

Other disclosures

33. IAS 23 (Borrowing Costs)

Capitalized borrowing costs amounted to €68 million (previous year: €62 million) and related mainly to capitalized development costs. An average cost of debt of 1.6% (previous year: 1.5%) was used as a basis for capitalization in the Volkswagen Group.

34. IFRS 16 (Leases)

1. LESSEE ACCOUNTING

The Volkswagen Group is a lessee, mainly as a result of leasing office equipment, real estate and other means of production. The leases are negotiated individually and include a large number of contract terms and conditions. The following amounts for right-of-use assets resulting from leases are included in the balance sheet items:

PRESENTATION OF AND CHANGES IN RIGHT-OF-USE ASSETS FROM LEASES FOR THE PERIOD FROM JANUARY 1 TO DECEMBER 31, 2019

€ million	Right of use on land, land rights and buildings incl. buildings on third party land	Right of use on technical equipment and machinery	Right of use on other equipment, operational and office equipment	Total
Cost				
Balance at Jan. 1, 2019	5,139	77	294	5,510
Foreign exchange differences	82	0	1	83
Changes in consolidated Group	13	–	0	13
Additions	1,201	5	459	1,666
Transfers	–8	–39	–5	–52
Classified as held for sale	9	–	1	10
Disposals	166	0	11	177
Balance at Dec. 31, 2019	6,253	44	738	7,034
Depreciation and impairment				
Balance at Jan. 1, 2019	63	17	4	84
Foreign exchange differences	3	0	0	4
Changes in consolidated Group	1	–	–	1
Additions to cumulative depreciation	810	6	126	942
Additions to cumulative impairment losses	–	–	–	–
Transfers	–8	–	0	–8
Classified as held for sale	1	–	0	1
Disposals	19	0	4	23
Reversal of impairment losses	–	–	0	0
Balance at Dec. 31, 2019	848	23	126	998
Carrying amount at Dec. 31, 2019	5,404	21	611	6,036

Subleases of right-of-use assets generated income of €20 million in the fiscal year.

The measurement of right-of-use assets from leases and the associated lease liabilities is based on a best estimate regarding the exercise of extension and termination options. If there are material changes in circumstances or in the contract, this estimate is updated.

The tables below show how the lease liabilities are assigned in the balance sheet and give an overview of their contractual maturities:

ASSIGNMENT OF LEASE LIABILITIES TO THE RESPECTIVE BALANCE SHEET ITEMS

€ million	Dec. 31, 2019
Financial liabilities – Noncurrent	5,208
Financial liabilities – Current	1,002
Lease liabilities – Total	6,210

MATURITY ANALYSIS OF LEASE LIABILITIES

€ million	REMAINING CONTRACTUAL MATURITIES			Total
	under one year	within one to five years	over five years	
Lease liabilities at Dec. 31, 2019	1,002	2,613	2,595	6,210

Interest expenses of €230 million were incurred for lease liabilities in the fiscal year.

No right-of-use assets are recognized for low-value or short-term leases. Expenses for leasing low-value assets totaled €270 million in the fiscal year. This figure does not include any expenses for short-term leases, which totaled €333 million in the fiscal year. Variable lease expenses not included in the measurement of lease liabilities accounted for €1 million in the fiscal year.

Leases gave rise to cash outflows totaling €1,797 million in the fiscal year.

The table below shows a summary of potential future cash outflows, that have not been included in the measurement of the lease liabilities:

€ million	2019
Future cash outflows to which the lessee is potentially exposed	
Variable lease payments	1
Residual value guarantees	0
Extension options	3,575
Termination options	3
Obligations under leases not yet commenced	359
	3,938

2. LESSOR ACCOUNTING

The Volkswagen Group is a lessor in both the finance lease business and the operating lease business. The subject of these transactions is primarily motor vehicles and, to a small extent, land and buildings and items of equipment for dealerships.

The Volkswagen Group fully accounts for the default risk on lease receivables by recognizing loss allowances, which are recognized in accordance with the requirements of IFRS 9. As lessor, the Volkswagen Group covers risks arising from the assets underlying the leases by, among other measures, taking account of residual value guarantees received for parts of the lease portfolio and by taking account of forward-looking residual values forecast on the basis of internal and external information as part of residual value management. The forecast residual values are regularly reviewed.

2.1 OPERATING LEASES

Assets leased under long-term operating leases amounted to €49,476 million at the end of the fiscal year. While €538 million is attributable to investment property, assets separately reported as lease assets in the balance sheet amount to €48,938 million. They relate primarily to vehicles in an amount of €48,853 million as well as land, land rights and buildings, including buildings on third-party land, in an amount of €78 million. The remaining assets relate to technical equipment and machinery as well as other equipment, operating and office equipment. More information on changes in value of investment property and lease assets can be found in the section entitled "Lease assets and investment property".

The following cash inflows from expected outstanding, non-discounted operating lease payments are expected over the coming years:

€ million	2020	2021	2022	2023	2024	From 2025	Total
Lease payments	9,370	6,436	3,677	997	338	344	21,164

BREAKDOWN OF INCOME FROM OPERATING LEASES

€ million	2019
Lease income	12,014
Income from variable lease payments	13
Total	12,027

2.2 FINANCE LEASES

Interest income from the net investment in the leases amounted to €2.4 billion in the fiscal year. Furthermore, a selling profit from the finance leases in the amount of €1.2 billion was recognized.

The following table shows the reconciliation of outstanding lease payments under finance leases to the net investment:

€ million	Dec. 31, 2019
Non-discounted lease payments	54,302
Non-guaranteed residual value	4,112
Unearned interest income	-3,789
Loss allowance on lease receivables	-971
Net investment	53,652

The following cash inflows from expected outstanding, non-discounted finance lease payments are expected over the coming years:

€ million	2020	2021	2022	2023	2024	From 2025	Total
Lease payments	19,428	14,590	12,179	6,883	847	373	54,302

35. IFRS 7 (Financial Instruments)

The table below shows the carrying amounts of financial instruments by measurement category:

CARRYING AMOUNT OF FINANCIAL INSTRUMENTS BY IFRS 9 MEASUREMENT CATEGORY

€ million	Dec. 31, 2019	Dec. 31, 2018
Financial assets at fair value through profit or loss	16,331	15,556
Financial assets at fair value through other comprehensive income (debt instruments)	3,139	3,542
Financial assets at fair value through other comprehensive income (equity instruments)	68	148
of which classified as held for sale	3	–
Financial assets measured at amortized cost	149,203	143,466
of which classified as held for sale	158	–
Financial liabilities at fair value through profit or loss	1,760	1,484
Financial liabilities measured at amortized cost	229,229	225,989
of which classified as held for sale	44	–

CLASSES OF FINANCIAL INSTRUMENTS

Financial instruments are divided into the following classes at the Volkswagen Group:

- > financial instruments measured at fair value;
- > financial instruments measured at amortized cost;
- > derivative financial instruments within hedge accounting;
- > not allocated to any measurement category; and
- > credit commitments and financial guarantees (off-balance sheet).

RECONCILIATION OF BALANCE SHEET ITEMS TO CLASSES OF FINANCIAL INSTRUMENTS

The following table shows the reconciliation of the balance sheet items to the relevant classes of financial instruments, broken down by the carrying amount and fair value of the financial instruments.

The fair value of financial instruments measured at amortized cost, such as receivables and liabilities, is calculated by discounting using a market rate of interest for a similar risk and matching maturity. For reasons of materiality, the fair value of current balance sheet items is generally deemed to be their carrying amount.

For reconciliation to the carrying amounts, the “Not allocated to a measurement category” column in the table also includes items other than financial instruments.

The risk variables governing the fair value of the receivables are risk-adjusted interest rates.

“Financial instruments measured at fair value” also include shares in partnerships and corporations.

RECONCILIATION OF BALANCE SHEET ITEMS TO CLASSES OF FINANCIAL INSTRUMENTS AS OF DECEMBER 31, 2018

€ million	MEASURED AT FAIR VALUE	MEASURED AT AMORTIZED COST		DERIVATIVE FINANCIAL INSTRUMENTS WITHIN HEDGE ACCOUNTING	NOT ALLOCATED TO A MEASUREMENT CATEGORY	BALANCE SHEET ITEM AT DEC. 31, 2018
	Carrying amount	Carrying amount	Fair value	Carrying amount	Carrying amount	
Noncurrent assets						
Equity-accounted investments	–	–	–	–	8,434	8,434
Other equity investments	134	–	–	–	1,340	1,474
Financial services receivables	286	46,905	47,789	–	31,501	78,692
Other financial assets	772	4,240	4,252	1,510	–	6,521
Tax receivables	–	–	–	–	476	476
Current assets						
Trade receivables	–	17,537	17,537	–	352	17,888
Financial services receivables	22	36,529	36,529	–	17,665	54,216
Other financial assets	1,094	9,150	9,150	1,341	1	11,586
Tax receivables	–	29	29	–	1,850	1,879
Marketable securities	16,940	140	140	–	–	17,080
Cash, cash equivalents and time deposits	–	28,938	28,938	–	–	28,938
Noncurrent liabilities						
Noncurrent financial liabilities	–	100,727	100,964	–	399	101,126
Other noncurrent financial liabilities	767	2,085	2,087	368	–	3,219
Current liabilities						
Put options and compensation rights granted to noncontrolling interest shareholders	–	1,853	1,853	–	–	1,853
Current financial liabilities	–	89,707	89,707	–	51	89,757
Trade payables	–	23,607	23,607	–	–	23,607
Other current financial liabilities	718	7,977	7,977	721	–	9,416
Tax payables	–	33	33	–	423	456

RECONCILIATION OF BALANCE SHEET ITEMS TO CLASSES OF FINANCIAL INSTRUMENTS AS OF DECEMBER 31, 2019

	MEASURED AT FAIR VALUE	MEASURED AT AMORTIZED COST		DERIVATIVE FINANCIAL INSTRUMENTS WITHIN HEDGE ACCOUNTING	NOT ALLOCATED TO A MEASUREMENT CATEGORY	BALANCE SHEET ITEM AT DEC. 31, 2019
€ million	Carrying amount	Carrying amount	Fair value	Carrying amount	Carrying amount	
Noncurrent assets						
Equity-accounted investments	–	–	–	–	8,169	8,169
Other equity investments	54	–	–	–	1,848	1,902
Financial services receivables	288	51,404	52,581	–	35,281	86,973
Other financial assets	1,012	3,625	3,628	916	–	5,553
Tax receivables	–	–	–	–	341	341
Current assets						
Trade receivables	1	17,940	17,940	–	–	17,941
Financial services receivables	22	39,936	39,936	–	18,656	58,615
Other financial assets	1,477	10,120	10,120	619	–	12,216
Tax receivables	–	9	9	–	1,181	1,190
Marketable securities	16,681	88	88	–	–	16,769
Cash, cash equivalents and time deposits	–	25,923	25,923	–	–	25,923
Assets held for sale	3	158	158	–	634	795
Noncurrent liabilities						
Noncurrent financial liabilities	–	108,348	110,679	–	5,208	113,556
Other noncurrent financial liabilities	943	2,549	2,554	1,007	–	4,499
Current liabilities						
Current financial liabilities	–	86,911	86,911	–	1,002	87,912
Trade payables	–	22,745	22,745	–	–	22,745
Other current financial liabilities	817	8,614	8,614	1,427	–	10,858
Tax payables	–	19	19	–	389	408
Liabilities associated with assets held for sale	–	44	44	–	326	370

The carrying amount of lease receivables was €53.9 billion (previous year: €49.2 billion) and their fair value (fair value hierarchy level 3) was €55.0 billion (previous year: €49.8 billion).

Uniform valuation techniques and inputs are used to measure fair value. The fair value of Level 2 and 3 financial instruments is measured in the individual divisions on the basis of Group-wide specifications. The measurement techniques used are explained in the section entitled "Accounting policies". The fair value of Level 3 receivables was measured by reference to individual expectations of losses; these are based to a significant extent on the Company's assumptions about counterparty credit quality. The inputs used are not observable in an active market.

The following tables contain an overview of the financial assets and liabilities measured at fair value by level:

FINANCIAL ASSETS AND LIABILITIES MEASURED AT FAIR VALUE BY LEVEL

€ million	Dec. 31, 2018	Level 1	Level 2	Level 3
Noncurrent assets				
Other equity investments	134	56	25	53
Financial services receivables	286	–	–	286
Other financial assets	772	–	357	415
Current assets				
Financial services receivables	22	–	–	22
Other financial assets	1,094	–	880	214
Marketable securities	16,940	16,940	–	–
Noncurrent liabilities				
Other noncurrent financial liabilities	767	–	250	516
Current liabilities				
Other current financial liabilities	718	–	419	299

€ million	Dec. 31, 2019	Level 1	Level 2	Level 3
Noncurrent assets				
Other equity investments	54	43	0	11
Financial services receivables	288	–	–	288
Other financial assets	1,012	–	595	417
Current assets				
Other financial assets	1	–	–	1
Financial services receivables	22	–	–	22
Other financial assets	1,477	–	1,304	173
Marketable securities	16,681	16,681	–	–
Assets held for sale	3	–	–	3
Noncurrent liabilities				
Other noncurrent financial liabilities	943	–	425	518
Current liabilities				
Other current financial liabilities	817	–	570	247

FAIR VALUE OF FINANCIAL ASSETS AND LIABILITIES MEASURED AT AMORTIZED COST BY LEVEL

€ million	Dec. 31, 2018	Level 1	Level 2	Level 3
Fair value of financial assets measured at amortized cost				
Financial services receivables	84,319	–	–	84,319
Trade receivables	17,537	–	17,537	–
Other financial assets	13,403	378	5,004	8,020
Tax receivables	29	–	29	–
Cash, cash equivalents and time deposits	28,938	28,115	823	–
Fair value of financial assets measured at amortized cost	144,226	28,493	23,394	92,339
Fair value of financial liabilities measured at amortized cost				
Put options and compensation rights granted to noncontrolling interest shareholders	1,853	–	–	1,853
Trade payables	23,607	–	23,607	–
Financial liabilities	190,671	59,089	131,316	266
Other financial liabilities	10,064	1,297	8,535	233
Tax payables	33	–	33	–
Fair value of financial liabilities measured at amortized cost	226,228	60,386	163,491	2,352

€ million	Dec. 31, 2019	Level 1	Level 2	Level 3
Fair value of financial assets measured at amortized cost				
Financial services receivables	92,518	–	–	92,518
Trade receivables	17,940	–	17,940	–
Other financial assets	13,748	456	4,534	8,758
Tax receivables	9	–	9	–
Cash, cash equivalents and time deposits	25,923	24,912	1,010	–
Assets held for sale	158	4	154	–
Fair value of financial assets measured at amortized cost	150,296	25,372	23,648	101,276
Fair value of financial liabilities measured at amortized cost				
Trade payables	22,745	–	22,745	–
Financial liabilities	197,590	42,828	152,329	2,433
Other financial liabilities	11,168	707	10,069	392
Tax payables	19	–	19	–
Liabilities associated with assets held for sale	44	–	44	–
Fair value of financial liabilities measured at amortized cost	231,566	43,535	185,205	2,825

DERIVATIVE FINANCIAL INSTRUMENTS WITHIN HEDGE ACCOUNTING BY LEVEL

€ million	Dec. 31, 2018	Level 1	Level 2	Level 3
Noncurrent assets				
Other financial assets	1,510	–	1,510	–
Current assets				
Other financial assets	1,341	–	1,341	–
Noncurrent liabilities				
Other noncurrent financial liabilities	368	–	368	0
Current liabilities				
Other current financial liabilities	721	–	721	–

€ million	Dec. 31, 2019	Level 1	Level 2	Level 3
Noncurrent assets				
Other financial assets	916	–	916	–
Current assets				
Other financial assets	619	–	619	–
Noncurrent liabilities				
Other noncurrent financial liabilities	1,007	–	1,007	–
Current liabilities				
Other current financial liabilities	1,427	–	1,427	–

The allocation of fair values to the three levels in the fair value hierarchy is based on the availability of observable market prices. Level 1 is used to report the fair value of financial instruments for which a price is directly available in an active market. Examples include marketable securities and other equity investments measured at fair value that are listed and traded on a public market. Fair values in Level 2, for example of derivatives, are measured on the basis of market inputs using market-based valuation techniques. In particular, the inputs used include exchange rates, yield curves and commodity prices that are observable in the relevant markets and obtained through pricing services. Fair Values in Level 3 are calculated using valuation techniques that incorporate inputs that are not directly observable in active markets. In the Volkswagen Group, long-term commodity futures are allocated to Level 3 because the prices available on the market must be extrapolated for measurement purposes. This is done on the basis of observable inputs obtained for the different commodities through pricing services. Options on equity instruments, residual value protection models, customer financing receivables, receivables from vehicle financing programs and other equity investments are also reported in Level 3. In this process, the relevant corporate plans and company-specific discount rates in particular are used for measuring the equity instruments. The significant inputs used to measure fair value for the residual value protection models include forecasts and estimates of used vehicle residual values for the appropriate models. The measurement of vehicle financing programs requires in particular the use of the corresponding vehicle price.

