair value	Stage 1	29,276	56,414	1,457	2,748	3,549
Gross carrying amount	Stage 1	242,384	28,455	1,005	1,602	531
	Stage 2	903	28	1	-	-
Nominal amount	Stage 1	45,766	6,021	45	391	-
	Stage 2	73	64	-	-	-
Non-investment grade						
Fair value	Stage 1	183	491	-	303	-
	Stage 2	-	59	-	-	-
Gross carrying amount	Stage 1	50,071	3,960	1,049	5,921	-
	Stage 2	4,504	536	17	389	-
	Stage 3	4	549	217	239	-
Nominal amount	Stage 1	6,121	1,069	99	687	-
	Stage 2	295	54	2	10	-

AS AT DECEMBER 31, 2018

€ million		Germany	Other industrialized countries	Advanced economies	Emerging markets	Supranational institutions
Investment grade						
Fair value	Stage 1	24,206	46,554	1,305	2,150	3,064
Gross carrying amount	Stage 1	229,372	28,330	727	1,527	656
	Stage 2	754	33	1	1	-
Nominal amount	Stage 1	44,840	4,178	148	408	-
	Stage 2	199	188	1	-	-
Non-investment grade						
Fair value	Stage 1	888	1,025	-	155	75
	Stage 2	-	182	-	-	-
Gross carrying amount	Stage 1	45,428	4,183	1,492	6,228	-
	Stage 2	4,584	509	130	682	-
	Stage 3	7	813[1]	252[1]	569[1]	-
Nominal amount	Stage 1	4,943	809	68	838	-
	Stage 2	277	10	17	28	-

1 Amount restated (see note 2).

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€ million		Germany	Other industrialized countries	Advanced economies	Emerging markets	Supranational institutions
Default						
Fair value	Stage 3	-	19	-	-	-
Gross carrying amount	Stage 2	4	-	-	-	-
	Stage 3	2,092	245	53	207	-
	POCI assets	13	-	-	-	-
Nominal amount	Stage 3	156	76	17	33	-
Not rated						
Fair value	Stage 1	516	684	-	-	158
Gross carrying amount	Stage 1	11,987	2,189	8	293	136
	Stage 2	1,479	471	7	38	-
	Stage 3	278	26	-	-	-
	POCI assets	17	1	-	-	-
Nominal amount	Stage 1	4,239	450	-	49	-
	Stage 2	66	11	-	-	-

AS AT DECEMBER 31, 2018

€ million		Germany	Other industrialized countries	Advanced economies	Emerging markets	Supranational institutions
Default						
Fair value	Stage 3	1	24	-	-	-
Gross carrying amount	Stage 3	1,792	269	8	269	-
	POCI assets	10	-	-	-	-
Nominal amount	Stage 2	1	-	-	-	-
	Stage 3	139	65	-	36	-
Not rated						
Fair value	Stage 1	68	421	-	-	157
Gross carrying amount	Stage 1	11,797	1,989	18	179	111
	Stage 2	968	320	1	67	-
	Stage 3	353	25	-	15	-
	POCI assets	11	1	-	-	-
Nominal amount	Stage 1	3,949	539	-	67	-
	Stage 2	103	10	-	-	-
	Stage 3	10	-	-	-	-

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AS AT DECEMBER 31, 2019

€ million	≤ 1 month	> 1 month – 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years	Indefinite
Financial assets	**92,411**	**14,815**	**42,241**	**162,214**	**241,372**	**20,985**
Cash and cash equivalents	52,167	-	-	-	-	-
Loans and advances to banks	10,845	4,213	13,098	37,610	35,522	-
Loans and advances to customers	16,754	6,598	17,124	73,270	91,693	-
Derivatives used for hedging (positive fair values)	-	3	19	121	66	-
Financial assets held for trading	8,313	1,831	4,755	8,805	20,996	1,667
of which: non-derivative financial assets held for trading	7,968	1,346	3,283	4,095	7,153	1,667
derivatives (positive fair values)	345	485	1,472	4,710	13,843	-
Investments	1,079	1,233	4,227	22,269	29,329	2,173
Investments held by insurance companies	662	898	2,974	19,600	63,682	17,116
of which: non-derivative investments held by insurance companies	478	870	2,959	19,577	63,649	17,109
derivatives (positive fair values)	184	28	15	23	33	7
Other assets	2,591	39	44	539	84	29
Financial liabilities	**-105,297**	**-27,558**	**-32,895**	**-90,139**	**-105,318**	**-68,427**
Deposits from banks	-55,086	-3,621	-10,018	-39,397	-33,962	-1,652
Deposits from customers	-33,188	-2,287	-4,217	-8,768	-25,151	-63,789
Debt certificates issued including bonds	-9,290	-19,660	-12,809	-20,651	-24,108	-
Derivatives used for hedging (negative fair values)	-4	-18	-122	-436	-723	-
Financial liabilities held for trading	-6,813	-1,378	-5,243	-18,186	-19,686	-552
of which: non-derivative financial liabilities held for trading	-6,263	-862	-3,393	-12,229	-9,562	-552
derivatives (negative fair values)	-550	-516	-1,850	-5,957	-10,124	-
Other liabilities	-916	-434	-93	-1,368	-1,143	-2,409
of which: non-derivative other liabilities	-906	-412	-85	-1,275	-927	-2,402
derivatives (negative fair values)	-10	-22	-8	-93	-216	-7
Subordinated capital	-	-160	-393	-1,333	-545	-25
Financial guarantee contracts and loan commitments	**-63,140**	**-277**	**-405**	**-312**	**-30**	**-1,630**
Financial guarantee contracts	-7,494	-58	-36	-168	-30	-56
Loan commitments	-55,646	-219	-369	-144	-	-1,574

AS AT DECEMBER 31, 2018

€ million	≤ 1 month	> 1 month – 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years	Indefinite
Financial assets	**85,132**	**14,793**	**36,465**	**155,003**	**223,603**	**18,180**
Cash and cash equivalents	51,459	-	-	-	-	-
Loans and advances to banks	9,960	4,452	10,469	36,932	34,014	1
Loans and advances to customers	15,082[1]	6,400	16,567	68,569	85,281	-
Derivatives used for hedging (positive fair values)	2	1	35	319	524	-
Financial assets held for trading	5,425	2,393	4,072	8,041	16,698	1,415
of which: non-derivative financial assets held for trading	5,166	2,020	3,182	3,876	6,678	1,415
derivatives (positive fair values)	259	373	890	4,165	10,020	-
Investments	437	632	2,556	21,326	25,323	2,016
Investments held by insurance companies	544	882	2,722	19,425	61,710	14,724
of which: non-derivative investments held by insurance companies	484	861	2,708	19,398	61,657	14,720
derivatives (positive fair values)	60	21	14	27	53	4
Other assets	2,223	33	44	391	53	24
Financial liabilities	**-100,343**	**-17,616**	**-25,756**	**-91,979**	**-107,463**	**-63,875**
Deposits from banks	-56,085	-5,364	-9,295	-40,698	-35,025	-1,652
Deposits from customers	-33,723	-1,851	-4,741	-9,245	-26,993	-60,519
Debt certificates issued including bonds	-4,965	-8,143	-6,604	-21,310	-24,507	-
Derivatives used for hedging (negative fair values)	-8	-15	-61	-660	-1,779	-
Financial liabilities held for trading	-4,172	-1,770	-4,244	-17,114	-17,179	-388
of which: non-derivative financial liabilities held for trading	-4,030	-1,321	-2,279	-11,925	-8,956	-388
derivatives (negative fair values)	-142	-449	-1,965	-5,189	-8,223	-
Other liabilities	-1,346	-423	-123	-1,231	-1,212	-1,291
of which: non-derivative other liabilities	-1,342	-401	-122	-1,140	-975	-1,289
derivatives (negative fair values)	-4	-22	-1	-91	-237	-2
Subordinated capital	-44	-50	-688	-1,721	-768	-25
Financial guarantee contracts and loan commitments	**-59,531**	**-134**	**-282**	**-324**	**-290**	**-1,310**
Financial guarantee contracts	-7,251	-24	-15	-141	-105	-65
Loan commitments	-52,280	-110	-267	-183	-185	-1,245

1 Amount restated (see note 2).

The maturity analysis shows contractually agreed cash inflows with a plus sign and contractually agreed cash outflows with a minus sign. In the case of financial guarantee contracts and loan commitments, the potential cash outflows are shown.

The contractual maturities do not match the estimated actual cash inflows and cash outflows, especially in the case of financial guarantee contracts and loan commitments. The management of liquidity risk based on expected and unexpected cash flows is described in section 6.2.5 of the opportunity and risk report in the group management report.

The maturity analysis for lease liabilities in accordance with IFRS 16.58 is presented in note 92.

>> 87 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.

	Dec. 31, 2019		Dec. 31, 2018	
€ million	Carrying amount	Fair value	Carrying amount	Fair value
Portugal	**814**	**831**	**718**	**731**
Financial assets measured at fair value through profit or loss	423	423	347	347
Financial assets measured at fair value through other comprehensive income	342	342	322	322
Financial assets measured at amortized cost	49	66	49	62
Italy	**4,973**	**5,058**	**4,937**	**4,982**
Financial assets measured at fair value through profit or loss	1,915	1,915	1,734	1,734
Financial assets measured at fair value through other comprehensive income	2,538	2,538	2,683	2,683
Financial assets measured at amortized cost	520	605	520	565
Spain	**2,123**	**2,170**	**1,925**	**1,942**
Financial assets measured at fair value through profit or loss	1,253	1,253	1,122	1,122
Financial assets measured at fair value through other comprehensive income	630	630	563	563
Financial assets measured at amortized cost	240	287	240	257
Total	**7,910**	**8,059**	**7,580**	**7,655**

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:

	Level 1		Level 2		Level 3	
€ million	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Portugal	**765**	669	**-**	-	**-**	-
Financial assets measured at fair value through profit or loss	423	347	-	-	-	-
Financial assets measured at fair value through other comprehensive income	342	322	-	-	-	-
Italy	**4,382**	4,183	**41**	211	**30**	23
Financial assets measured at fair value through profit or loss	1,897	1,715	18	19	-	-
Financial assets measured at fair value through other comprehensive income	2,485	2,468	23	192	30	23
Spain	**1,659**	1,347	**158**	282	**66**	56
Financial assets measured at fair value through profit or loss	1,029	902	158	164	66	56
Financial assets measured at fair value through other comprehensive income	630	445	-	118	-	-
Total	**6,806**	**6,199**	**199**	**493**	**96**	**79**

Maturity analysis

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**

AS AT DECEMBER 31, 2018

€ million	≤ 1 month	> 1 month – 3 months	> 3 months – 1 year	> 1 year – 5 years	> 5 years
Portugal	-	-	26	101	808
Italy	15	86	282	1,598	4,581
Spain	4	6	109	614	2,030
Total	**19**	**92**	**417**	**2,313**	**7,419**

The maturity analysis shows the contractually agreed cash inflows.

F Other disclosures

>> 88 Contingent liabilities

€ million	Dec. 31, 2019	Dec. 31, 2018
Contingent liabilities arising from contributions to the resolution fund for CRR credit institutions	37	25
Contingent liabilities in respect of litigation risk	9	10
Total	**46**	**35**

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 annual contribution to the European bank levy for 2017 to 2019 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.

>> 89 Financial guarantee contracts and loan commitments

€ million	Dec. 31, 2019	Dec. 31, 2018
Financial guarantee contracts	**7,842**	**7,601**
Loan guarantees	4,187	4,022
Letters of credit	562	465
Other guarantees and warranties	3,093	3,114
Loan commitments	**57,952**	**54,270**
Credit facilities to banks	17,163	17,723
Credit facilities to customers	18,690	15,866
Guarantee credits	464	436
Letters of credit	1	1
Global limits	21,634	20,244
Total	**65,794**	**61,871**

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

>> 90 Trust activities

Assets held and liabilities entered into as part of trust activities do not satisfy the criteria for recognition on the balance sheet. The following table shows the breakdown for trust activities:

€ million	Dec. 31, 2019	Dec. 31, 2018
Trust assets	**761**	**944**
Loans and advances to banks	140	143
Loans and advances to customers	12	24
Investments	609	777
Trust liabilities	**761**	**944**
Deposits from banks	57	71
Deposits from customers	704	873

Trust assets and trust liabilities each include trust loans amounting to €57 million (December 31, 2018: €79 million).

>> 91 Business combinations

Goodwill is allocated to the DZ BANK Group's operating segments, each of which constitutes a cash-generating unit. As had been the case a year earlier, goodwill of €39 million was allocated to the UMH subgroup operating segment and €2 million to the TeamBank operating segment as at the balance sheet date.

Goodwill is regularly tested for possible impairment in the last quarter of the financial year. If there are any indications of possible impairment, more frequent impairment tests are also carried out. In an impairment test, the carrying amount of the goodwill-bearing units is compared with the relevant recoverable amount. The carrying amount is equivalent to the equity attributable to the goodwill-bearing entity. For the purposes of the test, the goodwill is notionally increased by the amount attributable to non-controlling interests. If the recoverable amount exceeds the carrying amount, no impairment of the goodwill is recognized. The recoverable amount is determined as the value in use of the goodwill-bearing entity. Value in use is based on the DZ BANK Group's 4-year plan, from which estimated future cash flows can be derived.

The basic assumptions are determined using an overall assessment based on past experience, current market and economic conditions, and estimates of future market trends. The macroeconomic scenario used as the basis for the 4-year plan assumes that Germany and the other countries of the European Monetary Union are continuing in a phase of moderate economic recovery, although a slowdown in growth is increasingly taking hold. It also assumes that both the euro area and the US dollar area will initially be hit by rising inflation, although the ECB's target for the euro area of 2.0 percent is unlikely to be exceeded for very long. The US inflation rate will temporarily rise beyond the 2.0 percent mark, but will not accelerate any further. Central banks are expected to adjust key interest rates accordingly after some delay. The scenario anticipates a widening of spreads on government bonds issued by the peripheral countries of the eurozone.

Cash flows beyond the end of the 4-year period were estimated using a constant rate of growth of 0.75 percent (2018: 1.00 percent) for the following operating segments: UMH subgroup and TeamBank.

The value in use for a goodwill-bearing entity is produced by discounting these cash flows back to the date of the impairment test. In 2019, the following discount rates (before taxes) used in the calculation were determined on the basis of the capital asset pricing model: 13.09 percent for the UMH subgroup operating segment (2018: 14.02 percent) and 13.09 percent for the TeamBank operating segment (2018: 14.02 percent).

There were no impairment losses in the financial year. In 2018, there had been indications that the goodwill allocated to the DZ PRIVATBANK operating segment might be impaired. The subsequent impairment test resulted in the recognition of an impairment loss of €128 million in respect of the goodwill.

