NOTES TO THE BALANCE SHEET

(13) Property, plant and equipment

Property, plant and equipment is measured at cost of purchase and cost of production in accordance with IAS 16 (Property, Plant and Equipment). Cost of production comprises individual costs as well as overhead costs which are directly allocatable.

If at least two years are required for manufacturing an asset in order to place it in its intended state in which it is capable of being used or sold, any directly attributable borrowing costs are capitalized as costs of production of the asset. If a direct link cannot be established, the average borrowing cost rate of the year under review is used. Value-added tax incurred in connection with the purchase or production of property, plant and equipment is only capitalized if pre-tax is not permitted to be deducted.

Subsequent costs are capitalized if the expenses enhance the economic benefit of the property, plant and equipment and if the costs can be reliably measured. On the other hand, all other repairs or maintenance are expensed.

Components of property, plant and equipment which are significant in relation to the total costs of purchase and costs of production are recognized separately and written down over their useful life using the straight-line method.

Investment grants are deducted directly from the cost of purchase and cost of production of the assets for which the grants have been given.

RIGHTS OF USE FROM LEASES

In the case of rented or leased assets, if they fall under the scope of IFRS 16, a right of use (in accordance with IFRS 16.24) and a lease liability are shown as soon as the asset is available for use to DB Group. Depreciation is recognized using the straight-line method over the economic useful life of the asset or the shorter duration of the lease. This is not applicable for leases for minor-value assets (up to and including € 5,000) and short-term leases with a duration of 12 months or less, the costs of which are recognized on a linear basis in the income statement. Components of lease payments which do not relate to the use of the asset are not included in the measurement of the right of use and the lease liability.

CRITICAL ASSESSMENTS AND APPRAISALS

With regard to defining the duration of the lease, management takes account of all facts and circumstances which have an influence on the possible exercising of a prolongation option or termination option. This assessment is reviewed regularly.

LEASED ASSETS

DB Group classifies every lease for which it is the lessor either as an operating lease or as a finance lease. A lease is classified as a finance lease if it transfers essentially all risks and opportunities associated with the ownership. If this is not the case, the lease is classified as an operating lease.

Property, plant and equipment (€ million)	Land	Commercial, operating and other buildings	Permanent way structures	Track infrastructure, signaling and control equipment	Vehicles for passenger and freight transport	Technical equipment and machinery	Other operational and office equipment	Advance payments and assets under construction	Total
COST OF PURCHASE AND COST OF PRODUCTION									
As of Jan 1, 2020	4,511	11,575	15,690	16,962	35,670	2,220	5,613	4,693	**96,934**
Changes in the scope of consolidation	11	11	0	–	24	1	8	–	**55**
thereof additions	11	11	0	–	24	1	18	1	**66**
thereof disposals	–	0	–	–	–	–	-10	-1	**-11**
Additions	106	1,314	909	1,601	1,919	135	530	7,654	**14,168**
Addition borrowing costs	–	–	–	–	–	–	–	44	**44**
Investment grants	0	-167	-886	-1,459	-78	-39	-59	-5,825	**-8,513**
Transfers	4	183	89	151	316	55	96	-904	**-10**
Changes with no impact on the income statement	–	0	–	–	–	–	0	–	**0**
Disposals	-33	-102	-11	-247	-1,260	-145	-429	-34	**-2,261**
Currency translation differences	-20	-66	-3	-1	-160	-13	-36	-5	**-304**
As of Dec 31, 2020	**4,579**	**12,748**	**15,788**	**17,007**	**36,431**	**2,214**	**5,723**	**5,623**	**100,113**
ACCUMULATED DEPRECIATION									
As of Jan 1, 2020	-702	-4,413	-5,634	-12,797	-21,708	-1,404	-3,676	-9	**-50,343**
Changes in the scope of consolidation	-4	-5	0	–	-22	-1	-11	–	**-43**
thereof additions	-4	-5	0	–	-22	-1	-15	–	**-47**
thereof disposals	–	0	–	–	–	–	4	–	**4**
Depreciation	-42	-845	-201	-360	-1,569	-130	-472	-1	**-3,620**
Impairments	0	-6	-4	-2	-14	-1	0	0	**-27**
Recoveries in value	–	0	–	13	1	–	0	0	**14**
Transfers	12	-29	0	0	9	0	9	-6	**-5**
Disposals	13	59	6	233	707	86	371	0	**1,475**
Currency translation differences	6	21	2	0	79	8	24	0	**140**
As of Dec 31, 2020	**-717**	**-5,218**	**-5,831**	**-12,913**	**-22,517**	**-1,442**	**-3,755**	**-16**	**-52,409**
Carrying amount as of Dec 31, 2020	**3,862**	**7,530**	**9,957**	**4,094**	**13,914**	**772**	**1,968**	**5,607**	**47,704**
Carrying amount as of Dec 31, 2019	3,809	7,162	10,056	4,165	13,962	816	1,937	4,684	**46,591**

Property, plant and equipment (€ million)	Land	Commercial, operating and other buildings	Permanent way structures	Track infra-structure, signaling and control equipment	Vehicles for passenger and freight transport	Technical equipment and machinery	Other operational and office equipment	Advance payments and assets under construction	**Total**
COST OF PURCHASE AND COST OF PRODUCTION									
As of Jan 1, 2019	4,155	8,113	15,475	17,018	32,938	1,910	5,285	4,015	**88,909**
Initial application of IFRS 16	306	2,664	10	2	900	219	29	–	**4,130**
Changes in the scope of consolidation	–	- 2	–	–	–	–	0	–	**- 2**
thereof additions	–	–	–	–	–	–	–	–	**-**
thereof disposals	–	- 2	–	–	–	–	0	–	**- 2**
Additions	90	917	1,052	1,182	2,342	140	562	6,513	**12,798**
Addition borrowing costs	–	–	–	–	–	–	–	40	**40**
Investment grants	0	- 141	- 934	- 1,111	- 73	- 31	- 53	- 5,103	**- 7,446**
Transfers	30	103	99	125	291	27	118	- 817	**- 24**
Changes with no impact on the income statement	–	0	–	–	–	–	0	–	**0**
Disposals	- 80	- 101	- 14	- 254	- 831	- 54	- 345	40	**- 1,639**
Currency translation differences	10	22	2	0	103	9	17	5	**168**
As of Dec 31, 2019	**4,511**	**11,575**	**15,690**	**16,962**	**35,670**	**2,220**	**5,613**	**4,693**	**96,934**
ACCUMULATED DEPRECIATION									
As of Jan 1, 2019	- 670	- 3,679	- 5,433	- 12,712	- 20,816	- 1,312	- 3,524	- 6	**- 48,152**
Changes in the scope of consolidation	–	2	–	–	- 26	–	0	–	**- 24**
thereof additions	–	–	–	–	- 26	–	–	–	**- 26**
thereof disposals	–	2	–	–	–	–	0	–	**2**
Depreciation	- 36	- 787	- 206	- 352	- 1,537	- 137	- 449	–	**- 3,504**
Impairments	–	0	- 1	0	- 3	0	0	0	**- 4**
Recoveries in value	–	0	–	27	0	0	0	–	**27**
Transfers	- 15	15	- 1	0	4	0	14	- 5	**12**
Disposals	22	41	9	240	718	49	295	2	**1,376**
Currency translation differences	- 3	- 5	- 2	0	- 48	- 4	- 12	0	**- 74**
As of Dec 31, 2019	**- 702**	**- 4,413**	**- 5,634**	**- 12,797**	**- 21,708**	**- 1,404**	**- 3,676**	**- 9**	**- 50,343**
Carrying amount as of Dec 31, 2019	**3,809**	**7,162**	**10,056**	**4,165**	**13,962**	**816**	**1,937**	**4,684**	**46,591**
Carrying amount as of Dec 31, 2018	3,485	4,434	10,042	4,306	12,122	598	1,761	4,009	**40,757**

The additions to the borrowing costs contain an average borrowing cost rate of 1.71% (previous year: 2.28%).

The impairments of € 27 million (previous year: € 4 million) mainly related to rolling stock for passenger and freight transport.

Recoveries in value of € 14 million (previous year: € 27 million) mainly related to track infrastructure, signaling and control equipment of DB Netz AG.

In the year under review, the carrying amount disposals for assets under construction included carrying amount disposals of € 20 million (previous year: € 52 million). These were attributable to the repayment of investment grants which had been received in previous years and deducted from assets.

As of December 31, 2020, restrictions to rights of disposal in relation to property, plant and equipment existed to the extent of € 35 million (as of December 31, 2019: € 38 million) mainly at S.I.A. Società Italiana Autoservizi S.P.A., Brescia / Italy and S.A.B. Autoservizi S.R.L., Bergamo / Italy.

RIGHTS OF USE FROM LEASES IFRS 16

Rental activities of DB Group mainly relate to real estate. Compared with a solution involving purchasing of such assets, leasing provides much greater flexibility and results in lower amounts of capital being tied up. DB Group simultaneously participates in positive market developments by way of regularly agreeing prolongation options. In addition, DB Group rents rolling stock particularly if the economic useful life considerably exceeds the duration of the service agreement for which the rolling stock is intended.

Property, plant and equipment contains rights-of-use from leases which are shown separately in the following overview.

(€ million)	Rights of use for: Land	Commercial, operating and other buildings	Permanent way structures	Track infra-structure, signaling and control equipment	Vehicles for passenger and freight transport	Technical equipment and machinery	Other operational and office equipment	Total
AS OF DEC 31, 2020								
Additions	58	988	1	0	239	14	16	**1,316**
Depreciation	- 33	- 630	- 3	- 1	- 230	- 36	- 18	**- 951**
Carrying amount	359	3,380	5	2	631	181	27	**4,585**
AS OF DEC 31, 2019								
Additions	44	578	0	2	487	24	18	**1,153**
Depreciation	- 28	- 587	- 3	- 1	- 267	- 35	- 16	**- 937**
Carrying amount	338	3,086	7	3	1,154	206	30	**4,824**

Further details of leasing-related liabilities, expenses and other financial obligations are set out in the *Notes (6)* *198 ff.**, (7)* *201**, (9)* *201 f.**, (28)* *214 ff.* and *(35)* *234**,* as well as the *Notes to the statement of cash flows* *227.*

The decline in the carrying amounts of vehicles for passenger and freight transport markets is essentially attributable to the cessation of the Arriva Rail North franchise. In the case of the commercial, operating and other buildings, higher additions as well as term prolongations in connection with real estate contracts resulted in an increase in the carrying amounts.

RENTED ASSETS

The rental activities of DB Group related mainly to premises in stations as well as the leasing of excess locomotive and rail car capacities. Agreements are normally not made with regard to assuring any residual values.

Subletting activities are carried out to a minor extent mainly at DB Schenker (€ 23 million; previous year: € 21 million). Where appropriate, storage facilities are rented only for the purpose of fulfilling a logistics contract with a specific customer. If these customers take on the economic opportunities and risks with regard to the leased premises, the subletting income is not recognized in the income statement; instead, this is recognized as a sub-financing lease.

The assets which in certain cases are determined on the basis of retrospective calculations and completed surveys and which are leased by way of operating leases have the following residual carrying amounts:

Rented assets classified as operating leases (€ million)	Properties	Mobile assets
Cost of purchase and cost of production	1,349	7,059
Accumulated depreciation	- 448	- 4,845
Carrying amount as of Dec 31, 2020	**901**	**2,214**
Cost of purchase and cost of production	1,408	6,504
Accumulated depreciation	- 447	- 4,790
Carrying amount as of Dec 31, 2019	**961**	**1,714**

In the case of properties which are leased on a pro rata basis, the carrying amounts are also recognized on a pro rata basis. The carrying amount of the leased mobile assets related to all assets leased in the year under review irrespective of the lease duration. The residual carrying amounts and the accumulated depreciation of the mobile assets (mainly rolling stock) have increased considerably, particularly at DB Long-Distance, due to capital expenditure in new rolling stock. The process of renting the assets is expected to generate rental and leasing inflows in future years as shown in the following overview:

Expected rental and leasing income (nominal values) (€ million)	Residual maturity: Up to 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	More than 5 years	Total more than 1 year	Total
AS OF DEC 31, 2020								
Minimum lease payments	356	184	158	143	129	594	**1,208**	**1,564**
AS OF DEC 31, 2019								
Minimum lease payments	361	197	158	145	127	619	**1,246**	**1,607**

(14) Intangible assets

Purchased intangible assets are shown with their cost of purchase in accordance with IAS 38 (Intangible Assets). Intangible assets manufactured in-house are recognized with their cost of production, and consist mainly of software.

Costs of production comprise mainly costs for material and services, wage and salary costs as well as relevant overhead costs.

Intangible assets (excluding goodwill and the Arriva brand) are subsequently valued at cost of purchase and cost of production less depreciation and impairments plus any reversals of previous impairments.