The table below provides a summary of changes in Level 3 balance sheet items measured at fair value:

CHANGES IN BALANCE SHEET ITEMS MEASURED AT FAIR VALUE BASED ON LEVEL 3

€ million	Financial assets measured at fair value	Financial liabilities measured at fair value
Balance at Jan. 1, 2018	823	765
Foreign exchange differences	-33	-3
Changes in consolidated Group	-184	-
Total comprehensive income	78	204
recognized in profit or loss	27	204
recognized in other comprehensive income	51	-
Additions (purchases)	339	28
Sales and settlements	-2	-183
Transfers into Level 2	-32	5
Balance at Dec. 31, 2018	990	816
Total gains or losses recognized in profit or loss	27	-204
Net other operating expense/income	31	-203
of which attributable to assets/liabilities held at the reporting date	58	-235
Financial result	-4	0
of which attributable to assets/liabilities held at the reporting date	-5	-

€ million	Financial assets measured at fair value	Financial liabilities measured at fair value	Financial assets held for sale
Balance at Jan. 1, 2019	990	816	-
Foreign exchange differences	22	9	-
Changes in consolidated Group	0	-	-
Total comprehensive income	154	293	-
recognized in profit or loss	157	293	-
recognized in other comprehensive income	-3	-	-
Additions (purchases)	13	-	3
Sales and settlements	-215	-301	-
Transfers into Level 2	-46	-51	-
Classified as held for sale	-3	-	-
Balance at Dec. 31, 2019	913	765	3
Total gains or losses recognized in profit or loss	157	-293	-
Net other operating expense/income	161	-292	-
of which attributable to assets/liabilities held at the reporting date	115	-238	-
Financial result	-4	-1	-
of which attributable to assets/liabilities held at the reporting date	-4	-	-

The transfers between the levels of the fair value hierarchy are reported at the respective reporting dates. The transfers out of Level 3 into Level 2 comprise commodity futures for which observable quoted prices are now available for measurement purposes due to the decline in their remaining maturities; consequently, no further extrapolation is required. There were no transfers between other levels of the fair value hierarchy.

Commodity prices are the key risk variable for the fair value of commodity futures. Sensitivity analyses are used to present the effect of changes in commodity prices on earnings after tax and equity.

If commodity prices for commodity futures classified as Level 3 had been 10% higher (lower) as of December 31, 2019, earnings after tax would have been €168 million (previous year: €59 million) higher (lower). The equity is not affected.

The key risk variable for measuring options on equity instruments held by the Company is the relevant enterprise value. Sensitivity analyses are used to present the effect of changes in risk variables on earnings after tax.

If the assumed enterprise values at December 31, 2019 had been 10% higher, earnings after tax would have been €3 million (previous year: €3 million) higher. If the assumed enterprise values at December 31, 2019 had been 10% lower, earnings after tax would have been €3 million (previous year: €3 million) lower.

Residual value risks result from hedging agreements with dealers under which earnings effects caused by market-related fluctuations in residual values that arise from buyback obligations under leases are borne in part by the Volkswagen Group.

The key risk variable influencing the fair value of the options relating to residual value risks is used car prices. Sensitivity analyses are used to quantify the effects of changes in used car prices on earnings after tax.

If the prices of the used cars covered by the residual value protection model had been 10% higher as of December 31, 2019, earnings after tax would have been €354 million (previous year: €325 million) higher. If the prices of the used cars covered by the residual value protection model had been 10% lower as of December 31, 2019, earnings after tax would have been €374 million (previous year: €352 million) lower.

If the risk-adjusted interest rates applied to receivables measured at fair value had been 100 basis points higher as of December 31, 2019, earnings after tax would have been €3 million (previous year: €1 million) lower. If the risk-adjusted interest rates as of December 31, 2019 had been 100 basis points lower, earnings after tax would have been €3 million (previous year: €4 million) higher.

If the corresponding vehicle prices used in the vehicle financing programs had been 10% higher as of December 31, 2019, earnings after tax would have been €5 million (previous year: €8 million) higher. If the corresponding vehicle prices used in the vehicle financing programs had been 10% lower as of December 31, 2019, earnings after tax would have been €5 million (previous year: €8 million) lower.

If the result of operations of equity investments measured at fair value had been 10% better as of December 31, 2019, the equity would have been €0.2 million (previous year: €2.8 million) higher. If the result of operations had been 10% worse, the equity would have been €0.2 million (previous year: €2.8 million) lower.

OFFSETTING OF FINANCIAL ASSETS AND LIABILITIES

The following tables contain information about the effects of offsetting in the balance sheet and the potential financial effects of offsetting in the case of instruments that are subject to a legally enforceable master netting arrangement or a similar agreement.

€ million	Gross amounts of recognized financial assets	Gross amounts of recognized financial liabilities set off in the balance sheet	Net amounts of financial assets presented in the balance sheet	AMOUNTS THAT ARE NOT SET OFF IN THE BALANCE SHEET		Net amount at Dec. 31, 2018
				Financial instruments	Collateral received	
Derivatives	3,979	0	3,979	-1,819	-171	1,989
Financial services receivables	132,909	-	132,909	-	-77	132,831
Trade receivables	17,537	0	17,537	0	-	17,536
Marketable securities	17,080	-	17,080	-	-	17,080
Cash, cash equivalents and time deposits	28,938	-	28,938	-	-	28,938
Other financial assets	14,307	-15	14,291	-	-	14,291

€ million	Gross amounts of recognized financial assets	Gross amounts of recognized financial liabilities set off in the balance sheet	Net amounts of financial assets presented in the balance sheet	AMOUNTS THAT ARE NOT SET OFF IN THE BALANCE SHEET		Net amount at Dec. 31, 2019
				Financial instruments	Collateral received	
Derivatives	3,396	-146	3,250	-2,010	-45	1,195
Financial services receivables	146,218	-630	145,588	-	-98	145,490
Trade receivables	17,952	-11	17,941	0	-	17,941
Marketable securities	16,769	-	16,769	-	-	16,769
Cash, cash equivalents and time deposits	25,923	-	25,923	-	-	25,923
Other financial assets	14,436	146	14,581	0	-	14,581

Other financial assets include receivables from tax allocations of €9 million (previous year: €29 million).

€ million	Gross amounts of recognized financial liabilities	Gross amounts of recognized financial assets set off in the balance sheet	Net amounts of financial liabilities presented in the balance sheet	AMOUNTS THAT ARE NOT SET OFF IN THE BALANCE SHEET		Net amount at Dec. 31, 2018
				Financial instruments	Collateral pledged	
Put options and compensation rights granted to noncontrolling interest shareholders	1,853	–	1,853	–	–	1,853
Derivatives	2,573	0	2,573	–1,738	–1	834
Financial liabilities	190,883	–	190,883	–	–1,953	188,931
Trade payables	23,607	0	23,607	0	–	23,607
Other financial liabilities	10,111	–15	10,095	–	–	10,095

€ million	Gross amounts of recognized financial liabilities	Gross amounts of recognized financial assets set off in the balance sheet	Net amounts of financial liabilities presented in the balance sheet	AMOUNTS THAT ARE NOT SET OFF IN THE BALANCE SHEET		Net amount at Dec. 31, 2019
				Financial instruments	Collateral pledged	
Derivatives	4,195	0	4,195	–1,900	–53	2,241
Financial liabilities	201,468	–	201,468	–	–1,729	199,740
Trade payables	22,756	–11	22,745	0	–	22,745
Other financial liabilities	11,812	–630	11,182	–	–	11,182

The “Financial instruments” column shows the amounts that are subject to a master netting arrangement but were not set off because they do not meet the criteria for offsetting in the balance sheet. The “Collateral received” and “Collateral pledged” columns show the amounts of cash collateral and collateral in the form of financial instruments received and pledged for the total assets and liabilities that do not meet the criteria for offsetting in the balance sheet.

Other financial liabilities include liabilities from tax allocations of €19 million (previous year: €33 million).

ASSET-BACKED SECURITIES TRANSACTIONS

Asset-backed securities transactions with financial assets amounting to €27.8 billion (previous year: €27.9 billion) entered into to refinance the financial services business are included in bonds, commercial paper and notes, and liabilities from loans. The corresponding carrying amount of the receivables from the customer and dealer financing and the finance lease business amounted to €34.1 billion (previous year: €32.7 billion). Collateral of €47.9 billion (previous year: €47.9 billion) in total was furnished as part of asset-backed securities transactions. The expected payments were assigned to structured entities and the equitable liens in the financed vehicles were transferred. These asset-backed securities transactions did not result in the receivables from financial services business being derecognized, as the Group retains nonpayment and late payment risks. The difference between the assigned receivables and the related liabilities is the result of different terms and conditions and the share of the securitized paper and notes held by the Volkswagen Group itself, as well as the proportion of vehicles financed within the Group.

Most of the public and private asset-backed securities transactions of the Volkswagen Group can be repaid in advance (clean-up call) if less than 9% or 10%, as appropriate, of the original transaction volume is outstanding. The assigned receivables cannot be assigned again or pledged elsewhere as collateral. The claims of the holders of commercial paper and notes are limited to the assigned receivables and the receipts from those receivables are earmarked for the repayment of the corresponding liability.

As of December 31, 2019, the fair value of the assigned receivables still recognized in the balance sheet was €34.8 billion (previous year: €32.9 billion). The fair value of the related liabilities was €30.1 billion (previous year: €30.1 billion) at that reporting date.

Companies of the Volkswagen Financial Services subgroup are contractually obliged, under certain conditions, to transfer funds to the structured entities that are included in its financial statements. Since the receivables are transferred to the special purpose entity by way of undisclosed assignment, the situation may occur in which the receivable has already been reduced in a legally binding manner at the originator, for example if the obligor effectively offsets it against receivables owed to it by a company belonging to the Volkswagen Group. In this case, collateral must be furnished for the resulting compensation claims against the special purpose entity, for example if the rating of the Group company concerned declines to a contractually agreed reference value.

ADDITIONAL INCOME STATEMENT DISCLOSURES IN ACCORDANCE WITH IFRS 7 (FINANCIAL INSTRUMENTS)

The table below shows net gains and losses on financial assets and financial liabilities by measurement category, followed by a detailed explanation of key aspects:

NET GAINS OR LOSSES FROM FINANCIAL INSTRUMENTS BY IFRS 9 MEASUREMENT CATEGORY

€ million	2019	2018
Financial instruments at fair value through profit or loss	-242	-763
Financial assets measured at amortized cost	6,282	6,241
Financial assets at fair value through other comprehensive income (debt instruments)	7	17
Financial liabilities measured at amortized cost	-4,420	-4,963
	1,628	531

Net gains and losses in the category at "financial instruments at fair value through profit or loss" are mainly composed of the fair value measurement gains and losses on derivatives, including interest and gains and losses on currency translation.

Net gains and losses from financial assets measured at fair value through other comprehensive income (debt instruments) relate to interest income from fixed-income securities.

Net gains and losses from financial assets and liabilities measured at amortized cost mainly comprise interest income and expenses calculated according to the effective interest method pursuant to IFRS 9, currency translation effects, and the recognition of loss allowances. Interest also includes interest income and expenses from the lending business of the Financial Services Division.

The table below presents total interest income and expenses from financial assets and liabilities measured at amortized cost, separately from financial assets measured at fair value through other comprehensive income:

TOTAL INTEREST INCOME AND EXPENSES ATTRIBUTABLE TO FINANCIAL INSTRUMENTS NOT MEASURED AT FAIR VALUE THROUGH PROFIT OR LOSS

€ million	2019	2018
Financial assets and liabilities measured at amortized cost		
Interest income	7,563	5,022
Interest expenses	4,120	3,183
Financial assets (debt instruments) and liabilities measured at fair value through other comprehensive income		
Interest income	8	17
Interest expenses	–	1

GAINS AND LOSSES ON THE DISPOSAL OF FINANCIAL ASSETS MEASURED AT AMORTIZED COST

€ million	2019	2018
Gains arising from the derecognition of financial assets measured at amortized cost	845	1,001
Losses arising from the derecognition of financial assets measured at amortized cost	–978	–1,073
	–133	–72

In the fiscal year, €2 million (previous year: €2 million) was recognized as an expense and €44 million (previous year: €51 million) as income from fees and commissions for trust activities and from financial assets and liabilities not measured at fair value that are not accounted for using the effective interest method.

36. Cash flow statement

Cash flows are presented in the cash flow statement classified into cash flows from operating activities, investing activities and financing activities, irrespective of the balance sheet classification.

Cash flows from operating activities are derived indirectly from earnings before tax. Earnings before tax are adjusted to eliminate noncash expenditures (mainly depreciation, amortization and impairment losses) and income. Other noncash income and expense results mainly from measurement effects in connection with financial instruments and to fair value changes relating to hedging transactions. This results in cash flows from operating activities after accounting for changes in working capital, which also include changes in lease assets and in financial services receivables.

Investing activities include additions to property, plant and equipment and equity investments, additions to capitalized development costs and investments in securities, loans and time deposits.

Financing activities include outflows of funds from dividend payments and redemption of bonds, inflows from the capital increases and issuance of bonds, and changes in other financial liabilities. Please refer to the "Equity" section for information on the in-/outflows from the issuance/repayment of hybrid capital contained in the capital contributions.

The changes in balance sheet items that are presented in the cash flow statement cannot be derived directly from the balance sheet, as the effects of currency translation and changes in the consolidated Group are noncash transactions and are therefore eliminated.

In the fiscal year, cash flows from operating activities include interest received amounting to €7,640 million (previous year: €7,047 million) and interest paid amounting to €2,604 million (previous year: €1,857 million). Cash flows from operating activities also include dividend payments (net of withholding tax) received from joint ventures and associates of €3,679 million (previous year: €3,315 million).

Dividends amounting to €2,419 million (previous year: €1,967 million) were paid to Volkswagen AG shareholders.

€ million	Dec. 31, 2019	Dec. 31, 2018
Cash, cash equivalents and time deposits as reported in the balance sheet	25,923	28,938
Time deposits	-1,593	-825
Cash and cash equivalents as reported in the cash flow statement	24,329	28,113

Time deposits are not classified as cash equivalents. Time deposits have a contractual maturity of more than three months. The maximum default risk corresponds to its carrying amount.

The following table shows the classification of changes in financial liabilities into cash and non-cash transactions:

€ million	Jan. 1, 2018	Cash-effective changes	NON-CASH CHANGES			Dec. 31, 2018
			Foreign exchange differences	Changes in consolidated Group	Other changes	
Bonds	63,118	20,018	-193	-	-1,395	81,549
Other total third-party borrowings	99,875	7,740	-414	11	1,674	108,886
Finance lease liabilities	479	-29	-1	-	0	449
Total third-party borrowings	163,472	27,730	-607	11	279	190,883
Put options and compensation rights granted to noncontrolling interest shareholders	3,795	-2,132	-	-	190	1,853
Other financial assets and liabilities	-160	-121	27	-	72	-182
Financial assets and liabilities in financing activities	167,107	25,477	-581	11	541	192,555

€ million	Jan. 1, 2019	Cash-effective changes	NON-CASH CHANGES				Dec. 31, 2019
			Foreign exchange differences	Changes in consolidated Group	Classified as held for sale	Other changes	
Bonds	81,549	6,132	496	-	-	452	88,629
Other total third-party borrowings	108,886	-3,392	1,616	-193	0	-287	106,630
Finance lease liabilities ^{1,2}	5,567	-957	81	16	9	1,513	6,210
Total third-party borrowings	196,001	1,783	2,193	-177	9	1,678	201,468
Put options and compensation rights granted to noncontrolling interest shareholders ³	1,853	-1,135	-	-	-	-718	-
Other financial assets and liabilities	-182	18	-3	-	-	87	-81
Financial assets and liabilities in financing activities	197,672	666	2,189	-177	9	1,046	201,387

1 Value in the opening balance adjusted (see disclosures on IFRS 16).

2 Other changes in lease liabilities largely contain noncash additions of lease liabilities.

3 Other changes in put options/compensation rights granted to noncontrolling interest shareholders largely contain the reclassification of the residual liability to equity after the put options granted expired in the fiscal year.

37. Financial risk management and financial instruments

1. HEDGING GUIDELINES AND FINANCIAL RISK MANAGEMENT PRINCIPLES

The principles and responsibilities for managing and controlling the risks that could arise from financial instruments are defined by the Board of Management and monitored by the Supervisory Board. General rules apply to the Group-wide risk policy; these are oriented on the statutory requirements and the “Minimum Requirements for Risk Management by Credit Institutions”.

Group Treasury is responsible for operational risk management and control of risks from financial instruments. The Risk Management Group Executive Committee is regularly informed about current financial risks. In addition, the Group Board of Management and the Supervisory Board are regularly updated on the current risk situation. Some functions of the Scania, MAN and PHS subgroups are included in Group Treasury’s operational risk management and control for risks relating to financial instruments. Subgroups have their own risk management structures.

For more information, please see the management report on pages 187 to 189.