Sensitivity analyses are also carried out in which parameters relevant to the calculation of value in use are modified within a plausible range of values. The parameters that are particularly relevant to the DZ BANK Group are the forecast cash flows and the discount rates. No impairment requirement would result in the TeamBank operating segment or in the UMH subgroup in any of the scenarios.

>> 92 Leases

DZ BANK Group as lessor

The underlying assets in leases in which the DZ BANK Group is the lessor can be subdivided into the following classes: land and buildings, office furniture and equipment, and intangible assets.

For the most part, the land and buildings asset class consists of commercial real estate, including parking areas. A smaller proportion is accounted for by residential real estate. Lease assets in the office furniture and equipment asset class are means of transport, such as aircraft, ships, and motor vehicles. Medical technology devices as well as IT and office equipment are also leased out. In addition, production machinery, together with photovoltaic installations and solar thermal systems, account for a significant proportion of this asset class. Software is the most significant item under intangible assets.

Finance leases

Within the DZ BANK Group, the VR Smart Finanz and DVB subgroups are active as lessors. The companies in the VR Smart Finanz subgroup predominantly enter into leases with customers for production machinery, photovoltaic installations, and solar thermal systems. Medical technology devices, vehicles, and software are leased in addition to office equipment. The entities in the DVB subgroup mainly enter into leases for ships. Some of the leases include purchase, extension, or termination options; they have terms of 1 to 21 years for office furniture and equipment, and 2 to 7 years for intangible assets.

In addition to the actual underlying assets financed by the leases, further items of collateral such as guarantees, buy-back agreements, and residual value guarantees are contractually agreed to reduce the risk. Lease assets are also monitored, for example by means of on-site inspections.

€ million	Dec. 31, 2019
Gross investment	**1,641**
Up to 1 year	576
More than 1 year and up to 2 years	420
More than 2 years and up to 3 years	295
More than 3 years and up to 4 years	177
More than 4 years and up to 5 years	91
More than 5 years	82
less unearned finance income	**-94**
Net investment	1,547
less present value of unguaranteed residual values	**-9**
Present value of minimum lease payment receivables	**1,538**

COMPARATIVE INFORMATION IN ACCORDANCE WITH IAS 17

€ million	Dec. 31, 2018
Gross investment	**2,164**
Up to 1 year	711
More than 1 year and up to 5 years	1,330
More than 5 years	123
less unearned finance income	**-144**
Net investment	2,020
less present value of unguaranteed residual values	**-42**
Present value of minimum lease payment receivables	**1,978**
Up to 1 year	642
More than 1 year and up to 5 years	1,225
More than 5 years	111

The change in the present value of the minimum lease payment receivables was largely attributable to expiring finance leases and partial repayments at the request of customers.

In the financial year, selling losses amounted to €1 million. The finance income on the net investment in the lease is reported separately under interest income, as disclosed in note 34.

Operating leases

Leases are in place for commercial and residential real estate, including parking areas. The leases normally include extension options. A small number of leases are also entered into for office furniture and equipment.

The following table shows a breakdown of the carrying amounts by class of underlying assets in the leases, comprising investment property and items of property, plant and equipment, as at the reporting date:

€ million	Dec. 31, 2019
Land and buildings	3,104
Office furniture and equipment	25
Total	**3,129**

Income from operating leases amounted to €273 million in the financial year, the bulk of which comprised rental income from investment property held by the insurance companies.

As at the reporting date, the breakdown of the total amount of minimum lease payments expected to be received from operating leases in the future was as follows:

€ million	Dec. 31, 2019
Total future minimum lease payments under non-cancelable leases	**1,001**
Up to 1 year	173
More than 1 year and up to 2 years	135
More than 2 years and up to 3 years	118
More than 3 years and up to 4 years	108
More than 4 years and up to 5 years	96
More than 5 years	371

COMPARATIVE INFORMATION IN ACCORDANCE WITH IAS 17

€ million	Dec. 31, 2018
Total future minimum lease payments under non-cancelable leases	842
Up to 1 year	177
More than 1 year and up to 5 years	371
More than 5 years	294

DZ BANK Group as lessee

The underlying assets in leases in which the DZ BANK Group is the lessee can be subdivided into the following classes: land and buildings, and office furniture and equipment.

Leases involving the land and buildings asset class in which the DZ BANK Group is the lessee relate to the leasing of offices and business premises (including parking areas) for the group's own business operations. Some of these leases include extension and termination options. The lease terms are up to 20 years. There are also a small number of leases for office furniture and equipment. These include leases for motor vehicles and workplace equipment. The lease terms are up to 5 years.

Rights to use underlying assets in leases are included under property, plant and equipment, investment property, and right-of-use assets, and under other assets. The following table shows the changes in the carrying amounts of the right-of-use assets, broken down by class of underlying asset:

€ million	Land and buildings	Office furniture and equipment
Carrying amounts as at Jan. 1, 2019	336	32
Additions	42	9
Revaluation	3	-
Depreciation	-70	-14
Impairment losses	-2	-
Disposals	-2	-
Carrying amounts as at Dec. 31, 2019	**307**	**27**

Lease liabilities of €342 million were recognized under other liabilities and other liabilities of insurance companies.

The interest expense on lease liabilities is disclosed in note 34.

The following table shows a breakdown of the contractual maturities for lease liabilities:

€ million	Dec. 31, 2019
Up to 1 year	74
More than 1 year and up to 3 years	115
More than 3 years and up to 5 years	76
More than 5 years	96

The total cash outflows for lease liabilities in 2019 amounted to €119 million.

The following income and expenses have been recognized in the income statement for rights to use underlying assets in leases:

€ million	2019
Expenses relating to short-term leases	11
Expenses relating to leases of low-value assets	16
Expenses relating to variable lease payments not included in the lease liability	5
Income from subleasing right-of-use-assets	9

The expenses relating to short-term leases relate primarily to leases for motor vehicles and other mobile assets, such as bicycles for employees, as well as real estate with lease terms between 2 and 12 months. Expenses relating to leases of low-value assets mainly relate to the class office furniture and equipment.

As at the reporting date, there were lease commitments of €1 million for short-term leases that are not included in the portfolio of short-term leases to which the disclosed expense from short-term leases relates.

The lease commitments could give rise to potential future cash outflows as a result of variable lease payments, extension or termination options, or residual value guarantees. These potential cash outflows have not been included in the measurement of the lease liability because, under current assessments, it is not possible to determine with a sufficient degree of reliability whether, and to what extent, the variable components will materialize or will be used. Within the DZ BANK Group, there are variable lease payments of this nature in connection with utilities related to real estate leases. The entities in the DZ BANK Group estimate that variable lease payments, extension options, and termination rights contractually provided for in leases could give rise to future cash outflows of €342 million.

As at the reporting date, there were also future commitments amounting to €270 million arising from leases that had been signed by the entities in the DZ BANK Group but that had not yet commenced. Most of these leases are real estate leases for offices and ATM sites, for example.

COMPARATIVE INFORMATION IN ACCORDANCE WITH IAS 17 – OPERATING LEASES

€ million	Dec. 31, 2018
Total future minimum lease payments under non-cancelable leases	**943**
Up to 1 year	160
More than 1 year and up to 5 years	484
More than 5 years	299

In the previous year, the total future minimum payments expected to be received under non-cancelable subleases as at the reporting date amounted to €17 million.

Minimum lease payments of €149 million and contingent rents of €22 million had been recognized as expenses in 2018.

Operating leases in the DZ BANK Group in 2018 were leases for properties and business premises, some of which contained extension options or had their lease payments linked to a price index. There were also leases for office furniture and equipment in which some of the lease payments were dependent on the quantity of hardware used and the number of licenses provided.

>> 93 Disclosures on revenue from contracts with customers

Effects in the income statement

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

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	-	-	4	
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	34	-	-	
Other fee and commission income	60	-	136	
Fee and commission income in gains and losses on investments held by insurance companies and other insurance company gains and losses	-	64	-	
Other income in gains and losses on investments held by insurance companies and other insurance company gains and losses	-	67	-	
Other operating income	-	-	12	
Total	**94**	**131**	**152**	
Main geographical markets				
Germany	84	131	152	
Rest of Europe	10	-	-	
Rest of World	-	-	-	
Total	**94**	**131**	**152**	
Type of revenue recognition				
At a point in time	94	22	152	
Over a period of time	-	109	-	
Total	**94**	**131**	**152**	

	UMH	DZ BANK – CICB	DZ HYP	DZ PRIVAT-BANK	VR Smart Finanz	DVB	Other/ Consolidation	Total
	2,614	350	-	166	-	-	-79	3,051
	15	-	-	241	-	-	-5	251
	-	230	-	1	-	1	55	287
	-	67	7	-	-	45	26	149
	-	52	7	-	-	2	-3	58
	-	10	-	-	-	-	-	10
	-	-	-	-	-	-	-	34
	-	60	1	21	27	5	-118	192
	-	-	-	-	-	-	-	64
	-	-	-	-	-	-	-	67
	6	-	-	-	-	-	14	32
	2,635	**769**	**15**	**429**	**27**	**53**	**-110**	**4,195**
	2,054	769	15	134	27	6	-122	3,250
	581	-	-	293	-	32	12	928
	-	-	-	2	-	15	-	17
	2,635	**769**	**15**	**429**	**27**	**53**	**-110**	**4,195**
	429	277	11	175	27	7	-230	964
	2,206	492	4	254	-	46	120	3,231
	2,635	**769**	**15**	**429**	**27**	**53**	**-110**	**4,195**

2018

€ 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	-	-	3	
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	31	-	-	
Other fee and commission income	55	-	139	
Fee and commission income in gains and losses on investments held by insurance companies and other insurance company gains and losses	-	57	-	
Other income in gains and losses on investments held by insurance companies and other insurance company gains and losses	-	56	-	
Other operating income	-	-	10	
Total	**86**	**113**	**152**	
Main geographical markets				
Germany	76	113	152	
Rest of Europe	10	-	-	
Rest of World	-	-	-	
Total	**86**	**113**	**152**	
Type of revenue recognition				
At a point in time	86	6	152	
Over a period of time	-	107	-	
Total	**86**	**113**	**152**	

	UMH	DZ BANK – CICB	DZ HYP	DZ PRIVAT-BANK	VR Smart Finanz	DVB	Other/ Consolidation	Total
	2,432	317	-	195	-	-	-151	2,793
	16	-	-	223	-	-	-17	222
	-	216	-	2	-	1	50	269
	-	68	4	-	-	65	22	162
	-	45	7	-	-	3	-3	52
	-	11	-	-	-	-	-	11
	-	-	-	-	-	-	-	31
	-	57	-	11	37	28	-118	209
	-	-	-	-	-	-	-	57
	-	-	-	-	-	-	-	56
	4	-			-	-	11	25
	2,452	**714**	**11**	**431**	**37**	**97**	**-206**	**3,887**
	1,843	714	11	129	37	35	-144	2,966
	609	-	-	300	-	45	-62	902
	-	-	-	2	-	17	-	19
	2,452	**714**	**11**	**431**	**37**	**97**	**-206**	**3,887**
	344	257	8	73	37	31	-179	815
	2,108	457	3	358	-	66	-27	3,072
	2,452	**714**	**11**	**431**	**37**	**97**	**-206**	**3,887**

In the financial year, the DZ BANK Group recognized revenue from contracts with customers in an amount of €24 million that had been included in contract liabilities at the beginning of the year (2018: €3 million).

Effects on the balance sheet

Receivables, contract assets, and contract liabilities

Receivables from contracts with customers in which the recognized income is not subject to calculation using the effective interest method are accounted for in application of the rules in IFRS 15. Contract assets and contract liabilities are also recognized as a result of circumstances in which the fulfilment of the counter-performance is conditional on something other than the passage of time.

As at the reporting date, contract liabilities amounted to €19 million (December 31, 2018: €38 million). These arose from the service business.

Changes in receivables, contract assets, and contract liabilities from contracts with customers

€ million	Loans and advances to banks	Loans and advances to customers	Other receivables (other assets)	Contract liabilities
Balance as at Jan. 1, 2018	5	75	139	23
Additions	41	433	2,074	18
Derecognitions	-41	-399	-2,071	-3
Other	-	-	-3	-
Balance as at Dec. 31, 2018	5	109	139	38
Additions	42	438	2,253	5
Derecognitions	-43	-410	-2,224	-24
Balance as at Dec. 31, 2019	**4**	**137**	**168**	**19**

‘Other’ is used to report other changes, such as currency translation effects and effects from changes in the scope of consolidation.

Other disclosures on revenue from contracts with customers

Performance obligations

Performance obligations are satisfied predominantly over a period of time. Within any year, performance obligations over time are billed mainly on a monthly or quarterly basis. Performance obligations related to a point in time are satisfied when the service in question has been performed. The related fees are normally due after the service has been provided. In the property development business, the performance obligation is satisfied gradually with the completion of the individual stages of construction. The consideration does not vary for the most part.

If advance payments are received, this leads to the recognition of contract liabilities, which are then reversed again over the maturity of the contract.

>> 94 Letters of comfort

Except in the event of political risk, DZ BANK has undertaken to ensure, in proportion to its shareholding for the consolidated entity DZ PRIVATBANK, and in total for DZ HYP, that these companies are able to meet their contractual obligations. These entities are identified in the list of DZ BANK Group's shareholdings (note 104) as being covered by a letter of comfort. DZ BANK has also issued subordinated letters of comfort in respect of DZ BANK Capital Funding LLC I, DZ BANK Capital Funding LLC II, and DZ BANK Capital Funding LLC III, all based in Wilmington. In addition, DZ BANK has issued 5 subordinated letters of comfort in respect of DZ BANK Perpetual Funding (Jersey) Limited, St. Helier, Jersey, each relating to different classes of preferred shares.

>> 95 Employees

Average number of employees by employee group:

	2019	2018
Female employees	**14,033**	**13,973**
Full-time employees	8,588	8,614
Part-time employees	5,445	5,359
Male employees	**16,792**	**16,759**
Full-time employees	15,707	15,758
Part-time employees	1,085	1,001
Total	**30,825**	**30,732**

>> 96 Auditor fees

The total fees charged for 2019 by the independent auditors of the consolidated financial statements, Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, Stuttgart, broken down by type of service are as follows:

€ million	2019	2018
Auditing services	12.2	14.5
Other attestation services	1.0	1.1
Tax consultancy services	0.2	-
Other services	1.9	2.2
Total	**15.3**	**17.8**

The fees for auditing services comprise expenses relating to the audit of the consolidated financial statements and group management report of DZ BANK as well as the audits of the annual financial statements and management reports of DZ BANK and consolidated subsidiaries carried out by the auditors of the consolidated financial statements. The fees for auditing services also comprise expenses relating to the review by the auditor of the condensed interim consolidated financial statements and interim group management report. The fees for other attestation services comprise the fees charged for the audit in accordance with section 89 of the German Securities Trading Act (WpHG) and services for which the auditors' professional seal must or can be applied. The fees for other services resulted from the auditing of funds of UMH and from consulting services.

