Notes to the Consolidated Financial Statements

of the Volkswagen Group as of December 31, 2019

Basis of presentation

Volkswagen AG is domiciled in Wolfsburg, Germany, and entered in the commercial register at the Braunschweig Local Court under No. HRB 100484. The fiscal year corresponds to the calendar year.

In accordance with Regulation No. 1606/2002 of the European Parliament and of the Council, Volkswagen AG prepared its consolidated financial statements for 2019 in compliance with the International Financial Reporting Standards (IFRSs), as adopted by the European Union. We have complied with all the IFRSs adopted by the EU and required to be applied.

The accounting policies applied in the previous year were generally retained. The only changes required resulted from new or amended standards and in relation to the definition of cash-generating units (see disclosure in the "Key Events" section).

In addition, we have complied with all the provisions of German commercial law that we are also required to apply, as well as with the German Corporate Governance Code. For information on notices and disclosures of changes regarding the ownership of voting rights in Volkswagen AG in accordance with the Wertpapierhandelsgesetz (WpHG – German Securities Trading Act), please refer to the annual financial statements of Volkswagen AG.

The consolidated financial statements were prepared in euros. Unless otherwise stated, all amounts are given in millions of euros (€ million).

All figures shown are rounded, so minor discrepancies may arise from addition of these amounts.

The income statement was prepared using the internationally accepted cost of sales method.

Preparation of the consolidated financial statements in accordance with the above-mentioned standards requires management to make estimates that affect the reported amounts of certain items in the consolidated balance sheet and in the consolidated income statement, as well as the related disclosure of contingent assets and liabilities. The consolidated financial statements present fairly the net assets, financial position and results of operations as well as the cash flows of the Volkswagen Group.

The Board of Management completed preparation of the consolidated financial statements on February 18, 2020. On that date, the period ended in which adjusting events after the reporting period are recognized.

Effects of new and amended IFRSs

Volkswagen AG has applied all accounting pronouncements adopted by the EU and effective for periods beginning in fiscal year 2019.

A number of requirements entered into force on January 1, 2019 as part of the 2017 improvements to the International Financial Reporting Standards (2017 annual improvements project). They include clarifications to IAS 12, IAS 23, IFRS 3 and IFRS 11. Additions were made to IAS 12 (Income Taxes) to clarify that the way any income tax consequences of dividend payments are recognized is based on the way the transactions have been recognized that made the dividend payment possible. Furthermore, guidance was added to IAS 23 (Borrowing Costs) to clarify how the weighted average of the borrowing costs is determined. Moreover, additional guidance in IFRS 3 (Business Combinations) and IFRS 11 (Joint Arrangements) explains that, on obtaining control of equity investments formerly recognized as joint operations, the rules for a business combination achieved in stages must be applied.

The amendments to IAS 28 (Investments in Associates and Joint Ventures) clarify that, with effect from January 1, 2019, long-term financial instruments representing a net investment in an associate or joint venture that are not accounted for using the equity method should be accounted for using the impairment rules of IFRS 9 (Financial Instruments).

In addition, amendments to IFRS 9 (Financial Instruments) have applied since January 1, 2019, which clarify that certain financial instruments that include a prepayment feature with negative compensation can be measured at amortized cost or at fair value directly in equity.

IFRIC 23 (Uncertainty over Income Tax Treatments) also applies: it requires that tax risks must be taken into account if it is probable that the tax authorities will not accept tax treatments in the income tax filing.

Moreover, it was clarified in IAS 19 (Employee Benefits) that the actuarial assumptions must be updated at the time of a plan amendment, curtailment, or settlement.

The Volkswagen Group has opted for early application of the amendments to IFRS 9, IAS 39 and IFRS 7 Interest Rate Benchmark Reform (published on September 26, 2019). Application of the amendments would only have been mandatory from January 1, 2020. This affects hedges that existed at the beginning of the reporting period or have subsequently been designated. In application of the associated practical expedient, the Volkswagen Group assumes that the effectiveness of designated hedges will not be negatively impacted by the IBOR reform and that it will consequently not be necessary to terminate any hedges.

The amendments referred to above do not materially affect the Volkswagen Group’s net assets, financial position and results of operations.

IFRS 16 – LEASES

IFRS 16 amends the rules for lease accounting and replaces the previous IAS 17 standard and related interpretations.

The main objective of IFRS 16 is to recognize all leases. It establishes that lessees are no longer required to classify their leases as either finance leases or operating leases. In general, they are instead required to recognize a right-of-use asset and a lease liability for the leases in the balance sheet. In the Volkswagen Group the lease liability is measured on the basis of the present value of outstanding lease payments, while the right-of-use asset is generally measured at the amount of the lease liability plus any direct costs. During the lease term, the right-of-use asset must be depreciated and the lease liability adjusted using the effective interest method and taking the lease payments into account. IFRS 16 offers practical expedients for short-term and low-value leases; the Volkswagen Group makes use of this option and therefore does not recognize right-of-use assets or liabilities for these types of leases. In this respect, the lease payments are continued to be recognized in the income statement in the same way as before. At the initial application date, leases whose term ended before January 1, 2020 were reclassified as short-term leases, irrespective of the start date of the lease. In addition, existing leases were not reassessed at the initial application date to determine whether or not they are leases under the criteria of IFRS 16. Instead, contracts classified as leases under IAS 17 or IFRIC 4 are continued to be accounted for as leases. Contracts not classified as leases under IAS 17 or IFRIC 4 are continued not to be accounted for as leases.

Lessor accounting essentially follows the previous guidance of IAS 17. Lessors are required to continue to classify their leases as finance leases or operating leases on the basis of the risks and rewards incidental to ownership of the leased asset.

The Volkswagen Group accounts for leases in accordance with IFRS 16, using the modified retrospective method (within the meaning of IFRS 16.C5(b)), for the first time as of January 1, 2019. Prior-year periods have not been restated. According to this method, the lease liability to be recognized at the transition date is the present value of the outstanding lease payments, which is determined using the incremental borrowing rates as of January 1, 2019. The weighted average interest rate applied in the Volkswagen Group was 3.7%.

Applying the permitted exemption, the right-of-use asset is adjusted for the amounts that were recognized in the balance sheet as provisions for onerous operating leases as of December 31, 2018. The right-of-use assets were not tested for impairment in this context at the initial application date.

The initial recognition of right-of-use assets and lease liabilities had the following effects as of January 1, 2019:

> Right-of-use assets of €5.5 billion were recognized in the opening balance sheet (including €5.4 billion under property, plant and equipment and €0.1 billion under investment property). Prepayments capitalized, accrued liabilities and provisions for onerous operating leases were offset with the right-of-use assets. The right-of-use assets recognized included an amount of €0.4 billion that had already been recognized under finance leases as of December 31, 2018. In connection with the initial application of IFRS 16 there was an adjustment to the classification of noncurrent assets, resulting in the reclassification of property, plant and equipment of €0.4 billion to lease assets and investment property.
> Lease liabilities are recognized in the opening balance in an amount of €5.6 billion; they are reported under noncurrent and current financial liabilities. The lease liabilities recognized included an amount of €0.4 billion that had already been recognized under finance leases as of December 31, 2018.
> Initial application did not have any effect on equity.

The difference between the expected payments for operating leases in an amount of €4.9 billion, discounted using the incremental borrowing rate as of December 31, 2018, and the lease liabilities in an amount of €5.6 billion recognized in the opening balance sheet is mainly the result of taking account of existing finance leases and a new estimate of expected lease payments, attributable to the capitalization of certain variable lease payments, for example. The lease terms taken into account when recognizing lease liabilities were also reassessed in accordance with the rules of IFRS 16. In this process, reasonably certain extension or termination options were taken into account in determining the lease payments to be recognized. Moreover, the opening balance sheet does not include lease payments for low-value or short-term leases.

Unlike the previous procedure, under which all operating lease expenses were reported under operating profit, the only items allocated to operating profit in the Automotive Division under IFRS 16 are depreciation charges on right-of-use assets. Interest expense from adding interest on lease liabilities in the Automotive Division is reported in the financial result. This had a positive impact of €0.2 billion on the operating result in fiscal year 2019.

The change in the way expenses from operating leases are presented in the statement of cash flows resulted in an improvement of €1.0 billion in cash flows from operating activities and net cash flow in fiscal year 2019, of which €0.9 billion is attributable to the Automotive Division. Cash flows from financing activities declined accordingly. The increase in financial liabilities attributable to the change in accounting rules had a negative impact of €5.8 billion on the Volkswagen Group's net liquidity as of December 31, 2019, of which €5.4 billion is attributable to the Automotive Division.

New and amended IFRSs not applied

In its 2019 consolidated financial statements, Volkswagen AG did not apply the following accounting pronouncements that have already been adopted by the IASB, but were not yet required to be applied for the fiscal year.