2. CREDIT AND DEFAULT RISK

The credit and default risk arising from financial assets involves the risk of default by counterparties, and therefore comprises at a maximum the amount of the claims under carrying amounts receivable from them and the irrevocable credit commitments. The maximum potential credit and default risk is reduced by collateral held and other credit enhancements. Collateral is held predominantly for financial assets in the “at amortized cost” category. It relates primarily to collateral for financial services receivables and trade receivables. Collateral comprises vehicles and assets transferred as security, as well as guarantees and real property liens. Cash collateral is also used in hedging transactions.

For level 3 and level 4 financial assets with objective indications of impairment as of the reporting date, the collateral provided led to a reduction in risk by €1.3 billion (previous year: €1.3 billion). Collateral of €285 million (previous year: €15 million) has been accepted for assets measured at fair value through profit or loss.

Significant cash and capital investments, as well as derivatives, are only entered into with national and international banks. Risk is additionally limited by a limit system based primarily on the equity base of the counterparties concerned and on credit assessments by international rating agencies. Financial guarantees issued also give rise to credit and default risk. The maximum potential credit and default risk is calculated from the amount Volkswagen would have to pay if claims were to be asserted under the guarantees. The corresponding amounts are presented in the Liquidity risk section.

There were no material concentrations of risk at individual counterparties or counterparty groups in the past fiscal year due to the global allocation of the Group’s business activities and the resulting diversification. There was a slight change in the concentration of credit and default risk exposures to the German public banking sector as a whole that has arisen from Group-wide cash and capital investments as well as derivatives: the portion attributable to this sector was 5.2% at the end of 2019 compared with 9.7% at the end of 2018. Any existing concentration of risk is assessed and monitored both at the level of individual counterparties or counterparty groups and with regard to the countries in which these are based, in each case using the share of all credit and default risk exposures accounted for by the risk exposure concerned.

For China, credit and default risk exposures accounted for 34.2% at the end of 2019, as against 25.4% at the end of 2018. There were no other concentrations of credit and default risk exposures in individual countries.

LOSS ALLOWANCE

The Volkswagen Group consistently uses the expected credit loss model of IFRS 9 for all financial assets and other risk exposures.

The expected credit loss model under IFRS 9 takes in both loss allowances for financial assets for which there are no objective indications of impairment and loss allowances for financial assets that are already impaired. For the calculation of impairment losses, IFRS 9 distinguishes between the general approach and the simplified approach.

Under the general approach, financial assets are allocated to one of three stages, plus an additional stage for financial assets that are already impaired when acquired (stage 4). Stage 1 comprises financial assets that are recognized for the first time or for which the probability of default has not increased significantly. The expected credit losses for the next twelve months are calculated at this stage. Stage 2 comprises financial assets with a significantly increased probability of default, while financial assets with objective indications of default are allocated to stage 3. The lifetime expected credit losses are calculated at these stages. Stage 4 financial assets, which are already impaired when acquired, are subsequently measured by recognizing a loss allowance on the basis of the accumulated lifetime expected losses. Financial assets classified as impaired on acquisition remain in this category until they are derecognized.

The Volkswagen Group applies the simplified approach to trade receivables and contract assets with a significant financing component in accordance with IFRS 15. The same applies to receivables under operating or finance leases accounted for under IFRS 16. Under the simplified approach, the expected losses are consistently determined for the entire life of the asset.

The tables below show the reconciliation of the loss allowance for various financial assets and financial guarantees and credit commitments:

CHANGES IN LOSS ALLOWANCE FOR FINANCIAL ASSETS MEASURED AT AMORTIZED COST

€ million	Stage 1	Stage 2	Stage 3	Simplified approach	Stage 4	Total
Carrying amount at Jan. 1, 2018	800	802	1,002	622	138	3,364
Foreign exchange differences	-2	-7	-35	-15	-4	-63
Changes in consolidated Group	4	6	15	8	0	33
Newly extended/purchased financial assets (additions)	253	-	-	176	30	459
Other changes within a stage	-69	132	195	1	16	275
Transfers to						
Stage 1	22	-67	-13	-	-	-58
Stage 2	-102	275	-39	-	-	134
Stage 3	-33	-51	445	-	-	361
Financial instruments derecognized during the period (disposals)	-120	-148	-226	-127	-33	-653
Utilization	-	-	-459	-34	-1	-493
Changes to models or risk parameters	-1	4	10	3	-2	13
Carrying amount at Dec. 31, 2018	750	946	896	634	146	3,372

CHANGES IN LOSS ALLOWANCE FOR FINANCIAL ASSETS MEASURED AT AMORTIZED COST

€ million	Stage 1	Stage 2	Stage 3	Simplified approach	Stage 4	Total
Carrying amount at Jan. 1, 2019	750	946	896	634	146	3,372
Foreign exchange differences	6	4	3	3	0	16
Changes in consolidated Group	2	-	0	1	-	3
Newly extended/purchased financial assets (additions)	464	-	-	255	1	719
Other changes within a stage	-64	-222	157	-3	-32	-165
Transfers to						
Stage 1	39	-75	-12	-	-	-48
Stage 2	-91	206	-16	-	-	98
Stage 3	-45	-76	334	-	-	213
Financial instruments derecognized during the period (disposals)	-146	-106	-145	47	-4	-354
Utilization	-	-	-322	-177	-16	-516
Changes to models or risk parameters	-2	1	0	2	-	1
Classified as held for sale	0	-	-	-2	-	-2
Carrying amount at Dec. 31, 2019	913	677	893	760	94	3,336

CHANGES IN LOSS ALLOWANCE FOR FINANCIAL GUARANTEES AND CREDIT COMMITMENTS

€ million	Stage 1	Stage 2	Stage 3	Stage 4	Total
Carrying amount at Jan. 1, 2018	11	4	1	0	16
Foreign exchange differences	0	0	0	–	0
Changes in consolidated Group	–	–	–	–	–
Newly extended/purchased financial assets (additions)	11	–	–	1	12
Other changes within a stage	0	0	0	0	0
Transfers to					
Stage 1	0	0	0	–	0
Stage 2	–1	0	0	–	0
Stage 3	0	0	1	–	1
Financial instruments derecognized during the period (disposals)	–4	–4	0	–1	–9
Utilization	–	–	0	–	0
Changes to models or risk parameters	0	0	0	0	0
Carrying amount at Dec. 31, 2018	18	1	1	0	19

CHANGES IN LOSS ALLOWANCE FOR FINANCIAL GUARANTEES AND CREDIT COMMITMENTS

€ million	Stage 1	Stage 2	Stage 3	Stage 4	Total
Carrying amount at Jan. 1, 2019	18	1	1	0	19
Foreign exchange differences	0	0	0	0	0
Changes in consolidated Group	0	–	–	–	0
Newly extended/purchased financial assets (additions)	10	0	0	0	10
Other changes within a stage	0	0	–1	0	0
Transfers to					
Stage 1	0	0	–	–	0
Stage 2	–2	1	–	–	–1
Stage 3	0	0	–	–	0
Financial instruments derecognized during the period (disposals)	–9	0	–	0	–10
Utilization	–	–	0	–	0
Changes to models or risk parameters	0	0	–	–	0
Classified as held for sale	0	–	–	–	–
Carrying amount at Dec. 31, 2019	17	2	0	0	18

CHANGES IN LOSS ALLOWANCE FOR LEASE RECEIVABLES AND CONTRACT ASSETS

€ million	SIMPLIFIED APPROACH	
	2019	2018
Carrying amount at Jan. 1	1,193	1,250
Foreign exchange differences	14	–6
Changes in consolidated Group	6	–
Newly extended/purchased financial assets (additions)	249	450
Other changes	261	0
Financial instruments derecognized during the period (disposals)	–282	–465
Utilization	–88	–54
Changes to models or risk parameters	–42	18
Classified as held for sale	0	–
Carrying amount at Dec. 31	1,312	1,193

The loss allowance on assets measured at fair value in Stage 1 rose by €2 million in fiscal year 2019, resulting in a closing balance of €3 million. Of this amount, €2 million is attributable to Stage 1 (previous year: €2 million) and €1 million to Stage 2 (previous year: €– million).

The amount contractually outstanding for financial assets that have been derecognized in the current year and are still subject to enforcement proceedings is €331 million (previous year: €293 million).

MODIFICATIONS

There were contract modifications to financial assets in the reporting period that did not lead to the derecognition of the asset. They were primarily attributable to credit ratings and relate to financial assets for which loss allowances were measured in the amount of the lifetime credit losses. For trade and lease receivables, the treatment is simplified by considering the credit rating-based modifications where the receivables are more than 30 days past due. Before the modification, amortized cost amounted to €120 million (previous year: €147 million). In the reporting period, contract modifications resulted in net income/net expenses of €–0.2 million (previous year: €1.8 million).

As of the reporting date, the gross carrying amounts of financial assets that have been modified since initial recognition and were simultaneously reclassified from stage 2 or 3 to stage 1 in the reporting period amounted to €28 million (previous year: €19 million). As a result, the measurement of the loss allowance for these financial assets was changed from lifetime expected credit losses to 12-month expected credit losses.

MAXIMUM CREDIT RISK

The table below shows the maximum credit risk to which the Volkswagen Group was exposed as of the reporting date, broken down by class to which the impairment model is applied:

MAXIMUM CREDIT RISK BY CLASS

€ million	Dec. 31, 2019	31.12.2018
Financial instruments measured at fair value	3,139	3,542
Financial instruments measured at amortized cost	149,045	143,466
Financial guarantees and credit commitments	5,988	4,640
not within the scope of IFRS 7	53,938	49,518
Total	212,109	201,166

RATING CATEGORIES

The Volkswagen Group performs a credit assessment of borrowers in all loan and lease agreements, using scoring systems for the high-volume business and rating systems for corporate customers and receivables from dealer financing. Receivables rated as good are contained in risk class 1. Receivables from customers whose credit rating is not good but have not yet defaulted are contained in risk class 2. Risk class 3 comprises all defaulted receivables.

The table below presents the gross carrying amounts of financial assets by rating category:

GROSS CARRYING AMOUNTS OF FINANCIAL ASSETS BY RATING CATEGORY AS OF DECEMBER 31, 2018

€ million	Stage 1	Stage 2	Stage 3	Simplified approach	Stage 4
Credit risk rating grade 1 (receivables with no credit risk – standard loans)	116,912	8,007	–	58,537	93
Credit risk rating grade 2 (receivables with credit risk – intensified loan management)	2,243	4,787	–	5,687	37
Credit risk rating grade 3 (cancelled receivables – non-performing loans)	–	–	1,719	1,017	467
Total	119,155	12,794	1,719	65,241	597

GROSS CARRYING AMOUNTS OF FINANCIAL ASSETS BY RATING CATEGORY AS OF DECEMBER 31, 2019

€ million	Stage 1	Stage 2	Stage 3	Simplified approach	Stage 4
Credit risk rating grade 1 (receivables with no credit risk – standard loans)	120,926	8,272	–	66,344	89
Credit risk rating grade 2 (receivables with credit risk – intensified loan management)	3,240	5,031	–	3,226	43
Credit risk rating grade 3 (cancelled receivables – non-performing loans)	–	–	2,514	901	359
Total	124,166	13,303	2,514	70,470	490

Furthermore, the default risk exposure for financial guarantees and credit commitments is presented below:

DEFAULT RISK FOR FINANCIAL GUARANTEES AND CREDIT COMMITMENTS AS OF DECEMBER 31, 2018

€ million	Stage 1	Stage 2	Stage 3	Stage 4
Credit risk rating grade 1 (receivables with no credit risk – standard loans)	4,243	304	–	1
Credit risk rating grade 2 (receivables with credit risk – intensified loan management)	76	15	–	0
Credit risk rating grade 3 (cancelled receivables – non-performing loans)	–	–	17	4
Total	4,318	319	17	5

DEFAULT RISK FOR FINANCIAL GUARANTEES AND CREDIT COMMITMENTS AS OF DECEMBER 31, 2019

€ million	Stage 1	Stage 2	Stage 3	Stage 4
Credit risk rating grade 1 (receivables with no credit risk – standard loans)	5,693	178	–	0
Credit risk rating grade 2 (receivables with credit risk – intensified loan management)	100	25	–	0
Credit risk rating grade 3 (cancelled receivables – non-performing loans)	–	–	7	3
Total	5,793	203	7	4

Collateral that was accepted for financial assets in the current fiscal year was recognized in the balance sheet in the amount of €149 million (previous year: €134 million). This mainly relates to vehicles.

3. LIQUIDITY RISK

The solvency and liquidity of the Volkswagen Group are ensured at all times by rolling liquidity planning, a liquidity reserve in the form of cash, confirmed credit lines and the issuance of securities on the international money and capital markets. The volume of confirmed bilateral and syndicated credit lines stood at €27.0 billion as of December 31, 2019 (previous year: €16.8 billion), of which €3.8 billion (previous year: €3.4 billion) was drawn down.

Local cash funds in certain countries (e.g. China, Brazil, Argentina, South Africa and India) are only available to the Group for cross-border transactions subject to exchange controls. There are no significant restrictions over and above these.

The following overview shows the contractual undiscounted cash flows from financial instruments:

MATURITY ANALYSIS OF UNDISCOUNTED CASH FLOWS FROM FINANCIAL INSTRUMENTS

€ million	REMAINING CONTRACTUAL MATURITIES			2019	REMAINING CONTRACTUAL MATURITIES			2018
	up to one year	within one to five years	more than five years		up to one year	within one to five years	more than five years	
Put options and compensation rights granted to noncontrolling interest shareholders	–	–	–	–	1,853	–	–	1,853
Financial liabilities	90,137	96,135	25,542	211,814	91,891	84,965	23,380	200,235
Trade payables	22,745	0	–	22,745	23,607	0	–	23,607
Other financial liabilities	8,633	2,355	176	11,164	8,010	1,916	154	10,080
Derivatives	70,932	57,182	5,912	134,027	63,059	42,984	3,036	109,078
	192,447	155,672	31,630	379,750	188,419	129,865	26,570	344,854

The cash outflows on other financial liabilities include outflows on liabilities for tax allocations amounting to €19 million (previous year: €33 million).

Derivatives comprise both cash flows from derivative financial instruments with negative fair values and cash flows from derivatives with positive fair values for which gross settlement has been agreed. Derivatives entered into through offsetting transactions are also accounted for as cash outflows. The cash outflows from derivatives for which gross settlement has been agreed are matched in part by cash inflows. These cash inflows are not reported in the maturity analysis. If these cash inflows were also recognized, the cash outflows presented would be substantially lower. This applies in particular also if hedges have been closed with offsetting transactions.

The cash outflows from irrevocable credit commitments are presented in section entitled "Other financial obligations", classified by contractual maturities.

As of December 31, 2019, the maximum potential liability under financial guarantees amounted to €425 million (previous year: €315 million). Financial guarantees are assumed to be due immediately in all cases.

4. MARKET RISK

4.1 Hedging policy and financial derivatives

During the course of its general business activities, the Volkswagen Group is exposed to foreign currency, interest rate, commodity price, equity price and fund price risk. Corporate policy is to limit such risk by means of hedging. Generally, all necessary hedging transactions, with the exception of the Scania, MAN and Porsche Holding GmbH (Salzburg) subgroups, are executed or coordinated centrally by Group Treasury.

DISCLOSURES ON GAINS AND LOSSES FROM FAIR VALUE HEDGES

Fair value hedges involve hedging against the risk of changes in the carrying amount of balance sheet items. As of the reporting date, both hedging instruments and hedged items are measured at fair value in relation to the hedged risk, and the resulting changes in value are recognized on a net basis in the corresponding income statement item.

The following table shows the gains and losses from (fair value) hedges by risk type:

DISCLOSURES ON GAINS AND LOSSES FROM FAIR VALUE HEDGES

€ million	Dec. 31, 2019	Dec. 31, 2018
Hedging interest rate risk		
Other financial result	–	–
Other operating result	–5	34
Hedging currency risk		
Other financial result	–	–
Other operating result	–39	–30
Combined interest rate and currency risk hedging		
Other financial result	–	0
Other operating result	2	5

DISCLOSURES ON GAINS AND LOSSES FROM CASH FLOW HEDGES

Cash flow hedges are used to hedge against risks of fluctuations in future cash flows. These cash flows may arise from a recognized asset or liability, or from a highly probable forecast transaction. The following table shows the gains and losses from (cash flow) hedges by risk type:

DISCLOSURES ON GAINS AND LOSSES FROM CASH FLOW HEDGES

€ million	2019	2018
Hedging interest rate risk		
Gains or losses from changes in fair value of hedging instruments within hedge accounting		
Recognized in equity	-41	-38
Recognized in profit or loss	0	0
Reclassification from the cash flow hedge reserve to profit or loss		
Due to early discontinuation of the hedging relationships	-	-
Due to realization of the hedged item	-1	2
Hedging currency risk		
Gains or losses from changes in fair value of hedging instruments within hedge accounting		
Recognized in equity	-2,136	-1,367
Recognized in profit or loss	-1	-7
Reclassification from the cash flow hedge reserve to profit or loss		
Due to early discontinuation of the hedging relationships	4	-1
Due to realization of the hedged item	137	-1,074
Combined interest rate and currency risk hedging		
Gains or losses from changes in fair value of hedging instruments within hedge accounting		
Recognized in equity	-4	8
Recognized in profit or loss	2	0
Reclassification from the cash flow hedge reserve to profit or loss		
Due to early discontinuation of the hedging relationships	-	-
Due to realization of the hedged item	2	-8
Hedging commodities price risk		
Gains or losses from changes in fair value of hedging instruments within hedge accounting		
Recognized in equity	-	-5
Recognized in profit or loss	-	-
Reclassification from the cash flow hedge reserve to profit or loss		
Due to early discontinuation of the hedging relationships	-	-
Due to realization of the hedged item	-4	1

The table presents effects taken to equity, reduced by deferred taxes.