>> 97 Remuneration for the Board of Managing Directors and Supervisory Board of DZ BANK

In 2019, overall remuneration for DZ BANK's Board of Managing Directors from the group in accordance with IAS 24.17 amounted to €12.9 million (2018: €13.0 million). This total is broken down into short-term employee benefits of €8.4 million (2018: €8.5 million), post-employment benefits of €2.9 million (2018: €3.0 million), and share-based payments of €1.6 million (2018: €1.5 million). The remuneration for the Board of Managing Directors in 2019 and 2018 included the total bonus awarded to the Board of Managing Directors for the year in question. Supervisory Board remuneration amounted to €1.1 million (2018: €1.0 million) and consisted of payments due in the short term.

The remuneration for the Board of Managing Directors included contributions of €0.3 million (2018: €0.3 million) to defined contribution pension plans. DZ BANK has defined benefit obligations for the members of the Board of Managing Directors amounting to €35.6 million (December 31, 2018: €37.8 million).

In 2019, the total remuneration for the Board of Managing Directors of DZ BANK for the performance of their duties in DZ BANK and its subsidiaries pursuant to section 314 (1) no. 6a HGB was €10.2 million (2018: €10.3 million), while the total remuneration for the Supervisory Board for the performance of these duties amounted to €1.1 million (2018: €1.0 million).

The total remuneration paid to former members of the Board of Managing Directors or their surviving dependants pursuant to section 314 (1) no. 6b HGB amounted to €10.2 million in 2019 (2018: €10.4 million). DZ BANK has defined benefit obligations for former members of the Board of Managing Directors or their surviving dependants amounting to €181.4 million (2018: €165.6 million).

>> 98 Share-based payment transactions

The entities in the DZ BANK Group have entered into share-based payment agreements with the members of the Board of Managing Directors and with certain other salaried employees.

DZ BANK has entered into agreements governing variable remuneration paid over several years with the members of the Board of Managing Directors, heads of division, and a group of selected salaried employees (risk takers). The amount of variable remuneration depends on the achievement of agreed targets. In the case of members of the Board of Managing Directors and heads of division, 80 percent of the total variable remuneration is deferred over a period of up to 6 years from when the bonus is determined. For risk takers below the level of head of division with variable remuneration of more than €130,000, 80 percent of the total variable remuneration is deferred over a period of up to 4 years from when the bonus is determined. For risk takers below the level of head of division with variable remuneration of more than €50,000 and up to €130,000, 70 percent of the total variable remuneration is deferred over a period of up to 4 years from when the bonus is determined. Amounts are paid out after taking into account deferral or retention periods. The deferred portion of the variable remuneration may be reduced or even fully withdrawn if there is an adverse change in the value of DZ BANK shares or if there are negative contributions to profits from DZ BANK, individual divisions, or individual activities. A rise in the value of DZ BANK shares does not lead to an increase in the deferred remuneration. The value of the shares is determined each year by means of an independent business valuation. The deferred portion of the variable remuneration for members of the Board of Managing Directors is reduced by 50 percent if the share price falls by between 7.5 percent and 12.5 percent. If the share price drops by more than 12.5 percent, the deferred portion of the variable remuneration is canceled. In the case of heads of division and risk takers below the level of head of division, the deferred portion of the variable remuneration is reduced by 25 percent if the share price falls by between 15 percent and 20 percent. If the share price drops by between 20 percent and 25 percent, the deferred portion of the variable remuneration is reduced by 50 percent. If the share price drops by more than 25 percent, the deferred portion of the variable remuneration is canceled in full. If the change in the share price does not reach the specified threshold values, the deferred portion of the variable remuneration is not reduced as a result of the change in the share price. Based on a value per DZ BANK share of €9.10 as at December 31, 2015, a value per share of €9.15 as at December 31, 2016, a value per share of €8.65 as at December 31, 2017 (adjusted share value following the merger), a value per share of €8.65 as at December 31, 2018, and a value per share of €8.35 as at December 31, 2019, it can currently be assumed that the deferred remuneration will be paid in full. No options have been granted for these groups of employees. Share-based payments are granted in the year after they have been earned.

The following summary shows the change in unpaid share-based payment components at DZ BANK:

€ million	Board of Managing Directors	Risk takers
Unpaid share-based payments as at Jan. 1, 2018	3.5	20.3
Remuneration granted	1.9	8.2
Payment of remuneration granted in 2017	-0.8	-5.3
Payment of remuneration granted in previous years	-1.4	-2.7
Unpaid share-based payments as at Dec. 31, 2018	3.2	20.5
Remuneration granted	1.5	6.1
Payment of remuneration granted in 2018	-0.5	-3.5
Payment of remuneration granted in previous years	-1.3	-4.6
Unpaid share-based payments as at Dec. 31, 2019	**2.9**	**18.5**

DZ PRIVATBANK has entered into an agreement on variable remuneration components with the members of its Board of Managing Directors. The amount of the variable remuneration is based on a contractually specified reference bonus. The variable remuneration may vary between 0 and 150 percent of the reference bonus, depending on the level of target attainment. Quantitative and qualitative targets derived from the corporate strategy in the form of group, bank, area of board responsibility, and individual targets are used to determine the bonus level. The measurement period for the targets covers the previous 3 years. The reference bonus will be set after the annual financial statements have been formally adopted by the Supervisory Board, at the latest. The amount determined annually in this way will be paid out over 6 years. The initial payout amount of 20 percent of the reference bonus will be paid out immediately after the bonus amount has been set. A further 20 percent is subject to a retention period of one year. The remaining 60 percent will be spread out over a period of 5 years. To this end, the retained bonus will be subdivided into 5 equal portions. All deferred payouts are linked to the long-term change in the enterprise value of DZ PRIVATBANK S.A. The enterprise value is determined each year by means of an independent business valuation. If the enterprise value falls, then the retained bonus components are reduced according to specified bands. For up to 2 years after the end of the retention period, a bonus payout can be reclaimed if the member of the Board of Managing Directors has played a part in conduct that has led to substantial losses or material regulatory sanctions for the institution, or has been responsible for a serious breach of relevant external or internal rules regarding suitability and conduct. If, at the time a negative contribution to profits is identified for an assessment period, a beneficiary still has an outstanding entitlement to receive payments of retained bonus components, these entitlements can be canceled.

The following summary shows the change in unpaid share-based payment components at DZ PRIVATBANK:

€ million	**Board of Managing Directors**
Unpaid share-based payments as at Jan. 1, 2018	2.8
Remuneration granted	0.5
Payment of remuneration granted in 2017	-0.1
Payment of remuneration granted in previous years	-0.5
Unpaid share-based payments as at Dec. 31, 2018	2.7
Remuneration granted	0.4
Payment of remuneration granted in 2018	-0.1
Payment of remuneration granted in previous years	-0.4
Reduction of share-based payments	-0.9
Unpaid share-based payments as at Dec. 31, 2019	**1.7**

R+V has entered into agreements governing variable remuneration paid over several years with the members of its Board of Managing Directors and a group of selected salaried employees (key function-holders and risk takers). The amount of variable remuneration depends on the achievement of agreed targets. A proportion of 60 percent of the variable remuneration for members of the Board of Managing Directors, and 40 percent of that for the selected salaried employees, depends on the change in value of the shares in R+V Versicherungs AG. In these arrangements, the share value equates to the fair market value (section 11 (2) of the German Valuation Act (BewG)) of the unlisted shares in R+V Versicherung AG as at December 31 of the year in question. The portion of the bonus subject to payout restrictions will be paid out after 3 years without any reduction if the share value equates to more than 85 percent of the value at the end of the baseline year. If the share value is between 75 percent and 85 percent of this figure, the bonus portion subject to payout restrictions is reduced by half. If the share value falls below 75 percent, payment of the part of the bonus subject to payout restrictions is canceled in full.

The following table shows the changes in unpaid remuneration components at R+V:

€ million	Board of Managing Directors	Risk takers
Unpaid share-based payments as at Jan. 1, 2018	0.6	0.1
Remuneration granted	0.7	0.1
Unpaid share-based payments as at Dec. 31, 2018	1.3	0.2
Remuneration granted	0.8	0.1
Unpaid share-based payments as at Dec. 31, 2019	**2.1**	**0.3**

At DVB, the variable salary payments to the Board of Managing Directors and risk takers up to 2017 included a bonus, which was determined by the Supervisory Board each year on the basis of agreements on targets. It was paid in installments over the 4 years after the financial year to which it related.

Each payment was subject to certain conditions (e.g. employment contract not having been terminated) and penalty arrangements (e.g. compliance with internal policies). A further condition applicable to all 4 bonus installments was that 50 percent of each tranche was subject to an additional one-year holding period and was therefore not paid immediately. During this holding period, the value of the retained tranche was replaced by a share-based payment instrument linked to the performance of DVB. Share-based payment instruments were discontinued in 2018.

The following summary shows the change in unpaid share-based payment components at DVB:

€ million	Risk takers
Unpaid share-based payments as at Jan. 1, 2018	1.5
Remuneration granted	-
Payment of remuneration granted in 2017	-0.5
Payment of remuneration granted in previous years	-0.9
Reduction of share-based payments	-0.1
Unpaid share-based payments as at Dec. 31, 2018	**-**

In 2019, the agreements described above gave rise to expenses for share-based payment transactions in the DZ BANK Group of €9.5 million (2018: €9.6 million). As at December 31, 2019, the provisions recognized for share-based payment transactions in the DZ BANK Group amounted to €41.6 million (December 31, 2018: €43.8 million).

>> 99 Related party disclosures

DZ BANK enters into transactions with related parties (persons or entities) as part of its ordinary business activities. All of this business is transacted on an arm's length basis. Most of these transactions involve typical banking products and financial services.

Transactions with related parties (entities)

€ million	Dec. 31, 2019	Dec. 31, 2018
Loans and advances to banks	**34**	**141**
to joint ventures	34	141
Loans and advances to customers	**126**	**155**
to subsidiaries	41	74
joint ventures	12	21
associates	73	60
Financial assets held for trading	**-**	**4**
of subsidiaries	-	4
Investments	**5**	**5**
of joint ventures	5	5
Investments held by insurance companies	**98**	**98**
of subsidiaries	98	98
Other assets	**43**	**34**
of subsidiaries	27	20
pension plans for the benefit of employees	16	14
Deposits from banks	**166**	**97**
owed to joint ventures	166	97
Deposits from customers	**232**	**219**
owed to subsidiaries	230	213
associates	2	6
Other liabilities	**18**	**19**
of subsidiaries	10	12
joint ventures	3	2
pension plans for the benefit of employees	5	5
Subordinated capital	**22**	**21**
of pension plans for the benefit of employees	22	21

€ million	Dec. 31, 2019	Dec. 31, 2018
Financial guarantee contracts	**6**	**11**
for subsidiaries	6	11
Loan commitments	**322**	**333**
to subsidiaries	54	76
joint ventures	266	256
associates	2	1

Income of €8 million (2018: €10 million) in the total reported net interest income, income of €22 million (2018: €9 million) in the total reported net fee and commission income, and expenses of €35 million (2018: expenses of €13 million) in the total reported net income from insurance business were attributable to transactions with related parties (entities).

Transactions with related parties (persons)

Related parties (persons) are key management personnel who are directly or indirectly responsible for the planning, management, and supervision of the activities of DZ BANK, as well as their close family members.

For the purposes of IAS 24, the DZ BANK Group considers the members of the Board of Managing Directors and the members of the Supervisory Board to be key management personnel. As at December 31, 2019, the DZ BANK Group's loans and loan commitments to related parties (persons) amounted to €0.8 million (December 31, 2018: €1.0 million).

Like unrelated parties, key management personnel and their close family members also have the option of obtaining further financial services from the DZ BANK Group, for example in the form of insurance contracts, home savings contracts, and leases. Where they made use of this option, the transactions were carried out on an arm's-length basis.

>> 100 Events after the balance sheet date

On February 18, 2020, further parts of the aviation finance business in the DVB subgroup were transferred in substance to MUFG Bank, Ltd., Tokyo, as planned. As a consequence, the bulk of the assets of €331 million that had been reported within a disposal group not qualifying as a discontinued operation as at December 31, 2019 were derecognized.

>> 101 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

>> 102 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

Uwe Goldstein
Bank director (ret.)

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

Stephan Schack
Chief Executive Officer
Volksbank Raiffeisenbank eG, Itzehoe

Gregor Scheller
Chief Executive Officer
Volksbank 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

>> 103 Supervisory mandates held by members of the Board of Managing Directors and employees

Within DZ BANK

As at December 31, 2019, members of the Board of Managing Directors and employees also held mandates on the statutory supervisory bodies of major companies. These and other notable mandates are listed below. Companies included in the consolidation are indicated with an asterisk (*).