Standard/Interpretation		Published by the IASB	Application mandatory[1]	Adopted by the EU	Expected impact
IFRS 3	Business Combinations: Definition of a Business	Oct. 22, 2018	Jan. 1, 2020	No	No material impact
IFRS 17	Insurance Contracts	May 18, 2017	Jan. 1, 2021[2]	No	No material impact
IAS 1 and IAS 8	Presentation of Financial Statements and Accounting Policies, Changes in Accounting Estimates and Errors: Definition of Material	Oct. 31, 2018	Jan. 1, 2020	Yes	No material impact
IAS 1	Classification of liabilities	Jan. 23, 2020	Jan. 1, 2022	No	No material impact

1 Effective date from Volkswagen AG's perspective.
2 The IASB has proposed to defer the effective date to January 1, 2022.

Key events

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.

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 of 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.

In fiscal year 2019, additional special items of €2.3 billion had to be recognized in connection with the diesel issue. Charges of €2.6 billion were recognized under other operating expenses, which arose from the administrative fine order of €0.5 billion issued in May 2019 by the Stuttgart Public Prosecutor, which ended the ongoing regulatory offense proceeding against Dr. Ing. h.c. F. Porsche AG, and higher provisions for legal risks. This was set against the reversal of reserves for technical measures of €0.3 billion, which reduced cost of sales.

Furthermore, 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 August 2018, the control and profit and loss transfer agreement with MAN SE was terminated by extraordinary notice as of January 1, 2019. Following the announcement of the termination of the control and profit and loss transfer agreement and the recording thereof in the commercial register, the noncontrolling shareholders of MAN SE had the right to tender their shares to Volkswagen, pursuant to the provisions of the control and profit and loss transfer agreement, within a two-month period. This resulted in cash outflows of €1.1 billion in the first half of this year for the acquisition of shares tendered and compensation payments. There was a corresponding decline in the amount of put options and compensation rights granted to noncontrolling interest shareholders reported in the balance sheet. The put options granted to noncontrolling interest shareholders of MAN SE expired on March 4, 2019. The remaining liability of €0.7 billion was reclassified directly to equity; €0.3 billion of this amount is attributable to noncontrolling interests.

Since June 28, 2019, 51 million shares of TRATON SE have been traded on the regulated markets of the Frankfurt Stock Exchange and of the Nasdaq Stockholm. The offer price was set at €27.00 per share. This led to an increase of €1.4 billion in the Volkswagen Group’s equity, of which €1.2 billion is reported as noncontrolling interests.

In the case of internally generated intangible assets with finite useful lives and the associated property, plant and equipment in the Passenger Cars Business Area, the individual product or product group has in the past represented the cash-generating unit. This had to be redefined for the Passenger Cars Business Area in the past fiscal year, because the cash flows generated by the individual products are not largely independent of each other any longer. In particular, the fact that emission regulations are being tightened worldwide means that the cash flows of the individual products influence each other to an increasing extent. As a consequence of the change in circumstances, the brands have, since the fourth quarter of 2019, normally been designated as cash-generating units in the Passenger Cars Business Area, thus forming the basis for impairment tests and profitability assessments when initially recognizing internally generated intangible assets. The changed definition of cash-generating units led to a non-recurring reversal of write-downs, which had an effect of €0.9 billion on other operating income in the fourth quarter of 2019 and will lead to increased depreciation and amortization in subsequent periods. Furthermore, impairment losses of €0.2 billion recognized in the first quarters of the fiscal year had to be reversed. In addition, the financial result benefited in an amount of €75 million from the reversal of impairment losses at the Chinese joint ventures. The revised definition of cash-generating units will in future lead to a slight increase in the capitalization ratio.

Basis of consolidation

In addition to Volkswagen AG, the consolidated financial statements comprise all significant German and non-German subsidiaries, including structured entities that are controlled directly or indirectly by Volkswagen AG. This is the case if Volkswagen AG obtains power over the potential subsidiaries directly or indirectly from voting rights or similar rights, is exposed, or has rights to, positive or negative variable returns from its involvement with the subsidiaries, and is able to influence those returns. In the case of the structured entities consolidated in the Volkswagen Group, Volkswagen is able to direct the material relevant activities remaining after the change in the structure even if it is not invested in the structured entity concerned and is thus able to influence the variable returns from its involvement. The structured entities are used primarily to enter into asset-backed securities transactions to refinance the financial services business and to invest surplus liquidity in special securities funds. Consolidation of subsidiaries begins at the first date on which control exists, and ends when such control no longer exists.

Subsidiaries whose business is dormant or insignificant, both individually and in the aggregate, for the fair presentation of the net assets, financial position and results of operations as well as the cash flows of the Volkswagen Group are not consolidated. They were carried in the consolidated financial statements at cost net of any impairment losses and reversals of impairment losses required to be recognized.

Significant companies where Volkswagen AG is able, directly or indirectly, to significantly influence financial and operating policy decisions (associates), or that are directly or indirectly jointly controlled (joint ventures), are accounted for using the equity method. Joint ventures also include companies in which the Volkswagen Group holds the majority of voting rights, but whose articles of association or partnership agreements stipulate that important decisions may only be resolved unanimously. Insignificant associates and joint ventures are carried at cost net of any impairment losses and reversals of impairment losses required to be recognized.

The composition of the Volkswagen Group is shown in the following table:

Number	2019	2018
Volkswagen AG and consolidated subsidiaries		
Germany	151	152
Abroad	714	712
Subsidiaries carried at cost		
Germany	78	70
Abroad	290	251
Associates, joint ventures and other equity investments		
Germany	76	64
Abroad	107	79
	1,416	**1,328**

The list of all shareholdings that forms part of the annual financial statements of Volkswagen AG can be downloaded from the electronic companies register at www.unternehmensregister.de and from www.volkswagenag.com/ir.

The following consolidated German subsidiaries with the legal form of a corporation or partnership meet the criteria set out in section 264(3) or section 264b of the Handelsgesetzbuch (HGB – German Commercial Code) due to their inclusion in the consolidated financial statements and have as far as possible exercised the option not to publish annual financial statements:

> Audi Berlin GmbH, Berlin
> Audi Electronics Venture GmbH, Gaimersheim
> Audi Frankfurt GmbH, Frankfurt am Main
> Audi Hamburg GmbH, Hamburg
> Audi Hannover GmbH, Hanover
> Audi Leipzig GmbH, Leipzig
> Audi Stuttgart GmbH, Stuttgart
> Autostadt GmbH, Wolfsburg
> Bugatti Engineering GmbH, Wolfsburg
> Dr. Ing. h.c. F. Porsche AG, Stuttgart
> GETAS Verwaltung GmbH & Co. Objekt Augsburg KG, Pullach i. Isartal
> GETAS Verwaltung GmbH & Co. Objekt Heinrich-von-Buz-Straße KG, Pullach i. Isartal
> HABAMO Verwaltung GmbH & Co. Objekt Sterkrade KG, Pullach i. Isartal
> Haberl Beteiligungs-GmbH, Munich
> Karosseriewerk Porsche GmbH & Co. KG, Stuttgart
> MAHAG GmbH, Munich
> MAN Energy Solutions SE, Augsburg
> MOIA GmbH, Berlin
> MOIA Operations Germany GmbH, Hamburg
> Porsche Consulting GmbH, Bietigheim-Bissingen
> Porsche Deutschland GmbH, Bietigheim-Bissingen
> Porsche Dienstleistungs GmbH, Stuttgart
> Porsche Engineering Group GmbH, Weissach
> Porsche Engineering Services GmbH, Bietigheim-Bissingen
> Porsche Erste Beteiligungsgesellschaft mbH, Stuttgart
> Porsche Financial Services GmbH & Co. KG, Bietigheim-Bissingen
> Porsche Financial Services GmbH, Bietigheim-Bissingen
> Porsche Holding Stuttgart GmbH, Stuttgart
> Porsche Leipzig GmbH, Leipzig
> Porsche Lizenz- und Handelsgesellschaft mbH & Co. KG, Ludwigsburg
> Porsche Logistik GmbH, Stuttgart
> Porsche Niederlassung Berlin GmbH, Berlin
> Porsche Niederlassung Berlin-Potsdam GmbH, Kleinmachnow
> Porsche Niederlassung Hamburg GmbH, Hamburg
> Porsche Niederlassung Leipzig GmbH, Leipzig
> Porsche Niederlassung Stuttgart GmbH, Stuttgart
> Porsche Nordamerika Holding GmbH, Ludwigsburg
> Porsche Siebte Vermögensverwaltung GmbH, Wolfsburg
> Porsche Smart Mobility GmbH, Stuttgart
> Porsche Zentrum Hoppegarten GmbH, Stuttgart
> Raffay Versicherungsdienst GmbH, Hamburg
> SEAT Deutschland Niederlassung GmbH, Frankfurt am Main
> SKODA AUTO Deutschland GmbH, Weiterstadt
> VfL Wolfsburg-Fußball GmbH, Wolfsburg
> VGRD GmbH, Wolfsburg
> Volkswagen AirService GmbH, Braunschweig
> Volkswagen Automobile Berlin GmbH, Berlin
> Volkswagen Automobile Chemnitz GmbH, Chemnitz
> Volkswagen Automobile Frankfurt GmbH, Frankfurt am Main
> Volkswagen Automobile Hamburg GmbH, Hamburg