Intangible assets (€ million)	Capitalized development costs – products in use 2020	2019	Capitalized development costs – products under development 2020	2019	Purchased intangible assets 2020	2019	Goodwill 2020	2019	Intangible assets with indefinite useful life 2020	2019	Advance payments 2020	2019	Total 2020	2019
COST OF PURCHASE AND COST OF PRODUCTION														
As of Jan 1	564	277	447	296	2,255	2,426	3,106	3,025	5	5	0	0	**6,377**	**6,029**
Changes in the scope of consolidation	5	–	–	–	2	12	13	12	–	–	–	–	**20**	**24**
thereof additions	5	–	–	–	4	12	13	12	–	–	–	–	**22**	**24**
thereof disposals	–	–	–	–	-2	–	0	–	–	–	–	–	**-2**	**–**
Additions	54	53	162	211	17	31	–	–	–	–	1	0	**234**	**295**
Investment grants	-2	0	–	–	-1	-1	–	–	–	–	–	–	**-3**	**-1**
Transfers	222	231	-212	-52	0	-155	–	–	–	–	0	–	**10**	**24**
Changes with no impact on the income statement	–	–	–	–	–	1	–	–	–	–	–	–	**–**	**1**
Disposals	-73	–	-28	-7	-46	-76	–	–	–	–	–	0	**-147**	**-83**
Currency translation differences	-4	3	0	-1	-36	17	-116	69	–	–	0	0	**-156**	**88**
As of Dec 31	**766**	**564**	**369**	**447**	**2,191**	**2,255**	**3,003**	**3,106**	**5**	**5**	**1**	**0**	**6,335**	**6,377**
ACCUMULATED DEPRECIATION														
As of Jan 1	-178	-67	-1	-5	-1,818	-1,746	-486	-481	–	–	–	–	**-2,483**	**-2,299**
Changes in the scope of consolidation	–	–	–	–	–	–	–	–	–	–	–	–	**–**	**–**
thereof additions	–	–	–	–	-1	–	–	–	–	–	–	–	**-1**	**–**
thereof disposals	–	–	–	–	1	–	–	–	–	–	–	–	**1**	**–**
Depreciation	-76	-34	–	–	-132	-150	–	–	–	–	–	–	**-208**	**-184**
Impairments	-78	–	-27	–	-15	-6	-1,411	–	–	–	–	–	**-1,531**	**-6**
Recoveries in value	–	–	–	–	0	0	–	–	–	–	–	–	**0**	**0**
Transfers	-7	-76	–	–	12	64	–	–	–	–	–	–	**5**	**-12**
Disposals	40	–	28	4	36	37	–	–	–	–	–	–	**104**	**41**
Currency translation differences	1	-1	–	–	28	-17	39	-5	–	–	–	–	**68**	**-23**
As of Dec 31	**-298**	**-178**	**–**	**-1**	**-1,889**	**-1,818**	**-1,858**	**-486**	**–**	**–**	**–**	**–**	**-4,045**	**-2,483**
Carrying amount as of Dec 31	**468**	**386**	**369**	**446**	**302**	**437**	**1,145**	**2,620**	**5**	**5**	**1**	**0**	**2,290**	**3,894**
Carrying amount as of Dec 31 of previous year	386	210	446	291	437	680	2,620	2,544	5	5	0	0	**3,894**	**3,730**

The acquired intangible assets mainly comprise software (about € 129 million carrying amount), concessions and rights (about € 61 million carrying amount) and acquired customer and franchise contracts (about € 110 million carrying amount).

There are no other legal, regulatory, contractual, competition-related, economic or other factors which limit the useful life of the acquired Arriva brand (carrying amount € 31 million) which is shown under the purchased intangible assets.

In the year under review, impairments of € 1,531 million (previous year: € 6 million) were recognized in relation to intangible assets. This figure includes impairments of € 1,411 million in relation to the complete write-down of the goodwill allocated to the segment DB Arriva. This segment also accounts for impairments of € 32 million in relation to capitalized development services of software as well as € 5 million in relation to capitalized customer contracts.

In DB Group, impairments of about € 83 million were also recognized in relation to various software applications which essentially related to the segments of DB Cargo and Subsidiaries / Other.

The allocation of the reported goodwill to the segments is shown in the *Segment information according to segments* 188 f.

(15) Investments accounted for using the equity method

Shares in associated companies and joint ventures are accounted for using the equity method in accordance with IAS 28. The carrying amount, based on the Group costs of purchase at the time of the purchase, is updated according to DB Group share of changes in equity position of the company accounted for using the equity method.

The shares in the investments accounted for using the equity method have developed as follows:

(€ million)	2020	2019
As of Jan 1	501	486
Additions	1	16
Disposals	-5	0
Share of DB Group in profit / loss	11	-12
Capital increase	–	11
Other movements in capital	0	0
Dividends received	-7	-14
Impairments	-44	–
Reclassifications	–	0
Currency translation differences	0	13
Other valuation	1	1
As of Dec 31	**458**	**501**

The figure shown in the balance sheet as of December 31, 2020 was mainly attributable to the shares held in the associated companies EUROFIMA European Company for the Financing of Railroad Rolling Stock (EUROFIMA), Basel / Switzerland and Trieste Trasporti S.P.A., Trieste / Italy. The shares in EUROFIMA are subject to restrictions in terms of being sold; new shareholders must be railway administration entities which additionally require a guarantee of their respective country guaranteeing their obligations.

Of the figure shown for the impairment, € 43 million related almost entirely to Barraqueiro SGPS SA, Lisbon / Portugal.

(16) Deferred taxes

Deferred taxes are calculated in accordance with IAS 12 (Income Taxes).

The theoretical income tax rate for corporations for domestic companies used as the basis for calculating deferred taxes is 30.5 %. The income tax rate comprises the corporation tax rate plus solidarity surcharge and an average trade tax rate. Foreign subsidiaries use their relevant local tax rates for calculating deferred taxes.

A deferred tax asset is recognized in accordance with IAS 12.24 or IAS 12.34 if, after corresponding deferred tax liabilities have been deducted, it is likely that adequate taxable income is available. The long-term planning with additional estimates is used for the domestic companies as the basis of this process. The international companies use medium-term planning as the basis. Deferred tax assets relating to income which can be generated after the long-term period are not recognized, on the grounds that they cannot be reliably determined.

Deferred taxes are established on the basis of the tax rates which can be expected for the period in which the deferred tax is realized on the basis of existing laws or laws which have in essence been adopted.

CRITICAL ASSESSMENTS AND APPRAISALS

The calculation of deferred tax assets is based on the medium- and long-term planning. If the sum of net profits planned were to decline by 10 % in conjunction with otherwise unchanged tax parameters, deferred tax assets would have to be reduced by € 97 million (previous year: € 96 million).

Deferred tax assets are broken down as follows:

As of Dec 31 (€ million)	**2020**	2019
Deferred tax assets in respect of temporary differences	412	481
Deferred tax assets in respect of losses carried forward	752	765
Total	**1,164**	**1,246**

No deferred tax assets have been created in relation to the following losses carried forward and temporary differences:

As of Dec 31 (€ million)	**2020**	2019
Tax loss carry-forwards for which no deferred tax asset has been created	18,735	14,425
Temporary differences for which no deferred tax asset has been created	5,998	5,166
Temporary differences which are not permitted to be recognized in accordance with IAS 12.24b in conjunction with 12.33	1,981	2,116
Total	**26,714**	**21,707**

The losses carried forward are mainly attributable to the tax law treatment of Federal Government grants paid in the past to DB AG in accordance with section 21 (5) and section 22 (1) Deutsche Bahn Foundation Act (Deutsche Bahn Gründungsgesetz; DBGrG) as a contribution as well as the tax losses of the year under review which were incurred as a consequence of the impact of the Covid-19 pandemic.

On the basis of current law, the domestic losses carried forward are fully allowable in accordance with current legislation (in terms of the actual amount and justification).

The temporary differences which are not permitted to be recognized in accordance with IAS 12.33 relate exclusively to additional tax depreciation from previously received tax-free investment grants.

The following deferred tax assets and deferred tax liabilities shown in the balance sheet were due to statement and valuation differences for the individual balance sheet items and tax losses carried forward:

	Deferred tax assets		Deferred tax liabilities	
As of Dec 31 (€ million)	**2020**	2019	**2020**	2019
NON-CURRENT ASSETS				
Property, plant and equipment	61	89	148	179
Intangible assets	0	0	29	37
Investment property	0	0	14	0
Other financial assets	0	0	0	5
CURRENT ASSETS				
Inventories	0	3	0	1
Trade receivables	8	9	6	4
Derivative financial instruments	0	1	0	5
Other financial assets	0	2	0	7
NON-CURRENT LIABILITIES				
Financial debt	0	3	0	4
Other liabilities	0	59	0	0
Derivative financial instruments	9	17	0	0
Retirement benefit obligations	190	272	0	3
Other provisions	125	103	68	41
Deferred items	0	0	7	5
CURRENT LIABILITIES				
Trade accounts payable	50	0	0	1
Other liabilities	75	49	18	9
Other provisions	30	29	0	17
Losses carried forward	752	765	0	0
Total	**1,300**	**1,401**	**290**	**318**
Netting [1]	-136	-155	-136	-155
Amount stated in the balance sheet	**1,164**	**1,246**	**154**	**163**

[1] To the extent permitted by IAS 12 (Income Taxes).

Tax assets and liabilities are netted if they exist in relation to the same tax authority, if they are of identical maturity and if they relate to the same tax subject.

Of the deferred tax assets of € 1,300 million (as of December 31, 2019: € 1,401 million), a figure of € 163 million (as of December 31, 2019: € 93 million) will probably be realized in the course of the next 12 months. Of the deferred tax liabilities of € 290 million (as of December 31, 2019: € 318 million), a figure of € 24 million (as of December 31, 2019: € 44 million) will probably be realized in the course of the next 12 months.

Deferred tax assets of € 183 million (as of December 31, 2019: € 166 million) shown directly in equity and deferred tax liabilities of € 10 million (as of December 31, 2019: € 15 million) shown directly in equity are included in the deferred taxes shown in the balance sheet.

(17) Other investments and securities

Other investments are shown with their fair value.

Long- or short-term securities are recognized with their market values as of the balance sheet date – where such values exist. Changes in fair value are recognized with no impact on the income statement in the reserve attributable to the marking-to-market of securities.

Other investments and securities have developed as follows:

	Other investments		Securities		Total	
€ million	2020	2019	2020	2019	2020	2019
As of Jan 1	42	44	3	2	**45**	**46**
Currency translation differences	0	0	0	0	**0**	**0**
Changes in scope of consolidation	–	–	–	–	**–**	**–**
Additions	24	3	–	–	**24**	**3**
Disposals through sale	0	0	–	–	**0**	**0**
Fair value changes [1]	-11	-5	0	1	**-11**	**-4**
Reclassifications [1]	–	0	–	–	**–**	**0**
Total	0	–	–	–	**0**	**–**
As of Dec 31	**55**	**42**	**3**	**3**	**58**	**45**
thereof at cost / cost of purchase	–	–	0	0	**0**	**0**
thereof fair value (recognized directly in equity)	25	31	3	3	**28**	**34**
thereof fair value (recognized in the income statement)	30	11	–	–	**30**	**11**
Non-current portion	55	42	2	2	**57**	**44**
Current portion	–	–	1	1	**1**	**1**

[1] Previous year figure adjusted for the other investments.

As of December 31, 2020, the carrying amount of various other participations recognized at fair value was reduced (a total of € 11 million), as profit and cash flow planning had to be updated due to the Covid-19 crisis.

Of the figure shown for the additions, € 22 million related to the acquisition of shares in Volocopter GmbH, Bruchsal.

(18) Inventories

All costs which are directly related to the procurement process are capitalized as the costs of purchase of the inventories. The average method is used as the basis for establishing the cost of purchase of fungible and homogeneous raw materials and supplies. The costs of production comprise the individual costs and also the directly attributable overheads; borrowing costs and idle costs are not capitalized, and instead are recognized as expense in the period in which they are incurred.

As of the balance sheet date, inventories are measured with the lower of cost or net realizable value.

Inventories are broken down as follows:

As of Dec 31 (€ million)	2020	2019
Raw materials, consumables and supplies	1,849	1,592
Unfinished products, unfinished services	122	117
Finished products and goods	365	105
Advance payments	41	41
Impairments	-440	-335
Total	**1,937**	**1,520**

The increase in finished products and goods mainly related to rolling stock which had only been provisionally accepted and which had not yet been transferred to the customer and transport authorities as of the balance sheet date. Corresponding long-term trade liabilities were also shown.

As of December 31, 2020, inventories of pandemic protective equipment were valued with the lower of cost or net realizable value. In view of the increased worldwide production and lower market prices, impairments of € 38 million were recognized in relation to such protective equipment.

(19) Receivables and other assets

In general, receivables and other financial assets are measured at amortized cost of purchase. Finance lease receivables, advance payments made and plan assets in accordance with IAS 19 (Employee Benefits) are not allocated to any category of IFRS 9. With regard to the measurement categories according to IFRS 9, please refer to the section *Additional disclosures relating to the financial instruments* 233 f.

Receivables for which there are substantial objective indications of an impairment are adjusted appropriately. Portfolio-based allowances are recognized in relation to groups of assets also on the basis of historical default rates. In DB Group, the maturities of the receivables and default risks are monitored constantly.

Some transport contracts include a handing over obligation specifying that the deployed assets owned by DB Group have to be handed over at the end of the contract. Other transport contracts include a clause specifying that the deployed assets have to be rented from the contracting organization or a capital service guarantee to be provided by the contracting organization for leasing from independent financial service providers. In accordance with IFRIC 12 (Service Concession Arrangements), the corresponding capital expenditures are capitalized as receivables from transport concession arrangements at the end of the contract, with the guaranteed residual values being separated. The receivables are redeemed out of the concession fees, which means that not all of the concession fees result in revenues. The residual value receivables are disclosed at their present value under the financing receivables.