The gain or loss from changes in the fair value of hedging instruments used in hedge accounting corresponds to the basis for determining hedge ineffectiveness. The ineffective portion of a cash flow hedge is the income or expense resulting from changes in the fair value of the hedging instrument that exceed the changes in the fair value of the hedged item. This hedge ineffectiveness is attributable to parameter differences between the hedging instrument and the hedged item. Such income and expenses are recognized in other operating income/expenses or in the financial result.

The Volkswagen Group uses two different methods to present market risk from nonderivative and derivative financial instruments in accordance with IFRS 7. For quantitative risk measurement, interest rate and foreign currency risk in the Volkswagen Financial Services subgroup are measured using a value-at-risk (VaR) model on the basis of a historical simulation, while market risk in the other Group companies is determined using a sensitivity analysis. The value-at-risk calculation indicates the size of the maximum potential loss on the portfolio as a whole within a time horizon of 40 days, measured at a confidence level of 99%. To provide the basis for this calculation, all cash flows from nonderivative and derivative financial instruments are aggregated into an interest rate gap analysis. The historical market data used in calculating value at risk covers a period of 1,000 trading days. The sensitivity analysis calculates the effect on equity and profit or loss by modifying risk variables within the respective market risks.

DISCLOSURES ON HEDGING INSTRUMENTS IN HEDGE ACCOUNTING

The Volkswagen Group regularly enters into hedging instruments to hedge against changes in the carrying amount of balance sheet items. The summary below shows the notional amounts, fair values and base variables for determining the ineffectiveness of hedging instruments entered into to hedge against the risk of changes in carrying amounts in fair value hedges:

DISCLOSURES ON HEDGING TRANSACTIONS IN FAIR VALUE HEDGES IN 2018

€ million	Notional amount	Other assets	Other liabilities	Fair value changes to determine hedge ineffectiveness
Hedging interest rate risk				
Interest rate swaps	48,609	467	61	309
Hedging currency risk				
Currency forwards, currency options, cross-currency swaps	6,811	222	75	95
Combined interest rate and currency risk hedging				
Interest rate/currency swaps	901	58	0	108

DISCLOSURES ON HEDGING TRANSACTIONS IN FAIR VALUE HEDGES IN 2019

€ million	Notional amount	Other assets	Other liabilities	Fair value changes to determine hedge ineffectiveness
Hedging interest rate risk				
Interest rate swaps	55,443	650	97	586
Hedging currency risk				
Currency forwards, currency options, cross-currency swaps	6,807	74	111	-17
Combined interest rate and currency risk hedging				
Cross-currency interest rate swaps	580	13	1	12

In addition, hedging instruments are entered into to hedge against the risk of fluctuations in future cash flows. The table below shows the notional amounts, fair values and base variables for determining the ineffectiveness of hedging instruments designated as cash flow hedges:

DISCLOSURES ON HEDGING TRANSACTIONS IN CASH FLOW HEDGES IN 2018

€ million	Notional amount	Other assets	Other liabilities	Fair value changes to determine hedge ineffectiveness
Hedging interest rate risk				
Interest rate swaps	12,477	39	15	17
Hedging currency risk				
Currency forwards and cross-currency swaps	66,505	1,834	836	2,794
Currency options	17,956	187	91	69
Combined interest rate and currency risk hedging				
Cross-currency interest rate swaps	1,424	44	11	35

DISCLOSURES ON HEDGING TRANSACTIONS IN CASH FLOW HEDGES IN 2019

€ million	Notional amount	Other assets	Other liabilities	Fair value changes to determine hedge ineffectiveness
Hedging interest rate risk				
Interest rate swaps	14,017	6	48	-32
Hedging currency risk				
Currency forwards and cross-currency swaps	87,271	689	2,090	96
Currency options	15,198	73	68	1
Combined interest rate and currency risk hedging				
Cross-currency interest rate swaps	1,648	29	19	11

The change in the fair value to determine ineffectiveness corresponds to the change in fair value of the designated component.

DISCLOSURES ON HEDGED ITEMS IN HEDGE ACCOUNTING

In addition to disclosures on hedging instruments, disclosures are also required on the hedged items, broken down by risk category and type of designation for hedge accounting. Below follows a list of hedged items designated in fair value hedges, separately from those designated in cash flow hedges:

DISCLOSURES ON HEDGED ITEMS IN FAIR VALUE HEDGES IN 2018

€ million	Carrying amount	Cumulative hedge adjustments	Hedge adjustments current period/ fiscal year	Cumulative hedge adjustments from discontinued hedging relationships
Hedging interest rate risk				
Financial services receivables	19,311	-10	20	-
Other financial assets	-	17	17	-
Financial liabilities	31,670	220	127	-
Hedging currency risk				
Financial services receivables	-	-	-	3
Other financial assets	640	28	77	-
Financial liabilities	26	36	38	-
Combined interest rate and currency risk hedging				
Financial services receivables	-	4	4	-
Other financial assets	714	-32	-4	-
Financial liabilities	166	1	1	-

DISCLOSURES ON HEDGED ITEMS IN FAIR VALUE HEDGES IN 2019

€ million	Carrying amount	Cumulative hedge adjustments	Hedge adjustments current period/ fiscal year	Cumulative hedge adjustments from discontinued hedging relationships
Hedging interest rate risk				
Financial services receivables	20,680	17	32	-
Other financial assets	194	24	7	-
Financial liabilities	40,704	519	278	-
Hedging currency risk				
Financial services receivables	-	-	-	-
Other financial assets	991	-3	-55	-
Financial liabilities	1,595	32	-4	-
Combined interest rate and currency risk hedging				
Financial services receivables	-	-	-	-
Other financial assets	209	-26	2	-
Financial liabilities	48	3	3	-

DISCLOSURES ON HEDGED ITEMS IN CASH FLOW HEDGES IN 2018

€ million	Changes in fair value to determine hedge ineffectiveness	RESERVE FOR	
		Active cash flow hedges	Discontinued cash flow hedges
Hedging interest rate risk			
Designated components	26	19	0
Non-designated components	–	–	–
Deferred taxes	–	–1	0
Total hedging interest rate risk	26	19	0
Hedging currency risk			
Designated components	2,526	2,524	0
Non-designated components	–	–885	–9
Deferred taxes	–	–478	1
Total hedging currency risk	2,526	1,162	–8
Combined interest rate and currency risk hedging			
Designated components	27	2	–26
Non-designated components	–	–	–
Deferred taxes	–	0	8
Total hedging combined interest rate and currency risk	27	1	–18
Hedging commodity price risk			
Designated components	–	–	7
Non-designated components	–	–	–
Deferred taxes	–	–	–2
Total hedging commodity price risk	–	–	5

DISCLOSURES ON HEDGED ITEMS IN CASH FLOW HEDGES IN 2019

€ million	Changes in fair value to determine hedge ineffectiveness	RESERVE FOR	
		Active cash flow hedges	Discontinued cash flow hedges
Hedging interest rate risk			
Designated components	-29	-30	0
Non-designated components	-	-	-
Deferred taxes	-	7	0
Total hedging interest rate risk	-29	-23	0
Hedging currency risk			
Designated components	143	184	-5
Non-designated components	-	-1,380	-6
Deferred taxes	-	366	0
Total hedging currency risk	143	-830	-11
Combined interest rate and currency risk hedging			
Designated components	20	-2	-26
Non-designated components	-	-	-
Deferred taxes	-	1	8
Total hedging combined interest rate and currency risk	20	-2	-18
Hedging commodity price risk			
Designated components	-	-	1
Non-designated components	-	-	-
Deferred taxes	-	-	0
Total hedging commodity price risk	-	-	1

CHANGES IN THE RESERVE

When accounting for cash flow hedges, the designated effective portions of a hedging relationship are recognized in OCI I. Any changes in excess of the fair value of the designated component are recognized as ineffectiveness through profit or loss.

The tables below show a reconciliation to the reserve:

CHANGES IN THE RESERVE FOR CASH FLOW HEDGES (OCI I)

€ million	Interest rate risk	Currency risk	Interest rate/ currency risk	Commodity price risk	Total
Balance at Jan. 1, 2018	55	3,533	-16	9	3,581
Gains or losses from effective hedging relationships	-38	-414	8	-5	-450
Reclassifications due to changes in whether the hedged item is expected to occur	-	-1	-	-	-1
Reclassifications due to realization of the hedged item	2	-1,335	-8	1	-1,341
Balance at Dec. 31, 2018	19	1,783	-17	5	1,790

CHANGES IN THE RESERVE FOR CASH FLOW HEDGES (OCI I)

€ million	Interest rate risk	Currency risk	Interest rate/ currency risk	Commodity price risk	Total
Balance at Jan. 1, 2019	19	1,783	-17	5	1,790
Gains or losses from effective hedging relationships	-41	-1,092	-4	-	-1,137
Reclassifications due to changes in whether the hedged item is expected to occur	-	1	-	-	1
Reclassifications due to realization of the hedged item	-1	-557	2	-4	-561
Balance at Dec. 31, 2019	-23	135	-20	1	93

If expectations about the occurrence of the hedged item change, the arrangement is reclassified by terminating the hedging relationship prematurely. Changed expectations are primarily caused by a change in projections for hedging sales revenue.

Changes in the fair values of non-designated components of a derivative are likewise always recognized immediately through profit or loss. An exception from this principle is any change in the fair value attributable to non-designated time values of options, to the extent that they relate to the hedged item. Moreover, the Volkswagen Group initially recognizes in equity (hedging costs) changes in the fair values of non-designated forward components in currency forwards and currency hedges attributed to cash flow hedges. This means that the Volkswagen Group recognizes changes in the fair value of the non-designated component or parts thereof immediately through profit or loss only if there is ineffectiveness.

The tables below show a summary of changes in the reserve for hedging costs resulting from the non-designated portions of options and currency hedges:

CHANGES IN THE RESERVE FOR HEDGING COSTS – NON-DESIGNATED TIME VALUES OF OPTIONS

€ million	CURRENCY RISK	
	2019	2018
Balance at Jan. 1	-1	63
Gains and losses from non-designated time value of options		
Hedged item is recognized at a point in time	-71	-86
Reclassifications due to changes in whether the hedged item is expected to occur		
Hedged item is recognized at a point in time	0	-
Reclassification due to realization of the hedged item		
Hedged item is recognized at a point in time	38	23
Balance at Dec. 31	-35	-1

CHANGES IN THE RESERVE FOR HEDGING COSTS – NON-DESIGNATED FORWARD COMPONENT AND CROSS CURRENCY BASIS SPREAD (CCBS)

€ million	CURRENCY RISK	
	2019	2018
Balance at Jan. 1	–628	–
Gains and losses from non-designated forward elements and CCBS		
Hedged item is recognized at a point in time	–973	–866
Reclassification due to realization of the hedged item		
Hedged item is recognized at a point in time	656	238
Reclassification due to changes in whether the hedged item is expected to occur		
Hedged item is recognized at a point in time	3	0
Balance at Dec. 31	–942	–628

4.2 Market risk in the Volkswagen Group (excluding Volkswagen Financial Services subgroup)

4.2.1 Foreign currency risk

Foreign currency risk in the Volkswagen Group (excluding Volkswagen Financial Services subgroup) is attributable to investments, financing measures and operating activities. Currency forwards, currency options, currency swaps and cross-currency interest rate swaps are used to limit foreign currency risk. These transactions relate to the exchange rate hedging of all material payments covering general business activities that are not made in the functional currency of the respective Group companies. The principle of matching currencies applies to the Group's financing activities.

Hedging transactions entered into in 2019 as part of foreign currency risk management were amongst others in Australian dollars, Brazilian real, sterling, Chinese renminbi, Hong Kong dollars, Indian rupees, Japanese yen, Canadian dollars, Mexican pesos, Norwegian kroner, Polish zloty, Russian rubles, Swedish kronor, Swiss francs, Singapore dollars, South African rand, South Korean won, Taiwan dollars, Czech koruna, Hungarian forints and US dollars.

All nonfunctional currencies in which the Volkswagen Group enters into financial instruments are included as relevant risk variables in the sensitivity analysis in accordance with IFRS 7.

If the functional currencies concerned had appreciated or depreciated by 10% against the other currencies, the exchange rates shown below would have resulted in the following effects on the hedging reserve in equity and on earnings after tax. It is not appropriate to add together the individual figures, since the results of the various functional currencies concerned are based on different scenarios.

The following table shows the sensitivities of the main currencies in the portfolio as of December 31, 2019:

€ million	DEC. 31, 2019		DEC. 31, 2018	
	+10%	-10%	+10%	-10%
Exchange rate				
EUR/GBP				
Hedging reserve	1,472	-1,472	960	-959
Earnings after tax	-172	172	-205	205
EUR/USD				
Hedging reserve	964	-979	1,329	-1,272
Earnings after tax	-473	473	-449	449
EUR/CNY				
Hedging reserve	739	-761	729	-725
Earnings after tax	-155	155	-159	159
EUR/CHF				
Hedging reserve	414	-396	312	-298
Earnings after tax	-1	1	12	-12
EUR/JPY				
Hedging reserve	342	-344	287	-285
Earnings after tax	-13	13	-18	18
EUR/SEK				
Hedging reserve	87	-85	94	-92
Earnings after tax	-122	122	-35	35
EUR/CAD				
Hedging reserve	190	-190	117	-113
Earnings after tax	-14	14	-30	30
EUR/CZK				
Hedging reserve	98	-98	65	-65
Earnings after tax	-62	62	-38	38
EUR/PLN				
Hedging reserve	-78	78	-54	54
Earnings after tax	-58	58	-52	52
CZK/GBP				
Hedging reserve	136	-136	135	-135
Earnings after tax	0	0	-1	1
EUR/BRL				
Hedging reserve	6	-6	8	-8
Earnings after tax	-111	111	-65	65
EUR/AUD				
Hedging reserve	87	-87	97	-97
Earnings after tax	-25	25	-32	32
CZK/PLN				
Hedging reserve	105	-105	34	-34
Earnings after tax	1	-1	1	-1
EUR/HUF				
Hedging reserve	0	0	0	0
Earnings after tax	-104	104	-63	63
EUR/KRW				
Hedging reserve	79	-78	33	-34
Earnings after tax	-19	19	-15	15

4.2.2 Interest rate risk

Interest rate risk in the Volkswagen Group (excluding Volkswagen Financial Services subgroup) results from changes in market interest rates, primarily for medium- and long-term variable interest receivables and liabilities. Interest rate swaps and cross-currency interest rate swaps are sometimes entered into to hedge against this risk primarily under fair value or cash flow hedges, and depending on market conditions. Intragroup financing arrangements are mainly structured to match the maturities of their refinancing. Departures from the Group standard are subject to centrally defined limits and monitored on an ongoing basis.

Interest rate risk within the meaning of IFRS 7 is calculated for these companies using sensitivity analyses. The effects of the risk-variable market rates of interest on the financial result and on equity are presented, net of tax.

If market interest rates had been 100 bps higher as of December 31, 2019, equity would have been €98 million (previous year: €131 million) lower. If market interest rates had been 100 bps lower as of December 31, 2019, equity would have been €90 million (previous year: €66 million) higher.

If market interest rates had been 100 bps higher as of December 31, 2019, earnings after tax would have been €55 million (previous year: €24 million) higher. If market interest rates had been 100 bps lower as of December 31, 2019, earnings after tax would have been €47 million (previous year: €26 million) lower.

4.2.3 Commodity price risk

Commodity price risk in the Volkswagen Group (excluding Volkswagen Financial Services subgroup) primarily results from price fluctuations and the availability of ferrous and non-ferrous metals, precious metals, commodities required in connection with the Group's digitalization and electrification strategy, as well as of coal, CO₂ certificates and rubber.

Commodity price risk is limited by entering into forward transactions and swaps.

Commodity price risk within the meaning of IFRS 7 is presented using sensitivity analyses. These show the effect on earnings after tax of changes in the risk variable commodity prices.

If the commodity prices of the hedged nonferrous metals, coal and rubber had been 10% higher (lower) as of December 31, 2019, earnings after tax would have been €415 million (previous year: €197 million) higher (lower).

4.2.4 Equity and bond price risk

The special funds launched using surplus liquidity and the equity interests measured at fair value are subject in particular to equity price and bond price risk, which can arise from fluctuations in quoted market prices, stock exchange indices and market rates of interest. The changes in bond prices resulting from variations in the market rates of interest are quantified in sections 4.2.1 and 4.2.2, as are the measurement of foreign currency and other interest rate risks arising from the special funds and the equity interests measured at fair value. As a rule, risks arising from the special funds are countered by ensuring a broad diversification of products, issuers and regional markets when investing funds, as stipulated by the Investment Guidelines of the Group. In addition, exchange rates are hedged when market conditions are appropriate.