> Volkswagen Automobile Hannover GmbH, Hanover
> VOLKSWAGEN Automobile Leipzig GmbH, Leipzig
> Volkswagen Automobile Region Hannover GmbH, Hanover
> Volkswagen Automobile Rhein-Neckar GmbH, Mannheim
> Volkswagen Automobile Stuttgart GmbH, Stuttgart
> Volkswagen Beteiligungsverwaltung GmbH, Wolfsburg
> Volkswagen Dritte Leasingobjekt GmbH, Braunschweig
> Volkswagen Erste Leasingobjekt GmbH, Braunschweig
> Volkswagen Fünfte Leasingobjekt GmbH, Braunschweig
> Volkswagen Gebrauchtfahrzeughandels und Service GmbH, Langenhagen
> Volkswagen Group IT Services GmbH, Wolfsburg
> Volkswagen Group Real Estate GmbH & Co. KG, Wolfsburg
> Volkswagen Group Services GmbH, Wolfsburg
> Volkswagen Immobilien GmbH, Wolfsburg
> Volkswagen Konzernlogistik GmbH & Co. OHG, Wolfsburg
> Volkswagen Original Teile Logistik GmbH & Co. KG, Baunatal
> Volkswagen Osnabrück GmbH, Osnabrück
> Volkswagen R GmbH, Wolfsburg
> Volkswagen Sachsen GmbH, Zwickau
> Volkswagen Sechste Leasingobjekt GmbH, Braunschweig
> Volkswagen Siebte Leasingobjekt GmbH, Braunschweig
> Volkswagen Software Asset Management GmbH, Wolfsburg
> Volkswagen Vermögensverwaltung GmbH, Wolfsburg
> Volkswagen Vertriebsbetreuungsgesellschaft mbH, Chemnitz
> Volkswagen Vierte Leasingobjekt GmbH, Braunschweig
> Volkswagen Zubehör GmbH, Dreieich
> Volkswagen Zweite Leasingobjekt GmbH, Braunschweig

CONSOLIDATED SUBSIDIARIES

The fiscal year's changes in the consolidated Group are shown in the following table:

Number	Germany	Abroad
Initially consolidated		
Subsidiaries previously carried at cost	4	13
Newly acquired subsidiaries	0	3
Newly formed subsidiaries	0	5
	4	**21**
Deconsolidated		
Mergers	1	5
Liquidations	2	6
Sales/Other	2	8
	5	**19**

The initial consolidation or deconsolidation of these subsidiaries, either individually or collectively, did not have a significant effect on the presentation of the net assets, financial position and results of operations. The unconsolidated structured entities are immaterial from a Group perspective. In particular, they do not give rise to any significant risks to the Group.

INVESTMENTS IN ASSOCIATES

From a Group perspective, the associates Sinotruk (Hong Kong) Ltd., Hongkong, China (Sinotruk), Bertrandt AG, Ehningen (Bertrandt), There Holding B.V., Rijswijk, the Netherlands (There Holding), and Navistar International Corporation, Lisle, Illinois/USA (Navistar), were material at the reporting date.

Sinotruk

Sinotruk is one of the largest truck manufacturers in the Chinese market. There is an agreement in place between Group companies and Sinotruk regarding a long-term strategic partnership, under which the Group participates in the local market. In addition to the partnership with Sinotruk in the volume segment, exports of MAN vehicles to China are also helping to expand access to the small, but fast-growing premium truck market. Sinotruk's principal place of business is in Hongkong, China.

As of December 31, 2019, the quoted market price of the shares in Sinotruk amounted to €1,312 million (previous year: €908 million).

Bertrandt

Bertrandt is an engineering partner to companies in the automotive and aviation industry. Its portfolio of services ranges from developing individual components through complex modules to end-to-end solutions. Bertrandt's principal place of business is in Ehningen.

As of December 31, 2019, the quoted market price of the shares in Bertrandt amounted to €165 million (previous year: €201 million).

There Holding

Together with the BMW Group, Daimler AG and other companies, Volkswagen holds an equity investment in There Holding B.V., Rijswijk (the Netherlands), an investment company. In turn, There Holding B.V. holds around 85 % of the shares of HERE International B.V., Eindhoven (the Netherlands). HERE International B.V. is one of the world's largest producers of digital road maps for navigation systems. Since the interest held does not grant control in accordance with IFRS 10, HERE International B.V. is included in the financial statements of There Holding B.V. as an associate using the equity method.

Capital increases were implemented at There Holding B.V. in 2019, in which Volkswagen participated. As a result, the shares accounted for using the equity method increased by €69 million. The ownership interest in There Holding B.V. amounted to 29.7 % as of December 31, 2019.

In December 2019, it was announced that additional investors would acquire shares in HERE International B.V. Following the signing in December 2019, Mitsubishi Corporation (MC) and Nippon Telegraph and Telephone Corporation of Japan (NTT) are aiming to jointly acquire 30 % of the shares of HERE International B.V. in the first half of 2020, subject to antitrust approval. The interest held by There Holding B.V. in HERE International B.V. is expected to decline to around 60 % as a result.

Navistar

Navistar International Corporation (Navistar) is a US manufacturer of commercial vehicles; it is based in Lisle, Illinois/USA. Navistar and TRATON GROUP companies have entered into master agreements for strategic technology and supply cooperation as well as a procurement joint venture.

Since two members of TRATON SE's Executive Board are represented on the Board of Directors of Navistar and because of the agreed cooperations, the investment in Navistar is reported as an equity-accounted investment in the consolidated financial statements.

As of December 31, 2019, the quoted market price of the shares in Navistar amounted to €429 million (December 31, 2018: €377 million).

SUMMARIZED FINANCIAL INFORMATION ON MATERIAL ASSOCIATES ON A 100% BASIS

€ million	Sinotruk[1]	Bertrandt[2]	There Holding	Navistar[3]
2019				
Equity interest in %	25	29	30	17
Noncurrent assets	2,351	575	1,131	1,762
Current assets	6,127	468	467	4,441
Noncurrent liabilities	50	313	–	6,336
Current liabilities	4,669	153	0	3,206
Net assets	3,758	578	1,597	–3,339
Sales revenue	8,047	1,058	–	10,004
Earnings after tax from continuing operations	627	16	–390	216
Earnings after tax from discontinued operations	–	–	–	–
Other comprehensive income	0	–1	1	7
Total comprehensive income	627	15	–389	223
Dividends received[4]	47	6	–	–
2018				
Equity interest in %	25	29	30	17
Noncurrent assets	2,239	586	1,763	1,846
Current assets	6,461	469	2	4,528
Noncurrent liabilities	54	306	–	6,478
Current liabilities	5,250	167	1	3,356
Net assets	3,395	583	1,764	–3,461
Sales revenue	8,047	1,020	–	8,625
Earnings after tax from continuing operations	558	25	–351	310
Earnings after tax from discontinued operations	–	–	–	–
Other comprehensive income	0	0	–7	245
Total comprehensive income	558	25	–358	555
Dividends received[4]	50	7	–	–

1 Balance sheet amounts refer to the June 30 reporting date and income statement amounts refer to the period from July 1 to June 30.
2 Balance sheet amounts refer to the September 30 reporting date and income statement amounts refer to the period from October 1 to September 30.
3 Balance sheet amounts refer to the October 31 reporting date and income statement amounts refer to the period from November 1 to October 31.
4 Proportionate dividends are shown net of withholding tax.

RECONCILIATION OF THE FINANCIAL INFORMATION TO THE CARRYING AMOUNT OF THE EQUITY-ACCOUNTED INVESTMENTS

€ million	Sinotruk	Bertrandt	There Holding	Navistar
2019				
Net assets at January 1	3,395	583	1,764	–3,461
Profit or loss	627	16	–390	216
Other comprehensive income	0	–1	1	7
Changes in reserves	1	–	222	–21
Foreign exchange differences	–46	–	–	–60
Dividends[1]	–218	–20	–	–20
Net assets at December 31	3,758	578	1,597	–3,339
Proportionate equity	940	167	475	–560
Consolidation/Goodwill/Others	–388	80	–	1,007
Carrying amount of equity-accounted investments	552	247	475	447
2018				
Net assets at January 1	3,060	583	2,209	–3,816
Profit or loss	558	25	–351	310
Other comprehensive income	0	0	–7	245
Changes in reserves	–3	–	–87	13
Foreign exchange differences	13	–	–	–191
Dividends[1]	–232	–25	–	–22
Net assets at December 31	3,395	583	1,764	–3,461
Proportionate equity	849	168	522	–582
Consolidation/Goodwill/Others	–402	163	–	1,012
Carrying amount of equity-accounted investments	447	331	522	430

1 Dividends are shown before withholding tax.

SUMMARIZED FINANCIAL INFORMATION ON INDIVIDUALLY IMMATERIAL ASSOCIATES ON THE BASIS OF THE VOLKSWAGEN GROUP'S PROPORTIONATE INTEREST

€ million	2019	2018
Earnings after tax from continuing operations	27	–20
Earnings after tax from discontinued operations	–	–
Other comprehensive income	12	1
Total comprehensive income	39	–20
Carrying amount of equity-accounted investments	597	332

There were unrecognized losses of €54 million (previous year: €– million) relating to investments in associates. Furthermore, there were no contingent liabilities or financial guarantees relating to associates.