Members of the Board of Managing Directors

Uwe Fröhlich (Co-Chief Executive Officer)	DZ HYP AG, Hamburg and Münster (*) Chairman of the Supervisory Board
	DZ PRIVATBANK S.A., Strassen (*) Chairman of the Supervisory Board
	VR Smart Finanz AG, Eschborn (*) Chairman of the Supervisory Board
Dr. Cornelius Riese (Co-Chief Executive Officer)	Bausparkasse Schwäbisch Hall AG, Schwäbisch Hall (*) Chairman of the Supervisory Board
	R+V Versicherung AG, Wiesbaden (*) Chairman of the Supervisory Board
	TeamBank AG Nürnberg, Nuremberg (*) Chairman of the Supervisory Board
	Union Asset Management Holding AG, Frankfurt am Main (*) Chairman of the Supervisory Board
Uwe Berghaus	DZ HYP AG, Hamburg and Münster (*) Member of the Supervisory Board
	EDEKABANK AG, Hamburg Member of the Supervisory Board

Dr. Christian Brauckmann	Deutsche WertpapierService Bank AG, Frankfurt am Main Member of the Supervisory Board
	DZ PRIVATBANK S.A., Strassen (*) Deputy Chairman of the Supervisory Board
	Fiducia & GAD IT AG, Frankfurt am Main Member of the Supervisory Board
Ulrike Brouzi	Bausparkasse Schwäbisch Hall AG, Schwäbisch Hall (*) Member of the Supervisory Board
	R+V Allgemeine Versicherung AG, Wiesbaden (*) Member of the Supervisory Board
	R+V Lebensversicherung AG, Wiesbaden (*) Member of the Supervisory Board
	Salzgitter AG, Salzgitter Member of the Supervisory Board
	Union Asset Management Holding AG, Frankfurt am Main (*) Member of the Supervisory Board
Wolfgang Köhler	DVB Bank SE, Frankfurt am Main (*) Chairman of the Supervisory Board
	R+V Lebensversicherung AG, Wiesbaden (*) Member of the Supervisory Board
Michael Speth	BAG Bankaktiengesellschaft, Hamm Member of the Supervisory Board
	DVB Bank SE, Frankfurt am Main (*) Deputy Chairman of the Supervisory Board
	DZ HYP AG, Hamburg and Münster (*) Member of the Supervisory Board
	R+V Versicherung AG, Wiesbaden (*) Member of the Supervisory Board
	VR Smart Finanz AG, Eschborn (*) Deputy Chairman of the Supervisory Board

Thomas Ullrich	Deutsche WertpapierService Bank AG, Frankfurt am Main Deputy Chairman of the Supervisory Board TeamBank AG Nürnberg, Nuremberg (*) Deputy Chairman of the Supervisory Board VR Payment GmbH, Frankfurt am Main (*) Chairman of the Supervisory Board

DZ BANK employees

Rolf Büscher	DVB Bank SE, Frankfurt am Main (*) Member of the Supervisory Board ReiseBank AG, Frankfurt am Main (*) Member of the Supervisory Board
Winfried Münch	AKA Ausfuhrkredit-Gesellschaft mbH, Frankfurt am Main Member of the Supervisory Board
Dr. Peter Neu	Deutsche WertpapierService Bank AG, Frankfurt am Main Member of the Supervisory Board
Claudio Ramsperger	Cassa Centrale Banca – Credito Cooperativo Italiano S.p.A., Trento Member of the Board of Directors
Gregor Roth	ReiseBank AG, Frankfurt am Main (*) Chairman of the Supervisory Board VR Payment GmbH, Frankfurt am Main (*) Member of the Supervisory Board
Peter Tenbohlen	Deutsche WertpapierService Bank AG, Frankfurt am Main Member of the Supervisory Board
Dr. Ulrich Walter	Deutsche WertpapierService Bank AG, Frankfurt am Main Member of the Supervisory Board
Dagmar Werner	Banco Cooperativo Español S.A., Madrid Member of the Board of Directors

In the DZ BANK Group

As at December 31, 2019, members of the Boards of Managing Directors and employees also held mandates on the statutory supervisory bodies of the following major companies in Germany. Companies included in the consolidation are indicated with an asterisk (*).

Reinhard Klein Chief Executive Officer Bausparkasse Schwäbisch Hall AG	Schwäbisch Hall Kreditservice GmbH, Schwäbisch Hall (*) Member of the Supervisory Board
Peter Magel Member of the Board of Managing Directors Bausparkasse Schwäbisch Hall AG	Schwäbisch Hall Kreditservice GmbH, Schwäbisch Hall (*) Member of the Supervisory Board
Claudia Klug General Executive Manager Bausparkasse Schwäbisch Hall AG	Schwäbisch Hall Facility Management GmbH, Schwäbisch Hall Chairwoman of the Supervisory Board
Dr. Norbert Rollinger Chief Executive Officer R+V Versicherung AG	Condor Lebensversicherungs-AG, Hamburg (*) Chairman of the Supervisory Board KRAVAG-ALLGEMEINE Versicherungs-AG, Hamburg (*) Chairman of the Supervisory Board KRAVAG-LOGISTIC Versicherungs-AG, Hamburg (*) Chairman of the Supervisory Board Raiffeisendruckerei GmbH, Neuwied Member of the Supervisory Board R+V Allgemeine Versicherung AG, Wiesbaden (*) Chairman of the Supervisory Board R+V Krankenversicherung AG, Wiesbaden (*) Chairman of the Supervisory Board R+V Lebensversicherung AG, Wiesbaden (*) Chairman of the Supervisory Board R+V Pensionsfonds AG, Wiesbaden (*) Chairman of the Supervisory Board R+V Service Center GmbH, Wiesbaden Chairman of the Supervisory Board

SECURITAS HOLDING GmbH, Berlin
Member of the Supervisory Board

Union Asset Management Holding AG, Frankfurt am Main (*)
Member of the Supervisory Board

Claudia Andersch
Member of the Board of Managing Directors
R+V Versicherung AG

CHEMIE Pensionsfonds AG, Munich (*)
Member of the Supervisory Board

Condor Lebensversicherungs-AG, Hamburg (*)
Member of the Supervisory Board

R+V Pensionsfonds AG, Wiesbaden (*)
Deputy Chairwoman of the Supervisory Board

R+V Pensionskasse AG, Wiesbaden (*)
Chairwoman of the Supervisory Board

Jens Hasselbächer
Member of the Board of Managing Directors
R+V Versicherung AG

R+V Direktversicherung AG, Wiesbaden (*)
Deputy Chairman of the Supervisory Board

R+V Krankenversicherung AG, Wiesbaden (*)
Deputy Chairman of the Supervisory Board

Dr. Christoph Lamby
Member of the Board of Managing Directors
R+V Versicherung AG

Condor Allgemeine Versicherungs-AG, Hamburg (*)
Chairman of the Supervisory Board

Extremus Versicherungs-AG, Cologne
Member of the Supervisory Board

KRAVAG-ALLGEMEINE Versicherungs-AG, Hamburg (*)
Member of the Supervisory Board

KRAVAG-LOGISTIC Versicherungs-AG, Hamburg (*)
Member of the Supervisory Board

R+V Pensionskasse AG, Wiesbaden (*)
Member of the Supervisory Board

Tillmann Lukosch Member of the Board of Managing Directors R+V Versicherung AG	Condor Allgemeine Versicherungs-AG, Hamburg (*) Member of the Supervisory Board KRAVAG-ALLGEMEINE Versicherungs-AG, Hamburg (*) Member of the Supervisory Board KRAVAG-LOGISTIC Versicherungs-AG, Hamburg (*) Member of the Supervisory Board R+V Direktversicherung AG, Wiesbaden (*) Member of the Supervisory Board
Dr. Edgar Martin Member of the Board of Managing Directors R+V Versicherung AG	GDV Dienstleistungs-GmbH, Hamburg Member of the Supervisory Board R+V Direktversicherung AG, Wiesbaden (*) Chairman of the Supervisory Board Sprint Sanierung GmbH, Cologne (*) Chairman of the Supervisory Board
Julia Merkel Member of the Board of Managing Directors R+V Versicherung AG	KRAVAG-ALLGEMEINE Versicherungs-AG, Hamburg (*) Member of the Supervisory Board R+V Pensionskasse AG, Wiesbaden (*) Member of the Supervisory Board Südzucker AG, Mannheim Member of the Supervisory Board

Marc René Michallet Member of the Board of Managing Directors R+V Versicherung AG	CHEMIE Pensionsfonds AG, Munich (*) Member of the Supervisory Board Condor Allgemeine Versicherungs-AG, Hamburg (*) Deputy Chairman of the Supervisory Board Condor Lebensversicherungs-AG, Hamburg (*) Deputy Chairman of the Supervisory Board GWG Gesellschaft für Wohnungs- und Gewerbebau Baden-Württemberg AG, Stuttgart (*) Chairman of the Supervisory Board KRAVAG-ALLGEMEINE Versicherungs-AG, Hamburg (*) Member of the Supervisory Board KRAVAG-LOGISTIC Versicherungs-AG, Hamburg (*) Member of the Supervisory Board R+V Pensionsfonds AG, Wiesbaden (*) Member of the Supervisory Board
Christian Polenz Deputy Chief Executive Officer TeamBank AG Nürnberg	SCHUFA Holding AG, Wiesbaden Deputy Chairman of the Supervisory Board
Hans Joachim Reinke Chief Executive Officer Union Asset Management Holding AG	Union Investment Institutional GmbH, Frankfurt am Main (*) Deputy Chairman of the Supervisory Board Union Investment Privatfonds GmbH, Frankfurt am Main (*) Chairman of the Supervisory Board Union Investment Real Estate GmbH, Hamburg (*) Deputy Chairman of the Supervisory Board Union Investment Service Bank AG, Frankfurt am Main (*) Chairman of the Supervisory Board
Alexander Schindler Member of the Board of Managing Directors Union Asset Management Holding AG	Quoniam Asset Management GmbH, Frankfurt am Main (*) Chairman of the Supervisory Board Union Investment Institutional GmbH, Frankfurt am Main (*) Chairman of the Supervisory Board

Jens Wilhelm Member of the Board of Managing Directors Union Asset Management Holding AG	Union Investment Privatfonds GmbH, Frankfurt am Main (*) Deputy Chairman of the Supervisory Board Union Investment Real Estate GmbH, Hamburg (*) Chairman of the Supervisory Board Union Investment Service Bank AG, Hamburg (*) Deputy Chairman of the Supervisory Board
Sonja Albers Employee Union Asset Management Holding AG	Union Investment Service Bank AG, Frankfurt am Main (*) Member of the Supervisory Board
André Haagmann Member of the Board of Managing Directors Union Investment Institutional GmbH	Quoniam Asset Management GmbH, Frankfurt am Main (*) Deputy Chairman of the Supervisory Board
Jörn Stobbe Member of the Board of Managing Directors Union Investment Institutional Property GmbH and Union Investment Real Estate GmbH	1. FC Köln GmbH & Co. KGaA, Cologne Chairman of the Supervisory Board
Dr. Reinhard Kutscher Chief Executive Officer Union Investment Real Estate GmbH	DZ HYP AG, Hamburg and Münster (*) Member of the Supervisory Board (until December 31, 2019)

>> 104 List of shareholdings

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
AER Holding N.V. 1)	Willemstad, Curaçao	100.00		20	0
AGIMA Aktiengesellschaft für Immobilien-Anlage 5)	Frankfurt am Main	100.00		84,025	0
APZ Auto-Pflege-Zentrum GmbH 1)	Darmstadt	100.00		7,135	1,312
APZ Beteiligungs GmbH 1)	Darmstadt	81.70		6,137	-1,734
APZ CarMotion GmbH 1)	Fischamend, Austria	100.00		10	-25
Aquila Aircraft Leasing Ltd. 1)	Dublin, Ireland	0.00		-19	161
Assimoco S.p.A. 1)	Milan, Italy	66.88		247,313	23,203
Assimoco Vita S.p.A. 1)	Milan, Italy	82.14		169,603	24,307
attrax S.A. 1)	Luxembourg, Luxembourg	100.00		50,040	24,412
Aufbau und Handelsgesellschaft mbH 1)	Stuttgart	94.90		525	0
AXICA Kongress- und Tagungszentrum Pariser Platz 3 GmbH 5)	Berlin	100.00		26	0
Bathgate Trading Opco LLC 1)	Majuro, Marshall Islands	0.00		1	0
BAUFINEX GmbH 1)	Schwäbisch Hall	70.00		3,617	-1,383
Bausparkasse Schwäbisch Hall Aktiengesellschaft - Bausparkasse der Volksbanken und Raiffeisenbanken - 5)	Schwäbisch Hall	96.94		1,812,302	0
Berwick Shipping LLC 1)	Majuro, Marshall Islands	0.00		-106	-1
Beteiligungsgesellschaft Westend 1 mbH & Co. KG 1)	Frankfurt am Main	94.90		17,485	685
Braveheart Shipping Holdco LLC 1)	Majuro, Marshall Islands	0.00		0	0
Braveheart Shipping Opco LLC 1)	Majuro, Marshall Islands	0.00		-251	-131
BWG Baugesellschaft Württembergischer Genossenschaften mbH 1)	Stuttgart	94.78		9,965	0
Canadian Iron Ore Railcar Leasing LP 1)	Hamilton, Canada	0.00		-5,388	-2,566
carexpert Kfz-Sachverständigen GmbH 1)	Walluf	60.00		4,471	313
CHEMIE Pensionsfonds AG 1)	Wiesbaden	100.00		28,318	2,000
Chiefs Aircraft Holding (Malta) Limited 1)	Floriana, Malta	0.00		4,592	2,745
CI CONDOR Immobilien GmbH 1)	Hamburg	100.00		20,100	0
CIORL Partner Ltd. 1)	Toronto, Canada	0.00		-5,388	-2,566
compertis Beratungsgesellschaft für betriebliches Vorsorgemanagement mbH 1)	Wiesbaden	100.00		4,132	378
COMPLINA GmbH 1)	Wiesbaden	100.00		115	14
Condor Allgemeine Versicherungs-Aktiengesellschaft 1) 5)	Hamburg	100.00		41,762	0
Condor Dienstleistungs GmbH 1)	Hamburg	100.00		356	66
Condor Lebensversicherungs-Aktiengesellschaft 1)	Hamburg	94.98		51,742	0
Container Investment Fund I LLC 1)	Majuro, Marshall Islands	0.00		-19,095	285
Cruise Ship InvestCo LLC 1)	Majuro, Marshall Islands	0.00		0	0
DCAL Aircraft Malta Ltd. 1)	Floriana, Malta	0.00		14,598	11,811
DEGECASTELL GmbH 1)	Eschborn	100.00		25	-40
DEGEIMPULS Grundstücksverwaltungsgesellschaft Objekt Hattingen mbH 1)	Eschborn	100.00		23	-1
DEGEKONZEPT Grundstücksverwaltungsgesellschaft mbH 1)	Eschborn	100.00		76	14
Deucalion Capital I (UK) Ltd. 1)	London, UK	0.00		727	2,797
Deucalion Capital II (MALTA) Limited 1)	Valletta, Malta	0.00		-22	597
Deucalion Capital II (UK) Ltd. 1)	London, UK	0.00		143	0
Deucalion Capital II Limited 1)	George Town, Cayman Islands	0.00		-1,136	3,924
Deucalion Capital VI Limited 1)	George Town, Cayman Islands	0.00		-322	-10
Deucalion Capital VIII Limited 1)	George Town, Cayman Islands	0.00		10,198	-1,836
Deucalion Engine Leasing (Ireland) Ltd. 1)	Dublin, Ireland	0.00		1,055	20
Deucalion Ltd. 1)	George Town, Cayman Islands	0.00		46,858	24,498
DEVIF-Fonds Nr. 150 Deutsche Gesellschaft für Investmentfonds 1)	Frankfurt am Main	0.00		n/a	n/a
DEVIF-Fonds Nr. 2 Deutsche Gesellschaft für Investmentfonds 1)	Frankfurt am Main	0.00		n/a	n/a
DEVIF-Fonds Nr. 250 Deutsche Gesellschaft für Investmentfonds 1)	Frankfurt am Main	0.00		n/a	n/a
DEVIF-Fonds Nr. 500 Deutsche Gesellschaft für Investmentfonds 1)	Frankfurt am Main	0.00		n/a	n/a
DEVIF-Fonds Nr. 528 Deutsche Gesellschaft für Investmentfonds 1)	Frankfurt am Main	0.00		n/a	n/a
DEVIF-Fonds Nr. 60 Deutsche Gesellschaft für Investmentfonds 1)	Frankfurt am Main	0.00		n/a	n/a
DG Participacoes Ltda. 1)	São Paulo, Brazil	100.00		0	0
Dilax Beteiligungs Verwaltungsgesellschaft mbH 1)	Berlin	100.00		25	0
Dilax Beteiligungsgesellschaft mbH & Co. KG 1)	Berlin	92.39		0	0
Dilax France SAS 1)	Valence, France	100.00		407	86
Dilax Intelcom AG 1)	Ermatingen, Switzerland	100.00		435	69
Dilax Intelcom GmbH 1)	Berlin	72.01		0	-3,119
Dilax Intelcom Iberica S.L.U. 1)	Madrid, Spain	100.00		203	78
Dilax Management Investment Reserve GmbH 1)	Berlin	100.00		233	1
Dilax Management Investment Verwaltungsgesellschaft mbH 1)	Berlin	100.00		21	1
Dilax Management Investmentgesellschaft mbH & Co. KG 1)	Berlin	99.50		200	-3
Dilax Systems Inc. 1)	Saint Lambert, Canada	100.00		502	163
Dilax Systems UK Ltd. 1)	London, UK	100.00		0	-95
DILAX Systems US Inc 1)	City of Wilmington, County of New Castle, 19801, USA	100.00		4	4
Drem Shipping LLC 1)	Majuro, Marshall Islands	0.00		0	14