As part of the presentation of market risk, IFRS 7 requires disclosures on how hypothetical changes in risk variables affect the price of financial instruments. Potential risk variables here are in particular quoted market prices or indices, as well as interest rate changes as bond price parameters.

If share prices had been 10% higher as of December 31, 2019, earnings after tax would have been €118 million (previous year: €16 million) higher and equity would have been €3 million (previous year: €4 million) higher. If share prices had been 10% lower as of December 31, 2019, earnings after tax would have been €175 million (previous year: €25 million) lower and equity would have been €3 million (previous year: €4 million) lower.

4.3 Market risk at Volkswagen Financial Services subgroup

Exchange rate risk in the Volkswagen Financial Services subgroup is mainly attributable to assets that are not denominated in the functional currency and from refinancing within operating activities. Interest rate risk relates to refinancing without matching maturities and the varying interest rate elasticity of individual asset and liability items. The risks are limited by the use of currency and interest rate hedges.

Microhedges and portfolio hedges are used for interest rate hedging. Fixed-rate assets and liabilities included in the hedging strategy are recognized at fair value, as opposed to their original subsequent measurement at amortized cost. The resulting effects in the income statement are offset by the corresponding gains and losses on the interest rate hedging instruments (swaps). Currency hedges (currency forwards and cross-currency interest rate swaps) are used to mitigate foreign currency risk. All cash flows in foreign currency are hedged.

As of December 31, 2019, the value at risk was €147 million (previous year: €122 million) for interest rate risk and €172 million (previous year: €187 million) for foreign currency risk.

The entire value at risk for interest rate and foreign currency risk at the Volkswagen Financial Services subgroup was €170 million (previous year: €214 million).

5. METHODS FOR MONITORING HEDGE EFFECTIVENESS

Since the implementation of IFRS 9, the Volkswagen Group determines hedge effectiveness mainly on a prospective basis using the critical terms match method. Retrospective analysis of effectiveness uses effectiveness tests in the form of the dollar offset method. Under the dollar offset method, the changes in value of the hedged item expressed in monetary units are compared with the changes in value of the hedging instrument expressed in monetary units.

To this end, the accumulated changes in the fair value of the designated spot component of the hedging instrument and hedged item are compared. If the critical terms do not match, the same procedure is applied to the non-designated component.

For hedges involving interest rate or cross-currency swaps, the Volkswagen Group is exposed to uncertainty resulting from the IBOR reform, which may affect the timing, the amount of the IBOR-based cash flows, or the hedged risk of the hedged item or the hedging instrument. The Volkswagen Group applies the practical expedients allowed in connection with the amendments to the standard, irrespective of the remaining maturity of the hedged items and hedging instruments included in the hedges, to all hedges affected by the above-mentioned uncertainty arising from the IBOR reform.

The uncertainty relates to the following interest rate benchmarks: GBP LIBOR, AUD BBSW, NOK OIBOR, USD LIBOR and CAD CDOR. In the case of fair value hedges, the uncertainty relates to the identifiability of the risk component which results from the change in the fair value used to hedge against risks of changes in the carrying amounts of financial assets and financial liabilities. In cash flow hedges used to hedge against risks arising from changes in future cash flows, the uncertainty relates to the highly probable requirement for hedged future variable cash flows. The expected impact of the IBOR reform is being assessed on an ongoing basis and any measure required will be initiated promptly. By adapting systems and processes, the measures are intended to ensure that new interest rate benchmarks can be rolled out to replace the interest rate benchmarks discontinued as a result of the IBOR reform in a timely manner. The Volkswagen Group is currently focusing on the SONIA interest rate benchmark, because it has already become widely accepted and affects material transactions.

NOTIONAL AMOUNT OF DERIVATIVES

The notional amounts of hedging instruments exposed to the uncertainty from the IBOR reform described above are €35,389 million in total. Of this total, €13,112 million is attributable to GBP LIBOR, €2,675 million to AUD BBSW, €1,432 million to NOK OIBOR, €12,847 million to USD LIBOR and €3,990 million to CAD CDOR.

The summary below presents the remaining maturities profile of the notional amounts of the hedging instruments, which are accounted for under the Volkswagen Group's hedge accounting rules, and of derivatives to which hedge accounting is not applied:

NOTIONAL AMOUNT OF DERIVATIVES

€ million	REMAINING TERM			TOTAL NOTIONAL AMOUNT	TOTAL NOTIONAL AMOUNT
	up to one year	within one to five years	more than five years	Dec. 31, 2019	Dec. 31, 2018
Notional amount of hedging instruments within hedge accounting					
Hedging interest rate risk					
Interest rate swap	19,308	44,123	6,029	69,460	61,086
Hedging currency risk					
Currency forwards/Cross-currency swaps					
Currency forwards/Cross-currency swaps in CNY	6,886	3,983	–	10,869	9,412
Currency forwards/Cross-currency swaps in GBP	11,908	13,245	–	25,153	18,270
Currency forwards/Cross-currency swaps in USD	8,458	12,905	2,603	23,965	18,863
Currency forwards/Cross-currency swaps in other currencies	19,706	14,384	1	34,091	26,770
Currency options					
Currency options in USD	3,857	4,899	–	8,755	9,683
Currency options in CNY	2,047	–	–	2,047	4,062
Currency options in other currencies	1,692	2,703	–	4,395	4,210
Combined interest rate and currency risk hedging					
Cross-currency interest rate swaps	1,698	530	–	2,228	2,325
Notional amount of other derivatives					
Hedging Interest rate risk					
Interest rate swap	22,873	27,918	20,060	70,852	66,358
Hedging Currency risk					
Currency forwards/Cross-currency swaps					
Currency forwards/Cross-currency swaps in USD	6,293	4,620	585	11,498	12,403
Currency forwards/Cross-currency swaps in other currencies	19,740	1,362	4	21,105	17,537
Currency options					
Currency options in USD	188	–	–	188	–
Currency options in other currencies	487	–	–	487	215
Combined interest rate and currency risk hedging					
Cross-currency interest rate swaps	6,008	6,543	949	13,499	12,450
Hedging Commodity price risk					
Forward commodity contracts (aluminum)	1,148	1,894	–	3,041	2,131
Forward commodity contracts (copper)	293	663	–	956	686
Forward commodity contracts (nickel)	157	1,335	584	2,075	235
Forward commodity contracts (other)	101	87	–	188	201

Both derivatives closed with offsetting transactions and the offsetting transactions themselves are included in the respective notional amount. The offsetting transactions cancel out the effects of the original hedging transactions. If the offsetting transactions were not included, the respective notional amount would be significantly lower. In addition to the derivatives used for hedging foreign currency, interest rate and price risk, the Group held options and other derivatives on equity instruments at the reporting date, mainly in connection with fund investments, with a notional amount of €18.2 billion (previous year: €3.8 billion) whose remaining maturity is under one year. Also in connection with fund investments, the Group held credit default swaps with a notional amount of €30.6 billion (previous year: €21.0 billion).

Existing cash flow hedges in the notional amount of €162 million (previous year: €53 million) were discontinued because of a reduction in the projections. In addition, hedges were to be terminated due to internal risk regulations.

Items hedged under cash flow hedges are expected to be realized in accordance with the maturity buckets of the hedges reported in the table. For cash flow hedges, the Volkswagen Group achieved an average hedging interest rate of 1.68% for hedging interest rate risk. In addition, currency risk was hedged at the following hedging exchange rates for the major currency pairs: EUR/USD at 1.20; EUR/GBP at 0.88; EUR/CNY at 8.14.

The fair values of the derivatives are estimated using market data at the balance sheet date as well as by appropriate valuation techniques. The following term structures were used for the calculation:

in %	EUR	CAD	CHF	CNY	CZK	GBP	JPY	SEK	USD
Interest rate for six months	-0.3774	1.9480	-0.5622	2.9797	2.1445	0.7651	-0.1787	0.1852	1.8264
Interest rate for one year	-0.3674	1.9659	-0.5146	2.9918	2.2949	0.7386	-0.0877	0.1970	1.7630
Interest rate for five years	-0.1195	2.0300	-0.4360	3.4000	2.0600	0.8844	0.0250	0.3900	1.6866
Interest rate for ten years	0.2110	2.1150	-0.1120	4.1500	1.7250	1.0172	0.1263	0.6900	1.8350

38. Capital management

The Group's capital management ensures that its goals and strategies can be achieved in the interests of shareholders, employees and other stakeholders. In particular, management focuses on generating the minimum return on invested assets in the Automotive Division that is required by the capital markets, and on increasing the return on equity in the Financial Services Division. In the process, it aims overall to achieve the highest possible growth in the value of the Group and its divisions for the benefit of all the Company's stakeholder groups.

In order to maximize the use of resources in the Automotive Division and to measure the success of this, we have for a number of years been using a value-based management system, with value contribution as an absolute performance measure and return on investment (ROI) as a relative indicator.

Value contribution is defined as the difference between operating profit after tax and the opportunity cost of invested capital. The opportunity cost of capital is calculated by multiplying the market cost of capital by average invested capital. Invested capital is calculated by taking the operating assets reported in the balance sheet (property, plant and equipment, intangible assets, lease assets, inventories and receivables) and deducting non-interest-bearing liabilities (trade payables and payments on account received). Average invested capital is derived from the balance at the beginning and the end of the reporting period. Despite the charges relating to the special items recognized in the operating result, the Automotive Division disclosed a positive value contribution of €5,691 million in the reporting period which, due to the improvement in the operating result before special items and an only slight increase in the cost of capital, was significantly higher than the prior-year figure.

The return on investment is defined as the return on invested capital for a particular period based on the operating result after tax. If the return on investment exceeds the market cost of capital, there is an increase in the value of the invested capital and a positive value contribution. In the Group, a minimum required rate of return on invested capital of 9% is defined, which applies to both the business units and the individual products and product lines. Our goal of generating a sustained return on investment of over 14% is anchored in Strategy 2025. The return on investment therefore serves as a consistent target in operational and strategic management and is used to measure target attainment for the Automotive Division, the individual business units, and projects and products. The return on investment achieved for the Automotive Division was 11.2%, which is above our minimum rate of return on invested capital of 9% and significantly exceeds the current cost of capital of 6.3%.

Due to the specific features of the Financial Services Division, its management focuses on return on equity, a special target linked to invested capital. This measure is calculated as the ratio of earnings before tax to average equity. Average equity is calculated from the balance at the beginning and the end of the reporting period. In addition, the goals of the Financial Services Division are to meet the banking supervisory authorities' regulatory capital requirements, to procure equity for the growth planned in the coming fiscal years and to support its external rating by ensuring capital adequacy. To ensure compliance with prudential requirements at all times, a planning procedure integrated into internal reporting has been put in place at the Volkswagen Bank, allowing the required equity to be continuously determined on the basis of actual and expected business performance. In the reporting period, this again ensured that regulatory minimum capital requirements were always met both at Group level and at the level of subordinate companies' individual, specific capital requirements.

The return on investment and value contribution in the Automotive Division as well as the return on equity and the equity ratio in the Financial Services Division are shown in the following table:

€ million	2019	2018
Automotive Division¹		
Operating result after tax	13,019	11,438
Invested capital (average)	116,016	104,424
Return on investment (ROI) in %	11.2	11.0
Cost of capital in %	6.3	6.2
Opportunity cost of invested capital	7,328	6,474
Value contribution²	5,691	4,964
Financial Services Division		
Earnings before tax	3,219	2,782
Average equity	29,684	27,982
Return on equity before tax in %	10.8	9.9
Equity ratio in %	12.8	12.7

1 Including proportionate inclusion of the Chinese joint ventures and allocation of consolidation adjustments between the Automotive and Financial Services Divisions; excluding effects on earnings and assets from purchase price allocation.

2 The value contribution corresponds to the Economic Value Added (EVA®). EVA® is a registered trademark of Stern Stewart & Co.

39. Contingent liabilities

€ million	Dec. 31, 2019	Dec. 31, 2018
Liabilities under guarantees	574	511
Liabilities under warranty contracts	192	138
Assets pledged as security for third-party liabilities	19	18
Other contingent liabilities	7,708	8,607
	8,494	9,274

The trust assets and liabilities of the savings and trust entities belonging to the South American subsidiaries not included in the consolidated balance sheet amount to €419 million (previous year: €558 million).

In the case of liabilities from guarantees, the Group is required to make specific payments if the debtors fail to meet their obligations.

The other contingent liabilities primarily comprise potential liabilities arising from matters relating to taxes and customs duties, as well as litigation and proceedings relating to suppliers, dealers, customers, employees and investors. The contingent liabilities recognized in connection with the diesel issue totaled €3.7 billion (previous year: €5.4 billion), of which €3.4 billion (previous year: €3.4 billion) was attributable to investor lawsuits. Also included are certain elements of the class action lawsuits and proceedings/misdemeanor proceedings relating to the diesel issue as far as these can be quantified. As some of these proceedings are still at a very early stage, the plaintiffs have in a number of cases so far not specified the basis of their claims and/or there is insufficient certainty about the number of plaintiffs or the amounts being claimed. Where these lawsuits meet the definition of a contingent liability, no disclosure was normally required because it had not been possible to measure the amount involved.

In addition, other contingent liabilities include an amount of €0.7 billion for potential liabilities resulting from the risk of tax proceedings instituted by the Brazilian tax authorities against MAN Latin America.

On May 5, 2016, the U.S. National Highway Traffic Safety Administration (NHTSA) announced, jointly with the Takata company, a further extension of the recall for various models from different manufacturers containing certain airbags produced by the Takata company. Recalls were also ordered by the local authorities in individual countries. The recalls also included models manufactured by the Volkswagen Group. Appropriate provisions have been recognized. Currently, the possibility of further extensions to the recalls that could also affect Volkswagen Group models cannot be ruled out. It is not possible at the moment to provide further disclosures in accordance with IAS 37.86 in relation to this matter because the technical investigations and consultations with the authorities are still being carried out.

As permitted by IAS 37.92, in order not to prejudice the outcomes of the proceedings and the interests of the Company, we have not made any further disclosures about estimates in connection with the financial effects of, and disclosures about, uncertainty regarding the timing or amount of contingent liabilities in connection with the diesel issue and investigations by the European Commission. Further information can be found under the section entitled "Litigation".

40. Litigation

Volkswagen AG and the companies in which it is directly or indirectly invested are involved in a substantial number of legal disputes and governmental proceedings in Germany and abroad. Such legal disputes and other proceedings occur, among other things, in relation to or in connection with employees, public authorities, services, dealers, investors, customers, suppliers, products, or other contracting parties. For the companies in question, these disputes and proceedings may result in payments such as fines or in other obligations or consequences. In particular, substantial compensatory or punitive damages may have to be paid and cost-intensive measures may have to be implemented. In this context, specific estimation of the objectively likely consequences is often possible only to a very limited extent, if at all.

Risks may also emerge in connection with the adherence to regulatory requirements. This particularly applies in the case of regulatory gray areas where Volkswagen and the authorities responsible for the respective regulations may interpret the regulations differently. In addition, legal risks can arise from the criminal activities of individual persons, which even the best compliance management system can never completely prevent.

Where transparent and economically viable, adequate insurance coverage was taken out for these risks. For the identifiable and measurable risks, provisions considered appropriate based on existing information were recognized and information about contingent liabilities disclosed. As some risks cannot be assessed or can only be assessed to a limited extent, the possibility of material loss or damage not covered by the insured amounts and provisions cannot be ruled out. This applies particularly to legal risk assessment regarding the diesel issue.

Diesel issue

On September 18, 2015, the US Environmental Protection Agency (EPA) publicly announced in a “Notice of Violation” that irregularities in relation to nitrogen oxide (NO_x) emissions had been discovered in emissions tests on certain Volkswagen Group vehicles with type 2.0 l diesel engines in the USA. In this context, Volkswagen AG announced that noticeable discrepancies between the figures achieved in testing and in actual road use had been identified in around eleven million vehicles worldwide with type EA 189 diesel engines. On November 2, 2015, the EPA issued a “Notice of Violation” alleging that irregularities had also been discovered in the software installed in US vehicles with type V6 3.0 l diesel engines.

Numerous court and governmental proceedings were subsequently initiated in various countries. We have since succeeded in making substantial progress and ending many of these proceedings.

In the USA, Volkswagen AG and certain affiliates reached settlement agreements with various government authorities and private plaintiffs, the latter represented by a Plaintiffs’ Steering Committee in a multidistrict litigation in the US state of California. These agreements resolved certain civil claims as well as criminal charges under US federal law and the laws of certain US states in connection with the diesel issue. As part of the agreements entered into with the US Department of Justice and the State of California (Plea Agreement and Third Partial Consent Decrees), a Compliance Monitor and Compliance Auditor was appointed for Volkswagen in 2017 for a term of three years. Although Volkswagen AG and its subsidiaries and affiliates are firmly committed to fulfilling the obligations arising from these agreements, a breach of these obligations cannot be completely ruled out. In the event of a violation, significant penalties could be imposed as stipulated in the agreements, in addition to the possibility of further monetary fines, criminal sanctions and injunctive relief.