INTERESTS IN JOINT VENTURES

From a Group perspective, the joint ventures FAW-Volkswagen Automotive Company Ltd., Changchun, China, SAIC-Volkswagen Automotive Company Ltd., Shanghai, China, and SAIC-Volkswagen Sales Company Ltd., Shanghai, China, were material at the reporting date due to their size.

FAW-Volkswagen Automotive Company

FAW-Volkswagen Automotive Company develops, produces and sells passenger cars. There is an agreement in place between Group companies and the joint venture partner China FAW Corporation Limited regarding a long-term strategic partnership. The principal place of business is in Changchun, China.

SAIC-Volkswagen Automotive Company

SAIC-Volkswagen Automotive Company develops and produces passenger cars. There is an agreement in place between Group companies and the joint venture partner Shanghai Automotive Industry Corporation regarding a long-term strategic partnership. The principal place of business is in Shanghai, China.

SAIC-Volkswagen Sales Company

SAIC-Volkswagen Sales Company sells passenger cars for SAIC-Volkswagen Automotive Company. There is an agreement in place between Group companies and the joint venture partner Shanghai Automotive Industry Corporation regarding a long-term strategic partnership. The principal place of business is in Shanghai, China.

SUMMARIZED FINANCIAL INFORMATION ON THE MATERIAL JOINT VENTURES ON A 100% BASIS

€ million	FAW-Volkswagen Automotive Company	SAIC-Volkswagen Automotive Company[1]	SAIC-Volkswagen Sales Company
2019			
Equity interest in %	40	50	30
Noncurrent assets	12,069	9,355	896
Current assets	11,876	8,251	4,477
of which cash and cash equivalents	5,423	6,513	210
Noncurrent liabilities	1,221	1,130	160
of which financial liabilities[2]	–	–	–
Current liabilities	15,321	11,674	4,665
of which financial liabilities[2]	29	1	–
Net assets	7,403	4,802	548
Sales revenue	44,181	26,922	32,115
Depreciation and amortization	1,825	2,190	21
Interest income	125	53	5
Interest expenses	4	2	–
Earnings before tax from continuing operations	4,775	3,594	659
Income tax expense	1,251	845	166
Earnings after tax from continuing operations	3,524	2,749	493
Earnings after tax from discontinued operations	–	–	–
Other comprehensive income	–49	3	–
Total comprehensive income	3,475	2,752	493
Dividends received[3]	1,332	1,732	153
2018			
Equity interest in %	40	50	30
Noncurrent assets	10,651	8,580	671
Current assets	10,903	6,689	3,680
of which cash and cash equivalents	3,764	4,412	206
Noncurrent liabilities	1,260	1,205	110
of which financial liabilities[2]	–	–	–
Current liabilities	12,936	8,526	3,692
of which financial liabilities[2]	–	4	–
Net assets	7,358	5,538	549
Sales revenue	41,607	28,863	33,212
Depreciation and amortization	1,335	1,479	8
Interest income	123	64	5
Interest expenses	–	1	–
Earnings before tax from continuing operations	4,851	4,588	665
Income tax expense	1,186	1,040	167
Earnings after tax from continuing operations	3,665	3,548	498
Earnings after tax from discontinued operations	–	–	–
Other comprehensive income	47	1	–
Total comprehensive income	3,712	3,549	498
Dividends received[3]	1,209	1,626	148

1 SAIC-Volkswagen Sales Company sells passenger cars for SAIC-Volkswagen Automotive Company. Therefore, the sales revenue reported for SAIC-Volkswagen Automotive Company was mostly generated from its business with SAIC-Volkswagen Sales Company.
2 Excluding trade liabilities.
3 Proportionate dividends are shown net of withholding tax.

RECONCILIATION OF THE FINANCIAL INFORMATION TO THE CARRYING AMOUNT OF THE EQUITY-ACCOUNTED INVESTMENTS

€ million	FAW-Volkswagen Automotive Company	SAIC-Volkswagen Automotive Company	SAIC-Volkswagen Sales Company
2019			
Net assets at January 1	7,358	5,538	549
Profit or loss	3,524	2,749	493
Other comprehensive income	–49	3	–
Changes in share capital	–	–	–
Changes in reserves	–	–	–
Foreign exchange differences	54	37	16
Dividends[1]	–3,483	–3,524	–509
Net assets at December 31	7,403	4,802	548
Proportionate equity	2,961	2,401	164
Consolidation/Goodwill/Others	–760	–803	–
Carrying amount of equity-accounted investments	2,201	1,599	164
2018			
Net assets at January 1	6,851	5,405	546
Profit or loss	3,665	3,548	498
Other comprehensive income	47	1	–
Changes in share capital	–	–	–
Changes in reserves	–	–	–
Foreign exchange differences	68	–23	–1
Dividends[1]	–3,273	–3,393	–494
Net assets at December 31	7,358	5,538	549
Proportionate equity	2,943	2,769	165
Consolidation/Goodwill/Others	–593	–851	–
Carrying amount of equity-accounted investments	2,350	1,918	165

1 Dividends are shown before withholding tax.

SUMMARIZED FINANCIAL INFORMATION ON INDIVIDUALLY IMMATERIAL JOINT VENTURES ON THE BASIS OF THE VOLKSWAGEN GROUP'S PROPORTIONATE INTEREST

€ million	2019	2018
Earnings after tax from continuing operations	434	319
Earnings after tax from discontinued operations	–	–
Other comprehensive income	3	–2
Total comprehensive income	436	317
Carrying amount of equity-accounted investments	1,887	1,939

There were unrecognized losses of €29 million (previous year: €– million) relating to investments in joint ventures. Contingent liabilities to joint ventures amounted to €224 million (previous year: €183 million), while financial guarantees stood at €134 million (previous year: €146 million). Cash funds of €276 million (previous year: €268 million) are deposited as collateral for asset-backed securities transactions and are therefore not available to the Volkswagen Group.

IFRS 5 – NON-CURRENT ASSETS HELD FOR SALE

On July 12, 2019, Volkswagen announced that, together with Ford Motor Company (Ford), it would be investing in Argo AI, a company that is working on the development of a system for autonomous driving. The investment will firstly include the provision of financial resources totaling USD 1.0 billion, spread over several years, and secondly Volkswagen will contribute its consolidated subsidiary Autonomous Intelligent Driving (AID). Furthermore, Volkswagen will acquire existing Argo AI shares from Ford for a purchase price of USD 500 million, payable in three equal annual installments. The transaction, including the contribution of AID, is expected to be completed in the first half of 2020 – subject to the required regulatory approvals and other conditions precedent.

On January 30, 2020, the Board of Management and Supervisory Board of Volkswagen AG resolved to sell the Volkswagen Group's 76% interest in RENK AG. RENK AG is a global provider of high-quality gear units and propulsion systems for various areas of application. It is part of the Power Engineering segment. The sale is expected to be completed in the second half of 2020 – subject to approval by the regulatory authorities.

In accordance with IFRS 5, the RENK AG subgroup and AID are reported as disposal groups held for sale and measured at their carrying amounts.

The assets and liabilities of the disposal groups are each reported in separate balance sheet accounts. The main categories of the assets and liabilities of the disposal groups are presented below:

€ million	Dec. 31, 2019
Intangible assets	110
Property, plant and equipment	261
Inventories	230
Cash and securities	4
Tax assets	2
Other assets	190
Assets held for sale	**795**
Financial liabilities	9
Provisions	72
Other liabilities	289
Liabilities associated with assets held for sale	**370**

Accumulated income and expenses in connection with the disposal groups classified as held for sale and recognized in other comprehensive income amount to €4.6 million.

Consolidation methods

The assets and liabilities of the German and foreign companies included in the consolidated financial statements are recognized in accordance with the uniform accounting policies used within the Volkswagen Group. In the case of companies accounted for using the equity method, the same accounting policies are applied to determine the proportionate equity, based on the most recent audited annual financial statements of each company.