CRITICAL ASSESSMENTS AND APPRAISALS

The impairment of doubtful receivables to a considerable extent comprises assessments and appraisals of individual receivables which are based on the creditworthiness of the particular customer, current economic developments as well as an analysis of historical bad debts at the portfolio level. If the impairment is derived on the basis of historical default rates at the portfolio level, any decline in the overall volume of receivables results in a corresponding reduction of such provisions (and vice versa).

The receivables and other assets are broken down as follows:

(€ million)	Trade receivables	Financial receivables and earmarked cash at banks	Receivables from transport concessions	Advance payments	Other assets	Total
AS OF DEC 31, 2020						
Gross value	5,045	867	626	270	1,608	**8,416**
Impairments	-164	-11	–	–	-47	**-222**
Net value	**4,881**	**856**	**626**	**270**	**1,561**	**8,194**
thereof due to related parties	37	2	–	–	305	**344**
AS OF DEC 31, 2019						
Gross value	5,062	413	352	290	1,746	**7,863**
Impairments	-145	-9	0	–	-46	**-200**
Net value	**4,917**	**404**	**352**	**290**	**1,700**	**7,663**
thereof due to related parties	37	9	–	–	476	**522**

DB Group concluded factoring agreements with a bank; according to the terms of this agreement, the bank is obliged to purchase on a revolving basis current trade receivables (denominated in euro and Swedish krona) in certain companies of the DB Schenker segment up to a maximum volume of € 705 million. Criteria for defining the receivables include the following: legal enforceability, the invoice falling due within 180 days of the invoice date, as well as the fact that the debtor is not an intra-Group debtor. The agreement has been concluded for an indefinite period of time. DB Group will continue to be responsible for sales ledger accounting and the dunning system on behalf of the bank until further notice. The risks relating to the receivables which are sold and which are relevant for the risk assessment are the credit risk and the risk of late payment. The purchase price is equivalent to the nominal amount. DB Group bears bad debt related to credit risks from the various tranches as well as late-payment risks up to a maximum amount of € 160 million. The other bad debts related to the credit risk are borne by the bank. Virtually none of the opportunities and risks associated with the receivables have been transferred or retained (breakdown of major risks between DB Group and bank). For some of the receivables, the right of disposal over the receivables which have been sold has been transferred to the bank as the bank has the actual ability to sell on the receivables. These receivables have been completely derecognized. As of December 31, 2020, outstanding receivables with a volume of € 613 million had been sold (as of December 31, 2019: € 685 million); of this figure, € 224 million (as of December 31, 2019: € 260 million) had been completely derecognized, and € 389 million (as of December 31, 2019: € 425 million) had been derecognized in the amount of the transferred risk. Purchase price payments received by the bank increased the cash flow from operating activities.

The financial receivables and earmarked bank deposits include residual values of € 257 million (as of December 31, 2019: € 156 million) agreed with the public transport authorities for transport contracts. These residual value receivables mainly relate to rolling stock which are sold for a fixed price at the end of the transport contract to the public transport authority or to a third party designated by the public transport authority. In addition, financial receivables and earmarked bank deposits also disclosed a figure of € 231 million for receivables from sub-lease contracts (as of December 31, 2019: € 106 million) as well as a figure of € 38 million for earmarked funds (as of December 31, 2019: € 46 million) which can be used only for contributions for certain retirement benefit plans. A further figure of € 271 million (as of December 31, 2019: € 211 million) relates to cash securities in the form of credit support agreements which in the previous year had been shown under cash and cash equivalents.

The other assets incheck contract fulfillment costs of € 16 million (December 31, 2019: € 21 million).

The recognized impairments for the financial instruments classified in accordance with IFRS 7 have developed as follows:

(€ million)	Trade receivables	Financial receivables and earmarked bank deposits	Receivables from transport concessions	Other assets	Total
As of Jan 1, 2020	-145	-9	0	-46	**-200**
Additions	-42	-2	–	-7	**-51**
Reversals	17	–	0	3	**20**
Amounts used	3	0	–	2	**5**
Changes in the scope of consolidation	1	0	–	0	**1**
Currency translation differences	2	0	–	1	**3**
As of Dec 31, 2020	**-164**	**-11**	**–**	**-47**	**-222**
As of Jan 1, 2019	-142	-10	–	-31	**-183**
Additions	-28	–	0	-20	**-48**
Reversals	20	–	–	4	**24**
Amounts used	5	0	–	1	**6**
Changes in the scope of consolidation	0	–	–	0	**0**
Currency translation differences	0	1	–	0	**1**
As of Dec 31, 2019	**-145**	**-9**	**0**	**-46**	**-200**

Receivables for which there are substantial objective indications of an impairment are adjusted appropriately. Risk provisioning for anticipated credit losses is also created for equivalent receivables (portfolios of receivables) which cannot individually be identified as impaired. Any impairments which are recognized are deducted from financial assets on the assets side of the balance sheet. Previous impairments are reversed if the reasons for the original impairments are no longer applicable.

Expenses increased to € 66 million in the year under review for the complete derecognition of receivables and other assets (previous year: € 51 million).

Income of € 5 million was reported for amounts received in relation to previously derecognized receivables and other assets (previous year: € 4 million).

For trade receivables, DB Group uses the simplified approach according to IFRS 9 in order to measure the expected loan losses. Accordingly, for all trade receivables, the loan losses expected over the life of the receivables are used for this purpose. For measuring the expected loan losses, trade receivables are pooled on the basis of common credit risk features. The expected loan losses are determined on a collective basis using impairment matrices. These are determined on the basis of the individual segments within DB Group. Within the framework of the Covid-19 crisis, the credit risk markups traded on the market have been updated. The expected loan losses amounted to € 29 million as of December 31, 2020 (as of December 31, 2019: € 22 million).

As of Dec 31, 2020 (€ million)	Net carrying amount	Expected loss rate (%)	Risk provisioning	thereof risk provisioning for past due receivables	thereof risk provisioning for receivables not past due
Trade receivables	4,881	0.59	29	13	16

For financial receivables as well as other financial receivables, the expected impairment requirement for major items was determined in relation to specific receivables. Risk provisioning totaling € 6 million was created for this purpose as of December 31, 2020 (as of December 31, 2019: € 5 million).

As a result of the Covid-19 crisis, the general risk provisioning for anticipated credit losses has been increased overall to € 35 million (as of December 31, 2019: € 28 million).

The following overview shows the maturity structure of the receivables for the financial instruments classified in accordance with IFRS 7 and the advance payments which have been made:

	Residual maturity							
(€ million)	Up to 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	More than 5 years	Total more than 1 year	Total
AS OF DEC 31, 2020								
Trade receivables	4,849	13	10	5	4	0	**32**	**4,881**
Financial receivables and earmarked bank deposits	426	86	56	12	8	268	**430**	**856**
Receivables from transport concessions	76	56	54	53	52	335	**550**	**626**
Advance payments	212	58	–	–	–	–	**58**	**270**
Other assets	1,491	17	21	1	2	29	**70**	**1,561**
Total	**7,054**	**230**	**141**	**71**	**66**	**632**	**1,140**	**8,194**
thereof non-financial assets	584	73	1	1	1	29	**105**	**689**
AS OF DEC 31, 2019								
Trade receivables	4,871	16	13	9	4	4	**46**	**4,917**
Financial receivables and earmarked bank deposits	152	26	31	13	8	174	**252**	**404**
Receivables from transport concessions	37	31	30	29	29	196	**315**	**352**
Advance payments	235	55	–	–	–	–	**55**	**290**
Other assets	1,612	22	8	22	1	35	**88**	**1,700**
Total	**6,907**	**150**	**82**	**73**	**42**	**409**	**756**	**7,663**
thereof non-financial assets	530	64	7	1	1	34	**107**	**637**

The trade receivables were virtually unchanged compared with the previous year. The substantial increase at DB Schenker almost fully compensated for the decline in all other segments.

The current other assets also comprised the customs receivables of the DB Schenker segment. The decline in the other assets was reported particularly in the segment DB Netze Track; an increase was reported in the segment Subsidiaries / Other.

As a result of the large number of customers in the various operating segments, there is no evidence of any concentration of credit risks with trade receivables.

The fair values of the balance sheet items receivables and other assets, trade receivables as well as other receivables and assets essentially correspond to the carrying amounts.

The maximum default risk is essentially equivalent to the carrying amount in each case. No collateral is normally held.

As of the balance sheet date, there were no indications that debtors of the receivables which are neither impaired nor overdue will not meet their payment obligations.

(20) Income tax receivables

The income tax receivables relate to advance payments which have been made as well as allowable withholding taxes.

(21) Derivative financial instruments

Upon conclusion of a contract, derivative financial instruments are generally classified as hedging instruments for hedging the cash flows from contractual obligations or anticipated transactions (cash flow hedge).

CASH FLOW HEDGES

Cash flow hedges are used to provide protection against fluctuations in the cash flows of financial assets or liabilities or anticipated transactions. When future cash flows are hedged, the hedging instruments are also recognized with their fair value. Changes in value are initially recognized in *shareholders' equity with no impact on the income statement, and are only recognized in the income statement at the point at which the corresponding losses or profits from the underlying have an impact on the income statement or the transactions expire. Any ineffectiveness is recognized in the income statement in accordance with IFRS 9.*

DERIVATIVE FINANCIAL INSTRUMENTS WHICH DO NOT SATISFY THE REQUIREMENTS FOR RECOGNIZING HEDGES IN ACCORDANCE WITH IFRS 9

If hedges which in economic terms are used for interest, currency or price hedging do not satisfy the requirements of IFRS 9 for being recognized as a hedge, the changes in value are immediately recognized in the income statement.

CALCULATION OF THE FAIR VALUE

The fair value of financial instruments which are traded in an active market is derived from the market price applicable on the balance sheet reporting date. Common valuation methods such as option price or present-value models are used for determining the fair value of financial instruments which are not traded in an active market. If valuation-relevant parameters are not directly observable on the market, forecasts are used based on comparable financial instruments which are traded in an active market; these forecasts are then adjusted by premiums or discounts on the basis of historical data. The mean value of bid and offer rates are used. Trades for which no premium has been paid have a fair value of zero upon conclusion. DB AG operates with long-dated financial derivatives on a hedged basis, and does not perform any credit risk adjustment for the present value for hedged transactions. For considerations of materiality, no credit risk adjustment is used for short-term derivatives. If credit risk adjustment is used, the relevant discounts are derived from the credit default swap (CDS) figures observable on the market.

All derivatives used in DB Group are measured using common methods such as option price or present value models, because their fair values are not traded on an active market. No parameters from non-observable markets are used for measurement purposes.

The volume of hedges which have been taken out is shown in the following overview of nominal values:

As of Dec 31 (€ million)	Nominal value of hedging instrument 2020	Nominal value of hedging instrument 2019	Residual maturity up to 1 year 2020	Residual maturity up to 1 year 2019	Residual maturity more than 1 year 2020	Residual maturity more than 1 year 2019
INTEREST-BASED CONTRACTS						
Interest swaps	74	84	74	0	0	84
	74	**84**	**74**	**0**	**0**	**84**
CURRENCY-BASED CONTRACTS						
Currency swaps	592	1,149	585	1,149	7	0
Currency forwards	1,762	2,408	1,722	2,335	40	73
Cross-currency swaps	6,290	6,836	230	1,063	6,060	5,773
	8,644	**10,393**	**2,537**	**4,547**	**6,107**	**5,846**

As of Dec 31 (1,000 t)	Volume 2020	Volume 2019	Residual maturity up to 1 year 2020	Residual maturity up to 1 year 2019	Residual maturity more than 1 year 2020	Residual maturity more than 1 year 2019
OTHER CONTRACTS						
Diesel	638	849	78	66	561	783
Hard coal	2,782	3,384	1,054	1,322	1,728	2,062

The volume of interest swaps declined as of December 31, 2020. No new transactions were carried out. The changes in holdings of currency swaps and forwards vary in line with the corresponding hedging requirements of the subsidiaries. The nominal value of the cross-currency swaps declined by € 546 million because, in the year under review, the nominal values of the expiring transactions exceeded the corresponding values of the new transactions which were concluded.

The volume of diesel hedges declined by 0.2 million t to 0.6 million t. The reduced hedging volume for diesel was mainly attributable to the reversal of hedges after the cessation of the Arriva Rail North franchise. The volume of coal hedges declined as of December 31, 2020 by 0.6 million t to 2.8 million t, and reflects a declining consumption forecast.