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
DUNAVAGON s.r.o. 1)	Dunajská Streda, Slovakia	100.00	0.00	0	-2,013
DV01 Szarazfoldi Jarmukolcsonzo rt 1)	Áporka, Hungary	100.00		-97	0
DVB Bank America N.V. 1)	Willemstad, Curaçao	100.00		140,020	26,655
DVB Bank SE 5)	Frankfurt am Main	100.00		688,919	0
DVB Capital Markets LLC 1)	New York, USA	100.00		994	-1,521
DVB Group Merchant Bank (Asia) Ltd. 1)	Singapore, Singapore	100.00		338,088	18,490
DVB Transport Finance Limited 1)	London, UK	100.00		48,755	96
DVG Deutsche Vermögensverwaltungs-Gesellschaft mit beschränkter Haftung 5)	Frankfurt am Main	100.00		82	0
DZ BANK Capital Funding LLC I 2) 4)	Wilmington, USA	100.00		300,896	6,556
DZ BANK Capital Funding LLC II 2) 4)	Wilmington, USA	100.00		500,666	6,335
DZ BANK Capital Funding LLC III 2) 4)	Wilmington, USA	100.00		350,283	4,069
DZ BANK Capital Funding Trust I	Wilmington, USA	0.00	100.00	300,001	6,573
DZ BANK Capital Funding Trust II	Wilmington, USA	0.00	100.00	500,001	6,385
DZ BANK Capital Funding Trust III	Wilmington, USA	0.00	100.00	350,001	4,088
DZ BANK Perpetual Funding (Jersey) Limited 4)	St. Helier, Jersey	0.00	100.00	260,300	1,217
DZ BANK Perpetual Funding Issuer (Jersey) Limited	St. Helier, Jersey	0.00		0	0
DZ BANK Sao Paulo Representacao Ltda. 2)	São Paulo, Brazil	100.00		395	46
DZ Beteiligungsgesellschaft mbH Nr. 11 5)	Frankfurt am Main	100.00		6,620	0
DZ Beteiligungsgesellschaft mbH Nr. 14 5)	Frankfurt am Main	100.00		51	0
DZ Beteiligungsgesellschaft mbH Nr. 18 5)	Frankfurt am Main	100.00		64,726	0
DZ Beteiligungsgesellschaft mbH Nr. 21 5)	Frankfurt am Main	100.00		25	0
DZ Beteiligungsgesellschaft mbH Nr. 22	Frankfurt am Main	100.00		20	-1
DZ Beteiligungsgesellschaft mbH Nr. 23 5)	Frankfurt am Main	100.00		25	0
DZ Beteiligungsgesellschaft mbH Nr. 24	Frankfurt am Main	100.00		19	-1
DZ CompliancePartner GmbH	Neu-Isenburg	100.00		1,836	771
DZ FINANCIAL MARKETS LLC	New York, USA	100.00		4,271	272
DZ Gesellschaft für Grundstücke und Beteiligungen mbH 5)	Frankfurt am Main	100.00		1,461	0
DZ HYP AG 3) 5)	Hamburg/Münster	96.39		1,762,331	0
DZ Immobilien + Treuhand GmbH 5)	Münster	94.50		4,055	0
DZ Polska Spólka Akcyjna w likwidacji	Warsaw, Poland	100.00		68,890	-1,195
DZ PRIVATBANK (Schweiz) AG 1)	Zurich, Switzerland	100.00		163,290	755
DZ PRIVATBANK S.A. 3)	Strassen, Luxembourg	91.46		640,651	11,382
DZ Versicherungsvermittlung Gesellschaft mbH 5)	Frankfurt am Main	100.00		51	0
DZ Vierte Beteiligungsgesellschaft mbH 5)	Frankfurt am Main	100.00		254,687	0
e@syCredit Marketing und Vertriebs GmbH 1)	Nuremberg	100.00		25	0
Englische Strasse 5 GmbH 1)	Wiesbaden	90.00		16,937	477
Evolit Consulting GmbH 1)	Vienna, Austria	100.00		n/a	n/a
FKS-NAVIGIUM GmbH 1)	Eschborn	100.00		-759	-118
FPAC (Malta) Limited 1)	Floriana, Malta	100.00		3,681	3,681
fragWILHELM GmbH 1)	Wiesbaden	100.00		184	-323
Fundamenta Erteklanc Ingatlanközvetitö es Szolgaltato Kft. 1)	Budapest, Hungary	100.00		6,370	-2,190
Fundamenta-Lakáskassza Lakás-takarékpénztár Zrt. 1)	Budapest, Hungary	51.25		161,395	22,158
Fundamenta-Lakáskassza Pénzügyi Közvetitö Kft. 1)	Budapest, Hungary	100.00		2,483	-239
GAF Active Life 1 Renditebeteiligungs-GmbH & Co. KG 1)	Nidderau	96.56		68,573	0
GAF Active Life 2 Renditebeteiligungs-GmbH & Co. KG 1)	Nidderau	95.03		65,672	0
GENO Broker GmbH 5)	Frankfurt am Main	100.00		10,000	0
GENO-Beteiligungsgesellschaft mbH	Düsseldorf	100.00		1,144	-4
Genossenschaftlicher Informations Service GIS GmbH	Frankfurt am Main	100.00		4,376	88
German Small Asset Invest 1)	Hamburg	0.00		n/a	n/a
Glen Campbell Opco LLC 1)	Majuro, Marshall Islands	0.00		-197	-4
Glencoe Shipping Holdco LLC 1)	Majuro, Marshall Islands	0.00		-15	0
GMS Management und Service GmbH 1)	Nidderau	100.00		82	32
Günther Kältetechnik GmbH 1)	Plüderhausen	60.00		n/a	n/a
GWG 1. Wohn GmbH & Co. KG 1)	Stuttgart	100.00		2,000	630
GWG 2. Wohn GmbH & Co. KG 1)	Stuttgart	100.00		3,000	870
GWG 3. Wohn GmbH & Co. KG 1)	Stuttgart	100.00		7,000	1,555
GWG 4. Wohn GmbH & Co. KG 1)	Stuttgart	100.00		9,000	1,229
GWG Beteiligungsgesellschaft mbH 1)	Stuttgart	100.00		29	1
GWG Gesellschaft für Wohnungs- und Gewerbebau Baden-Württemberg AG 1)	Stuttgart	91.57		338,951	25,415
GWG Hausbau GmbH 1)	Stuttgart	94.48		2,750	0
GWG ImmoInvest GmbH 1)	Stuttgart	94.90		9,518	1,282
GWG Wohnpark Sendling GmbH 1)	Stuttgart	94.00		4,028	375
GZ-Immobilien-Management GmbH & Co. Objekt KG	Frankfurt am Main	100.00		12	731
Hibiscus Aircraft Leasing Limited 1)	Floriana, Malta	0.00		-41	-25
Hollandse Scheepshypotheekbank N.V. 1)	Rotterdam, Netherlands	100.00		707	0
Hudson Services LLC 1)	Majuro, Marshall Islands	0.00		-106	708
HumanProtect Consulting GmbH 1)	Cologne	100.00		308	91
Immobilien-Gesellschaft 'DG Bank-Turm, Frankfurt am Main, Westend' mbH &	Frankfurt am Main	95.97		187,431	17,238

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Co. KG des genossenschaftlichen Verbundes 2)					
Immobilien-Verwaltungsgesellschaft 'DG BANK-Turm, Frankfurt am Main, Westend' mbH	Frankfurt am Main	100.00		62	27
IMPETUS Bietergesellschaft mbH 5)	Düsseldorf	100.00		54,063	0
Intermodal Investment Fund IX LLC 1)	Majuro, Marshall Islands	100.00		-13,921	733
IPConcept (Luxemburg) S.A. 1)	Strassen, Luxembourg	100.00		18,580	9,000
IPConcept (Schweiz) AG 1)	Zurich, Switzerland	100.00		6,345	293
Iron Maple Rail Ltd. 1)	Vancouver, Canada	100.00		-989	1,946
ITF International Transport Finance Suisse AG 1)	Zurich, Switzerland	100.00		-40,355	-4,764
Ivanhoe Shipping Opco LLC 1)	Majuro, Marshall Islands	0.00		0	-271
IZD-Beteiligung S.à.r.l. 1)	Luxembourg, Luxembourg	99.50		50	-107
K2 Aircraft Malta Ltd 1)	Floriana, Malta	100.00		12	8
Kalsubai Shipping and Offshore Private Ltd. 1)	Mumbai, India	0.00		0	14,624
Kälte Eckert GmbH 1)	Markgröningen	70.00		6,958	-68
KBIH Beteiligungsgesellschaft für Industrie und Handel mbH	Frankfurt am Main	100.00		31,008	9,080
KRAVAG Umweltschutz und Sicherheitstechnik GmbH 1)	Hamburg	100.00		302	33
KRAVAG-ALLGEMEINE Versicherungs-Aktiengesellschaft 1)	Hamburg	100.00		132,612	13,251
KRAVAG-LOGISTIC Versicherungs-Aktiengesellschaft 1)	Hamburg	51.00		238,189	19,083
KTP Beteiligungs GmbH & Co. KG 1)	Frankfurt am Main	100.00		25,769	1,033
KTP Verwaltungs GmbH 1)	Frankfurt am Main	100.00		22	-2
KV MSN 27602 Aircraft Ltd. 1)	Dublin, Ireland	0.00		-16	-6
Lantana Aircraft Leasing Limited 1)	Floriana, Malta	0.00		-15,762	10,115
Leith Shipping LLC 1)	Majuro, Marshall Islands	0.00		0	-226
Linton Shipping LLC 1)	Majuro, Marshall Islands	0.00		0	86
Maple Leaf Shipping Holdco LLC 1)	Majuro, Marshall Islands	0.00		-61	2
MD Aviation Capital Pte. Ltd. 1)	Singapore, Singapore	100.00		-4,087	299
MDAC 1 Pte Ltd. 1)	Singapore, Singapore	100.00		1,526	41
MDAC 11 Pte Ltd. 1)	Singapore, Singapore	100.00		-2,419	111
MDAC 2 Pte Ltd. 1)	Singapore, Singapore	100.00		-109	487
MDAC 3 Pte Ltd. 1)	Singapore, Singapore	100.00		-9,728	-4,789
MDAC 4 Pte Ltd. 1)	Singapore, Singapore	100.00		-2,430	20
MDAC 5 Pte. Ltd. 1)	Singapore, Singapore	100.00		-1,871	257
MDAC 6 Pte Ltd. 1)	Singapore, Singapore	100.00		-196	2,950
MDAC 8 Pte Ltd. 1)	Singapore, Singapore	100.00		-106	16
MDAC 9 Pte Ltd. 1)	Singapore, Singapore	100.00		-782	124
MDAC Malta Ltd. 1)	Floriana, Malta	0.00		0	0
MI-Fonds 384 Metzler Investment GmbH 1)	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds 388 Metzler Investment GmbH 1)	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds 391 Metzler Investment GmbH 1)	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds 392 Metzler Investment GmbH 1)	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds F 57 Metzler Investment GmbH 1)	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds F 59 Metzler Investment GmbH 1)	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds F44 Metzler Investmtent GmbH 1)	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds F45 Metzler Investmtent GmbH 1)	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds F46 Metzler Investmtent GmbH 1)	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds F47 Metzler Investmtent GmbH 1)	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds J01 Metzler Investment GmbH 1)	Frankfurt am Main	0.00		n/a	n/a
MI-Fonds J03 Metzler Investment GmbH 1)	Frankfurt am Main	0.00		n/a	n/a
Mount Diamir LLC 1)	Majuro, Marshall Islands	0.00		0	0
Mount Pleasant Shipping Pte. Ltd. 1)	Singapore, Singapore	100.00		0	-3,602
Mount Rinjani Shipping Pte. Ltd.	Singapore, Singapore	100.00		-10,182	2,066
Mount Ulriken LLC 1)	Majuro, Marshall Islands	100.00		-4,229	-887
MSN1164 Freighter Ltd. 1)	Dublin, Ireland	0.00		-225	524
MSU Management-, Service- und Unternehmensberatung GmbH 1)	Landau in der Pfalz	74.00		806	131
NFC Labuan Shipleasing I Ltd. 1)	Labuan, Malaysia	100.00		0	-8,024
NFC Shipping Fund C LLC 1)	Majuro, Marshall Islands	0.00		8,521	-427
NTK Immobilien GmbH 1)	Hamburg	100.00		26	1
NTK Immobilien GmbH & Co. Management KG 2)	Hamburg	100.00		643	-599
Ocean Giant LLC 1)	Majuro, Marshall Islands	0.00		-108	-2
Okoye Beteiligungsverwaltungs GmbH 1)	Vienna, Austria	80.00		n/a	n/a
Pascon GmbH 1)	Wiesbaden	100.00		33	2
PCAM Issuance II SA Issue RV AVL 001 1)	Luxembourg, Luxembourg	0.00		n/a	n/a
PDZ Personaldienste & Zeitarbeit GmbH 5)	Darmstadt	100.00		60	0
Pension Consult-Beratungsgesellschaft für Altersvorsorge mbH 1)	Munich	100.00		1,607	96
Philip Trading Opco LLC 1)	Majuro, Marshall Islands	0.00		-85	1
Phoenix Beteiligungsgesellschaft mbH 5)	Düsseldorf	100.00		108,349	0
Quoniam Asset Management GmbH 1)	Frankfurt am Main	93.07	100.00	36,892	22,154
R+V Allgemeine Versicherung Aktiengesellschaft 1) 5)	Wiesbaden	95.00		774,177	0
R+V Deutschland Real (RDR) 1)	Hamburg	0.00		n/a	n/a