In the case of subsidiaries consolidated for the first time, assets and liabilities are measured at their fair value at the date of acquisition. Their carrying amounts are adjusted in subsequent years. Goodwill arises when the purchase price of the investment exceeds the fair value of identifiable net assets. Goodwill is tested for impairment once a year to determine whether its carrying amount is recoverable. If the carrying amount of goodwill is higher than the recoverable amount, an impairment loss must be recognized. If this is not the case, there is no change in the carrying amount of goodwill compared with the previous year. If the purchase price of the investment is less than the identifiable net assets, the difference is recognized in the income statement in the year of acquisition. Goodwill is accounted for at the subsidiaries in the functional currency of those subsidiaries. Any difference that arises from the acquisition of additional shares of an already consolidated subsidiary is taken directly to equity. Unless otherwise stated, the proportionate equity directly attributable to noncontrolling interests is determined at the acquisition date as the share of the fair value of the assets (excluding goodwill) and liabilities attributable to them. Contingent consideration is measured at fair value at the acquisition date. Subsequent changes in the fair value of contingent consideration do not generally result in the adjustment of the acquisition-date measurement. Acquisition-related costs that are not equity transaction costs are not added to the purchase price, but instead recognized as expenses in the period in which they are incurred.

The consolidation process involves adjusting the items in the separate financial statements of the parent and its subsidiaries and presenting them as if they were those of a single economic entity. Intragroup assets, liabilities, equity, income, expenses and cash flows are eliminated in full. Intercompany profits or losses are eliminated in Group inventories and noncurrent assets. Deferred taxes are recognized for consolidation adjustments, and deferred tax assets and liabilities are offset where taxes are levied by the same tax authority and have the same maturity.

Currency translation

Transactions in foreign currencies are translated in the single-entity financial statements of Volkswagen AG and its consolidated subsidiaries at the rates prevailing at the transaction date. Foreign currency monetary items are recorded in the balance sheet using the middle rate at the closing date. Foreign exchange gains and losses are recognized in the income statement. This does not apply to foreign exchange differences from loans receivable that represent part of a net investment in a foreign operation. The financial statements of foreign companies are translated into euros using the functional currency concept, under which asset and liability items are translated at the closing rate. With the exception of income and expenses recognized directly in equity, equity is translated at historical rates. The resulting foreign exchange differences are recognized in other comprehensive income until disposal of the subsidiary concerned, and are presented as a separate item in equity.

Income statement items are translated into euros at weighted average rates.

The rates applied are presented in the following table:

		BALANCE SHEET MIDDLE RATE ON DECEMBER 31		INCOME STATEMENT AVERAGE RATE	
	€1 =	2019	2018	2019	2018
Argentina	ARS	67.23626	43.15687	53.78083	32.89363
Australia	AUD	1.60080	1.62240	1.61071	1.58021
Brazil	BRL	4.51350	4.44485	4.41485	4.30729
Canada	CAD	1.46205	1.55930	1.48595	1.53032
Czech Republic	CZK	25.40650	25.72450	25.66983	25.64308
India	INR	80.15450	79.90650	78.86396	80.71466
Japan	JPY	121.89500	125.91000	122.08649	130.40158
Mexico	MXN	21.24340	22.52035	21.56326	22.71496
People's Republic of China	CNY	7.81470	7.87725	7.73444	7.80766
Poland	PLN	4.25970	4.29780	4.29784	4.26098
Republic of Korea	KRW	1,296.35000	1,276.90000	1,304.89265	1,299.41384
Russia	RUB	69.84685	79.83765	72.46709	74.08214
South Africa	ZAR	15.76470	16.46690	16.17716	15.62243
Sweden	SEK	10.44505	10.25070	10.58593	10.25830
United Kingdom	GBP	0.84995	0.89690	0.87744	0.88476
USA	USD	1.12275	1.14525	1.11974	1.18156

Accounting policies

MEASUREMENT PRINCIPLES

With certain exceptions, such as financial instruments measured at fair value and provisions for pensions and other post-employment benefits, items in the Volkswagen Group are accounted for under the historical cost convention. The methods used to measure the individual items are explained in more detail below.

INTANGIBLE ASSETS

Purchased intangible assets are recognized at cost and amortized over their useful life using the straight-line method. This relates in particular to software, which is normally amortized over three years.

In accordance with IAS 38, research costs are recognized as expenses when incurred.

Since the fourth quarter of 2019, development costs for future series products and other internally generated intangible assets are capitalized at cost, provided the cash-generating unit to which the respective intangible asset is attributable is not impaired. If the criteria for recognition as assets are not met, the expenses are recognized in the income statement in the year in which they are incurred.

Capitalized development costs include all direct and indirect costs that are directly attributable to the development process. The costs are amortized using the straight-line method from the start of production over the expected life cycle of the models or powertrains developed – generally between two and ten years.

Amortization recognized during the year is allocated to the relevant functional areas in the income statement.

Brand names from business combinations usually have an indefinite useful life and are therefore not amortized. An indefinite useful life is usually the result of a brand's further use and maintenance.

Goodwill, intangible assets with indefinite useful lives and intangible assets that are not yet available for use are tested for impairment at least once a year. Assets in use and other intangible assets with finite useful lives are tested for impairment only if there are specific indications that they may be impaired. The Volkswagen Group generally applies the higher of value in use and fair value less costs to sell of the relevant cash-generating unit to determine the recoverable amount of goodwill and intangible assets with finite and indefinite useful lives. Since the fourth quarter of 2019, normally the respective brand is the cash-generating unit that is used as the testing level. Measurement of value in use is based on management's current planning. This planning is based on expectations regarding future global economic trends and on assumptions derived from those trends about the markets for passenger cars and commercial vehicles, market shares and the profitability of the products. The planning for the Financial Services segment is likewise prepared on the basis of these expectations, and also reflects the relevant market penetration rates and regulatory requirements. The planning for the Power Engineering segment reflects expectations about trends in the various individual markets. The planning includes reasonable assumptions about macroeconomic trends (exchange rate, interest rate and commodity price trends) and historical developments. The planning period generally covers five years. For information on the assumptions applied to the detailed planning period, please refer to the Report on Expected Developments, which is part of the Management Report. For subsequent years, plausible assumptions are made regarding future trends. The planning assumptions are adapted to reflect the current state of knowledge.

Estimation of cash flows is generally based on the expected growth trends for the markets concerned. The estimates for the cash flows following the end of the planning period are generally based on a growth rate of up to 1% p.a. (previous year: up to 1% p.a.) in the Passenger Cars segment, and on a growth rate of up to 1% p.a. (previous year: up to 1% p.a.) in the Power Engineering and Commercial Vehicles segments.

Value in use is determined for the purpose of impairment testing of goodwill, indefinite-lived intangible assets and finite-lived intangible assets – mainly capitalized development costs – using the following pretax weighted average cost of capital (WACC) rates, which are adjusted if necessary for country-specific discount factors:

WACC	2019	2018
Passenger Cars segment	5.7%	5.5%
Commercial Vehicles segment	7.7%	6.8%
Power Engineering segment	7.9%	7.8%

The WACC rates are calculated based on the risk-free rate of interest, a market risk premium and the cost of debt. Additionally, specific peer group information on beta factors and leverage are taken into account; changes in the leverage as a result of the initial application of IFRS 16 are taken into account appropriately. The composition of the peer groups used to determine beta factors is continuously reviewed and adjusted if necessary.

PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment is carried at cost less depreciation and – where necessary – write-downs for impairment. Investment grants are generally deducted from cost. Cost is determined on the basis of the direct and indirect costs that are directly attributable. Special operational equipment is reported under other equipment, operating and office equipment. Property, plant and equipment is depreciated using the straight-line method over its estimated useful life. The useful lives of items of property, plant and equipment are reviewed on a regular basis and adjusted if required.

Depreciation is based mainly on the following useful lives:

	Useful life
Buildings	20 to 50 years
Site improvements	10 to 20 years
Technical equipment and machinery	6 to 12 years
Other equipment, operating and office equipment, including special tools	3 to 15 years

Impairment losses on property, plant and equipment are recognized in accordance with IAS 36 where the recoverable amount of the asset concerned has fallen below the carrying amount. Recoverable amount is the higher of value in use and fair value less costs to sell. Value in use is determined using the principles described for intangible assets. The discount rates for product-specific tools and other investments are the same as the discount rates for capitalized development costs given above for each segment. If the reasons for impairments recognized in previous years no longer apply, the impairment losses are reversed up to a maximum of the amount that would have been determined if no impairment loss had been recognized (see also disclosures on adjustments to cash-generating units in the “Key Events” section).

In accordance with the principle of substance over form, assets that have been formally transferred to third parties under a sale and leaseback transaction including a repurchase option also continue to be accounted for as separate assets.

LEASES

Until December 31, 2018, the Volkswagen Group accounted for leases in accordance with IAS 17. A lease was defined as a contract under which the lessor transfers to the lessee the right to use an asset for an agreed period of time in return for a series of payments. The accounting treatment of the lease at the lessee and lessor depended on the distribution of the risks and rewards associated with the leased asset.

If the material risks and rewards were attributable to the Volkswagen Group as lessee, the leased assets concerned were recognized at fair value or at the present value of the minimum lease payments (if lower) and depreciated using the straight-line method over the asset's useful life, or over the term of the lease if this was shorter. The payment obligations arising from the future lease payments were discounted and recorded as a liability in the balance sheet.