The following table shows the average hedging prices/hedging rates for the main derivative hedging instruments of DB Group (per currency):

Currency	Hedging price per 1,000 t: Diesel	Hedging price per 1,000 t: Hard coal	Hedging rate: Cross-currency swaps (CCS)	Hedging rate: Interest rate swaps (IRS)	Hedging rate: Currency swaps	Hedging rate: Currency forward
EUR	448.72	60.35	–	0.04	–	–
USD	–	–	1.18	–	1.19	1.21
GBP	409.27	–	0.87	–	0.92	0.91
CHF	–	–	1.17	–	–	1.08
JPY	–	–	119.66	–	–	126.04
AUD	–	–	1.54	–	–	1.62
HKD	–	–	–	–	–	9.45
NOK	–	–	8.84	–	10.54	10.59
SEK	–	–	9.53	–	–	10.12
DKK	3,010.00	–	7.45	–	–	7.44
SGD	–	–	1.56	–	1.62	1.62
NZD	–	–	1.65	–	–	1.72
PLN	1,491.22	–	4.30	–	–	4.45
CZK	10,147.24	–	26.09	–	–	26.25
HUF	–	–	300.20	–	–	357.40
RON	–	–	4.51	–	–	4.89
HRK	–	–	7.44	–	–	7.55
CNY	–	–	–	–	–	8.15
ILS	–	–	–	–	–	3.96
SAR	–	–	4.29	–	–	4.57
AED	–	–	–	–	–	4.46
RUB	–	–	–	–	–	90.42

All derivative financial instruments are marked-to-market on the reporting date. The following overview shows the structure of the item stated in the balance sheet depending on the type of underlying hedge:

As of Dec 31 (€ million)	Assets 2020	Assets 2019	Liabilities 2020	Liabilities 2019
INTEREST-BASED CONTRACTS				
Interest swaps	–	–	0	5
Interest forwards	0	0	–	–
	0	**0**	**0**	**5**
CURRENCY-BASED CONTRACTS				
Currency swaps	0	1	13	16
Currency forwards	9	10	11	9
Other currency derivatives	0	0	0	0
Cross-currency swaps	150	265	283	280
thereof effects from currency hedges	85	294	142	173
	159	**276**	**307**	**305**
OTHER CONTRACTS				
Energy price derivatives	5	39	72	56
	5	**39**	**72**	**56**
Total	**164**	**315**	**379**	**366**
Non-current portion	151	181	319	287
Interest-based contracts	–	–	0	5
Currency-based contracts	148	146	263	248
Other contracts	3	35	56	34
Current portion	13	134	60	79

CASH FLOW HEDGES

In order to minimize the interest rate and exchange rate risk, foreign currency issues as well as intra-Group foreign currency loans are in principle translated into euros, and floating-rate financial liabilities are generally converted into fixed-income financial liabilities. Energy price hedging was intended to reduce price fluctuations attributable to energy sourcing.

The negative valuation of the interest rate swaps were still due to a continuous decline in the level of interest rates since the transactions were concluded. The development in the value of the cross-currency swaps was attributable mainly to the strengthening of the euro against the British pound sterling and the Norwegian krone as well as the expiry of old transactions.

The negative market value of the energy price derivatives reflected the development on the underlying raw materials markets.

The market values of the cash flow hedges are shown as follows under assets and liabilities:

As of Dec 31 (€ million)	Assets 2020	Assets 2019	Liabilities 2020	Liabilities 2019
INTEREST-BASED CONTRACTS				
Interest swaps	–	–	0	5
	–	**–**	**0**	**5**
CURRENCY-BASED CONTRACTS				
Currency swaps	0	1	13	16
Cross-currency swaps	150	265	258	250
	150	**266**	**271**	**266**
OTHER CONTRACTS				
Energy price derivatives	5	39	72	56
Miscellaneous/other derivatives	–	–	0	0
	5	**39**	**72**	**56**
Total	**155**	**305**	**343**	**327**
Non-current portion	151	180	292	257
Interest-based contracts	–	–	0	5
Currency-based contracts	148	145	236	218
Other contracts	3	35	56	34
Current portion	4	125	51	70

Cash flow hedges are not classified under any category of IFRS 9.

The hedged cash flows of the underlyings will probably materialize, and have an impact on the income statement, in the years 2021 to 2039 (interest payments and payments of principal) or in the years 2021 to 2025 (payments for energy).

DETAILS FOR HEDGES AND UNDERLYINGS IN ACCORDANCE WITH IFRS 9

(€ million)	2020 Changes in hedges and underlyings	2020 thereof ineffective (with impact on income statement)	As of Dec 31, 2020 Hedging reserve cash flow hedges	2019 Changes in hedges and underlyings	2019 thereof ineffective (with impact on income statement)	As of Dec 31, 2019 Hedging reserve cash flow hedges
INTEREST-BASED CONTRACTS						
Interest swaps	+5	–	+1	+4	–	-3
CURRENCY-BASED CONTRACTS						
Currency swaps	+2	–	–	-11	–	+5
Cross-currency swaps	-123	-6	-107	+104	+3	-135
OTHER CONTRACTS						
Energy price hedges	-50	–	-71	-27	–	-22

In the case of interest and cross-currency hedges, the effectiveness of the hedge is assessed using the critical terms match method. This method is used because the major valuation parameters of the underlying and hedges are identical. Ineffectiveness is measured as of every balance sheet date by means of the hypothetical derivative method. In this method, the development in value of the hedge which is actually taken out is compared with the development in value of a theoretical hedge in which all valuation-relevant parameters are identical to those of the underlying. In the case of energy price derivatives, the effectiveness of the hedge is assessed using the linear regression. The ineffectiveness is calculated using the dollar-offset method. Under this method, the changes in the market values of the underlying are compared with the changes in the market value of the hedging instrument. The resultant quotient determines the inefficiency.

As in the previous year, the inefficiencies of cash flow hedges of the energy price derivatives recognized in the income statement were of minor significance.

NON-HEDGE DERIVATIVES

Currency forwards taken out to hedge operations are normally classified as non-hedge derivatives.

The market values of the non-hedge derivatives are shown under assets and liabilities as follows:

As of Dec 31 (€ million)	Assets 2020	Assets 2019	Liabilities 2020	Liabilities 2019
INTEREST-BASED CONTRACTS				
Interest forwards	0	0	–	–
	0	**0**	**–**	**–**
CURRENCY-BASED CONTRACTS				
Currency forwards	9	10	11	9
Other currency derivatives	0	0	0	0
Cross-currency swaps	–	–	25	30
	9	**10**	**36**	**39**
OTHER CONTRACTS				
Energy price derivatives	0	0	–	–
	0	**0**	**–**	**–**
Total	**9**	**10**	**36**	**39**
Non-current portion	0	1	27	30
Currency-based contracts	0	1	27	30
Current portion	9	9	9	9

The cross-currency swaps are based on a redesignation of hedges as a result of the transfer of transactions between banks. The conditions including the cash flows of the derivatives were unchanged and the economic hedge is thus still in place. The decline was attributable to the reversal of the redesignated amounts in line with the remaining maturities of the swaps.

The non-hedge derivatives are classified under the category held-for-trading of IFRS 9.

The financial instruments recognized at fair value are classified under valuation level 2 and to a lesser extent under valuation level 1.

As of Dec 31 (€ million)	2020 Level 1	2020 Level 2	2020 Level 3	2020 Total	2019 Level 1	2019 Level 2	2019 Level 3	2019 Total
ASSETS								
Financial assets (securities at fair value)	3	–	–	**3**	3	–	–	**3**
Derivatives – non-hedging	–	9	–	**9**	–	10	–	**10**
Derivatives – hedging	–	155	–	**155**	–	305	–	**305**
Total	**3**	**164**	**–**	**167**	**3**	**315**	**–**	**318**
LIABILITIES								
Derivatives – non-hedging	–	36	–	**36**	–	39	–	**39**
Derivatives – hedging	–	343	–	**343**	–	327	–	**327**
Total	**–**	**379**	**–**	**379**	**–**	**366**	**–**	**366**

There have been no reclassifications between the valuation levels in the year under review.

For establishing the fair values of the derivative financial instruments, contractually agreed or most probable cash flows are discounted using the appropriate market interest rate, whereby due consideration is given to the credit risk by means of credit spreads. No credit risk markdowns have been recognized in the case of secured exposures. The credit risk resulting from the derivative portfolio is treated on a net basis. Credit support annexes, which are subject to daily security settlement with a threshold value of € 0, were concluded to minimize the credit risk of long-term interest and cross-currency transactions.

(22) Cash and cash equivalents

This item comprises cash in hand and checks, deposits at banks which are due on sight, as well as time deposits with a term of up to three months.

Cash and cash equivalents are recognized with their nominal value (at amortized cost).

Cash and cash equivalents are broken down as follows:

As of Dec 31 (€ million)	2020	2019
Cash in hand and bank deposits	3,411	3,992
Cash equivalents	0	1
Total	**3,411**	**3,993**

The interest rates for short-term bank deposits were in a range of between −0.60% and −0.05% (previous year: −0.55% to −0.17%) and relate to euro-denominated investments. The terms of the investments are between one day and three months.

With regard to cash and cash equivalents, please refer to section *Notes to the statement of cash flows* 227.

(23) Held-for-sale assets

Under IFRS 5, non-current assets are classified as held-for-sale non-current assets if their carrying amount is to be realized by way of sale and not by way of continued use. This can be an individual asset, a disposal group or part of a company. Non-current held-for-sale assets are stated with the lower of carrying amount or market value less costs which are incurred.

As of December 31, 2020, no held-for-sale assets were shown in the balance sheet.

(24) Subscribed capital

The share capital of DB AG is € 2,150 million. It consists of 430,000,000 no-par-value bearer shares. All shares are held by the Federal Republic of Germany.

(25) Reserves

A) CAPITAL RESERVES

Capital reserves comprise reserves which have not been part of profits. In order to compensate for the loss which was incurred in the year under review, a figure of € 5,439 million (commercial law loss of DB AG) was withdrawn and recognized in the generated profits.

B) RESERVE RESULTING FROM VALUATION WITH NO IMPACT ON PROFIT OR LOSS

Reserve for currency translation differences

The currency translation differences resulting from the method of functional currency (IAS 21) are shown separately as part of consolidated shareholders' equity.

Reserve for market valuation of securities

The reserve includes the changes in the market value of financial instruments to be recognized directly in equity. The reserve has to be reversed to the income statement or eliminated when a financial instrument is sold, became due or was reclassified.

Reserve attributable to the market valuation of cash flow hedges

The development in the reserve is shown in the following:

(€ million)	2020	2019
As of Jan 1	-149	-106
Change in market value	-244	64
RECLASSIFICATIONS		
Financial result	145	-110
Net interest income / loss	-2	2
Cost of materials	78	2
Changes in deferred taxes	1	-1
As of Dec 31	**-171**	**-149**

Reserve for the revaluation of pensions

The effects resulting from the revaluation of defined benefit plans in accordance with IAS 19 (Employee Benefits) are recognized directly in equity.

Other changes in the reserves

This item mainly shows amounts resulting from transactions in relation to reductions or increases in non-controlling interests between the shareholders of DB AG and the non-controlling interests.

(26) Generated profits

The generated shareholders' equity comprises the entire net profits generated since January 1, 1994 less the goodwill offset under HGB up to December 31, 2002 as well as the dividends paid to the shareholder.

In order to compensate for the loss which was incurred in the year under review, a figure of € 5,439 million (commercial law loss of DB AG) was withdrawn from the capital reserve.

This item also shows the impact on shareholders' equity attributable to the first-time adoption of IFRS if they are not included in the reserves attributable to valuation with no impact on the income statement.

(27) Non-controlling interests and hybrid capital

Non-controlling interests comprise the share of third parties in the net assets of consolidated subsidiaries. Third-party interests in the currency reserve amounted to € -12 million (as of December 31, 2019: € -8 million).

In October 2019, Deutsche Bahn Finance GmbH (DB Finance) issued two junior hybrid bonds with a total volume of € 2 billion. The hybrid bonds have undated durations with an initial termination right for the issuer after 5.5 years (coupon: 0.95%) and ten years (coupon: 1.6%) respectively; the issue proceeds amounted to € 997 million and € 995 million respectively. The two hybrid bonds do not have a repayment obligation and do not have a termination right for the holder. In addition, any retained interest payments only have to be made when a dividend is paid. According to IAS 32 (Financial Instruments), the hybrid bonds have to be classified entirely as equity as there is no regular repayment obligation of the hybrid bonds, nor is there any termination right of the bond holders. Interest payments to be made to the bond holders (less the taxes on income) are recognized directly in equity. Interest payments of € 21 million were made in the year under review (previous year: none).

(28) Financial debt

Liabilities are normally recognized in accordance with IFRS 9 with their nominal amount, which corresponds to the fair value at the point at which the liability is initially recognized and the amortized costs of purchase up to the date at which the liability is settled. Financial debt and other non-current liabilities, when initially recognized, are stated with the amount which corresponds to the fair value of the received assets, where appropriate less transaction costs. Subsequently, they are stated using amortized costs of purchase using the effective interest method. The differences between the amount paid out less transaction costs and the amount repaid are recognized in the income statement over the life of the liability.

Interest-free loans which are related to infrastructure capital expenditures are recognized with the present value of the amounts to be repaid, and are adjusted to their nominal repayment amount over their life. The difference between the nominal amount of the loan and the present value is recognized as an interest benefit under deferred items. The income from pro rata reversal of these accruals is shown as other operating income.

Liabilities from leases for which a right of use has to be recognized in accordance with IFRS 16 are shown as liabilities at the beginning of the contract duration with the lower of fair value and the present value of the following lease payments: fixed payments less payments of the lessor which are received, variable payments based on an index, expected payments for residual value guarantees, the purchase price for probably exercised purchase options, probable compensation payments in the event of early termination. The measurement of the lease liability also includes lease payments in relation to adequately certain utilization of prolongation options. The leasing installments are broken down into an interest component and a repayment component. The interest component of the leasing installment is recognized in the income statement. The interest rate which is used corresponds to the implied interest rate of the lease or, if this is not known, the maturity-related marginal borrowing rate. Liabilities arising from leases are not classified under any category of IFRS 9.