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
R+V Dienstleistungs GmbH 1)	Wiesbaden	100.00		643	10
R+V Direktversicherung AG 1) 5)	Wiesbaden	100.00		13,320	0
R+V Erste Anlage GmbH i.L. 1)	Wiesbaden	100.00		1,045	-9
R+V INTERNATIONAL BUSINESS SERVICES Ltd., Dublin 1)	Dublin, Ireland	100.00		1,347	115
R+V KOMPOSIT Holding GmbH 1) 5)	Wiesbaden	100.00		1,820,012	0
R+V Krankenversicherung AG 1)	Wiesbaden	100.00		104,985	16,000
R+V Kureck Immobilien GmbH i.L. 1)	Wiesbaden	100.00		35	-6
R+V Lebensversicherung Aktiengesellschaft 1)	Wiesbaden	100.00		744,981	0
R+V Luxembourg Lebensversicherung S.A. 1)	Strassen, Luxembourg	100.00		378,144	48,130
R+V Mannheim P2 GmbH 1)	Wiesbaden	94.00		59,239	1,931
R+V Pensionsfonds AG 1)	Wiesbaden	100.00		29,353	1,900
R+V Pensionskasse AG 1)	Wiesbaden	100.00		103,233	500
R+V Personen Holding GmbH 1)	Wiesbaden	100.00		1,189,583	74,761
R+V Rechtsschutz-Schadenregulierungs-GmbH 1)	Wiesbaden	100.00		360	83
R+V Service Center GmbH 1) 5)	Wiesbaden	100.00		2,869	0
R+V Service Holding GmbH 1) 5)	Wiesbaden	100.00		183,115	0
R+V Treuhand GmbH 1)	Wiesbaden	100.00		52	10
R+V Versicherung AG 5)	Wiesbaden	92.12		2,149,774	0
Range Holding GmbH 1)	Vienna, Austria	100.00		n/a	n/a
RC II S.a.r.l. 1)	Luxembourg, Luxembourg	90.00		8,762	-292
ReiseBank Aktiengesellschaft 1)	Frankfurt am Main	100.00		19,267	0
RUV Agenturberatungs GmbH 1)	Wiesbaden	100.00		486	218
RV AIP S.a.r.l 1)	Luxembourg, Luxembourg	100.00		n/a	n/a
RV AIP S.C.S. SICAV-SIF - RV TF 2 Infra Debt 1)	Luxembourg, Luxembourg	100.00		n/a	n/a
RV AIP S.C.S. SICAV-SIF 1) 1)	Luxembourg, Luxembourg	99.00		n/a	n/a
RV AIP S.C.S. SICAV-SIF - RV TF Acquisition Financing 1)	Luxembourg, Luxembourg	98.67		n/a	n/a
S2 Shipping and Offshore Ptd Ltd. 1)	Singapore, Singapore	100.00		-21,254	5,696
Scheepvaartmaatschappij Ewout B.V. 1)	Schiphol, Netherlands	100.00		377	377
Schwäbisch Hall Facility Management GmbH 1)	Schwäbisch Hall	51.00		9,146	152
Schwäbisch Hall Kreditservice GmbH 1) 5)	Schwäbisch Hall	100.00		27,775	0
Schwäbisch Hall Wohnen GmbH Gesellschaft für wohnwirtschaftliche Dienstleistungen 1)	Schwäbisch Hall	100.00		612	1
SECURON Versicherungsmakler GmbH 1)	Hannover	100.00		637	138
Shamrock Trading Opco LLC 1)	Majuro, Marshall Islands	0.00		-20	0
Shipping and Intermodal Investment Management Fund I LLC 1)	Majuro, Marshall Islands	0.00		-1,846	-39,440
Shipping and Intermodal Investment Management Fund II LLC 1)	Majuro, Marshall Islands	0.00		4,258	-12,394
SHT Schwäbisch Hall Training GmbH 1)	Schwäbisch Hall	100.00		5,040	35
SIIM Marlin Holdings LLC 1)	Majuro, Marshall Islands	72.04		-4,636	1,995
SINALOA Aircraft Leasing Limited 1)	Floriana, Malta	0.00		-11	-23
Sprint Sanierung GmbH 1)	Cologne	100.00		29,973	-3,449
SRF I Ltd. 1)	Floriana, Malta	0.00		-99	2,578
SRF III Ltd. 1)	Floriana, Malta	0.00		-657	-6,656
Stani Trading Opco LLC 1)	Majuro, Marshall Islands	0.00		-208	-4
Stephenson Capital Limited 1)	George Town, Cayman Islands	0.00		-17,500	-12,577
TeamBank AG Nürnberg 2) 5)	Nuremberg	92.44		539,699	0
Terra Maris I LLC 1)	Majuro, Marshall Islands	100.00		-7,126	3,663
Tiger Aircraft Leasing (UK) Limited 1)	London, UK	0.00		0	0
Twenty Holding Private Limited 1)	Singapore, Singapore	0.00		-505	-5
UI Infrastruktur Management SARL 1)	Luxembourg, Luxembourg	100.00		n/a	n/a
UI Management S.a.r.l. 1)	Luxembourg, Luxembourg	100.00		13	1
UI Vario: 2 issued by Union Investment Luxembourg S.A. 1)	Luxembourg, Luxembourg	0.00		n/a	n/a
UII Issy 3 Moulins SARL 1)	Paris, France	100.00		7	-2
UII PSD KN ImmoInvest GP GmbH 1)	Hamburg	100.00		54	23
UII SCE Management GP GmbH 1)	Hamburg	100.00		26	1
UII Verwaltungsgesellschaft mbH 1)	Hamburg	100.00		22	-1
UIN Union Investment Institutional Fonds Nr. 560 1)	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 578 1)	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 635 1)	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 669 1)	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 715 1)	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 716 1)	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 772 1)	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 817 1)	Frankfurt am Main	0.00		2,222,753	-477
UIN Union Investment Institutional Fonds Nr. 825 1)	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 833 1)	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 834 1)	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 839 1)	Frankfurt am Main	0.00		n/a	n/a
UIN Union Investment Institutional Fonds Nr. 913 1)	Frankfurt am Main	0.00		n/a	n/a

SUBSIDIARIES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
UIR FRANCE 1 S.a.r.l. 1)	Paris, France	100.00		8	-7
UIR FRANCE 2 S.a.r.l. 1)	Paris, France	100.00		13	-8
UIR Verwaltungsgesellschaft mbH 1)	Hamburg	100.00		98	6
UMB Unternehmens-Managementberatungs GmbH 1)	Wiesbaden	100.00		3,753	852
UniMultiAsset: Chance I 1)	Frankfurt am Main	0.00		n/a	n/a
UniMultiAsset: Chance II 1)	Frankfurt am Main	0.00		n/a	n/a
UniMultiAsset: Chance III 1)	Frankfurt am Main	0.00		n/a	n/a
UniMultiAsset: Exclusiv 1)	Frankfurt am Main	0.00		n/a	n/a
Union Asset Management Holding AG 2)	Frankfurt am Main	96.57		1,124,702	430,236
Union Investment Austria GmbH 1)	Vienna, Austria	100.00		17,550	2,042
Union Investment Financial Services S.A. 1)	Luxembourg, Luxembourg	100.00		20,298	945
Union Investment Institutional GmbH 1) 6)	Frankfurt am Main	100.00		93,970	0
Union Investment Institutional Property GmbH 1) 6)	Hamburg	90.00		23,950	6,141
Union Investment Luxembourg S.A. 1)	Luxembourg, Luxembourg	100.00		195,207	25,267
Union Investment Privatfonds GmbH 1) 6)	Frankfurt am Main	100.00		460,942	0
Union Investment Real Estate Asia Pacific Pte. Ltd. 1)	Singapore, Singapore	100.00		879	-174
Union Investment Real Estate Austria AG 1)	Vienna, Austria	94.50		8,093	1,936
Union Investment Real Estate France S.A.S. 1)	Paris, France	100.00		3,802	1,417
Union Investment Real Estate GmbH 2) 6)	Hamburg	94.50		164,984	55,506
Union Investment Service Bank AG 1) 6)	Frankfurt am Main	100.00		63,115	0
Union IT-Services GmbH 1) 6)	Frankfurt am Main	100.00		4,701	1,669
Union Service-Gesellschaft mbH 1) 6)	Frankfurt am Main	100.00		8,807	1,974
Unterstützungskasse der Condor Versicherungsgesellschaften GmbH 1)	Hamburg	66.67		26	0
URA Verwaltung GmbH 1)	Vienna, Austria	100.00		37	5
VAUTID (SHANGHAI) Wear Resistant Material Trading Co. Ltd. 1)	Shanghai, China	100.00		1,301	368
VAUTID Austria GmbH 1)	Marchtrenk, Austria	100.00		897	170
VAUTID GmbH 1)	Ostfildern	82.51		4,491	-898
VAUTID INDIA PRIVATE LIMITED 1)	Mumbai, India	100.00		-415	-180
VAUTID LATAM S.A. 1)	Quito, Ecuador	74.00		386	48
VAUTID MIDDLE EAST F.Z.E 1)	Ajman Free Zone, United Arab Emirates	100.00		45	-42
VB A330 Leasing Ltd 1)	George Town, Cayman Islands	100.00		-1,796	-1,796
VisualVest GmbH 1) 6)	Frankfurt am Main	100.00		14,525	0
VR Consultingpartner GmbH 1)	Frankfurt am Main	100.00		1,235	-259
VR Equity Gesellschaft für regionale Entwicklung in Bayern mbH 1)	Frankfurt am Main	100.00		2,109	-54
VR Equitypartner Beteiligungskapital GmbH & Co. KG UBG 2)	Frankfurt am Main	100.00		44,501	1,754
VR Equitypartner GmbH 5)	Frankfurt am Main	100.00		69,070	0
VR Equitypartner Management GmbH 1)	Frankfurt am Main	100.00		359	-5
VR FACTOREM GmbH 1) 5)	Eschborn	100.00		39,385	0
VR GbR 2)	Frankfurt am Main	100.00		173,020	28,052
VR HYP GmbH 1)	Hamburg	100.00		25	-1
VR Kreditservice GmbH 1) 5)	Hamburg	100.00		25	0
VR Mittelstandskapital Unternehmensbeteiligungs GmbH 2)	Düsseldorf	100.00		9,679	244
VR Payment GmbH	Frankfurt am Main	90.00		55,671	4,415
VR Real Estate GmbH 1)	Hamburg	100.00		25	-1
VR Smart Finanz AG (VR-LEASING Aktiengesellschaft until July 10, 2019) 5)	Eschborn	100.00		211,070	0
VR Smart Finanz Bank GmbH (VR DISKONTBANK GmbH until July 11, 2019) 1) 5)	Eschborn	100.00		200,147	0
VR Smart Guide GmbH 1)	Eschborn	100.00		847	340
VR WERT Gesellschaft für Immobilienbewertung mbH 1) 5)	Hamburg	100.00		50	0
VR-Leasing Beteiligungs GmbH 1)	Eschborn	100.00		98,620	531
VR-LEASING Hauptverwaltung GmbH & Co. KG 1) 6)	Eschborn	94.80	76.00	5,000	3,339
Waverley Shipping Opco LLC 1)	Majuro, Marshall Islands	0.00		15	-251
WBS Wohnwirtschaftliche Baubetreuungs- und Servicegesellschaft mbH 1)	Stuttgart	94.90		19,199	-48

JOINT VENTURES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
38321 & 38329 Aircraft Leasing (Cayman) Ltd. 1)	Grand Cayman, Cayman Islands	50.00	0.00	10,325	2,485
AerCap Partners I Ltd. 1)	Shannon, Ireland	50.00		0	0
AerCap Partners II Ltd. 1)	Shannon, Ireland	50.00		0	0
BAU + HAUS Management GmbH 1)	Wiesbaden	50.00		10,007	848
BEA Union Investment Management Limited 1)	Hong Kong, Hong Kong	49.00		60,315	12,764
Cella Intermodal Investment Fund LLC 1)	Majuro, Marshall Islands	50.00		n/a	n/a
D8 Product Tankers I LLC 1)	Majuro, Marshall Islands	50.00		7,593	-299
D8 Product Tankers Investments LLC 1)	Majuro, Marshall Islands	50.00		0	0
Deutsche WertpapierService Bank AG	Frankfurt am Main	50.00		211,436	15,656
DZ BANK Galerie im Städel Kunstverwaltungsgesellschaft mbH	Frankfurt am Main	50.00		13	-2
GMS Holding GmbH 1)	Paderborn	58.89	45.00	15,448	2,455
Intermodal Investment Fund IV LLC 1)	Majuro, Marshall Islands	50.00		13,361	2,845
Intermodal Investment Fund VIII LLC 1)	Majuro, Marshall Islands	50.00	0.00	6,032	599
IZD-Holding S.à.r.l. 1)	Luxembourg, Luxembourg	50.30	50.00	9	-61
MS Oceana Schifffahrtsgesellschaft mbH & Co. KG 1)	Hamburg	50.00		7,041	-595
MS Octavia Schifffahrtsgesellschaft mbH & Co. KG 1)	Hamburg	50.00		5,695	-1,063
Norafin Verwaltungs GmbH 1)	Mildenau	44.72		24,090	460
Prvá stavebná sporiteľ'na, a.s. 1)	Bratislava, Slovakia	32.50		258,255	14,890
R+V Kureck Immobilien GmbH Grundstücksverwaltung Braunschweig 1)	Wiesbaden	50.00		7,534	278
TrustBills GmbH	Hamburg	25.00		-1,125	-2,572
Versicherungs-Vermittlungsgesellschaft des Sächsischen Landesbauernverbandes mbH 1)	Dresden	50.00		252	51
Versicherungs-Vermittlungsgesellschaft mbH des Bauernverbandes Mecklenburg-Vorpommern e.V. (VVB) 1)	Neubrandenburg	50.00		195	15
Versicherungs-Vermittlungsgesellschaft mbH des Landesbauernverbandes Brandenburg (VVB) 1)	Teltow	50.00		33	4
Versicherungs-Vermittlungsgesellschaft mbH des Landesbauernverbandes Sachsen-Anhalt e.V. (VVB) 1)	Magdeburg	50.00		63	4
Zhong De Zuh Fang Chu Xu Yin Hang (Sino-German-Bausparkasse) Ltd. 1)	Tianjin, China	24.90		377,286	5,680