Where the Volkswagen Group was the lessee of operating lease assets, i.e. if not all material risks and rewards were transferred, lease and rental payments were recorded directly as expenses in profit or loss.

Since January 1, 2019, the Volkswagen Group has accounted for leases in accordance with IFRS 16, which defines a lease as a contract or part of a contract in which a lessor transfers to a lessee the right to use an asset for an agreed period of time in exchange for consideration.

RIGHT-OF-USE ASSETS/LEASE LIABILITIES

If the Volkswagen Group is the lessee, it generally recognizes in its balance sheet a right-of-use asset and a lease liability for all leases. In the Volkswagen Group the lease liability is measured on the basis of the present value of outstanding lease payments, while the right-of-use asset is always measured at the amount of the lease liability plus any initial direct costs.

During the lease term, the right-of-use asset is always depreciated on a straight-line basis over the term of the lease. The lease liability is adjusted using the effective interest method and taking the lease payments into account.

The right-of-use assets are reported in the balance sheet under those items in which the assets underlying the lease would have been recognized if the Volkswagen Group had been their beneficial owner. For this reason, the right-of-use assets are presented under noncurrent assets, mostly in property, plant and equipment, as of the balance sheet date and included in impairment tests of property, plant and equipment conducted in accordance with IAS 36.

There are practical expedients for short-term and low-value leases; the Volkswagen Group makes use of this option and therefore does not recognize right-of-use assets or liabilities for these types of leases. In this respect, the lease payments will continue to be recognized in the income statement. Leases are accounted for as of low value if the value of the leased asset as new is no higher than €5,000. Furthermore, the accounting rules of IFRS 16 are not applied to leases of intangible assets.

A large number of leases contain extension and termination options. The determination of the lease terms considers all relevant facts and circumstances that create an economic incentive to exercise or not to exercise the option. Optional periods are taken into account in determining the lease term, if it is reasonably certain that the option will or will not be exercised.

LEASE ASSETS

The accounting treatment of leases of lease assets is based on the classification into operating leases and finance leases. The classification is made on the basis of the distribution of risks and rewards incidental to ownership of the lease asset.

If the lease is an operating lease, the Volkswagen Group is exposed to the material risks and rewards. The lease asset is recognized at amortized cost in the Volkswagen Group's noncurrent assets and the lease installments collected in the period are recognized as income in the income statement.

Vehicles leased out under operating leases are recognized at cost and depreciated to their estimated residual value using the straight-line method over the term of the lease. Impairment losses identified as a result of an impairment test in accordance with IAS 36 are recognized. The forecast residual values are adjusted to include constantly updated internal and external information on residual values, depending on specific local factors and the experiences gained in the marketing of used cars. This requires management to make assumptions in particular about vehicle supply and demand in the future, as well as about vehicle price trends. Such assumptions are based either on qualified estimates or on data published by external experts. Qualified estimates are based on external data – if available – that reflects additional information that is available internally, such as historical experience and current sales data.

Under a finance lease, the material risks and rewards are transferred to the lessee. The lease asset is derecognized from the Volkswagen Group's noncurrent assets, and instead a receivable is recognized in the amount of the net investment in the lease.

INVESTMENT PROPERTY

Real estate and buildings held in order to obtain rental income (investment property) are carried at amortized cost; the useful lives applied to depreciation generally correspond to those of the property, plant and equipment used by the Company itself. The fair value of investment property must be disclosed in the notes if it is carried at amortized cost. Fair value is generally estimated using an investment method based on internal calculations. This involves determining the income value for a specific building on the basis of gross income, taking into account additional factors such as land value, remaining useful life and a multiplier specific to property.

CAPITALIZATION OF BORROWING COSTS

Borrowing costs of qualifying assets are capitalized as part of the cost of these assets. A qualifying asset is an asset that necessarily takes at least a year to get ready for its intended use or sale.

EQUITY-ACCOUNTED INVESTMENTS

The cost of equity-accounted investments is adjusted to reflect the share of increases or reductions in equity at the associates and joint ventures after the acquisition that is attributable to the Volkswagen Group, as well as any effects from purchase price allocation. Additionally, the investment is tested for impairment if there are indications of impairment and written down to the lower recoverable amount if necessary. The recoverable amount is determined using the principles described for indefinite-lived intangible assets. If the reason for impairment ceases to apply at a later date, the impairment loss is reversed to the carrying amount that would have been determined had no impairment loss been recognized.

FINANCIAL INSTRUMENTS

Financial instruments are contracts that give rise to a financial asset of one company and a financial liability or an equity instrument of another. Regular way purchases or sales of financial instruments are accounted for at the settlement date – that is, at the date on which the asset is delivered.

Financial assets are classified and measured on the basis of the entity's business model and the characteristics of the financial asset's cash flows.

IFRS 9 classifies financial assets into the following categories:
> financial assets at fair value through profit or loss;
> financial assets at fair value through other comprehensive income (debt instruments);
> financial assets at fair value through other comprehensive income (equity instruments); and
> financial assets at amortized cost.

Financial liabilities are classified into the following categories:
- financial liabilities at fair value through profit or loss; and
- financial liabilities measured at amortized cost.

In the Volkswagen Group, the categories presented above are allocated to the “at amortized cost” and “at fair value” classes.

FINANCIAL ASSETS AND LIABILITIES AT AMORTIZED COST

Financial assets measured at amortized cost are held under a business model that is aimed at collecting contractual cash flows (“hold” business model). The cash flows of these assets relate solely to payments of principal and interest on the principal amount outstanding. The amortized cost of a financial asset or liability is the amount:
- at which a financial asset or liability is measured at initial recognition;
- minus any principal repayments;
- taking account of any loss allowances, write-downs for impairment and uncollectibility relating to financial assets; and
- plus or minus the cumulative amortization of any difference between the original amount and the amount repayable at maturity (premium, discount), amortized using the effective interest method over the term of the financial asset or liability.

Financial liabilities measured at amortized cost using the effective interest method relate to liabilities to banks, bonds, commercial paper and notes, loans and other liabilities. Gains or losses resulting from changes in amortized cost, including the effects of changes in exchange rates, are recognized through profit or loss. For reasons of materiality, discounting or unwinding of discounting is not applied to current liabilities (due within one year).

Financial assets and liabilities measured at amortized cost are
- receivables from financing business;
- trade receivables and payables;
- other receivables and financial assets and liabilities;
- financial liabilities; and
- cash, cash equivalents and time deposits.

FINANCIAL ASSETS AND LIABILITIES AT FAIR VALUE

Changes in the carrying amount of financial assets measured at fair value are recognized either through OCI or through profit or loss.

The fair value through OCI (debt instruments) category comprises exclusively debt instruments. Changes in fair value are always recognized directly in equity, net of deferred taxes. Certain changes in the fair value of these debt instruments (impairment losses, foreign exchange gains and losses, interest calculated using the effective interest method) are recognized immediately in profit or loss.

Financial assets measured at fair value through other comprehensive income (debt instruments) are held under a business model aimed at both collecting contractual cash flows and selling financial assets (“hold and sell” business model).

Financial assets that are equity instruments are also measured at fair value. Here Volkswagen exercises the option to recognize changes in fair value always through other comprehensive income, i.e. gains and losses from the measurement of equity investments are never recycled to the income statement and instead reclassified to revenue reserves on disposal (no reclassification).

Any financial assets not measured at either amortized cost or through other comprehensive income are allocated to the fair value through profit or loss category. Financial assets at fair value through profit or loss are aimed in particular at generating cash flows by selling financial instruments ("sell" business model).

At Volkswagen, this category primarily comprises
> hedging relationships to which hedge accounting is not applied and
> investment fund units.

All financial liabilities at fair value through profit or loss relate to derivatives to which hedge accounting is not applied.

Fair value generally corresponds to the market or quoted market price. If no active market exists, fair value is determined using other observable inputs as far as possible. If no observable inputs are available, fair value is determined using valuation techniques, such as by discounting the future cash flows at the market interest rate, or by using recognized option pricing models, and, as far as possible, verified by confirmations from the banks that handle the transactions.

In the case of current financial receivables and liabilities, amortized cost generally corresponds to the principal or repayment amount.

The fair value option for financial assets and financial liabilities is not used in the Volkswagen Group.

Financial assets and financial liabilities are generally presented at their gross amounts and only offset if the Volkswagen Group currently has a legally enforceable right to set off the amounts and intends to settle on a net basis.

Subsidiaries, associates and joint ventures that are not consolidated for reasons of materiality do not fall within the scope of IFRS 9 and IFRS 7.

DERIVATIVES AND HEDGE ACCOUNTING

Volkswagen Group companies use derivatives to hedge balance sheet items and future cash flows (hedged items). Appropriate derivatives such as swaps, forward transactions and options are used as hedging instruments. The criteria for the application of hedge accounting are that the hedging relationship between the hedged item and the hedging instrument is clearly documented and that the hedge is highly effective.