Some transport contracts comprise the leasing particularly of rail vehicles from transport authorities or from independent financial service providers, whereby the latter receive a capital service guarantee, a redeployment guarantee or similar from the public transport authority. The present value of these payment obligations is shown under the financing liabilities from transport concessions.

The financial debt comprises all interest-bearing liabilities including the interest-free loans stated with their present values. The maturity structure of financial debt is as follows:

(€ million)	Residual maturity Up to 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	More than 5 years	Total more than 1 year	Total
AS OF DEC 31, 2020								
Interest-free loans	153	147	139	136	–	5	**427**	**580**
Senior bonds	1,809	1,543	1,937	1,925	1,942	14,865	**22,212**	**24,021**
Commercial paper	–	–	–	–	–	–	**–**	**–**
Bank borrowings	2,900	402	0	0	0	2	**404**	**3,304**
EUROFIMA loan	200	–	–	–	–	–	**–**	**200**
Leasing liabilities	1,078	739	611	434	356	1,713	**3,853**	**4,931**
Financing liabilities from transport concessions	27	27	27	26	25	59	**164**	**191**
Other financial liabilities	87	2	6	0	0	2	**10**	**97**
Total	**6,254**	**2,860**	**2,720**	**2,521**	**2,323**	**16,646**	**27,070**	**33,324**
thereof due to related companies	360	147	139	136	–	5	**427**	**787**
AS OF DEC 31, 2019								
Interest-free loans	159	147	140	133	128	–	**548**	**707**
Senior bonds	2,176	1,802	1,568	1,933	1,529	11,958	**18,790**	**20,966**
Commercial paper	890	–	–	–	–	–	**–**	**890**
Bank borrowings	221	3	401	0	0	1	**405**	**626**
EUROFIMA loan	–	200	–	–	–	–	**200**	**200**
Finance leasing liabilities	1,053	871	630	541	425	1,495	**3,962**	**5,015**
Financing liabilities from transport concessions	13	12	13	13	13	13	**64**	**77**
Other financial liabilities	204	1	0	6	0	1	**8**	**212**
Total	**4,716**	**3,036**	**2,752**	**2,626**	**2,095**	**13,468**	**23,977**	**28,693**
thereof due to related companies	167	348	140	133	128	–	**749**	**916**

The following fair values are summarized compared with the carrying amounts:

As of Dec 31 (€ million)	2020 Carrying amount	2020 Fair value	2019 Carrying amount	2019 Fair value
Interest-free loans	580	633	707	784
Senior bonds	24,021	26,113	20,966	22,498
Commercial paper	–	–	890	890
Bank borrowings	3,304	3,305	626	627
EUROFIMA loan	200	207	200	216
Leasing liabilities	4,931	5,349	5,015	5,408
Financing liabilities from transport concessions	191	208	77	78
Other financial liabilities	97	97	212	213
Total	**33,324**	**35,912**	**28,693**	**30,714**

The differences between the carrying amounts and the fair values of the financial debt are due to the usually changed market interest rates for financial debt with a comparable risk profile. In view of the short maturities involved and also in view of the fact that interest charged is closely linked to market rates, there are no significant differences between the carrying amounts and the fair values of other financial liabilities.

Interest-free loans were also attributable almost exclusively to financing provided by the Federal Government for capital expenditures in expanding and replacing track infrastructure. This is based on the responsibility for the transport needs of the public which is anchored in section 87e (4) of the Basic Law (Grundgesetz; GG) and specified in the Federal Rail Infrastructure Extension Act (Bundesschienenwegeausbaugesetz; BSWAG).

The arrangements for repaying the loans are detailed in individual and collective financing agreements. In general, the loans are repaid in equal annual installments, which are based on the corresponding annual depreciation applicable for the financed assets.

Interest-free loans have developed as follows:

(€ million)	2020	2019
As of Jan 1	707	851
Addition	8	–
Redemption	– 163	– 178
Compounding	28	34
As of Dec 31	**580**	**707**

The issued senior bonds consist of the following transactions:

Senior bonds as of Dec 31 (€ million)	Issue volume	Issue currency	Residual maturity (years)	Effective interest rate (%)	**2020**		2019	
					Carrying amount	**Fair value**	Carrying amount	Fair value
UNLISTED SENIOR BONDS								
DB Finance	1,185	AUD, JPY, EUR	3.4 – 11.8		1,178	1,318	953	1,070
Total					**1,178**	**1,318**	**953**	**1,070**
LISTED SENIOR BONDS OF DB FINANCE								
Bond 2009 – 2021	600	EUR	0.7	4.445	600	621	599	647
Bond 2010 – 2020	500	EUR	0.0	3.572	–	–	499	508
Bond 2010 – 2025	500	EUR	4.5	3.870	498	589	497	602
Bond 2010 – 2020	410	JPY	0.0	1.150	–	–	386	389
Bond 2010 – 2022	500	EUR	1.8	3.464	499	533	499	551
Bond 2010 – 2020	567	CHF	0.0	1.924	–	–	690	698
Bond 2011 – 2021	700	EUR	0.4	3.797	700	712	700	740
Bond 2012 – 2022	496	GBP	1.5	2.821	444	462	469	490
Bond 2012 – 2023	400	EUR	2.1	2.116	399	419	399	425
Bond 2012 – 2024	83	CHF	3.1	1.586	92	98	92	99
Bond 2012 – 2024	500	EUR	3.2	3.119	498	550	498	562
Bond 2012 – 2072	75	GBP	51.9	4.524	66	130	70	118
Bond 2013 – 2028	50	EUR	7.1	2.707	50	59	50	59
Bond 2013 – 2025	202	NOK	4.2	4.017	143	156	152	163
Bond 2013 – 2023	386	CHF	2.6	1.425	439	462	437	466
Bond 2013 – 2026	497	GBP	5.6	3.351	467	543	493	555
Bond 2013 – 2023	500	EUR	2.7	2.578	499	537	499	546
Bond 2013 – 2020	300	EUR	0.0	1.899	–	–	300	305
Bond 2014 – 2024	59	AUD	3.1	5.395	57	63	56	63
Bond 2014 – 2021	142	SEK	0.1	2.940	125	125	120	123
Bond 2014 – 2021	40	SEK	0.1	FRN	35	35	33	34
Bond 2014 – 2024	246	CHF	3.7	1.522	278	298	276	302
Bond 2014 – 2029	500	EUR	8.2	2.886	495	620	494	608
Bond 2014 – 2020	300	EUR	0.0	FRN	–	–	300	301
Bond 2014 – 2022	300	EUR	1.7	FRN	300	302	300	302
Bond 2014 – 2022	300	EUR	1.1	FRN	300	301	300	302
Bond 2015 – 2023	600	EUR	2.8	FRN	599	605	599	606
Bond 2015 – 2025	600	EUR	4.8	1.391	596	642	595	639
Bond 2015 – 2030	366	NOK	9.8	2.760	324	341	344	346
Bond 2015 – 2025	115	AUD	4.8	3.864	113	127	112	123
Bond 2015 – 2030	650	EUR	9.8	1.707	645	760	645	727
Bond 2015 – 2025	161	CHF	4.9	0.143	162	166	161	165
Bond 2016 – 2026	500	EUR	5.2	0.880	497	525	496	518
Bond 2016 – 2031	750	EUR	10.5	0.964	743	817	743	776
Bond 2016 – 2021	350	EUR	0.5	0.040	350	351	350	351
Bond 2016 – 2028	500	EUR	7.7	0.765	495	533	494	518
Bond 2016 – 2024	41	HKD	3.2	2.100	37	38	40	39
Bond 2017 – 2032	79	NOK	11.1	2.514	67	68	71	69
Bond 2017 – 2032	500	EUR	11.9	1.541	498	583	497	552
Bond 2017 – 2025	341	GBP	4.5	1.437	333	349	351	355
Bond 2017 – 2032	55	SEK	11.6	2.226	53	57	51	54
Bond 2017 – 2030	261	CHF	9.9	0.463	278	293	276	288
Bond 2017 – 2024	300	EUR	3.9	FRN	302	303	302	302
Bond 2018 – 2027	1,000	EUR	7.0	1.086	994	1,084	994	1,065
Bond 2018 – 2033	750	EUR	12.6	1.680	745	879	745	842
Bond 2018 – 2028	346	CHF	7.6	0.470	371	390	370	386
Bond 2018 – 2031	500	EUR	10.2	1.508	494	566	493	547
Bond 2018 – 2043	125	EUR	22.9	1.867	125	162	125	144
Bond 2019 – 2028	1,000	EUR	8.0	1.235	992	1,101	991	1,076
Bond 2019 – 2026	340	GBP	5.1	1.944	333	358	351	364
Bond 2019 – 2034	103	NOK	13.1	2.732	95	98	101	101
Bond 2019 – 2029	310	CHF	8.5	0.135	323	331	322	325
Bond 2019 – 2034	133	CHF	13.5	0.516	139	145	138	143
Bond 2019 – 2039	47	SEK	18.4	2.025	50	55	48	49
Bond 2020 – 2035	500	EUR	14.5	0.819	495	538	–	–
Bond 2020 – 2024	300	EUR	3.1	- 0.062	300	302	–	–
Bond 2020 – 2032	150	EUR	11.2	0.257	150	152	–	–
Bond 2020 – 2027	900	EUR	6.3	0.639	892	942	–	–
Bond 2020 – 2040	750	EUR	19.3	1.433	743	884	–	–
Bond 2020 – 2029	850	EUR	8.5	0.411	847	881	–	–
Bond 2020 – 2039	650	EUR	18.5	0.977	638	703	–	–
Bond 2020 – 2035	48	SEK	14.5	1.544	50	50	–	–
Bond 2020 – 2050	1,000	EUR	29.9	0.656	991	1,001	–	–
Total					**22,843**	**24,795**	**20,013**	**21,428**
Adjustments from derivatives					–	–	–	–
Senior bonds, total amount					**24,021**	**26,113**	**20,966**	**22,498**

Four fixed-income listed senior bonds of DB Finance for € 500 million, € 300 million, CHF 750 million (€ 567 million) and JPY 47,100 million (€ 410 million) as well as one variable-interest listed senior bond for € 300 million with a total value of € 2,078 million were repaid as scheduled.

In the year under review, DB Finance issued 11 senior bonds with a total value of € 5,371 million. These comprise nine fixed-income listed senior bonds for € 500 million, € 300 million, € 150 million, € 900 million, € 750 million, € 850 million, € 650 million, SEK 500 million (€ 48 million) and € 1,000 million as well as two fixed-income unlisted senior bonds for JPY 12,000 million (€ 100 million) and AUD 200 million (€ 123 million).

Bank borrowings are detailed in the following table:

Bank borrowing as of Dec 31 (€ million)	Currency	Residual maturity (years)	Nominal interest rate (%)	**2020** Carrying amount	**2020** Fair value	2019 Carrying amount	2019 Fair value
Bank loan 2002–2022	EUR	2.7	FRN	200	200	200	200
Bank loan 2003–2022	EUR	2.7	FRN	200	200	200	200
Bank loan 2020–2021	EUR	0.9	FRN	1,000	1,000	-	-
Bank loan 2020–2021	EUR	0.5	FRN	1,000	1,000	-	-
Bank loan 2020–2021	EUR	0.5	FRN	500	500	-	-
Bank loan 2020–2021	EUR	0.5	FRN	350	350	-	-
Other				54	55	226	227
Total				**3,304**	**3,305**	**626**	**627**

The increase in bank borrowing as of December 31, 2020 essentially resulted from the virtually complete utilization of four short-term credit facilities for a total of € 3,000 million (as of December 31, 2019: € 0), which are designed to bridge liquidity until the measures planned by the government to strengthen the shareholders' equity of DB AG are implemented.

The reduction in other bank borrowings was mainly attributable to a decline in short-term collateral (as of December 31, 2020: € 18 million; as of December 31, 2019: € 176 million) resulting from collateral agreements within the framework of derivative transactions.

Liabilities are not secured in DB Group.

As of December 31, 2020, further guaranteed credit facilities with a total volume of € 4,676 million (as of December 31, 2019: € 4,753 million) were available to DB Group. Of this figure, € 2,080 million (as of December 31, 2019: € 2,080 million) was attributable to back-up lines for the € 3.0 billion commercial paper program of DB AG. None of these back-up lines had been drawn down as of December 31, 2020. Global credit facilities totaling € 2,596 million (as of December 31, 2019: € 2,673 million) are used for working capital and surety for payment financing of subsidiaries with worldwide operations, primarily in the segments DB Schenker and DB Arriva.

The liabilities due to EUROFIMA are detailed in the following:

Liabilities due to EUROFIMA as of Dec 31 (€ million)	Currency	Residual maturity (years)	Nominal interest rate (%)	**2020** Carrying amount	**2020** Fair value	2019 Carrying amount	2019 Fair value
Loan 2010–2021	EUR	0.8	4.050	200	207	200	216
Total				**200**	**207**	**200**	**216**

No new EUROFIMA loans were raised. The liabilities due to EUROFIMA are secured by way of transfer of ownership of rail material (rolling stock) in view of the statutes of EUROFIMA.