The diesel issue is rooted in a modification of parts of the software of the relevant engine control units – which, according to Volkswagen AG’s legal position, is only unlawful under US law – for the type EA 189 diesel engines that Volkswagen AG was developing at that time. The decision to develop and install this software function was taken in late 2006 below Board of Management level. None of the members of the Board of Management had, at that time and for several years to follow, knowledge of the development and implementation of this software function.

In the months following publication of a study by the International Council on Clean Transportation in May 2014, Volkswagen AG's Powertrain Development department checked the test set-ups on which the study was based for plausibility, confirming the unusually high NO_x emissions from certain US vehicles with type EA 189 2.0 l diesel engines. The California Air Resources Board (CARB) – a part of the environmental authority of California – was informed of this result, and, at the same time, an offer was made to recalibrate the engine control unit software of type EA 189 diesel engines in the USA as part of a service measure that was already planned in the USA. This measure was evaluated and adopted by the Ausschuss für Produktsicherheit (APS – Product Safety Committee), which initiates necessary and appropriate measures to ensure the safety and conformity of Volkswagen AG products that have been placed in the market. There are no findings that an unlawful "defeat device" under US law was disclosed to the APS as the cause of the discrepancies or to the persons responsible for preparing the 2014 annual and consolidated financial statements. Instead, at the time the 2014 annual and consolidated financial statements were being prepared, the persons responsible for preparing the 2014 annual and consolidated financial statements remained under the impression that the issue could be solved with comparatively little effort.

In the course of the summer of 2015, however, it became successively apparent to individual members of Volkswagen AG's Board of Management that the cause of the discrepancies in the USA was a modification of parts of the software of the engine control unit, which was later identified as an unlawful "defeat device" as defined by US law. This culminated in the disclosure of a "defeat device" to EPA and CARB on September 3, 2015. According to the assessment at that time of the responsible persons dealing with the matter, the scope of the costs expected by the Volkswagen Group (recall costs, retrofitting costs and financial penalties) was not fundamentally dissimilar to that in previous cases involving other vehicle manufacturers, and, therefore, appeared to be controllable overall with a view to the business activities of the Volkswagen Group. This assessment by the Volkswagen Group was based, among other things, on the advice of a law firm engaged in the USA for approval issues, according to which similar cases in the past were resolved amicably with the US authorities. The EPA's publication of the "Notice of Violation" on September 18, 2015, which the Board of Management had not expected, especially at that time, then presented the situation in an entirely different light.

The AUDI AG Board of Management members in office at the time in question have likewise stated that they had no knowledge of the use of "defeat device" software that was prohibited by US law in the type V6 3.0 l TDI engines until the EPA issued its November 2015 "Notice of Violation."

Within the Volkswagen Group, Volkswagen AG has development responsibility for the four-cylinder diesel engines such as the type EA 189, and AUDI AG has development responsibility for the six- and eight-cylinder diesel engines such as the type V6 3.0 l and V8 4.2 l diesel engines.

In agreement with the respective responsible authorities, the Volkswagen Group is making technical measures available worldwide for virtually all diesel vehicles with type EA 189 engines. Within its area of responsibility, the Kraftfahrt-Bundesamt (KBA – German Federal Motor Transport Authority) ascertained for all clusters (groups of vehicles) that implementation of the technical measures would not bring about any adverse changes in fuel consumption figures, CO₂ emission figures, engine output, maximum torque, and noise emissions.

Following the studies carried out by AUDI AG to check all relevant diesel concepts for possible irregularities and retrofit potentials, measures proposed by AUDI AG have been adopted and mandated by the KBA in various recall orders pertaining to vehicle models with V6 and V8 TDI engines. Currently, AUDI AG assumes that the total cost, including the amount based on recalls, of the ongoing largely software-based retrofit program that began in July 2017 will be manageable and has recognized corresponding balance-sheet risk provisions. AUDI AG has in the meantime developed software updates for many of the affected powertrains and, after approval by the KBA, already installed these in the vehicles of a large number of affected customers. The approvals that are still outstanding are expected in the course of 2020.

In connection with the diesel issue, potential consequences for Volkswagen's results of operations, financial position and net assets could emerge primarily in the following legal areas:

1. Criminal and administrative proceedings worldwide (excluding the USA/Canada)

Criminal investigations, regulatory offense proceedings, and/or administrative proceedings have been opened in some countries (in Germany for example by the Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin – Federal Financial Supervisory Authority). The public prosecutor's offices in Braunschweig and Munich are investigating the core issues of the criminal investigations.

In April 2019, the Braunschweig Office of the Public Prosecutor issued indictments, including one against a former Chairman of the Board of Management of Volkswagen AG, charging, among other things, fraud relating to Type EA 189 engines in connection with the diesel issue.

In September 2019, the Braunschweig Office of the Public Prosecutor furthermore indicted the current and a former Chairman of the Board of Management of Volkswagen AG as well as a former member of its Board of Management (currently Chairman of the Supervisory Board) on charges of market manipulation relating to capital market disclosure obligations in connection with the diesel issue. The Public Prosecutor's Office also requested that the court name Volkswagen AG as a collateral participant in the proceedings.

In July 2019, the Munich II Office of the Public Prosecutor issued indictments, including one against the former Chairman of the Board of Management of AUDI AG, charging, among other things, fraud relating to 3.0 TDI engines in connection with the diesel issue.

Based on the information available at the present time, no change in the risk situation of the Volkswagen Group results from these indictments.

The Stuttgart Office of the Public Prosecutor is conducting a criminal investigation relating to the diesel issue on suspicion of fraud and illegal advertising that also involves a member of the Board of Management of Dr. Ing. h.c. F. Porsche AG.

The respective Group companies appointed renowned law firms to clarify the matters underlying the public prosecutor's accusations. The Board of Management and Supervisory Board receive regular updates on the current status.

In an administrative fine order issued on May 7, 2019, the Stuttgart Office of the Public Prosecutor terminated the regulatory offense proceeding conducted against Dr. Ing. h.c. F. Porsche AG in connection with the diesel issue by finding a negligent breach of the obligation to supervise occurring in the organizational unit "Prüffeld Entwicklung Gesamtfahrzeug/Qualität" (Overall Vehicle Development/Quality - Testing Facility). The administrative order imposes a total fine of €535 million, consisting of a penalty payment of €4 million and the forfeiture of economic benefits in the amount of €531 million. After thorough examination, Dr. Ing. h.c. F. Porsche AG has accepted the fine and paid it in full, rendering the administrative fine order legally final. Further sanctions against or forfeitures by Dr. Ing. h.c. F. Porsche AG are therefore not to be expected in Europe in connection with the unitary factual situation underlying the administrative fine order.

As the type approval authority of proper jurisdiction, the KBA moreover continuously tests Audi, VW, and Porsche brand vehicles for problematic functions. If certain functions are deemed impermissible by the KBA, the affected vehicles are recalled pursuant to a recall order or they are brought back into compliance by means of a voluntary service measure.

Furthermore, additional administrative actions relating to the diesel issue are ongoing in other jurisdictions.

The companies of the Volkswagen Group continue to cooperate with the government authorities.

Whether the criminal and administrative proceedings will ultimately result in fines or other consequences for the Company, and if so what amounts these may entail, is currently subject to estimation risks. According to Volkswagen's estimates, the likelihood that a sanction will be imposed is 50% or less in the majority of these proceedings. Contingent liabilities have therefore been disclosed where the amount of such liabilities could be measured and the likelihood of a sanction being imposed was assessed at not lower than 10%. Provisions were recognized to a small extent.

2. Product-related lawsuits worldwide (excluding the USA/Canada)

In principle, it is possible that customers in the affected markets will file civil lawsuits or that importers and dealers will assert recourse claims against Volkswagen AG and other Volkswagen Group companies. Besides individual lawsuits, various forms of collective actions (i.e. assertion of individual claims by plaintiffs acting jointly or as representatives of a class) are available in various jurisdictions. Furthermore, in a number of markets it is possible for consumer and/or environmental organizations to bring suit to enforce alleged rights to injunctive relief, declaratory judgment, or damages.

Customer class action lawsuits and actions brought by consumer and/or environmental organizations are pending against Volkswagen AG and other Volkswagen Group companies in a number of countries including Australia, Belgium, Brazil, Germany, Italy, the Netherlands, Portugal, South Africa, and the United Kingdom. Alleged rights to damages and other relief are asserted in these actions. The pending actions include in particular the following:

In Australia, various class action lawsuits with opt-out provisions are currently pending against Volkswagen AG and other Volkswagen Group companies, including the Australian subsidiaries. Given the opt-out rule, the class actions have the potential to automatically cover all vehicles with type EA 189 engines unless the right to opt out is actively exercised. In all, approximately 100 thousand vehicles in the Australian market with type EA 189 engines are affected. In December 2019 Volkswagen AG reached agreements with the Australian class action plaintiffs that would terminate the litigation. The court must still approve the settlement. Depending on the number of claims filed under the class action settlement, Volkswagen AG anticipates payment of an amount of up to AUD 127.1 million plus litigation costs to settle the class action lawsuits. Two civil suits filed against Volkswagen AG and other Group companies by the Australian Competition and Consumer Commission (ACCC) were settled in the second half of 2019. The settlement is not yet legally final, however, as an appellate court has yet to rule on the amount of the fine. Depending on the appellate court decision, Volkswagen AG anticipates payment of a fine of up to AUD 125 million plus litigation costs.

In Belgium, the Belgian consumer organization Test Aankoop VZW has filed a class action to which an opt-out mechanism has been held to apply. The class action pertains to vehicles purchased by consumers on the Belgian market after September 1, 2014. The asserted claims are based on purported violations of unfair competition and consumer protection law as well as on alleged breach of contract.

In Brazil two class actions are pending. One of these pertains to approximately 17 thousand vehicles. In this litigation, an appeals judgment was rendered in May 2019 that only partially upheld the lower court's decision. This judgment initially reduced the damage liability of Volkswagen do Brasil considerably to around BRL 172 million plus interest. This amount can increase as a result of the adjudicated inflation rate and the assertion of individual claims alleging declines in the value of affected Amarok vehicles. The judgment remains non-final. In the second class action, compensation claims are made based on purported breaches of environmental regulations.

In Germany, the Verbraucherzentrale Bundesverband e.V. (Federation of Consumer Organizations) filed an action in November 2018 with the Braunschweig Higher Regional Court for model declaratory judgment against Volkswagen AG. The complaint is seeking a ruling that certain preconditions for potential consumer claims against Volkswagen AG are met; however, no specific payment obligations would result from any determinations the court may make. Individual claims would have to be established afterwards in subsequent separate proceedings. Oral argument in the consumer action for model declaratory judgment began in September 2019. Volkswagen AG intends to offer individual settlements to consumers who registered claims under the action for model declaratory judgment and meet the settlement criteria. The volume of such settlements amounts to approximately €830 million.

In addition, various actions have been brought against companies of the Volkswagen Group in several German Regional Courts by financialright GmbH, which is asserting rights assigned to it by a total of approximately 45 thousand customers in Germany, Slovenia, and Switzerland.

In England and Wales, suits filed in court by various law firms have been joined in a single collective action (group litigation). Because of the opt-in mechanism, not all vehicles with type EA 189 engines are automatically covered by the group litigation; potential claimants must instead take action in order to join. To date some 90 thousand plaintiffs have registered claims under the group litigation. The group litigation opt-in period has expired.

In Italy, a class action lawsuit filed by the consumer association Altroconsumo on behalf of Italian customers is pending before the Venice Regional Court. This litigation involves damage claims based on alleged breach of contract as well as claims based on purported violations of Italian consumer protection law. Some 82 thousand customers have registered for the class action, whereby the validity of roughly half of the registrations is still unclear. In Italy, the court decision dismissing the class action filed by the consumer association Codacons as inadmissible also became legally final in the reporting year.

In the Netherlands, Stichting Volkswagen Car Claim has brought an opt-out class action seeking declaratory rulings. Any individual claims would then have to be established afterwards in separate proceedings. In November 2019, the Regional Court in Amsterdam held the requests for relief to be inadmissible in part. Oral argument on the merits of the class action will take place in 2020.

A Portuguese consumer organization has filed a class action with opt-out mechanism in Portugal. There are potentially up to approximately 139 thousand vehicles affected in the Portuguese market. The complaint seeks vehicle return and alleges damages as well.

In South Africa, an opt-out class action seeking damages is pending that pertains to some 8 thousand vehicles with V6 and V8 TDI engines in addition to approximately 72 thousand vehicles with type EA 189 engines.

Furthermore, individual lawsuits and similar proceedings are pending against Volkswagen AG and other Volkswagen Group companies in various countries, most of which are seeking damages or rescission of the purchase contract. In Germany, there are over 70 thousand such individual lawsuits.

Volkswagen estimates the likelihood that the plaintiffs will prevail to be 50% or less in the great majority of customer class actions, complaints filed by consumer and/or environmental organizations, and individual lawsuits. Contingent liabilities are disclosed for these proceedings where the amount of such liabilities can be measured and the chance that the plaintiff will prevail was assessed as not implausible. Since most of these proceedings are still in an early stage, it is in many cases not yet possible to quantify the realistic risk exposure. In addition, provisions were recognized to the extent necessary based on the current assessment.

At this time it cannot be estimated how many customers will choose to file lawsuits in the future in addition to those already pending, given the consumer action for model declaratory judgment in Germany, among other things, and what their prospect of success will be.

3. Lawsuits filed by investors worldwide (excluding the USA/Canada)

Investors from Germany and abroad have filed claims for damages against Volkswagen AG – in some cases along with Porsche Automobil Holding SE (Porsche SE) as joint and several debtors – based on purported losses due to alleged misconduct in capital market communications in connection with the diesel issue.

The vast majority of these investor lawsuits are currently pending at the Regional Court in Braunschweig. In August 2016, the Regional Court in Braunschweig ordered that common questions of law and fact relevant to the lawsuits pending at the Regional Court in Braunschweig be referred to the Higher Regional Court in Braunschweig for binding declaratory rulings pursuant to the Kapitalanleger-Musterverfahrensgesetz (KapMuG – German Act on Model Case Proceedings in Disputes Regarding Capital Market Information). In this proceeding, common questions of law and fact relevant to these actions are to be adjudicated in a consolidated manner by the Higher Regional Court in Braunschweig (model case proceedings). All lawsuits at the Regional Court in Braunschweig will be stayed pending resolution of the common issues, unless the cases can be dismissed for reasons independent of the common issues that are to be adjudicated in the model case proceedings. The resolution in the model case proceedings of the common questions of law and fact will be binding for all pending cases that have been stayed in the described manner. Oral argument in the model case proceedings before the Braunschweig Higher Regional Court began in September 2018 and will be continued at subsequent hearings.

At the Regional Court in Stuttgart, further investor lawsuits have been filed against Volkswagen AG, in some cases along with Porsche SE as joint and several debtor.

Holding that the factual situation at issue is by and large already covered by the model case proceedings being heard by the Braunschweig Higher Regional Court and that these proceedings, being paramount in this regard, preclude further such actions, the Stuttgart Higher Regional Court in March 2019 refused to proceed with further capital investor model case proceedings (which include Porsche SE) that had been referred to it by the Stuttgart Regional Court. The plaintiff side has appealed one of these decisions to the Federal Court of Justice.

Further investor lawsuits have been filed at various courts in Germany and the Netherlands. Worldwide (excluding USA and Canada), investor lawsuits, judicial applications for dunning procedures and conciliation proceedings, and claims under the KapMuG are currently pending against Volkswagen AG in connection with the diesel issue, with the claims totaling roughly €9.6 billion.

Volkswagen AG remains of the opinion that it duly complied with its capital market obligations. Therefore, no provisions have been recognized for these investor lawsuits. Insofar as the chance of success was estimated at not lower than 10%, contingent liabilities have been disclosed.

4. Proceedings in the USA/Canada

In the USA and Canada, the matters described in the EPA's "Notices of Violation" are the subject of various types of lawsuits and requests for information that have been filed in particular by customers, investors, salespersons, and various government agencies in Canada and the United States, including the attorneys general of several US states, against Volkswagen AG and other Volkswagen Group companies.

In the fiscal year, Volkswagen AG and certain affiliates settled the consumer protection claims asserted by the Attorney General of the US state of New Mexico, the last remaining state asserting consumer protection claims.

The attorneys general of five US states (Illinois, Montana, New Hampshire, Ohio, and Texas) and some municipalities have suits pending in state and federal courts against Volkswagen AG, Volkswagen Group of America, Inc. and certain affiliates, alleging violations of environmental laws. In the fiscal year, the environmental claims of two US states – Alabama and Tennessee – were dismissed in full by trial or appellate courts as preempted by federal law with no possibility of further appeal and the New Mexico Attorney General voluntarily dismissed its environmental claims. The claims asserted by Illinois, Hillsborough County (Florida), and Salt Lake County (Utah) have been dismissed in full, but the dismissals have been appealed. Certain claims asserted by Ohio, Texas, and two Texas counties have also been dismissed, but these suits are currently proceeding as to other claims.