The accounting treatment of changes in the fair value of hedging instruments depends on the nature of the hedging relationship. In the case of hedges against the risk of change in the fair value of balance sheet items (fair value hedges), both the hedging instrument and the hedged risk portion of the hedged item are measured at fair value. Several risk portions of hedged items are grouped into a portfolio if appropriate. In the case of a fair value portfolio hedge, the changes in fair value are accounted for in the same way as for a fair value hedge of an individual underlying. Gains or losses from the measurement of hedging instruments and hedged items are recognized in profit or loss. In the Volkswagen Group, IAS 39 is applied alongside IFRS 9 to account for portfolio hedges of interest rate risk in the Financial Services Division.

In the case of hedges of future cash flows (cash flow hedges), the hedging instruments are also measured at fair value. The designated effective portion of the hedging instrument is accounted for through OCI I and the non-designated portion through OCI II. They are only recognized in the income statement when the hedged item is recognized in profit or loss. The ineffective portion of cash flow hedges is recognized through profit or loss immediately.

Derivatives used by the Volkswagen Group for financial management purposes to hedge against interest rate, foreign currency, commodity price, equity price, or fund price risks, but that do not meet the strict hedge accounting criteria of IFRS 9, are classified as financial assets or liabilities at fair value through profit or loss (referred to below as derivatives to which hedge accounting is not applied). This also applies to options on shares.

External hedging instruments of intragroup hedged items that are subsequently eliminated in the consolidated financial statements are also assigned to this category as a general rule. Assets and liabilities measured at fair value through profit or loss consist of derivatives or components of derivatives that are not included in hedge accounting. These relate for example to the non-designated currency forwards used to hedge sales revenue, interest rate hedges, commodity futures and currency forwards relating to commodity futures.

RECEIVABLES FROM FINANCE LEASES

Where a Group company is the lessor – generally of vehicles – a receivable in the amount of the net investment in the lease is recognized in the case of finance leases, in other words where substantially all the risks and rewards are transferred to the lessee.

IMPAIRMENT LOSSES ON FINANCIAL INSTRUMENTS

Financial assets are exposed to default risk, which is taken into account by recognizing loss allowances or, if losses have already been incurred, by recognizing impairment losses. Default risk on loans and receivables in the financial services segment is accounted for by recognizing specific loss allowances and portfolio-based loss allowances.

In particular, a loss allowance is recognized on these financial assets in the amount of the expected loss in accordance with Group-wide standards. The actual specific loss allowances for the losses incurred are then charged to this loss allowance. A potential impairment is assumed not only for a number of situations such as delayed payment over a certain period, the institution of enforcement measures, the threat of insolvency or overindebtedness, application for or the opening of bankruptcy proceedings, or the failure of reorganization measures, but also for receivables that are not past due.

Portfolio-based loss allowances are recognized by grouping together insignificant receivables and significant individual receivables for which there is no indication of impairment into homogeneous portfolios on the basis of comparable credit risk features and allocating them by risk class. Average historical default probabilities are used in combination with forward-looking parameters for the portfolio concerned to calculate the amount of the impairment loss.

Credit risks must be considered for all financial assets measured at amortized cost or fair value through profit or loss (debt instruments), as well as for contract assets in accordance with IFRS 15 and lease receivables within the scope of IFRS 16. The rules on impairment also apply to risks from irrevocable credit commitments not recognized in the balance sheet and to the measurement of financial guarantees.

As a matter of principle, a simplified process, which takes historical default rates and forward-looking information into account, and specific loss allowances are used to account for impairment losses on receivables outside the Financial Services segment.

DEFERRED TAXES

Deferred tax assets are generally recognized for tax-deductible temporary differences between the tax base of assets and liabilities and their carrying amounts in the consolidated balance sheet, as well as on tax loss carryforwards and tax credits provided it is probable that they can be used in future periods. Deferred tax liabilities are generally recognized for all taxable temporary differences between the tax base of assets and liabilities and their carrying amounts in the consolidated balance sheet.

Deferred tax liabilities and assets are recognized in the amount of the expected tax liability or tax benefit, as appropriate, in subsequent fiscal years, based on the expected enacted tax rate at the time of realization. The tax consequences of dividend payments are generally not taken into account until the resolution on appropriation of earnings available for distribution has been adopted.

Deferred tax assets that are unlikely to be realized within a clearly predictable period are reduced by loss allowances.

Deferred tax assets for tax loss carryforwards are usually measured on the basis of future taxable income over a planning period of five fiscal years.

Deferred tax assets and deferred tax liabilities are offset where taxes are levied by the same taxation authority and relate to the same tax period.

INVENTORIES

Raw materials, consumables and supplies, merchandise, work in progress and self-produced finished goods reported in inventories are carried at the lower of cost or net realizable value. Cost is determined on the basis of the direct and indirect costs that are directly attributable. Borrowing costs are not capitalized. The measurement of same or similar inventories is generally based on the weighted average cost method.

NONCURRENT ASSETS HELD FOR SALE AND DISCONTINUED OPERATIONS

Under IFRS 5, noncurrent assets or groups of assets and liabilities (disposal groups) are classified as held for sale if their carrying amounts will be recovered principally through a sale transaction rather than through continuing use. Such assets are carried at the lower of their carrying amount and fair value less costs to sell, and are presented separately in current assets and liabilities in the balance sheet.

Discontinued operations are components of an entity that have either been disposed of or are classified as held for sale. The assets and liabilities of operations that are held for sale represent disposal groups that must be measured and reported using the same principles as noncurrent assets held for sale. The income and expenses from discontinued operations are presented in the income statement as profit or loss from discontinued operations below the profit or loss from continuing operations. Corresponding disposal gains or losses are contained in the profit or loss from discontinued operations. The prior-year figures in the income statement are adjusted accordingly.

PENSION PROVISIONS

The actuarial valuation of pension provisions is based on the projected unit credit method stipulated by IAS 19 for defined benefit plans. The valuation is not only based on pension payments and vested entitlements known at the balance sheet date, but also reflects future salary and pension trends, as well as experience-based staff turnover rates. Remeasurements are recognized in retained earnings in other comprehensive income, net of deferred taxes.

PROVISIONS FOR INCOME TAXES

Tax provisions contain obligations resulting from current income taxes. Deferred taxes are presented in separate items of the balance sheet and income statement. Provisions are recognized for potential tax risks on the basis of the best estimate of the liability.

SHARE-BASED PAYMENT

The share-based payment consists of phantom shares and performance shares. The obligations arising from the share-based payment are accounted for as cash-settled plans in accordance with IFRS 2. The cash-settled share-based payments are measured at fair value until maturity. Fair value is determined using a recognized valuation technique. The compensation cost is allocated over the vesting period.

OTHER PROVISIONS

In accordance with IAS 37, provisions are recognized where a present obligation exists to third parties as a result of a past event, where a future outflow of resources is probable and where a reliable estimate of that outflow can be made.

Provisions not resulting in an outflow of resources in the year immediately following are recognized at their settlement value discounted to the balance sheet date. Discounting is based on market interest rates. An average discount rate of –0.10% (previous year: 0.20%) was used in the Eurozone. The settlement value also reflects cost increases expected at the balance sheet date.

Provisions are not offset against claims for reimbursement.

Insurance contracts that form part of the insurance business are recognized in accordance with IFRS 4. Reinsurance acceptances are accounted for without any time delay in the year in which they arise. Provisions are generally recognized based on the cedant's contractual duties. Estimation techniques based on assumptions about future changes in claims are used to calculate the claims provision. Other technical provisions relate to the provision for cancellations.

The share of the provisions attributable to reinsurers is calculated in accordance with the contractual agreements with the retrocessionaries and reported under other assets.

CONTINGENT LIABILITIES

If the criteria for recognizing a provision are not met, but the outflow of financial resources is not remote, such obligations are disclosed in the notes to the consolidated financial statements (see the "Contingent liabilities" section). Contingent liabilities are only recognized if the obligations are more certain, i.e. the outflow of financial resources has become probable and their amount can be reliably estimated.

LIABILITIES

Noncurrent liabilities are recorded at amortized cost in the balance sheet. Differences between historical cost and the repayment amount are amortized using the effective interest method.

Liabilities to members of partnerships from puttable shares are recognized in the income statement at the present value of the redemption amount at the balance sheet date.

Lease liabilities are carried at the present value of the lease payments.

Current liabilities are recognized at their repayment or settlement value.

REVENUE AND EXPENSE RECOGNITION

Sales revenue, interest and commission income from financial services and other operating income are recognized only when the relevant service has been rendered or the goods have been delivered, i.e. when the customer has obtained control of the good or service. Where new and used vehicles and original parts are sold, the Company's performance invariably occurs upon delivery, because that is the point when control is transferred, and the inventory risk and, for deliveries to a dealer, invariably also the pricing decision pass to the customer. Revenue is reported net of sales allowances (discounts, rebates, or customer bonuses). The Volkswagen Group measures sales allowances and other variable consideration on the basis of experience and by taking account of current circumstances. Vehicles are normally sold on payment terms. A trade receivable is recognized for the period between vehicle delivery and receipt of payment. Any financing component included in the transaction is only recognized if the period between the transfer of the goods and the payment of consideration is longer than one year and the amount to be accrued is significant.