Liabilities attributable to leasing *(Note (13)* *→ 203 ff.)* are secured by rights of the lessors in relation to the leased assets. As of December 31, 2020, the leased assets have a carrying amount of € 4,585 million (as of December 31, 2019: € 4,824 million).

The nominal values of the leasing liabilities are broken down as follows:

Leasing liabilities (€ million)	Residual maturity: Up to 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	More than 5 years	Total more than 1 year	Total
AS OF DEC 31, 2020								
Nominal values of lease payments	1,093	807	665	477	390	1,975	**4,314**	**5,407**
AS OF DEC 31, 2019								
Nominal values of lease payments	1,068	955	701	603	472	1,837	**4,568**	**5,636**

The finance liabilities from transport concessions in accordance with IFRIC 12 are detailed in the following:

As of Dec 31 (€ million)	Currency	Residual maturity (years)	2020 Carrying amount	2020 Fair value	2019 Carrying amount	2019 Fair value
Net West locomotives (2016)	EUR	5.0	26	27	31	32
Net West rail cars (2016)	EUR	5.0	6	7	8	8
Net West passenger coaches (2019)	EUR	5.0	31	33	38	38
Diesel network Allgäu diesel traction units (2020)	EUR	9.0	44	49	–	–
S-Bahn (metro) Nuremberg electric traction units (2020)	EUR	10.0	74	81	–	–
S-Bahn (metro) Rhein-Neckar electric traction units (2020)	EUR	14.0	10	11	–	–
Total			**191**	**208**	**77**	**78**

In order to fulfill the regional rail passenger transport services in the network of Schleswig-Holstein, various locomotives, multiple units and (since 2019) also passenger coaches were leased from the responsible contracting organization until the end of the service contract in 2025.

In the year under review, there were additional financing liabilities from service concession arrangements for the diesel network Allgäu with a service contract duration until 2029, for S-Bahn (metro) Nuremberg with a duration until 2030 and, on a pro rata basis, S-Bahn (metro) Rhein-Neckar with a duration until 2034. The finance liabilities from transport concessions are opposed by receivables from transport concessions *(Note (19)* *208 ff.)*.

The fair values of the long-term financial debt are allocated to the following valuation categories:

As of Dec 31 (€ million)	2020 Level 1	2020 Level 2	2020 Level 3	2020 Total	2019 Level 1	2019 Level 2	2019 Level 3	2019 Total
NON-CURRENT FINANCIAL DEBT								
Interest-free loans	–	480	–	**480**	–	625	–	**625**
Senior bonds	4,949	19,322	–	**24,271**	1,908	18,389	–	**20,297**
Bank borrowings	–	405	–	**405**	–	406	–	**406**
EUROFIMA loan	–	207	–	**207**	–	216	–	**216**
Lease liabilities	–	4,271	–	**4,271**	–	4,355	–	**4,355**
Financing liabilities from transport concessions	–	181	–	**181**	–	65	–	**65**
Other financial liabilities	–	10	–	**10**	–	9	–	**9**
Total	**4,949**	**24,876**	**–**	**29,825**	**1,908**	**24,065**	**–**	**25,973**

The interest-free loans shown at amortized cost are established by discounting the nominal values of the interest-free loans broken down into maturity buckets using the DB interest curve (market interest curve plus current DB spread; source: Reuters or Bloomberg).

Market prices from an active market, multiplied by the foreign currency rates applicable on the balance sheet date, are used for senior bonds of DB Finance which are classified as level 1. Various sources are used for these prices, including Thomson Reuters and Bloomberg. The senior bonds for which the market activity does not comply with the requirements of an active market have been allocated to level 2. For establishing the market prices of these senior bonds, binding offers were used from various sources, including Thomson Reuters and Bloomberg; these have been verified on the basis of the valuation models using the parameters which are observable on the market, such as interest rate curves and exchange rates.

Theoretical refinancing via senior bonds of DB Finance are assumed for assessing the market value of outstanding EUROFIMA loans. The reference interest rate which is used is established by interpolation of the yields for matching maturities of senior bonds of DB Finance.

The fair value of the leases and also of the financing liabilities from transport concessions is determined by discounting the outstanding lease payments with the corresponding DB interest rate curves (market interest curve plus current spread; source: Thomson Reuters or Bloomberg).

(29) Other liabilities

Liabilities are normally recognized in accordance with IFRS 9 with their nominal amount, which corresponds to the fair value at the point at which the liability is initially recognized and the amortized costs of purchase up to the date at which the liability is settled, where applicable less transaction costs. Subsequently, non-current liabilities are stated using amortized costs of purchase using the effective interest method. The differences between the amount paid out less transaction costs and the amount repaid are recognized in the income statement over the life of the liability.

The fair values of the balance sheet items miscellaneous liabilities, trade liabilities and other liabilities essentially correspond to the carrying amounts.

Severance package obligations for agreements agreed as of the balance sheet date are recognized as other liabilities and – if they are not yet included in individual agreements and if they are part of a restructuring obligation in accordance with IAS 37 – are stated as other provisions.

Movements in other liabilities are shown in the following:

(€ million)	Residual maturity Up to 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	More than 5 years	Total more than 1 year	Total
AS OF DEC 31, 2020								
Trade liabilities including prepayments received	6,312	478	71	6	4	12	**571**	**6,883**
Miscellaneous and other liabilities	3,308	6	6	6	6	139	**163**	**3,471**
Total	**9,620**	**484**	**77**	**12**	**10**	**151**	**734**	**10,354**
thereof non-financial liabilities	2,287	4	3	3	2	8	**20**	**2,307**
thereof prepayments received	364	4	3	3	2	8	**20**	**384**
thereof due to related parties	245	–	–	–	–	–	**–**	**245**
AS OF DEC 31, 2019								
Trade liabilities including prepayments received	5,789	184	39	6	4	14	**247**	**6,036**
Miscellaneous and other liabilities	3,432	2	1	5	4	79	**91**	**3,523**
Total	**9,221**	**186**	**40**	**11**	**8**	**93**	**338**	**9,559**
thereof non-financial liabilities	2,435	2	1	2	2	9	**16**	**2,451**
thereof prepayments received	363	2	1	2	2	9	**16**	**379**
thereof due to related parties	251	1	–	–	–	–	**1**	**252**

A figure of € 847 million shown for the increase in trade liabilities, € 360 million was attributable to the segment DB Regional, and related in particular to the procurement of rail vehicles. Please also refer to *Segment information according to segments* *188 f.*

Non-financial liabilities and received prepayments are not classified under any category of IFRS 9.

The miscellaneous and other liabilities were broken down as follows:

As of Dec 31 (€ million)	**2020**	2019
PERSONNEL-RELATED LIABILITIES		
Unused holiday entitlements	292	400
Outstanding overtime	258	273
Social security	124	133
Severance payments	29	20
Christmas bonuses	11	8
Holiday pay	25	25
Other personnel obligations	799	832
OTHER TAXES		
Value-added tax	71	80
Payroll and church taxes, solidarity surcharge	176	166
Miscellaneous other taxes	143	134
Interest payable	164	173
Revenue reductions	46	63
Deferred construction grants	262	237
Liabilities due to Railway Crossings Act	3	1
Reconveyance obligations	–	4
Miscellaneous other liabilities	1,068	974
Total	**3,471**	**3,523**

The decline in personnel liabilities was due to the reduction of unused holiday entitlements and overtime. The other personnel obligations included mainly bonus obligations.

As of December 31, 2020, other liabilities were secured in an amount of € 0 million (as of December 31, 2019: € 0 million).

The miscellaneous other liabilities included existing risks for factoring agreements.

(30) Income tax liabilities

The income tax liabilities as of December 31, 2020 related mainly to obligations to the fiscal authorities in the United Kingdom, Germany and India.

(31) Pension obligations

DB Group grants post-employment benefits to its employees in numerous countries. The form of the pension commitments depends on the legal, economic and tax conditions applicable in the particular country.

In DB Group, there are defined benefit as well as defined contribution retirement pension systems. The defined benefit commitments are accounted for in accordance with IAS 19. Major pension obligations exist only in Germany and in the United Kingdom. For this reason, only these pension obligations are described in greater detail in the following.

GERMANY

Pension obligations of DB Group in Germany comprise pension obligations for civil servants and also for employees.

After they retire, civil servants assigned to the companies of DB Group receive pensions from the BEV under the Civil Servants Benefits Act (Beamtenversorgungsgesetz).

Only while the assigned civil servants are actively working for DB Group are payments made to the Federal Railroad Fund as part of a pro forma settlement in the same way as for newly recruited employees (section 21 (1) DBGrG). This also includes theoretical amounts for contributions to statutory pension insurance schemes as well as theoretical costs in accordance with the collective bargaining agreements regarding the additional company pension scheme for employees of DB AG (Tarifvertrag über die betriebliche Zusatzversorgung; ZVersTV) and company retirement benefit scheme (Tarifvertrag über die betriebliche Altersvorsorge; bAV-TV) of the employees of DB AG. The payments made to the Federal Railroad Fund for retirement pensions of civil servants are defined contribution retirement schemes.

The pension obligations with regard to employees mainly relate to the following:

a) Employees who were employed by Deutsche Bundesbahn before DB AG was established (January 1, 1994) enjoy supplementary benefits in view of their former membership of the public sector. The employees are entitled to benefits from this additional pension insurance from Deutsche Rentenversicherung Knappschaft-Bahn-See (KBS). As an official authority, KBS has not only assumed responsibility for managing and paying the statutory pension for DB Group employees; it also continues the additional pension insurance for the transferred employees who are beneficiaries.

During the active phase of the employment agreement, a pro forma reimbursement of costs is also provided to the BEV for these employees. When the employee retires, this payment is no longer made to the BEV.

The BEV bears the costs of these additional benefits, less the contribution made by the employees themselves (section 14 (2) DBGrG). Accordingly, DB AG does not set aside any provisions for these public sector benefits.

b) Employees of the former Deutsche Reichsbahn and the employees who have been recruited after January 1, 1994 receive an additional company pension from DB AG within the framework of the ZVersTV. This supplementary company pension is a defined benefit scheme, which is linked to salary and length of service. The current pension benefits are adjusted every year in line with the regulations of the Company Pensions Act (Betriebsrentengesetz). Retirement benefits, invalidity benefits and benefits to surviving dependants are provided in the form of a lifetime pension. No plan assets are created for this scheme.

In addition, the employees in most Group companies receive a monthly contribution to the company retirement benefit scheme in the amount of 3.3 % of the employee's monthly standard salary as well as of most of the salary elements paid in the month. The monthly payment is paid into a pension scheme (DEVK-Pensionsfonds). It is not necessary for provisions to be created for this purpose.

c) Various defined benefit pension obligations exist with regard to senior executives in DB Group who were granted a senior executive commitment before January 1, 2007. The extent of the benefits depend on the length of service and the salary of the beneficiary. In general, retirement benefits, invalidity benefits and benefits to surviving dependants are provided in the form of a lifetime pension. Apart from a small number of reinsurance policies, there are no plan assets.

d) Senior executives of DB Group who were granted a senior executive commitment after December 31, 2006, are provided with a retirement benefit scheme in the form of a defined contribution commitment. For this purpose, a benefit module is calculated in each year of service, depending on the salary and age of the beneficiaries. These benefits are financed by way of a contractual trust arrangement (CTA), namely Deutsche Bahn Pension Trust e.V. The extent of the benefits depends on the yield of the CTA, whereby a minimum return is guaranteed (guarantees up to and including 2014: 2.25 % per annum; guarantees from 2015 onwards: only maintenance of contribution). To avoid longevity risks, the benefits are granted in the form of a five-year installment. The assets of the CTA are classified as plan assets. The pension obligation is covered by the plan assets on the assumption that the CTA produces a corresponding performance, thus minimizing investment risks. There are no legal or regulatory obligations requiring Deutsche Bahn Pension Trust e.V. to make minimum payments into the scheme. The contributions are invested in line with the fundamental assumption that the benefit commitment is guaranteed by a corresponding guarantee element. For each payment relating to the individual beneficiary, an age-related amount is invested in prime zero bonds. The investment amount remaining after the payment has been made into the guarantee element is mainly invested in passively managed European equity and bond funds (or equivalent products) with the aim of optimizing returns.

e) Senior executives are able to participate in a deferred compensation program. This employee-financed form of company pension scheme constitutes a defined benefit obligation.

UNITED KINGDOM

a) The company pension scheme of DB Cargo (UK) Holdings Limited is essentially a defined benefit pension scheme (linked to salary and length of service) within the British Railway Pension Scheme. The plan assets are managed by an independent trustee. The process of collating the data of members in the plan for the purpose of compliance with legal requirements in relation to the members of the plan is generally carried out every three years. As of the intermediate valuation dates, the obligations in the plan are measured on the basis of the correspondingly updated data. The pension scheme is based on final salary, and lifetime pensions are provided as benefits. The pension obligations are essentially covered by plan assets. Capital is invested by the trustee of the plan assets following liaison with DB Group.

b) At DB Arriva, there are mainly defined benefit retirement benefit commitments. Important defined benefit plans (related to salary and length of service) relate to employees of DB Arriva within the Railway Pension Scheme in the United Kingdom. These are sections other than the DB Cargo UK scheme within the Railway Pension Scheme. The costs of the pension schemes are shared between the employer and the employee in the ratio 60:40 and accordingly recognized in the balance sheet. The pension scheme is based on final salary, and lifetime pensions are provided as benefits. The pension obligations are essentially covered by plan assets. Capital is invested by the trustee of the plan assets following liaison with DB Group.