In March 2019, the US Securities and Exchange Commission filed a lawsuit against Volkswagen AG, Volkswagen Group of America Finance, LLC, VW Credit, Inc. and a former Chairman of the Board of Management of Volkswagen AG, asserting claims under US federal securities law based among other things on alleged misstatements and omissions in connection with the offer and sale of certain bonds and asset-backed securities.

Furthermore, in December 2019, the Canadian federal environmental regulator filed charges against Volkswagen AG in respect of 2.0 l and 3.0 l Volkswagen and Audi diesel vehicles at the conclusion of its criminal enforcement-related investigation into the diesel emissions issue. Volkswagen AG cooperated with the investigation and agreed to a plea resolution addressing all of the charges. In January 2020, Volkswagen AG pleaded guilty to the charges and agreed to pay a penalty of CAD 196.5 million, which was approved by the court. Following this approval, the Ontario provincial environmental regulator withdrew its action against Volkswagen AG as to a quasi-criminal enforcement-related offense with respect to certain Volkswagen and Audi 2.0 l diesel vehicles. Additionally, a certified environmental class action is pending on behalf of residents in Quebec. This action was authorized on the sole issue of whether punitive damages could be recovered. The appeals filed by Volkswagen were denied. The case remains in the early stages.

To the extent a matter is not separately described above, an assessment is not yet possible at the current stage of the proceedings or has, in accordance with IAS 37.92, not been presented so as not to compromise the results of the proceedings and the interests of the Company.

5. Additional proceedings

With its ruling of November 8, 2017, the Higher Regional Court of Celle ordered, upon the request of three US funds, the appointment of a special auditor for Volkswagen AG. The special auditor is to examine whether there was a breach of duties on the part of the members of the Board of Management and Supervisory Board of Volkswagen AG in connection with the diesel issue on or after June 22, 2006 and, if so, whether this resulted in damages for Volkswagen AG. The ruling by the Higher Regional Court of Celle is formally unappealable. However, Volkswagen AG has filed a constitutional complaint with the German Federal Constitutional Court alleging infringement of its constitutionally guaranteed rights. It is currently unclear when the Federal Constitutional Court will reach a decision on this matter. Following the formally unappealable ruling from the Higher Regional Court of Celle, the special auditor appointed by the court indicated that he was not available to conduct the special audit on grounds of age. In June 2019, the Hanover Regional Court denied the motion filed by the US funds to replace the special auditor. The opposing side has appealed this denial to the Celle Higher Regional Court; this appeal is still pending.

In addition, a second motion seeking appointment of a special auditor for Volkswagen AG to examine matters relating to the diesel issue has been filed with the Regional Court of Hanover. This proceeding has been stayed pending a decision by the Federal Constitutional Court in the initial special auditor litigation.

6. Risk assessment regarding the diesel issue

An amount of around €2.9 billion (previous year: €2.4 billion) has been included in the provisions for litigation and legal risks as of December 31, 2019 to protect against the currently known legal risks related to the diesel issue based on existing information and current assessments. Insofar as these can be adequately measured at this stage, contingent liabilities relating to the diesel issue were disclosed in the notes in an aggregate amount of €3.7 billion (previous year: €5.4 billion), whereby €3.4 billion (previous year: €3.4 billion) of this amount results from lawsuits filed by investors in Germany. The provisions recognized and the contingent liabilities disclosed as well as the other latent legal risks in the context of the diesel issue are in part subject to substantial estimation risks given that the fact-finding efforts have not yet been concluded, the complexity of the individual relevant factors and the ongoing coordination with the authorities. Should these legal or estimation risks materialize, this could result in further substantial financial charges. In particular, the possibility cannot be ruled out that the provisions recognized may have to be adjusted in light of knowledge acquired or future events.

Based on the information as it exists and has been established, there continue to be no conclusive findings or assessments available to the Board of Management of Volkswagen AG regarding the described facts that would suggest that a different assessment of the associated risks should have been made.

In line with IAS 37.92, no further statements have been made concerning estimates of financial impact or about uncertainty regarding the amount or maturity of provisions and contingent liabilities in relation to the diesel issue. This is so as to not compromise the results of the proceedings or the interests of the Company.

Additional important legal cases

In 2011, ARFB Anlegerschutz UG (haftungsbeschränkt) brought an action against Volkswagen AG and Porsche SE for claims for damages for allegedly violating disclosure requirements under capital market law in connection with the acquisition of ordinary shares in Volkswagen AG by Porsche SE in 2008. The damages currently being sought based on allegedly assigned rights amounted to approximately €2.26 billion plus interest. In April 2016, the Regional Court in Hanover had formulated numerous objects of declaratory judgment that the cartel senate of the Higher Regional Court in Celle will decide on in model case proceedings under the KapMuG. In the first hearing in October 2017 the court already indicated that it currently does not see claims against Volkswagen AG as justified, both for want of sufficiently specific pleadings and for reasons of law. Volkswagen AG sees the statements of the court's senate as confirmation that the claims made against the Company have absolutely no basis.

At the time in question (2010/2011), other investors had also asserted claims – including claims against Volkswagen AG – arising out of the same circumstances in an approximate total amount of €4.6 billion and initiated conciliation proceedings. Volkswagen AG always refused to participate in these conciliation proceedings; since then, these claims have not been pursued further.

In Brazil, the Brazilian tax authorities commenced tax proceedings against MAN Latin America; at issue in these proceedings are the tax consequences of the acquisition structure chosen for MAN Latin America in 2009. In December 2017, a second instance judgment that was negative for MAN Latin America was rendered in administrative court proceedings. MAN Latin America initiated proceedings against this judgment before the regular court in 2018. Due to the difference in the penalties plus interest which could potentially apply under Brazilian law, the estimated size of the risk in the event that the tax authorities are able to prevail overall with their view is laden with uncertainty. However, a positive outcome continues to be expected for MAN Latin America. Should the opposite occur, this could result in a risk of about €0.7 billion for the contested period from 2009 onwards, which has been stated within the contingent liabilities in the notes.

In 2011, the European Commission conducted searches at European truck manufacturers on suspicion of an unlawful exchange of information during the period 1997–2011 and issued a statement of objections to MAN, Scania and the other truck manufacturers concerned in November 2014. With its settlement decision in July 2016, the European Commission fined five European truck manufacturers. MAN's fine was waived in full as the company had informed the European Commission about the irregularities as a key witness.

In September 2017, the European Commission fined Scania €0.88 billion. Scania has appealed to the European Court of Justice in Luxembourg and will use all means at its disposal to defend itself. Scania had already recognized a provision of €0.4 billion in 2016.

Furthermore, antitrust lawsuits for damages were received from customers. As is the case in any antitrust proceedings, this may result in further lawsuits for damages. Neither provisions nor contingent liabilities were stated because the early stage of proceedings makes an assessment currently impossible.

In April 2019 the European Commission issued a statement of objections to Volkswagen AG, AUDI AG, and Dr. Ing. h.c. F. Porsche AG in connection with the Commission's antitrust investigation of the automobile industry. These objections state the European Commission's preliminary evaluation of the matter and afford the opportunity to comment. The subject matter of the proceedings is limited to the cooperation of German automobile manufacturers on technical questions in connection with the development and introduction of SCR systems and gasoline particulate filters for passenger cars that were sold in the European Economic Area. The manufacturers are not charged with any other misconduct such as price fixing or allocating markets and customers. After receiving access to the investigation files starting in July 2019, Volkswagen in December 2019 filed its reply to the European Commission's statement of objections. In the same matter, the Chinese Competition Authority has also issued information requests to Volkswagen AG, AUDI AG, and Dr. Ing. h.c. F. Porsche AG, and commenced an administrative action.

In the proceedings against a number of captive automobile finance companies regarding potential competition law infringements (alleged exchange of competitively sensitive information), the Italian Competition Authority assessed a fine of €163 million against Volkswagen AG and Volkswagen Bank GmbH in January 2019. Provisions were recognized by Volkswagen Bank GmbH. Volkswagen AG and Volkswagen Bank GmbH filed an appeal against this decision in March 2019. In the same context, an antitrust class action lawsuit has furthermore been filed by customers in Italy against Volkswagen Bank GmbH, among others.

In June 2019, the US District Court for the Northern District of California dismissed two putative class action complaints brought by purchasers of German luxury vehicles alleging that, since the 1990s, several automobile manufacturers, including Volkswagen AG and other Group companies conspired to unlawfully increase the prices of German luxury vehicles in violation of US antitrust and consumer protection law. The court held that the plaintiffs have not stated a claim for relief because the allegations in the complaints do not plausibly support the alleged anticompetitive agreements. Plaintiffs filed amended complaints, which Volkswagen moved to dismiss. Plaintiffs in Canada filed claims with similar allegations on behalf of putative classes of purchasers of German luxury vehicles against several automobile manufacturers, including Volkswagen Group Canada Inc., Audi Canada Inc., and other Group companies. Neither provisions nor contingent liabilities were stated because the early stage of proceedings makes an assessment currently impossible.

In addition, a few national and international authorities have initiated antitrust investigations. Volkswagen is cooperating closely with the responsible authorities in these investigations. An assessment of the underlying situation is not possible at this early stage.

Volkswagen has been responding to information requests from the US Environmental Protection Agency (EPA) and CARB related to automatic transmissions in certain vehicles with gasoline engines. In August 2019, Volkswagen agreed with the EPA to forfeit approximately 220 thousand Greenhouse Gas Emission Credits in response to the EPA's inquiry. Also in August 2019, Volkswagen and the Plaintiffs' Steering Committee announced the settlement of civil claims relating to approximately 98 thousand Volkswagen, Audi, Porsche and Bentley vehicles. Volkswagen's testing of these vehicles in connection with the information requests resulted in a 1 mile per gallon change, when rounded according to EPA rules, in the fuel economy disclosed on the "Monroney label" required by US regulations. In October 2019, the Court granted preliminary approval of the settlement.

Provisions were recognized by Volkswagen Bank GmbH and Volkswagen Leasing GmbH for possible claims in connection with financial services provided to consumers.

In February 2020, Volkswagen AG and another defendant were served with a lawsuit filed by GT Gettaxi Ltd. The lawsuit in particular alleges large damage claims. Volkswagen will evaluate the alleged claims and defend itself against them.

In addition, various proceedings are pending worldwide, particularly in the USA, in which customers are asserting purported claims either individually or in class actions. These claims are as a rule based on alleged vehicle defects, including defects alleged in vehicle parts supplied to the Volkswagen Group (for instance, in the Takata case).

Risks may also result from actions for infringement of intellectual property, including infringement of patents, trademarks or other third-party rights, particularly in Germany and the USA. These actions pertain among other things to patents for semiconductor technology used in vehicles, but may also extend to control, regulation or power-units, and communications technology as well. If Volkswagen is alleged or determined to have violated third-party intellectual property rights, it may have to pay damages, modify manufacturing processes, or redesign products and may be barred from selling certain products. Volkswagen could also face costly litigation. These risks could lead to delivery and production restrictions or interruptions.

In line with IAS 37.92, no further statements have been made concerning estimates of financial impact or about uncertainty regarding the amount or maturity of provisions and contingent liabilities in relation to additional important legal cases. This is so as to not compromise the results of the proceedings or the interests of the Company.

41. Other financial obligations

€ million	PAYABLE	PAYABLE	PAYABLE	TOTAL
	2019	2020 – 2023	from 2024	Dec. 31, 2018
Purchase commitments in respect of				
property, plant and equipment	8,362	1,621	0	9,983
intangible assets	1,022	85	–	1,107
investment property	39	–	–	39
Obligations from				
loan commitments to unconsolidated subsidiaries	326	–	–	326
irrevocable credit commitments to customers	3,010	70	5	3,085
leasing and rental contracts	1,190	2,847	2,334	6,372
Miscellaneous other financial obligations	2,971	1,762	966	5,699

€ million	PAYABLE	PAYABLE	PAYABLE	TOTAL
	2020	2021 – 2024	from 2025	Dec. 31, 2019
Purchase commitments in respect of				
property, plant and equipment	7,257	1,347	–	8,603
intangible assets	913	275	1	1,189
investment property	24	–	–	24
Obligations from				
loan commitments to unconsolidated subsidiaries	313	1	–	314
irrevocable credit commitments to customers	2,605	53	3	2,661
leasing and rental contracts	329	172	151	652
Miscellaneous other financial obligations	3,257	1,712	997	5,966

Other financial obligations include an amount of €1.2 billion for investments to which the Group has committed itself, both in the infrastructure for zero-emission vehicles and in initiatives to promote access to and awareness of these technologies. These commitments were made as part of the settlement agreements in the USA in connection with the diesel issue.

42. Total audit fees of the Group auditor

Under the provisions of the Handelsgesetzbuch (HGB – German Commercial Code), Volkswagen AG is obliged to disclose the total audit fee of the Group auditor, PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft.

€ million	2019	2018
Financial statement audit services	19	20
Other assurance services	4	6
Tax advisory services	1	1
Other services	32	26
	56	52

The financial statement audit services were attributable to the audit of the consolidated financial statements of Volkswagen AG and of annual financial statements of German Group companies as well as to reviews of the interim consolidated financial statements of Volkswagen AG and of interim financial statements of German Group companies. The auditors provided assurance services and tax advice only to a small extent. Other services provided by the auditors in the reporting period focused on advice on how to implement new legal standards and on support for measures in connection with the diesel issue.

43. Personnel expenses

€ million	2019	2018
Wages and salaries	34,683	33,368
Social security, post-employment and other employee benefit costs	8,231	7,791
	42,913	41,158

44. Average number of employees during the year

	2019	2018
Performance-related wage-earners	265,092	256,684
Salaried staff	304,174	302,554
	569,266	559,238
of which in the passive phase of partial retirement	9,554	8,791
Vocational trainees	18,180	17,905
	587,446	577,143
Employees of Chinese joint ventures	80,302	78,579
	667,748	655,722

45. Events after the balance sheet date

On January 30, 2020, TRATON SE submitted an offer for the acquisition of all outstanding ordinary shares of Navistar that are not yet held by TRATON SE, at a price of USD 35.00 per share in cash. This corresponds to an offer price of around €2.6 billion. TRATON SE held around 16.8% of the outstanding ordinary shares of Navistar as of December 31, 2019.

Continuing restrictions due to the coronavirus could adversely affect the results of operations, financial position and net assets in 2020. In this context, please refer to our remarks found in the management report in the “Report on Expected Developments” and “Report on Risks and Opportunities” sections.

46. Remuneration based on performance shares and phantom shares (share-based payment)

At the beginning of 2017, the Supervisory Board of Volkswagen AG resolved to adjust the remuneration system of the Board of Management with effect from January 1, 2017. The remuneration system of the Board of Management comprises non-performance-related and performance-related components. The performance-related remuneration now consists of a performance-related annual bonus with a one-year assessment period and a long-term incentive (LTI) in the form of a performance share plan with a mostly forward-looking three-year term (share-based payment). In addition, a bonus was converted into phantom preferred shares (phantom shares) in 2016; the payment was made in 2019.

The group of beneficiaries of the performance share plan was expanded at the end of 2018 by including members of top management and at the end of 2019 by adding all other members of management and selected participants below management level. Performance shares were first granted to members of top management at the beginning of 2019. All other beneficiaries will receive performance shares for the first time at the beginning of 2020. The function of the performance share plan for top management and other beneficiaries is largely identical to the performance share plan that was granted to the members of the Board of Management. When the performance share plan was launched, members of top management were guaranteed a minimum bonus amount for the first three years on the basis of the remuneration for 2018, while all other beneficiaries were given a guarantee for the first three years on the basis of the remuneration for 2019.

PERFORMANCE SHARES

Each performance period of the performance share plan has a term of three years. At the time the LTI is granted, the annual target amount under the LTI is converted, on the basis of the initial reference price of Volkswagen's preferred shares, into performance shares of Volkswagen AG, which are allocated to the respective beneficiary as a pure calculation position.

For members of the Board of Management and of top management, the number of performance shares is definitively determined on the basis of a three-year, forward-looking performance period based on the degree of target achievement for the annual earnings per Volkswagen preferred share. For all other beneficiaries, the number is definitively determined on the basis of a three-year performance period with a forward-looking horizon of one year. As a departure from this, in 2020 the number will be determined on the basis of a one-year forward-looking performance period, and in 2021 on the basis of a two-year performance period with a forward-looking horizon of one year. After the end of the performance period, a cash settlement is made. The payment amount corresponds to the number of determined performance shares, multiplied by the closing reference price at the end of the period plus a dividend equivalent. The payment amount under the performance share plan is limited to 200% of the target amount.