ASSOCIATES

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
adorsys GmbH & Co. KG 1)	Nuremberg	25.89		1,698	2,861
adorsys Verwaltungs GmbH 1)	Nuremberg	25.90		27	-1
Artemis Gas 1 Shipping Inc. 1)	Piraeus, Greece	20.00		67,735	836
Bankenkonsortium der Zenit GmbH, GbR	Düsseldorf	33.30		0	0
bbv-service Versicherungsmakler GmbH 1)	Munich	25.20		2,079	357
Bergina AS 1)	Grimstad, Norway	40.00		n/a	n/a
Bookwire Holding GmbH 1)	Frankfurt am Main	49.00		n/a	n/a
Danae Gas Shipping Inc 1)	Majuro, Marshall Islands	5.00		n/a	n/a
Dr. Förster Holding GmbH 1)	Neu-Isenburg	20.06		-12,858	-1,280
Dr. Neuberger Holding GmbH 1)	Wiesbaden	40.00		8,146	-980
European Convenience Food GmbH 1)	Garrel	44.29		4,728	-3,103
GBS Beteiligungsgesellschaft mbH 1)	Bayreuth	42.33		5,037	1,865
GGB-Beratungsgruppe GmbH	Stuttgart	23.13		-1,123	-1,858
GHM Holding GmbH 1)	Erolzheim	40.00		17,182	-18
GHM MPP Reserve GmbH 1)	Regenstauf	50.00		349	-4
GHM MPP Verwaltungs GmbH 1)	Remscheid	50.00		18	-2
Global Asic GmbH 1)	Dresden	30.80		1,083	-35
Global Offshore Services B.V. 1)	Amsterdam, Netherlands	32.13		0	0
Goldeck Zetti Beteiligungsgesellschaft mbH 1)	Leipzig	39.23		32,777	1,443
Gram Car Carriers Holdings Pte. Ltd. 1)	Singapore, Singapore	5.88		0	0
Groneweg Verwaltungsgesellschaft mbH 1)	Greven	48.00		23,073	702
Hör Technologie GmbH 1)	Weiden i.d.OPf.	62.78	49.99	23,502	-1,029
Hudson Chemical Tankers Ltd 1)	Middlesex, UK	25.00		n/a	n/a
Informatik Consulting Systems Holding GmbH 1)	Stuttgart	49.83	49.43	n/a	n/a
Kapitalbeteiligungsgesellschaft für die mittelständische Wirtschaft in Nordrhein-Westfalen mbH - KBG -	Neuss	23.60		4,028	783
KCM Bulkers International Limited 1)	Tortola, Virgin Islands	49.00		n/a	n/a
KCM Bulkers Ltd. 1)	Tortola, Virgin Islands	49.00		0	0
KOTANI JV CO. BV 1)	Amsterdam, Netherlands	48.35		78,007	-6,683
KTP Holding GmbH 1)	Bous	37.36		40,741	3,879
Mandarin Containers Limited 1)	Tortola, Virgin Islands	17.01		64,288	1,903
MON A300 Leasing Ltd. 1)	George Town, Cayman Islands	20.00		74	1,592
Mount Faber KS i.L. 1)	Oslo, Norway	0.00		0	0
MSEA Aframax Holdings LLC 1)	Majuro, Marshall Islands	48.00		25,731	-871
MSEA Marlin Holdings LLC 1)	Majuro, Marshall Islands	32.19		n/a	n/a
MSN 1272&1278 Aircraft Leasing 1)	Grand Cayman, Cayman Islands	20.00		n/a	n/a
n3k Informatik GmbH 1)	Heilbronn	58.33	49.99	10,812	1,092
Ostertag DeTeWe Group GmbH 1)	Walddorfhäslach	58.52	49.90	13	-104
PI-SM GmbH 1)	Ehringshausen	40.80		24,217	369
Sanitärgruppe Stiller GmbH 1)	Cologne	45.00		38,991	49,308
SCL GmbH 1)	Butzbach	49.00		5,707	1,942
Signet Wohnmöbel II GmbH (Erwerbergesellschaft 2019 GmbH until January 14, 2020) 1)	Osnabrück	49.80		n/a	n/a
SRF Railcar Leasing Limited 1)	Cashel, Ireland	49.00		27,711	1,403
TAP Ltd. 1)	Hamilton, Bermuda	38.05		n/a	n/a
Touax Rail Finance 3 Ltd. 1)	Bracetown, Ireland	28.92		24,586	2,829
Treuhand- und Finanzierungsgesellschaft für Wohnungs- und Bauwirtschaft mit beschränkter Haftung. Treufinanz	Düsseldorf	33.14		1,701	-278
TREVA Entertainment GmbH i. L. 1)	Hamburg	32.70		1,269	-529
United MedTec Holding GmbH 1)	Bückeburg	41.01		1,408	213
Votronic Elektronik-Systeme GmbH 1)	Lauterbach	49.80		n/a	n/a
Weisshaar Holding GmbH 1)	Deisslingen	84.94	49.92	3,668	-582
Wessel-Werk Beteiligungsverwaltung GmbH i.L. 1)	Karlsruhe	45.00		-2,088	-1,527
ZBI Partnerschafts-Holding GmbH 1)	Erlangen	49.90		10,913	19,788
ZT Finance GmbH 1)	Weilheim	26.67		-21	-20

SHAREHOLDINGS OF 20% OR MORE

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
AMP Capital Infrastructure Debt Fund IV (EUR), L.P. 1)	Luxembourg, Luxembourg	39.84		n/a	n/a
Assiconf S.r.l. 1)	Turin, Italy	20.00		80	6
ASSICRA Servizi Assisurativi Banche di Credito Cooperativo Abruzzo e Molise S.r.l. 1)	Pescara, Italy	25.00		376	28
BCC RISPARMIO & PREVIDENZA S.G.R.P.A. 1)	Milan, Italy	25.00		43,825	18,081
BRASIL FLOWERS S.A. 1)	Barbacena, Brazil	45.00		n/a	n/a
Burghofspiele GmbH 1)	Eltville	20.00		0	-21
Bürgschaftsbank Brandenburg GmbH	Potsdam	25.31		29,836	748
Bürgschaftsbank Mecklenburg-Vorpommern GmbH	Schwerin	30.38		16,637	75
Bürgschaftsbank Sachsen-Anhalt GmbH	Magdeburg	29.73		15,999	387
Bürgschaftsbank Thüringen GmbH	Erfurt	22.13		26,582	636
Cheyne Real Estate Credit (CRECH) Fund IV Loans SCS SICAV-SIF 1)	Luxembourg, Luxembourg	20.83		n/a	n/a
CMMT Partners L.P. 1)	Camden, USA	26.90		n/a	n/a
Corpus Sireo Health Care III SICAV-FIS 1)	Luxembourg, Luxembourg	33.33		54,751	2,388
Corpus Sireo Health Care IV SICAV-FIS 1)	Luxembourg, Luxembourg	46.51		26,209	115
Credit Suisse Global Infrastructure SCA SICAR 1)	Luxembourg, Luxembourg	30.09		288,803	57,350
DEGEPROMO Grundstücksverwaltungsgesellschaft mbH & Co. Immobilien-Vermietungs KG 1) 6)	Eschborn	95.00	33.34	n/a	n/a
DZ BANK Mikrofinanzfonds eG 2)	Frankfurt am Main	30.90	0.00	259	2
Finatem II GmbH & Co. KG 1)	Frankfurt am Main	20.20		20,149	9,537
FREUNDE DER EINTRACHT FRANKFURT Aktiengesellschaft 1)	Frankfurt am Main	32.05		6,099	1,446
GENOPACE GmbH 1) 6)	Berlin	27.49		200	0
Global Infrastructure Partners III-C2, L.P. 1)	New York, USA	27.97		n/a	n/a
Golding Mezzanine SICAV IV 1)	Munsbach, Luxembourg	49.98		4,042	365
GTIS Brazil II S-Feeder LP 1)	Edinburgh, UK	100.00		20,603	-9,591
Hermann-Löns-Grundstücks- und Entwicklungs GbR 1)	Münster	50.00		301	250
Kreditgarantiegemeinschaft in Baden-Württemberg Verwaltungs-GmbH	Stuttgart	20.00		1,023	0
Macquarie Asia Infrastructure Fund 2 SCSp 1)	Luxembourg, Luxembourg	50.48		n/a	n/a
Macquarie Asia Infrastructure Fund EU Feeder L.P 1)	London, UK	100.00		n/a	n/a
MB Asia Real Estate Feeder (Scot.) L.P. 1)	Edinburgh, UK	34.80		7,333	-1,667
Medico 12 GmbH & Co. KG 1)	Frankfurt am Main	99.98		826	-57
Nuveen Immobilien GmbH 1)	Frankfurt am Main	50.00		132	10
Nuveen Immobilien GmbH & Co. GB I KG 1)	Frankfurt am Main	73.91	73.21	2,015	-373
paydirekt GmbH	Frankfurt am Main	33.33		20,702	4,424
PT. VAUTID WEAR TECHNOLOGY INDONESIA 1)	Tangerang (Banten), Indonesia	50.00		103,005	-8,227
RV-CVIII Holdings, LLC 1)	Camden, USA	100.00		72,164	2,779
Schroder Italien Fonds GmbH & Co. KG 1)	Frankfurt am Main	23.08	19.74	728	-34
Schroder Property Services B.V. S.à.r.l. 1)	Amsterdam, Netherlands	30.00		316	61
Technology DZ Venture Capital Fund I GmbH & Co. KG i.L. 1)	Munich	34.33		5,543	-46
TF H III Technologiefonds Hessen Gesellschaft mit beschränkter Haftung	Wiesbaden	25.00		5,174	-843
TF H Technologie-Finanzierungsfonds Hessen Gesellschaft mit beschränkter Haftung (TF H GmbH) i.L.	Wiesbaden	33.33		543	-27
Tishman Speyer Brazil Feeder (Scots/D), L.P. 1)	Edinburgh, UK	100.00		21,803	-266
Tishman Speyer European Real Estate Venture VIII Parallel SCSp 1)	Luxembourg, Luxembourg	55.88	0.00	n/a	n/a
Tishman Speyer European Strategic Office Fund Feeder, L.P. 1)	London, UK	97.18		7,064	723
TXS GmbH 1)	Hamburg	24.50		200	344
VAUTID & HUIFENG (WUHU) Wear Resistant Material Co. Ltd. 1)	Wuhu, China	50.00		701	68
VAUTID Arabia Coating & Treatment of Metals LLC 1)	Ras Al Khaimah, United Arab Emirates	24.50	0.00	200	-38
Vautid North America, Inc. 1)	Carnegie, USA	100.00	0.00	-309	9
VBI Beteiligungs GmbH 1)	Vienna, Austria	24.50		584	-39
VR-LEASING OPHIR GmbH & Co. Immobilien KG 1)	Eschborn	94.80	16.33	n/a	n/a
VR-NetWorld GmbH 2)	Bonn	43.48		5,849	276
ZhangJiaGang Vautid Yao Yu Wear Resistance Material Co., Ltd. 1)	Yangshe Town, China	50.00		231	79

MORE THAN 5% OF VOTING RIGHTS (LARGE CORPORATIONS)

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Banco Cooperativo Español S.A.	Madrid, Spain	12.02		505,949	63,983
EDEKABANK Aktiengesellschaft	Hamburg	8.35		159,365	6,065
EURO Kartensysteme GmbH	Frankfurt am Main	19.60		12,036	202
PANELLINIA BANK SOCIETE ANONYME (under special liquidation)	Athens, Greece	8.42	5.28	50,143	-12,637
Protektor Lebensversicherungs-AG 1)	Berlin	5.27		15,332	320
Raiffeisendruckerei GmbH 1)	Neuwied	7.88		35,418	899
SCHUFA Holding AG 1)	Wiesbaden	17.94		101,550	34,599