Some companies pay contributions within the framework of a franchise agreement to the British Railway Pension Scheme for employees employed for the duration of the agreement (franchise period). The obligations to these employees as well as the plan assets are completely disclosed after deduction of the element financed by the employees (40 %). Within the framework of recognizing the effect of franchise agreements, the present value of the contributions payable for the duration of the franchise agreements for reducing a scheme deficit remains as a net liability recognized in the balance sheet. The current contributions to the benefit scheme are shown as personnel expenses.

In addition, individual companies of DB Arriva also issued defined contribution retirement benefit commitments to their employees. Under such arrangements, the employer does not enter into any obligations apart from paying contributions to an external benefit scheme. The extent of the future pension benefits depends exclusively on the amount of contributions paid to the external benefit scheme, including the income generated by investing these contributions.

In addition, some contributions have also been paid to social pension funds within the context of statutory regulations (government schemes).

CRITICAL ASSESSMENTS AND APPRAISALS

In the case of the defined benefit pension obligations in Germany and abroad, the actuarial risks are borne by DB Group. Actuarial methods have been used for measuring defined benefit pension commitments as well as benefit commitments which are similar to pensions and the resultant expenses and income. The valuations are based on actuarial assumptions. There are the following actuarial risks which are considered to be typical for companies with defined benefit schemes:

- *Interest risk: The discount factors which are used reflect the interest rates (giving due consideration to the duration of the underlying obligation) which are achieved on the balance sheet date for high-quality fixed-income senior bonds with a corresponding term. A change in the discount rate results in a change in the present value of the total obligation (DBO).*
- *Inflation risk: Part of the pension obligations, particularly as a result of adjustments to current pensions, is linked to the development of inflation.*
- *Longevity risk: A longevity risk may occur in the form of extended periods in which pensions are paid out as a result of an increase in life expectancy in future.*
- *Investment risk: In the case of externally financed pension plans, the values of the corresponding plan assets or the refund claims are based on the market values as of the balance sheet date. The capital investment is exposed to numerous risks, which may have an impact on the present value recognized for the plan assets. In the case of pension schemes with an obligation to pay into the scheme, the amount of future contributions may be affected by the investment risk.*

Key assumptions for expenses and income attributable to pension commitments and benefit commitments similar to pensions are to some extent based on current market conditions. Expenses and income relating to pension commitments and benefit commitments similar to pensions may change as a result of changes to these underlying key assumptions.

The figures stated for pension provisions in the balance sheet are detailed in the following:

	Germany		Europe (excluding Germany)		Rest of world		**Total**	
As of Dec 31 (€ million)	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	**2019**
Funded obligations	427	368	6,511	7,652	66	70	**7,004**	**8,090**
Unfunded obligations	5,103	4,303	398	345	13	11	**5,514**	**4,659**
Total obligations	**5,530**	**4,671**	**6,909**	**7,997**	**79**	**81**	**12,518**	**12,749**
Fair value of plan assets	-314	-273	-4,503	-5,722	-37	-39	**-4,854**	**-6,034**
Effects due to cost sharing	–	–	-477	-554	–	–	**-477**	**-554**
Effects due to franchise agreements	–	–	-690	-831	–	–	**-690**	**-831**
Amount not recognized as an asset as a result of the restriction of IAS 19.58	–	–	0	0	–	–	**0**	**0**
Assets recognized in the balance sheet as pension assets	–	–	20	24	–	–	**20**	**24**
Net obligations recognized in the balance sheet	**5,216**	**4,398**	**1,259**	**914**	**42**	**42**	**6,517**	**5,354**

The total pension commitment has developed as follows:

	Germany		Europe (excluding Germany)		Rest of world		**Total**	
(€ million)	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	**2019**
Obligations as of Jan 1	4,671	3,998	7,997	6,571	81	66	**12,749**	**10,635**
Service cost, excluding employee contributions	178	143	68	75	4	4	**250**	**222**
Employee contributions	2	2	33	43	0	0	**35**	**45**
Interest expense	51	67	84	129	1	1	**136**	**197**
Payments	-87	-83	-173	-184	-5	-4	**-265**	**-271**
thereof pensions	-87	-83	-173	-184	-5	-4	**-265**	**-271**
thereof payments for settlements	0	0	–	–	0	–	**0**	**0**
Past service costs and profit or losses from settlements	7	0	0	22	0	0	**7**	**22**
Transfers	2	2	-2,009	0	2	–	**-2,005**	**2**
Actuarial gains (-)/losses (+)	706	542	1,289	993	1	10	**1,996**	**1,545**
Revaluations based on experience	5	15	14	116	-8	0	**11**	**131**
Due to change in demographic assumptions	-4	2	-18	-75	0	0	**-22**	**-73**
Due to change in financial assumptions	705	525	1,293	952	9	10	**2,007**	**1,487**
Effects from changes in exchange rates	–	–	-380	348	-5	4	**-385**	**352**
Obligations as of Dec 31	**5,530**	**4,671**	**6,909**	**7,997**	**79**	**81**	**12,518**	**12,749**

The figures shown in the year under review under transfers in the preceding and following tables mainly relate to the cessation of the Arriva Rail North franchise.

In the year under review, the duration of the company pension subsidy was extended by a period of two years as a result of collective bargaining.

The resultant additional obligations were fully funded in 2020 by way of past service costs to be recognized in the income statement. The impact on profits amounted to € 7 million over the entire DB Group.

The development of the plan assets is detailed in the following:

	Germany		Europe (excluding Germany)		Rest of world		**Total**	
(€ million)	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	**2019**
Fair value of plan assets as of Jan 1	273	225	5,722	4,505	39	36	**6,034**	**4,766**
Employer contributions	30	27	84	521	4	2	**118**	**550**
Employee contributions	1	1	33	43	0	0	**34**	**44**
Expected return from plan assets	3	4	72	105	1	1	**76**	**110**
Payments	-10	-6	-161	-172	-4	-4	**-175**	**-182**
thereof pensions	-10	-6	-161	-172	-4	-4	**-175**	**-182**
Transfers	0	-	-1,210	-	-	-	**-1,210**	**-**
Changes in scope of consolidation	0	-	-	-	-	-	**0**	**-**
Revaluation	17	22	263	469	1	2	**281**	**493**
Administrative costs: costs of pension assurance	-	-	-9	-9	-1	0	**-10**	**-9**
Effects from changes in exchange rates	-	-	-291	260	-3	2	**-294**	**262**
Fair value of plan assets as of Dec 31	**314**	**273**	**4,503**	**5,722**	**37**	**39**	**4,854**	**6,034**

The employer contributions have declined appreciably. In the previous year, they contained one-off contributions of € 391 million to the plan assets of certain benefit schemes of DB Arriva in the United Kingdom.

The reported plan assets are broken down as follows:

	Germany		Europe (excluding Germany)		Rest of world		**Total**	
As of Dec 31 (€ million)	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	**2019**
Stocks and other securities	10	9	2,334	3,370	14	14	**2,358**	**3,393**
thereof with market price listing	10	9	2,334	3,370	14	14	**2,358**	**3,393**
Interest-bearing securities	202	159	1,482	1,310	19	22	**1,703**	**1,491**
thereof with market price listing	202	159	1,482	1,310	19	22	**1,703**	**1,491**
Reinsurance	70	76	192	179	-	-	**262**	**255**
thereof with market price listing	70	76	174	117	-	-	**244**	**193**
thereof without market price listing	-	-	18	62	-	-	**18**	**62**
Private equity	-	-	173	313	-	-	**173**	**313**
thereof without market price listing	-	-	173	313	-	-	**173**	**313**
Investments in infrastructure	-	-	178	162	-	-	**178**	**162**
thereof with market price listing	-	-	178	162	-	-	**178**	**162**
Cash and other assets	32	29	144	388	4	3	**180**	**420**
thereof with market price listing	32	29	62	311	2	2	**96**	**342**
thereof without market price listing	-	-	82	77	2	1	**84**	**78**
	314	**273**	**4,503**	**5,722**	**37**	**39**	**4,854**	**6,034**
thereof assets classified as pension assets	0	0	-20	-24	-	-	**-20**	**-24**
	314	**273**	**4,483**	**5,698**	**37**	**39**	**4,834**	**6,010**

Changes in the net pension provisions are detailed in the following:

	Germany		Europe (excluding Germany)		Rest of world		**Total**	
(€ million)	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	**2019**
Provisions as of Jan 1	4,398	3,773	914	1,020	42	30	**5,354**	**4,823**
Pension expenses	234	207	89	130	5	4	**328**	**341**
thereof service cost	179	144	68	75	4	4	**251**	**223**
thereof interest income and interest expenses	48	63	12	24	0	0	**60**	**87**
thereof administrative expenses	–	–	9	9	1	0	**10**	**9**
thereof past service costs and profits or losses from settlements	7	0	0	22	0	0	**7**	**22**
Employer contributions	- 30	- 27	- 84	- 520	- 4	- 2	**- 118**	**- 549**
Payments	- 77	- 77	- 12	- 12	- 1	0	**- 90**	**- 89**
thereof pensions	- 77	- 77	- 12	- 12	- 1	0	**- 90**	**- 89**
thereof for settlements	0	0	–	–	0	–	**0**	**0**
Transfers	2	2	- 4	0	2	–	**–**	**2**
Revaluation	689	520	378	247	0	8	**1,067**	**775**
Revaluations based on experience	5	15	- 42	65	- 8	0	**- 45**	**80**
Due to change in demographic assumptions	- 4	2	- 13	- 47	0	0	**- 17**	**- 45**
Due to change in financial assumptions	705	524	682	590	9	10	**1,396**	**1,124**
Difference between actual income and theoretical income from plan assets	- 17	- 21	- 249	- 361	- 1	- 2	**- 267**	**- 384**
Effects from changes in exchange rates	–	–	- 18	26	- 2	2	**- 20**	**28**
Change in recognized assets	–	–	- 4	23	–	–	**- 4**	**23**
Provisions as of Dec 31	**5,216**	**4,398**	**1,259**	**914**	**42**	**42**	**6,517**	**5,354**

The effects of cost splitting and franchise agreements increased by € 648 million as of December 31, 2020 as a result of revaluations (as of December 31, 2019: € 277 million). The interest expense and expected income from the plan assets were recorded under net interest income.

All other items were recognized under personnel expenses.

The actuarial parameters used for assessing the value of most of the pension provision are set out in the following:

(%)	**2020**	2019
INTEREST RATE		
Germany and abroad (excluding United Kingdom)	0.30	1.10
United Kingdom	1.30	1.90
EXPECTED RATE OF SALARY INCREASES		
Germany and abroad (excluding United Kingdom)	3.10	3.10
United Kingdom	3.10	3.10
EXPECTED RATE OF PENSION INCREASE (DEPENDENT ON STAFF GROUP)		
Germany and abroad (excluding United Kingdom)	1.75	2.00
United Kingdom	2.10	2.10

The 2018 G mortality tables of Professor Dr. Klaus Heubeck have been used without changes for valuing the pension obligations for the German Group companies. Country- or benefit-scheme-specific mortality tables have been used for valuing the pension obligations of the other Group companies.

Sensitivities and additional information:

As of Dec 31 (€ million)	**2020**	2019
Total obligation for an interest rate increased by 1 percentage point	10,252	10,427
Total obligation for an interest rate reduced by 1 percentage point	15,563	15,853
Total obligation with salary growth increased by 0.5 %	12,678	12,996
Total obligation for pensions increased by 0.5 %	13,393	13,622
Total obligation for life expectancy increased by 1 year	12,935	13,189
Total obligations	12,519	12,749
thereof active beneficiaries	6,322	6,905
thereof former employees	2,052	1,934
thereof pensioners	4,145	3,910
Payments into plan assets expected for next year	109	126
Direct pension payments for next year	89	108
Duration of benefit obligation (years)	20.5	21.2

The sensitivity figures have been established using the method which was used for calculating the extent of the obligation. One assumption was modified while the other assumptions were retained, which means that interdependencies between the individual assumptions were disregarded.

(32) Other provisions

Other provisions are set aside if there is a legal or constructive obligation resulting from a past event which is more than 50 % likely to result in an outflow of resources and if the extent of the obligation can be reliably estimated (IAS 37 – Provisions, Contingent Liabilities and Contingent Assets).

Non-current provisions are discounted using market interest rates. Environmental protection provisions for the rehabilitation of existing ecological legacy issues are discounted on the basis of real interest rates, which are adjusted to reflect the risk and the period until fulfillment. A difference between the nominal value of the expected outflows and the present value recognized for the environmental protection provisions of DB AG for transferred liabilities for the elimination of legacy issues from the time previous to the foundation of DB AG would be stated under deferred items, and would thus represent the interest benefit resulting from the longer-term release of the provision. The cumulative interest expense attributable to other provisions is recognized in financial result. Provisions for potential losses are measured as the lower of the amount of the expected costs for fulfilling the agreement and the expected costs for terminating the agreement.

CRITICAL ASSESSMENTS AND APPRAISALS

The process of determining all types of provisions is associated with estimates regarding the extent and/or timing of obligations.