BOARD OF MANAGEMENT

		Dec. 31, 2019	Dec. 31, 2018
Total expense of the reporting period	€ million	22	18
Carrying amount of the obligation	€ million	57	48
Intrinsic value of the obligation	€ million	31	34
Fair value on granting date	€ million	20	22
Granted performance shares	Shares	431,800	276,382
of which granted during the reporting period	Shares	155,418	134,956

TOP MANAGEMENT TIER

		Dec. 31, 2019	Dec. 31, 2018
Total expense of the reporting period	€ million	115	–
Carrying amount of the obligation	€ million	115	–
Intrinsic value of the obligation	€ million	104	–
Fair value at grant date	€ million	71	–
Granted performance shares	Shares	531,090	–
of which granted during the reporting period	Shares	531,090	–

MEMBERS OF MANAGEMENT AND SELECTED PARTICIPANTS BELOW MANAGEMENT LEVEL

If 100% of the targets agreed in each case are reached, the total target amount for all other beneficiaries will total €629 million (previous year: €– million).

PHANTOM SHARES

At its meeting on April 22, 2016, Volkswagen AG's Supervisory Board accepted the offer made by the members of the Board of Management to withhold 30% of the variable remuneration for fiscal year 2015 for the Board of Management members active on the date of the resolution and to make its disposal subject to future share price performance by means of phantom shares. The amount withheld led to the creation of 50,703 phantom preferred shares. In 2018, Mr. Stadler received a cash payment of the value of 8,633 shares in an amount of €1.0 million as part of the termination of his contract of service. The other phantom shares were settled as planned in fiscal year 2019. The payment amount totaled €5.3 million. In the fiscal year, changes in the value of the phantom shares led to the recognition of expenses of €0.3 million (previous year: income of €1.0 million).

47. Related party disclosures in accordance with IAS 24

Related parties as defined by IAS 24 are natural persons and entities that Volkswagen AG has the ability to control or on which it can exercise significant influence, or natural persons and entities that have the ability to control or exercise significant influence on Volkswagen AG, or that are influenced by another related party of Volkswagen AG.

All transactions with related parties are regularly conducted on an arm's length basis.

Porsche SE held the majority of the voting rights in Volkswagen AG as of the reporting date. The creation of rights of appointment for the State of Lower Saxony was resolved at the Extraordinary General Meeting of Volkswagen AG on December 3, 2009. As a result, Porsche SE cannot appoint the majority of the members of Volkswagen AG's Supervisory Board for as long as the State of Lower Saxony holds at least 15% of Volkswagen AG's ordinary shares. However, Porsche SE has the power to participate in the operating policy decisions of the Volkswagen Group and is therefore classified as a related party as defined by IAS 24.

The contribution of Porsche SE's holding company operating business to Volkswagen AG on August 1, 2012 has the following effects on the agreements between Porsche SE, Volkswagen AG and companies of the Porsche Holding Stuttgart Group that existed prior to the contribution and were entered into on the basis of the Comprehensive Agreement and its related implementation agreements:

- > As part of the contribution of Porsche SE's holding company operating business to Volkswagen AG, Volkswagen AG undertook to assume standard market liability compensation effective August 1, 2012 for guarantees issued to external creditors, whereby it is indemnified internally.
- > Volkswagen AG continues to indemnify Porsche SE internally against claims by the Einlagensicherungsfonds (German deposit protection fund) after Porsche SE submitted an indemnification agreement required by the Bundesverband Deutscher Banken (Association of German Banks) to the Einlagensicherungsfonds in August 2009. Volkswagen AG has also undertaken to indemnify the Einlagensicherungsfonds against any losses caused by measures taken by the latter in favor of a bank in which Volkswagen AG holds a majority interest.
- > Under certain conditions, Porsche SE continues to indemnify Porsche Holding Stuttgart, Porsche AG and their legal predecessors against tax disadvantages that exceed the obligations recognized in the financial statements of those companies relating to periods up to and including July 31, 2009. In return, Volkswagen AG has undertaken to reimburse Porsche SE for any tax advantages of Porsche Holding Stuttgart, Porsche AG and their legal predecessors and subsidiaries relating to tax assessment periods up to July 31, 2009. Based on the results of the external tax audit for the assessment periods 2006 to 2008, which has now been completed, and based on information for the 2009 assessment period available at the date of preparing these consolidated financial statements, a compensation obligation in the low triple-digit million euro range would arise for Volkswagen AG. New information emerging in the future from the external tax audit that commenced at the end of 2015 for the 2009 assessment period could result in an increase or decrease in the potential compensation obligation.

Under the terms of the Comprehensive Agreement, Porsche SE and Volkswagen AG had granted each other put and call options with regard to the remaining 50.1% interest in Porsche Holding Stuttgart held by Porsche SE until the contribution of its holding company operating business to Volkswagen AG. Both Volkswagen AG (if it had exercised its call option) and Porsche SE (if it had exercised its put option) had undertaken to bear the tax burden resulting from the exercise of the options and any subsequent activities in relation to the equity investment in Porsche Holding Stuttgart (e.g. from recapture taxation on the spin-off in 2007 and/or 2009). If tax benefits had accrued to Volkswagen AG, Porsche Holding Stuttgart, Porsche AG, or their respective subsidiaries as a result of recapture taxation on the spin-off in 2007 and/or 2009, the purchase price to be paid by Volkswagen AG for the transfer of the outstanding 50.1% equity investment in Porsche Holding Stuttgart if the put option had been exercised by Porsche SE would have been increased by the present value of the tax benefit. This arrangement was taken over under the terms of the contribution agreement to the effect that Porsche SE has a claim against Volkswagen AG for payment in the amount of the present value of the realizable tax benefits from any recapture taxation of the spin-off in 2007 as a result of the contribution. It was also agreed under the terms of the contribution that Porsche SE will indemnify Volkswagen AG, Porsche Holding Stuttgart and their subsidiaries against taxes if measures taken by or not taken by Porsche SE result in recapture taxation for 2012 at these companies in the course of or following implementation of the contribution. In this case, too, Porsche SE is entitled to assert a claim for payment against Volkswagen AG in the amount of the present value of the realizable tax benefits that arise at the level of Volkswagen AG or one of its subsidiaries as a result of such a transaction.

Further agreements were entered into and declarations were issued in connection with the contribution of Porsche SE's holding company operating business to Volkswagen AG, in particular:

- > Porsche SE indemnifies its contributed subsidiaries, Porsche Holding Stuttgart, Porsche AG and their subsidiaries against certain liabilities to Porsche SE that relate to the period up to and including December 31, 2011 and that exceed the obligations recognized in the financial statements of those companies for that period.
- > Moreover, Porsche SE indemnifies Volkswagen AG, Porsche Holding Stuttgart, Porsche AG and their subsidiaries against half of the taxes (other than taxes on income) arising at those companies in conjunction with the contribution that would not have been incurred in the event of the exercise of the call option on the shares of Porsche Holding Stuttgart that continued to be held by Porsche SE until the contribution. Volkswagen AG therefore indemnifies Porsche SE against half of such taxes that it incurs. In addition, Porsche Holding Stuttgart is indemnified against half of the land transfer tax and other costs triggered by the merger.
- > Additionally, Porsche SE and Porsche AG agreed to allocate any subsequent VAT receivables or liabilities from transactions in the period up to December 31, 2009 to the company entitled to the receivable or incurring the liability.
- > A range of information, conduct and cooperation obligations were agreed by Porsche SE and the Volkswagen Group.

According to a notification dated January 2, 2020, the State of Lower Saxony and Hannoversche Beteiligungsgesellschaft Niedersachsen mbH, Hanover, held 20.00 % of the voting rights of Volkswagen AG on December 31, 2019. As mentioned above, the General Meeting of Volkswagen AG on December 3, 2009 also resolved that the State of Lower Saxony may appoint two members of the Supervisory Board (right of appointment).

The following tables present the amounts of supplies and services transacted, as well as outstanding receivables and liabilities, between consolidated companies of the Volkswagen Group and related parties:

RELATED PARTIES

€ million	SUPPLIES AND SERVICES RENDERED		SUPPLIES AND SERVICES RECEIVED	
	2019	2018	2019	2018
Porsche SE and its majority interests	5	3	1	3
Supervisory Board members	5	4	1	2
Board of Management members	0	0	0	0
Unconsolidated subsidiaries	1,243	1,137	1,597	1,649
Joint ventures and their majority interests	16,627	16,724	646	491
Associates and their majority interests	181	194	1,312	1,267
Pension plans	1	1	3	2
Other related parties	0	0	1	1
State of Lower Saxony, its majority interests and joint ventures	10	10	4	8

€ million	RECEIVABLES FROM		LIABILITIES (INCLUDING OBLIGATIONS) TO	
	Dec. 31, 2019	Dec. 31, 2018	Dec. 31, 2019	Dec. 31, 2018
Porsche SE and its majority interests	4	4	0	1
Supervisory Board members	0	0	170	205
Board of Management members	0	0	91	78
Unconsolidated subsidiaries	1,497	1,319	1,667	1,869
Joint ventures and their majority interests	12,953	11,989	2,683	2,671
Associates and their majority interests	326	112	1,063	487
Pension plans	1	1	–	–
Other related parties	0	–	264	100
State of Lower Saxony, its majority interests and joint ventures	1	1	0	2

The tables above do not contain the dividend payments (net of withholding tax) of €3,679 million (previous year: €3,315 million) received from joint ventures and associates and dividends of €753 million (previous year: €601 million) paid to Porsche SE.

Receivables from joint ventures are primarily attributable to loans granted in an amount of €8,290 million (previous year: €7,606 million) as well as trade receivables in an amount of €4,375 million (previous year: €4,045 million). Receivables from non-consolidated subsidiaries also result primarily from loans granted in an amount of €938 million (previous year: €741 million) as well as trade receivables in an amount of €188 million (previous year: €214 million).

Impairment losses of €56 million (previous year: €56 million) were recognized on the outstanding related party receivables. In the fiscal year, expenses of €37 million (previous year: €29 million) were incurred in this context.

In addition, the Volkswagen Group has furnished guarantees to external banks on behalf of related parties in the amount of €322 million (previous year: €239 million).

In the reporting period, the Volkswagen Group made capital contributions of €668 million (previous year: €298 million) to related parties.

The changes in supplies and services rendered to and received from joint ventures and their majority interests are primarily attributable to supply relationships with the Chinese joint ventures.

As in the previous year, obligations to members of the Supervisory Board relate primarily to interest-bearing bank balances of Supervisory Board members that were invested at standard market terms and conditions at Volkswagen Group companies.

Obligations to the Board of Management comprise outstanding balances for the annual bonus and the fair values of the performance shares in the amount of €50.1 million (previous year: €64.8 million) granted to Board of Management members.

In addition to the amounts shown above, the following expenses were recognized for benefits and remuneration granted to members of the Board of Management and Supervisory Board of the Volkswagen Group in the course of their activities as members of these bodies:

€	2019	2018
Short-term benefits	36,307,352	32,417,428
Benefits based on performance shares and virtual shares	19,606,328	10,022,492
Post-employment benefits	12,901,219	10,519,369
Termination benefits	10,100,271	12,994,964
	78,915,169	65,954,253

Benefits paid on the basis of performance shares include the cost of €19.5 million (previous year: €10.6 million) attributable to the performance shares granted to Board of Management members under the remuneration system applicable as from 2017. Pursuant to the guidance of IFRS 2, this requires inclusion of not only the performance share plan for 2017 and 2018, but also of a pro-rated amount for future share plans to be granted during the current employment contract.

In fiscal year 2019, the share price performance up to the settlement date led to the recognition of expense of €0.1 million (previous year: income of €0.6 million) for the phantom shares.

The employee representatives and the representative of the senior executives on the Supervisory Board are also entitled to a regular salary as set out in their employment contracts. For members of German works councils, this is based on the provisions of the Betriebsverfassungsgesetz (BetrVG – German Works Constitution Act). In the previous year, due to investigations by the authorities, a review of the remuneration of some works council members were conducted. Prior to this and as a precaution, components of the remuneration of some works council members had been retained in this context until the matter was clarified. In fiscal year 2019, the matter was addressed and concluded as part of an arbitration procedure by two former judges from the German Federal Labour Court as well as by final settlements before a labor court. The previous remuneration was largely confirmed in the process.

The post-employment benefits relate to additions to pension provisions for current members of the Board of Management. The termination benefits relate to the severance payment made to Mr. Schot in connection with his early departure from the Board of Management on March 31, 2020.

Disclosures on the pension provisions for members of the Board of Management and more detailed explanations of the remuneration of the Board of Management and the Supervisory Board can be found in the section entitled “Remuneration of the Board of Management and the Supervisory Board” and in the remuneration report, which is part of the management report.

48. German Corporate Governance Code

On November 15, 2019, the Board of Management and Supervisory Board of Volkswagen AG issued their declaration of conformity with the German Corporate Governance Code as required by section 161 of the Aktiengesetz (AktG – German Stock Corporation Act) and made it permanently available to the shareholders of Volkswagen AG on the Company's website at www.volkswagenag.com/en/InvestorRelations/corporate-governance/declaration-of-conformity.html.

On November 20, 2019, the Board of Management and Supervisory Board of AUDI AG likewise issued their declaration of conformity with the German Corporate Governance Code and made it permanently available to the shareholders at www.audi.com/cgk-declaration.

In December 2019, the Executive Board and Supervisory Board of TRATON SE likewise issued their declaration of conformity with the German Corporate Governance Code and made it permanently available to the shareholders at ir.traton.com/websites/traton/English/5000/corporate-governance.html.

In December 2019, the Executive Board and Supervisory Board of MAN SE issued their declaration of conformity with the German Corporate Governance Code as required by section 161 of the AktG and made it permanently available to the shareholders at www.corporate.man.eu/en/investor-relations/corporate-governance/corporate-governance-at-man/Corporate-Governance-at-MAN.html.

The Executive Board and Supervisory Board of RENK AG issued a declaration of conformity in December 2019 and made it permanently available to the shareholders at www.renk-ag.com/en/investor-relations/financial-reports.

49. Remuneration of the Board of Management and the Supervisory Board

€	2019	2018
Board of Management remuneration		
Non-performance-related remuneration	13,332,515	13,051,264
Performance-related remuneration	17,647,682	14,827,178
Long-term incentive component	14,414,075	22,457,869
	45,394,271	50,336,310
Supervisory Board remuneration		
Non-performance-related remuneration	4,547,188	4,004,372
Performance-related remuneration	779,967	534,614
	5,327,155	4,538,986

NON-PERFORMANCE-RELATED REMUNERATION OF THE BOARD OF MANAGEMENT

The non-performance-related remuneration of the Board of Management comprises fixed remuneration and fringe benefits. The fringe benefits relate to noncash benefits granted and include in particular the use of operating assets such as company cars and the payment of insurance premiums. Taxes due on these noncash benefits were mainly borne by Volkswagen AG.

PERFORMANCE-RELATED REMUNERATION AND LONG-TERM INCENTIVE COMPONENT OF THE BOARD OF MANAGEMENT

Performance-related remuneration includes the annual bonus with a one-year assessment period. The long-term incentive component contains the long-term incentive (LTI) in the form of a performance share plan with a forward-looking three-year term. For details on performance share plans for current members of the Board of Management, please refer to the information in the section entitled "Remuneration based on performance shares and phantom shares (share-based payment)".

At its meeting on April 22, 2016, Volkswagen AG's Supervisory Board accepted the offer made by the members of the Board of Management to withhold 30% of the variable remuneration for fiscal year 2015 for the Board of Management members active on the date of the resolution and to make its disposal subject to future share price performance by means of phantom shares. The resulting effects on remuneration were reported as appropriate in previous years. For further details on the settlement of phantom shares, please refer to the information in the section entitled "Remuneration based on performance shares and phantom shares (share-based payment)".

Expenses for performance shares and phantom shares do not represent remuneration under German GAAP and are therefore not included in the tables above.

As in the previous year, no interest-free advances were paid to members of the Board of Management.

SUPERVISORY BOARD REMUNERATION

The remuneration of the members of the Supervisory Board of Volkswagen AG is comprised entirely of non-performance-related remuneration components. Remuneration for supervisory board work at subsidiaries comprises a mix of non-performance-related and performance-related components.

PENSION ENTITLEMENTS AND BENEFITS TO RETIRED MEMBERS OF THE BOARD OF MANAGEMENT

On December 31, 2019, the pension provisions for members of the Board of Management amounted to €60.5 million (previous year: €55.8 million). Current pensions are index-linked in accordance with the index-linking of the highest collectively agreed salary insofar as the application of section 16 of the Gesetz zur Verbesserung der betrieblichen Altersversorgung (BetrAVG – German Company Pension Act) does not lead to a higher increase.

For former members of the Board of Management and their surviving dependents €32.7 million (previous year: €44.0 million) were granted. Pension provisions in accordance with IFRSs for this group of individuals amounted to €373.7 million (previous year: €324.0 million).

In connection with his departure effective March 31, 2020, Mr. Schot was promised the following amounts:

- a non-performance-related component of €2.4 million (previous year: €– million),
- a performance-related component of €3.8 million (previous year €– million) and
- a long-term incentive component of €3.9 million (previous year: €– million) were recognized.

The individual remuneration of the members of the Board of Management and the Supervisory Board is explained in the remuneration report in the management report on page 70. A comprehensive assessment of the individual remuneration components, including the LTI, in the form of the performance share plan can also be found there.