SHAREHOLDINGS OF LESS THAN 20%

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Macquarie European Infrastructure Fund 6 SCSp 1)	Luxembourg, Luxembourg	4.15		n/a	n/a
Hotel Wagramerstrasse 8 Errichtungs- und BetriebsgmbH & Co KG 1)	Vienna, Austria	0.00		21,933	2,523
ABE Clearing S.A.S a Capital Variable	Paris, France	1.92		27,916	3,194
AERS Consortio AG 1)	Stuttgart	16.50		125	-19
Airport Garden Services and Business Center S.A. 1)	Brussels-Zaventem, Belgium	0.00		273	185
AKA Ausfuhrkredit-Gesellschaft mit beschränkter Haftung	Frankfurt am Main	0.00		246,672	12,040
Akademie Badischer Volksbanken und Raiffeisenbanken GmbH 1)	Karlsruhe	0.00		n/a	0
Anlegerentschädigung von Wertpapierfirmen GmbH 1)	Vienna, Austria	0.00	1.61	n/a	n/a
Architrave GmbH 1)	Berlin	12.04		n/a	n/a
ARDIAN Infrastructure Fund V B S.C.S., SICAV-RAIF 1)	Luxembourg, Luxembourg	13.58		n/a	n/a
Assicoop-Assicurazioni Cooperative S.r.l. 1)	Catania, Italy	0.00		n/a	n/a
assistance partner GmbH & Co. KG 1)	Munich	5.01		1,246	0
Bank Polskiej Spoldzielczosci Spolka Akcyjna	Warsaw, Poland	1.00		188,411	5,512
Baro Beteiligungs-GmbH & Co. KG 1)	Münster	5.10		82,501	4,749
BayBG Bayerische Beteiligungsgesellschaft mbH	Munich	9.38		237,213	4,370
Bayerische Raiffeisen- Beteiligungs-Aktiengesellschaft 2)	Beilngries	1.85		852,750	36,575
Berliner Volksbank eG 1)	Berlin	0.00	0.00	1,029,942	19,628
Beteiligungs-Aktiengesellschaft der bayerischen Volksbanken 1)	Pöcking	1.14		232,968	7,919
BFL Gesellschaft des Bürofachhandels mbH & Co. KG i.L. 1)	Eschborn	0.00	0.00	2,225	37,613
BGG Bayerische Garantiegesellschaft mit beschränkter Haftung für mittelständische Beteiligungen	Munich	13.15		53,351	1,962
Blackrock Renewable Income Europe Fund 1)	London, UK	7.69		n/a	n/a
Blackstone Real Estate Partners Europe III L.P. 1)	New York, USA	1.62		70	644,548
Blackstone Real Estate Partners International I.E. L.P. 1)	New York, USA	9.77		-26,468	-11,031
BLHV Versicherungs-Service GmbH 1)	Freiburg	9.00		n/a	n/a
BTG Beteiligungsgesellschaft Hamburg mbH	Hamburg	10.00		4,646	324
Bürgschaftsbank Bremen GmbH	Bremen	4.86		7,895	494
Bürgschaftsbank Hessen GmbH	Wiesbaden	15.87		20,839	850
Bürgschaftsbank Nordrhein-Westfalen GmbH Kreditgarantiegemeinschaft	Neuss	15.75		36,759	1,320
Bürgschaftsbank Rheinland-Pfalz GmbH	Mainz	14.31		16,826	221
Bürgschaftsbank Sachsen GmbH	Dresden	14.66	16.59	43,596	1,581
Bürgschaftsbank Schleswig-Holstein GmbH	Kiel	11.79		41,174	992
BürgschaftsGemeinschaft Hamburg GmbH	Hamburg	6.36		26,278	1,034
Caprese S.A. 1)	Brussels-Zaventem, Belgium	0.00		7,788	-595
Cash Logistik Security AG 1)	Düsseldorf	4.10		1,057	1,266
Cassa Centrale Banca - Credito Cooperativo del Nord Est Società per Azioni	Trento, Italy	3.69		1,087,039	31,017
Celt S. A. 1)	Kraków, Poland	4.44	0.00	n/a	n/a
Centrast S. A. 1)	Warsaw, Poland	0.00		n/a	n/a
CLS Group Holdings AG	Lucerne, Switzerland	0.00		442,364	-21,769
Coop System S.p.A. 1)	Rome, Italy	1.97		n/a	n/a
Copenhagen Infrastructure III K/S 1)	Copenhagen K, Denmark	5.77		n/a	n/a
Cruz Martins & Wahl Lda. 1)	Lousado, Portugal	10.00		7,854	544
Curzon Capital Partners III LP 1)	London, UK	11.99		n/a	n/a
Curzon Capital Partners IV LP 1)	London, UK	10.73		0	0
DEPFA BeteiligungsHolding II Gesellschaft mit beschränkter Haftung i.L. 1)	Düsseldorf	10.00		228	-11
DEPFA Beteiligungsholding III Gesellschaft mit beschränkter Haftung i.L. 1)	Düsseldorf	0.00		307	-11
Deutsche Bauernsiedlung - Deutsche Gesellschaft für Landentwicklung (DGL) mbH 1)	Frankfurt am Main	16.26		7,464	-185
Deutsche Börse Commodities GmbH	Frankfurt am Main	16.20	14.48	7,369	4,601
Deutscher Genossenschafts-Verlag eG 2)	Wiesbaden	1.54	1.58	67,233	1,197
DG ANLAGE Holland-Fonds 'Nieuwegein, 's-Hertogenbosch' GmbH & Co. KG (DGI 48) i.L.	Frankfurt am Main	0.00		0	9,169
DG IMMOBILIEN MANAGEMENT Gesellschaft mbH	Frankfurt am Main	5.01		16,180	10,774
DG Immobilien-Anlagegesellschaft Nr. 34 'Berlin, Darmstadt, Frankfurt' Schütze & Dr. Neumann KG i.L.	Frankfurt am Main	0.00		2,686	-54
DG Immobilien-Anlagegesellschaft Nr. 35 'Berlin, Frankfurt' Prüske & Dr. Neumann KG i.L.	Frankfurt am Main	0.00		3,039	-75
DG IMMOBILIEN-Objektgesellschaft 'Stuttgart, Industriestrasse' Kreft & Dr. Neumann KG (DGI 49) i.L.	Frankfurt am Main	0.00		0	0
DI Rathaus-Center Pankow Nr.35 KG 1)	Düren	3.86		n/a	n/a
Domus Beteiligungsgesellschaft der Privaten Bausparkassen mbH Berlin 1)	Berlin	14.13		11	-2
EDD AG i.L. 2)	Düsseldorf	9.99		22,491	-5,301
EIG Energy Fund XVI (Scotland) L.P. 1)	Edinburgh, UK	14.02		183,963	-2,587
EIG Energy Fund XVII (Scotland) L.P. 1)	Edinburgh, UK	15.61		n/a	n/a
Euro Capital S.A.S. 1)	Metz, France	6.67		23,020	1,663
European Property Investors Special Opportunities, L.P. 1)	London, UK	6.35		23,003	0
European Property Investors, L. P. 1)	London, UK	6.50		5,349	-80
EXTREMUS Versicherungs-Aktiengesellschaft 1)	Cologne	5.00		64,058	118
Fiducia & GAD IT AG 2)	Frankfurt am Main	0.00		440,232	1,584

SHAREHOLDINGS OF LESS THAN 20%

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
FIDUCIA Mailing Services eG 2)	Karlsruhe	0.00		80	0
Flugplatz Schwäbisch Hall GmbH 1)	Schwäbisch Hall	2.00		49	0
GAD Beteiligungs GmbH & Co. KG 2)	Münster	2.27		117,992	2,991
GBK Holding Gmbh & Co. KG 1)	Kassel	0.00		469,411	12,486
GDV Dienstleistungs-GmbH 1)	Hamburg	2.82		27,430	901
German Equity Partners IV GmbH & Co. KG 1)	Frankfurt am Main	4.36		132,960	32,578
GLADBACHER BANK Aktiengesellschaft von 1922	Mönchengladbach	17.53		39,878	1,498
Global Energy & Power Infrastructure Fund III E, SCSp 1)	Luxembourg, Luxembourg	3.30		n/a	n/a
Global Infrastructure Partners IV-C2, L.P. 1)	Luxembourg, Luxembourg	17.17		n/a	n/a
GMS Mitarbeiter Beteiligungsgesellschaft UG & Co.KG 1)	Paderborn	4.00	0.00	986	-8
Golding Mezzanine SICAV III 1)	Munsbach, Luxembourg	1.30		73,460	7,553
Grand Hotel Heiligendamm GmbH & Co. KG Fundus Fonds Nr. 34 1)	Disternich	1.90		0	0
Gründerfonds Ruhr GmbH & Co. KG 1)	Essen	7.25		927	-897
HANDWERKSBAU NIEDERRHEIN AKTIENGESELLSCHAFT	Düsseldorf	10.15		25,383	2,227
heal.capital I GmbH & Co. KG 1)	Berlin	1.39		n/a	n/a
Hines European Value Fund SCSp 1)	Luxembourg, Luxembourg	13.87		n/a	n/a
Immigon portfolioabbau ag i.A.	Vienna, Austria	3.79		775,271	101,592
Immo Feest en Cultuurpaleis Oostende SA 1)	Brussels, Belgium	0.00		16,524	403
Interessengemeinschaft Frankfurter Kreditinstitute GmbH	Frankfurt am Main	7.01		25,453	9,771
IVS Immobilien GmbH 1)	Schiffweiler	6.00		26	0
K in Kortrijk S.A. 1)	Brussels, Belgium	0.00		92,110	-707
Karen Notebook S. A. 1)	Warsaw, Poland	2.17		n/a	n/a
KLAAS MESSTECHNIK GmbH 1)	Seelze-Harenberg	15.00		28	0
KLV BAKO Vermittlungs-GmbH	Karlsruhe	10.00		233	9
Konsortium der Absatzfinanzierungsinstitute plettac-assco GbR	Wuppertal	0.00	7.08	n/a	n/a
Kreditgarantiegemeinschaft der Freien Berufe Baden-Württemberg Verwaltungs GmbH	Stuttgart	4.76		153	0
Kreditgarantiegemeinschaft der Industrie, des Verkehrsgewerbes und des Gastgewerbes Baden-Württemberg Verwaltungs-GmbH	Stuttgart	15.28		1,300	0
Kreditgarantiegemeinschaft des bayerischen Gartenbaues GmbH	Munich	9.07		649	0
Kredit-Garantiegemeinschaft des bayerischen Handwerks Gesellschaft mit beschränkter Haftung	Munich	12.00		4,846	0
Kreditgarantiegemeinschaft des Gartenbaues Baden-Württemberg Verwaltungs-GmbH	Stuttgart	12.00		138	0
Kreditgarantiegemeinschaft des Handels Baden-Württemberg Verwaltungs-GmbH	Stuttgart	10.05		1,022	0
Kreditgarantiegemeinschaft des Handwerks Baden-Württemberg Verwaltungs-GmbH	Stuttgart	10.05		1,001	0
Kreditgarantiegemeinschaft des Hotel- und Gaststättengewerbes in Bayern GmbH	Munich	9.66		4,359	0
Kreditgarantiegemeinschaft für den Handel in Bayern GmbH	Munich	7.19		6,317	0
Kunststiftung Baden-Württemberg GmbH 1)	Stuttgart	0.00		2,899	-17
Les Grands Pres S.A. 1)	Brussels-Zaventem, Belgium	0.00	0.00	51,717	4,262
Lucrezia GmbH & Co. KG 1)	Berlin	0.00		n/a	n/a
Macquarie European Infrastructure Fund 4 L.P. 1)	St. Peter Port, Guernsey	5.70		1,392,438	7,874
MBG H Mittelständische Beteiligungsgesellschaft Hessen GmbH	Wiesbaden	16.26		11,343	452
MBG Mittelständische Beteiligungsgesellschaft Baden-Württemberg Gesellschaft mit beschränkter Haftung	Stuttgart	9.94		76,993	4,504
MBG Mittelständische Beteiligungsgesellschaft Rheinland-Pfalz mbH	Mainz	9.80	11.11	15,328	445
MBG Mittelständische Beteiligungsgesellschaft Schleswig-Holstein mbH	Kiel	14.59	15.22	41,293	2,272
Mittelständische Beteiligungsgesellschaft Berlin-Brandenburg mbH	Potsdam	8.89		21,836	1,774
Mittelständische Beteiligungsgesellschaft Mecklenburg-Vorpommern mbH	Schwerin	16.00		15,950	1,521
Mittelständische Beteiligungsgesellschaft Niedersachsen (MBG) mbH	Hannover	19.92		14,309	671
Mittelständische Beteiligungsgesellschaft Sachsen mbH	Dresden	9.38		47,602	908
Mittelständische Beteiligungsgesellschaft Sachsen-Anhalt (MBG) mbH	Magdeburg	19.84		24,033	729
Mittelständische Beteiligungsgesellschaft Thüringen mbH	Erfurt	10.28		25,914	970
Münchener Hypothekenbank eG 2)	Munich	1.22		1,388,092	48,699
Munster S.A. 1)	Luxembourg, Luxembourg	0.00		2,099	-68
Niedersächsische Bürgschaftsbank (NBB) GmbH	Hannover	17.68		28,283	1,886
Norddeutsche Genossenschaftliche Beteiligungs-Aktiengesellschaft 1)	Hannover	0.00		1,374,605	47,534
Opción Jamantab S. A. DE C. V. 1)	Mexico City, Mexico	0.00		10,231	-129
Partners Group Global Mezzanine 2007 S.C.A., SICAR 1)	Luxembourg, Luxembourg	2.24		57,911	-3,536
Prosa Beteiligungs GmbH & Co. KG 1)	Frankfurt am Main	15.63		587	-408
Prosolis GmbH The Solution House i.L. 1)	Fulda	6.00		n/a	n/a
Raiffeisen Waren-Zentrale Rhein-Main eG	Cologne	2.03		32,415	1,862
Raiffeisen-Kassel A-Beteiligungs GmbH & Co. KG	Kassel	8.22		40,415	295
Raiffeisen-Kassel B-Beteiligungs GmbH & Co. KG	Kassel	8.22		40,415	295
Royale 120 New Building S.A. 1)	Brussels-Zaventem, Belgium	0.00		43,743	931
Royale 120 S.A. 1)	Brussels-Zaventem, Belgium	0.00		893	40
RREEF Pan-European Infrastructure Feeder GmbH & Co. KG 1)	Eschborn	17.70		348,880	-116

SHAREHOLDINGS OF LESS THAN 20%

Name	Location	Shareholding	Voting rights, if different	Equity in € '000	Profit/loss in € '000
Rund Vier GmbH & Co. KG 1)	Vienna, Austria	0.00		46,872	3,564
S.W.I.F.T. Society for Worldwide International Financial Telecommunication 2)	La Hulpe, Belgium	0.00		417,465	23,960
Saarländische Wagnisfinanzierungsgesellschaft mbH	Saarbrücken	2.59		7,776	2,356
SALEG Sachsen-Anhaltinische Landesentwicklungs GmbH 1)	Magdeburg	1.15		14,287	574
Sana Kliniken AG 1)	Munich	0.00		998,916	99,642
Schulze-Delitzsch-Haus, eingetragene Genossenschaft 1)	Bonn	0.00		548	7
Sechzehnte Gamma Trans Leasing Verwaltungs-GmbH & Co. Finanzierungs-Management KG i.L. 1)	Nidderau	16.51		n/a	n/a
SGB-Bank Spólka Akcyjna	Poznań, Poland	0.00		150,565	-34,620
SIGNA Development Selection AG 1)	Innsbruck, Austria	5.00		n/a	n/a
SIGNA Prime Selection AG 1)	Innsbruck, Austria	5.00		2,434,344	224,994
SIGNA Sports United GmbH 1)	Munich	11.59		n/a	n/a
Société de la Bourse de Luxembourg S.A. 1)	Luxembourg, Luxembourg	0.00		121,609	8,947
Süddeutsche Zuckerrübenverwertungs-Genossenschaft eG	Ochsenfurt	4.44	4.55	188,586	6,341
Target Partners Capital GmbH & Co. KG 1)	Munich	10.00	10.01	535	0
Technologiezentrum Schwäbisch Hall GmbH 1)	Schwäbisch Hall	4.17	5.56	569	62
Teko - Technisches Kontor für Versicherungen Gesellschaft mit beschränkter Haftung 1)	Düsseldorf	10.00	0.00	81	30
True Sale International GmbH	Frankfurt am Main	7.69		4,611	-163
Ufficio Centrale Italiano di Assistenza Assicurativa Automobilisti in Circolazione Internazionale -U.C.I. Societe consortie a R.L. 1)	Milan, Italy	0.00		n/a	n/a
UIR Belgique 1 S.A. 1)	Brussels, Belgium	0.00		548	-44
UIR Le Président 1 1)	Brussels-Zaventem, Belgium	0.00	0.00	3,880	-430
UIR MU III S.A. de C.V. 1)	Mexico City, Mexico	0.00		13,137	790
Visa Inc.	San Francisco, USA	0.00		30,286,783	9,174,385
VR-Bank Schwäbisch Hall eG 1)	Schwäbisch Hall	0.00		119,256	4,721
VR-IMMOBILIEN-LEASING GmbH 1)	Eschborn	6.00		n/a	n/a
WESTFLEISCH Finanz AG 1)	Münster	0.00		87,003	6,492
WRW Wohnungswirtschaftliche Treuhand Rheinland-Westfalen Gesellschaft mit beschränkter Haftung i.L.	Düsseldorf	2.73		n/a	n/a
ZG Raiffeisen eG	Karlsruhe	1.01	0.00	82,762	2,206

1) Held indirectly.
2) Including shares held indirectly.
3) A letter of comfort exists.
4) A subordinated letter of comfort exists.
5) Profit-and-loss transfer agreement with DZ BANK (direct or indirect).
6) Section 264 (3) HGB and section 264b HGB have been applied.
n/a = no figures available.