The environmental protection provisions relate primarily to the obligation of DB AG to remedy the ecological burdens which arose before January 1, 1994 on the land of the former Deutsche Bundesbahn and the former Deutsche Reichsbahn. Ecological burdens are defined as contamination of soil and groundwater which requires rehabilitation and which pose risks, considerable disadvantages or considerable problems for private individuals or society at large. The legal basis for defining rehabilitation obligations are summarized in the soil and water laws of the Federal Government and the Federal states. The process of dealing with ecological burdens also comprises necessary rehabilitation measures for existing sewers, in order to avoid soil and groundwater contamination caused by leaks from the sewer system, as well as measures for shutting down old landfill sites.

The provision has been calculated on the basis of a discounting method using the present value, where rehabilitation measures are probable, the rehabilitation costs can be reliably estimated and no future benefit is expected to be derived from these measures.

The estimation of future rehabilitation costs is subject to various factors. Major drivers in this respect can be the application of innovative rehabilitation measures, changes in legal conditions and also the development in market prices for disposing of legacy issues. In order to make a realistic assessment of the rehabilitation costs in individual cases, the working programs have included adjustments to cost estimates as a result of greater knowledge and official agreements in the successive processing stages.

For the valuation of provisions as of the balance sheet date, the investigation and rehabilitation obligations which are currently known have been used as the basis for estimating the expected costs in relation to the current price level. The provision is discounted on the basis of expected cash outflows, using a risk-adjusted rate of 0.00 % (previous year: 0.73 %).

Provisions for potential losses from pending transactions are created if a loss is probable and can be reliably estimated. In view of the uncertainty associated with this assessment, the actual losses may differ from the original estimates and may thus also differ from the amount of the provision. In DB Group, such uncertainty results particularly from the estimates of future income from transport contracts, the associated material- and personnel-related expenses as well as any penalty payments. Changes in the estimates of these potential losses from pending transactions may have a considerable impact on the future results of operations.

The provisions for decommissioning are measured mainly on the basis of estimates which, for decommissioning and disposal costs, are derived mainly from sector-specific appraisals. The provisions are shown with their discounted settlement amount at the point at which they originate.

Movements in other provisions are shown in the following:

	Personnel-related provisions		Revenue reductions		Provisions for pending losses		Decommissioning provisions		Environmental protection provisions		Other provisions		**Total**	
(€ million)	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	2019	**2020**	**2019**
As of Jan 1	941	998	1,356	1,298	405	396	368	326	971	1,010	1,057	1,040	**5,098**	**5,068**
Currency translation differences	- 1	1	0	0	- 11	12	–	0	0	0	- 10	3	**- 22**	**16**
Changes in scope of consolidation	0	–	–	–	1	–	–	–	–	–	2	–	**3**	**-**
thereof additions	–	–	–	–	1	–	–	–	–	–	2	–	**3**	**-**
thereof disposals	0	–	–	–	–	–	–	–	–	–	0	–	**0**	**-**
Amounts used	- 281	- 284	- 321	- 331	- 234	- 165	- 37	- 6	- 48	- 48	- 180	- 206	**- 1,101**	**- 1,040**
Reversals	- 39	- 58	- 58	- 123	- 12	- 64	–	0	0	0	- 70	- 129	**- 179**	**- 374**
Reclassifications	14	- 2	1	–	0	1	–	0	0	2	6	- 14	**21**	**- 13**
Additions	304	279	807	512	453	223	5	31	1	0	502	352	**2,072**	**1,397**
Compounding and discounting	4	7	–	–	2	2	73	17	61	7	9	11	**149**	**44**
As of Dec 31	**942**	**941**	**1,785**	**1,356**	**604**	**405**	**409**	**368**	**985**	**971**	**1,316**	**1,057**	**6,041**	**5,098**

The following table breaks down the other provisions into current and non-current amounts, and also details their estimated residual maturity:

	Residual maturity							
(€ million)	Up to 1 year	1 to 2 years	2 to 3 years	3 to 4 years	4 to 5 years	More than 5 years	Total more than 1 year	Total
AS OF DEC 31, 2020								
Personnel-related provisions	369	143	101	65	50	214	**573**	**942**
Revenue reductions	1,785	–	–	–	–	–	**–**	**1,785**
Provisions for pending losses	296	84	63	65	51	45	**308**	**604**
Decommissioning provisions	30	35	37	37	37	233	**379**	**409**
Environmental protection provisions	58	58	58	57	57	697	**927**	**985**
Other provisions	927	38	30	29	39	253	**389**	**1,316**
Total	**3,465**	**358**	**289**	**253**	**234**	**1,442**	**2,576**	**6,041**
AS OF DEC 31, 2019								
Personnel-related provisions	363	156	104	66	52	200	**578**	**941**
Revenue reductions	1,356	–	–	–	–	–	**–**	**1,356**
Provisions for pending losses	296	30	23	19	16	21	**109**	**405**
Decommissioning provisions	29	23	19	19	19	259	**339**	**368**
Environmental protection provisions	57	55	56	55	55	693	**914**	**971**
Other provisions	751	37	28	25	25	191	**306**	**1,057**
Total	**2,852**	**301**	**230**	**184**	**167**	**1,364**	**2,246**	**5,098**

PERSONNEL-RELATED PROVISIONS

Benefits arising on the occasion of the termination of employment agreements (severance packages) become payable if employees are released from their duties under the terms of an early-retirement or semi-retirement scheme before reaching normal pensionable age (which would not involve any reduction of retirement benefits) or if employees voluntarily terminate their employment contract in return for a severance package. Severance payments are recognized if there is a demonstrable obligation either to terminate the employment agreements of current employees in accordance with a detailed formal plan which cannot be reversed or to pay severance payments if the employment contract is voluntarily terminated by employees within the framework of employment contract termination agreements.

Severance package obligations for agreements agreed as of the balance sheet date are recognized as other liabilities and – if they are not yet included in individual agreements and if they are part of a restructuring obligation in accordance with IAS 37 – are stated as other provisions.

Semi-retirement agreements are based on the so-called block model. The top-up amounts paid in addition to salary by DB Group during the semi-retirement period as well as additional contributions to the statutory pension insurance scheme are collected in installments up to the end of the active phase of the semi-retirement period and are recognized as provisions in accordance with IAS 19. The compensation backlog (plus the employer's contributions to social insurance) for the additional work performed during the employment phase is also shown with the present pro rata value as another non-current employee benefit.

If certain conditions are satisfied, DB Group offers its employees the opportunity to reduce their working hours to a level below their regular working hours (special semi-retirement arrangement). In these cases, the number of working hours is reduced to 81% of the reference or regular working hours, whereby the employees' remuneration is topped up to 90%. Payments into the company pension scheme are granted on the basis of 100% of the reference or regular working hours.

The personnel-related provisions were structured as follows:

As of Dec 31 (€ million)	2020	2019
Contractual personnel obligations	442	485
Early retirement and semi-retirement obligations	202	207
Service anniversary provisions	123	121
Other	175	128
Total	**942**	**941**

The personnel-related provisions include obligations arising from employment agreements which result from the entitlement of many employees under labor law and the willingness of DB AG not to terminate employment contracts for operational reasons. In such cases, DB Group will incur losses in the form of personnel expenses which will have to be borne until the employment contract is terminated or the employee is placed with another company; no reciprocal benefit will be provided in return for these costs (obligation surpluses relating to employment agreements). The contractual personnel obligations also include restructuring provisions.

A figure of about € 374 million was allocated to the provision for obligation surpluses from employment arrangements as of December 31, 2020; this item accounted for a considerable percentage of the personnel provisions in DB Group (as of December 31, 2019: € 396 million). This provision recognizes the personnel-related obligations of DB AG for the employment guarantee included in the collective bargaining agreement designed to address demographic change (Demografietarifvertrag; DemografieTV).

In the DB Schenker segment, there were personnel restructuring provisions of € 36 million as of December 31, 2020 (as of December 31, 2019: € 53 million), mainly for the global restructuring program Boost designed to enhance profitability.

The provisions set aside to cover semi-retirement and early retirement obligations cover the obligations arising from collective bargaining agreements, and have mostly been calculated on the basis of actuarial reports. In the regulations of the DemografieTV, this includes an amount of € 87 million (as of December 31, 2019: € 79 million) for the entitlement of employees with many years of service and also many years of shift working to enjoy special semi-retirement benefits. Within the framework of the collective bargaining negotiations for the demographic model, it was agreed that the instrument of special semi-retirement would be extended by two additional age groups. This is the reason behind the higher allocation.

REVENUE REDUCTIONS

The considerable increase in the revenue reductions was mainly attributable to reductions at DB Regional in connection with concession fees due to the impact of the Covid-19 pandemic as well as repayment risks from the local public transport rescue package which is intended to alleviate the impact of the Covid-19 related consequences for the sector.

PROVISIONS FOR PENDING LOSSES

The provisions for pending losses mainly relate to transport contracts in which obligation surpluses build up over the life of the contracts. The additions related mainly to DB Arriva and DB Regional.

As of December 31, 2020, amounts of € 280 million (DB Regional) and € 118 million (DB Arriva) were allocated to these provisions. This was due to various factors, including assumptions regarding reduced revenues from fares in future as well as higher maintenance expenses and higher energy prices. In particular, the estimates regarding the development of future revenues from fares are subject to particular uncertainty due to the Covid-19 crisis.

DECOMMISSIONING PROVISIONS

The decommissioning provisions referred to the company's pro rata decommissioning obligation in relation to a joint power generation plant. They have been discounted with a real rate of 0.00 %.

PROVISIONS FOR ENVIRONMENTAL PROTECTION

Of the figure stated for environmental protection provisions, € 976 million (as of December 31, 2019: € 962 million) relate to remedial action obligations of DB AG. The increase was attributable to the interest effect due to the reduction of the interest rate to 0.00 %. In order to take account of the remedial action obligations recognized in the environmental protection provisions, DB AG has set up various programs, including the following:

- the 4-stage soil decontamination program
- the 3-stage sewerage network program
- the 2-stage landfill shut-down program

The structured processing ensures that the procedure for recognizing, assessing the risk and taking appropriate remedial action is consistent with all legal requirements and optimized in terms of costs.

In the 4-stage soil decontamination program, existing soil and/or groundwater contamination is localized via the stages "historic exploration," "orienting investigation" and "detail investigation," and is assessed on the basis of the relevant statutory testing criteria. If any negative change in soil conditions or ecological burdens is identified, implementation of the necessary remedial action is planned by the steps feasibility study, model planning and approval planning. The process of carrying out the remedial action is supported by a binding remedial action plan or a public-sector agreement with defined remedial action objectives.

The 3-stage sewerage network program aims to remedy any contamination of soil and/or groundwater resulting from leaks. The program also involves a plan to optimize the existing sewerage network to ensure that it is capable of meeting future requirements and to ensure that the need to take remedial action can be limited to this future network. The network which is not necessary for operation will be decommissioned. The sewerage program will be carried out via the stage 1 "recording," stage 2 "inspection" and stage 3 "remedial action/decommissioning." Legal requirements are set out in the Water Resources Accounting Act (Wasserhaushaltsgesetz; WHG), the Water Acts of the Federal states and the own control regulations.

The 2-stage program "shut-down of landfill sites" systematically records all legacy landfill sites operated by DB Group (stage 1). The requirements resulting from the Recycling Accounting Act (Kreislaufwirtschaftsgesetz; KrWG) and the Landfill Site Regulation (Deponieverordnung; DepV) are used as the basis for planning and implementing the processes of decommissioning and recultivating the areas (stage 2a) and the subsequent maintenance (stage 2b).

OTHER PROVISIONS

The other provisions comprise provisions for litigation risks, real estate risks, claims for damages, decommissioning and demolition obligations, real estate risks, guarantee and warranty obligations, insurance and project risks, third-party obligations for maintenance and other tax risks as well as numerous other issues which individually are of minor significance.

(33) Deferred items

DB Group receives various public-sector grants, which are provided in relation to specific assets or on the basis of a specific performance. The grants are recognized in the balance sheet as soon as it is certain that they will be provided and as soon as the conditions necessary for receiving the grants have been satisfied. The grants related to assets, and in particular investment grants, are deducted directly from the assets for which the grants have been received. The interest benefit (difference between nominal value and present value) of interest-free loans is deferred on the basis of the contractual grant conditions. The income from pro rata reversal of these accruals is shown as other operating income.

The deferred items contained the following:

As of Dec 31 (€ million)	**2020**	2019
Deferred Federal grants	271	414
Deferred revenues	648	784
Other	286	280
Total	**1,205**	**1,478**
Non-current portion	316	455
Current portion	889	1,023

The change in the deferred revenues is attributable to various factors, including the lower net deferrals for special offerings for specific periods (mainly BahnCards, flexible tickets as well as discount tickets) in the segment DB Long-Distance despite higher opposite deferrals for vouchers.

The deferred Federal grants included the interest benefit (difference between the nominal value and present value) attributable to the interest-free loans; this has developed as follows during the year under review:

(€ million)	**2020**	2019
As of Jan 1	211	355
Reversals	-144	-144
As of Dec 31	**67**	**211**

Of the figure shown for reversals in the year under review, € 59 million (previous year: € 59 million) was attributable to the annual reversal of deferred items. The remainder was attributable to the release of amortized deferrals relating to premature one-off repayments at the present value in 1999, 2004 and 2011.

Deferred revenues constituted that part of compensation which is attributable to the period after the balance sheet date.