Sales revenue from financing and finance lease agreements is recognized using the effective interest method. If non-interest-bearing or low-interest vehicle financing arrangements are agreed, sales revenue is reduced by the interest benefits granted. Sales revenue from operate leases is recognized over the term of the contract on a straight line basis.

In contracts under which the goods or services are transferred over a period of time, revenue is recognized, depending on the type of goods or services provided, either according to the stage of completion or, to simplify, on a straight-line basis; the latter is only allowed, if revenue recognition on a straight-line basis does not differ materially from recognition according to the stage of completion. As a rule, the stage of completion is determined as the proportion that contract costs incurred by the end of the reporting period bear to the estimated total contract costs (cost-to-cost method). Contract costs incurred invariably represent the best way to measure the stage of completion for the performance obligation. If the outcome of a performance obligation satisfied over time is not sufficiently certain, but the company expects, as a minimum, to recover its costs, revenue is only recognized in the amount of contract costs incurred (zero profit margin method). If the expected costs exceed the expected revenue, the expected losses are recognized immediately in full as expenses by recognizing impairment losses on the associated contract assets recognized, and additionally by recognizing provisions for any amounts in excess of the impairment losses. Since long-term construction contracts invariably give rise to contingent receivables from customers for the period to completion or payment by the customer, contract assets are recognized for the corresponding amounts. A trade receivable is recognized as soon as the Company has transferred the goods or services in full.

If a contract comprises several separately identifiable components (multiple-element arrangements), these components are recognized separately in accordance with the principles outlined above.

If services are sold to the customer at the same time as the vehicle, and the customer pays for them in advance, the Group recognizes a corresponding contract liability until the services have been transferred. Examples of services that customers pay for in advance are servicing, maintenance and certain warranty contracts as well as mobile online services. For extended warranties granted to customers for a particular model, a provision is normally recognized in the same way as for statutory warranties. If the warranty is optional for the customer or includes an additional service component, the sales revenue is deferred and recognized over the term of the warranty.

Income from the sale of assets for which a Group company has a buyback obligation is recognized only when the assets have definitively left the Group. If a fixed repurchase price was agreed when the contract was entered into, the difference between the selling price and the present value of the repurchase price is recognized as income ratably over the term of the contract. Prior to that time, the assets are carried as inventories in the case of short contract terms and as lease assets in the case of long contract terms.

Sales revenue is always determined on the basis of the price stated in the contract. If variable consideration (e.g. volume-based bonus payments) has been agreed in a contract, the large number of contracts involved means that revenue has to be estimated using the expected value method. In exceptional cases, the most probable amount method may also be used. Once the expected sales revenue has been estimated, an additional check is carried out to determine whether there is any uncertainty that necessitates the reversal of the revenue initially recognized so that it can be virtually ruled out that sales revenue subsequently has to be adjusted downward. Provisions for reimbursements arise mainly from dealer bonuses.

In multiple element arrangements, the transaction price is allocated to the different performance obligations of the contract on the basis of relative standalone selling prices. In the Automotive Division, non-vehicle-related services are invariably measured at their standalone selling prices for reasons of materiality.

Cost of sales includes the costs incurred to generate the sales revenue and the cost of goods purchased for resale. This item also includes the costs of additions to warranty provisions. Research and development costs not eligible for capitalization in the period and amortization of development costs are likewise carried under cost of sales. Reflecting the presentation of interest and commission income in sales revenue, the interest and commission expenses attributable to the financial services business are presented in cost of sales.

Dividend income is recognized on the date when the dividend is legally approved.

GOVERNMENT GRANTS

Government grants related to assets are deducted when arriving at the carrying amount of the asset and are recognized in profit or loss over the life of the depreciable asset as a reduced depreciation expense. If the Group becomes entitled to a grant subsequently, the amount of the grant attributable to prior periods is recognized as profit or loss.

Government grants related to income, i.e. that compensate the Group for expenses incurred, are recognized in profit or loss for the period in those items in which the expenses to be compensated by the grants are also recognized. Grants in the form of nonmonetary assets (e.g. the use of land free of charge or the transfer of resources free of charge) are disclosed as a memo item.

ESTIMATES AND ASSUMPTIONS BY MANAGEMENT

Preparation of the consolidated financial statements requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities, and income and expenses, as well as the related disclosure of contingent assets and liabilities of the reporting period. The estimates and assumptions relate largely to the following matters:

The impairment testing of nonfinancial assets (especially goodwill, brand names, capitalized development costs and special operational equipment) and equity-accounted investments, or investments accounted at cost, and the measurement of options on shares in companies that are not traded in an active market require assumptions about the future cash flows during the planning period, and possibly beyond it, as well as about the discount rate to be applied. The estimates made in order to separate cash flows mainly relate to future market shares, the trend in the respective markets and the profitability of the Volkswagen Group's products. In addition, the recoverability of the Group's lease assets depends in particular on the residual value of the leased vehicles after expiration of the lease term, because this represents a significant portion of the expected cash flows. A change to the definition of cash-generating units in the Passenger Cars Business Area was required in the past fiscal year. More detailed information on impairment tests and the measurement parameters used for those tests can be found in the explanations on the accounting policies for intangible assets.

If there are no observable market inputs, the fair values of assets acquired and liabilities assumed in a business combination are measured using recognized valuation techniques, such as the relief-from-royalty method or the residual method.

Impairment testing of financial assets requires estimates about the extent and probability of occurrence of future events. As far as possible, estimates are derived from experience taking into account current market data as well as rating categories and scoring information. The section entitled "IFRS 7 (Financial Instruments)" contains further details on how to determine loss allowances.

Accounting for provisions is also based on estimates of the extent and probability of occurrence of future events, as well as estimates of the discount rate. As far as possible, these are also based on experience or external opinions. The assumptions applied in the measurement of pension provisions are described in the "Provisions for pensions and other post-employment benefits" section. Remeasurements are recognized in other comprehensive income and do not affect profit or loss reported in the income statement. Any change in the estimates of the amount of other provisions is always recognized in profit or loss. The provisions are regularly adjusted to reflect new information obtained. The use of expected values means that additional amounts must frequently be recognized for provisions, or that unused provisions are reversed. Similarly to expenses for the recognition of provisions, income from the reversal of provisions is allocated to the respective functions. Warranty claims from sales transactions are calculated on the basis of losses to date, estimated future losses and the policy on ex gratia arrangements. In addition, assumptions must be made about the nature and extent of future warranty and ex gratia claims.

For the provisions recognized in connection with the diesel issue, assumptions were made in particular about working hours, material costs and hourly wage rates, depending on the series, model year and country concerned. In addition, assumptions are made about future resale prices of repurchased vehicles. These assumptions are based on qualified estimates, which are based in turn on external data, and also reflect additional information available internally, such as values derived from experience. Further information on the legal proceedings and on the legal risks associated with the diesel issue can be found in the "Litigation" section.

Tax provisions were recognized for potential future tax back payments, while other provisions were recognized for ancillary tax payments arising in this connection.

Volkswagen AG and its subsidiaries have operations worldwide and are audited by local tax authorities on an ongoing basis. Amendments to tax laws and changes in legal precedent and their interpretation by the tax authorities in the respective countries may lead to tax payments that differ from the estimates made in the financial statements.

The measurement of the tax provision is based on the most likely exposure resulting from this risk materializing. Volkswagen decides whether to account for multiple tax uncertainties separately or in groups on the merits of each individual case considered, depending on which type of presentation is better suited to predicting the extent to which the tax risk will materialize. The pricing of individual products and services is complex, especially in relation to contracts for the cross-border supply of intragroup goods and services, because it is in many cases not possible to observe market prices for internally generated products, or the use of market prices for similar products is subject to uncertainty because they are not comparable. In these cases, prices – including for tax purposes – are determined on the basis of standardized, generally accepted valuation techniques.

If actual developments differ from the assumptions made for recognizing the provisions, the figures actually recorded may differ from the estimates expected originally.

An overview of other provisions can be found in the "Noncurrent and current other provisions" section.

Government grants are recognized based on an assessment as to whether there is reasonable assurance that the Group companies will fulfill the attached conditions and the grants will be awarded. This assessment is based on the nature of the legal entitlement and past experience.

Estimates of the useful life of finite-lived assets are based on experience and are reviewed regularly. Where estimates are modified the residual useful life is adjusted and an impairment loss is recognized, if necessary.

Estimates of lease terms under IFRS 16 are based on the non-cancelable period of a lease and an assessment of whether existing extension and termination options will be exercised. The determination of the lease term and the discount rates used impacts on the amounts to be recognized for right-of-use assets and lease liabilities.

Measuring deferred tax assets requires assumptions regarding future taxable income and the timing of the realization of deferred tax assets.

The estimates and assumptions are based on underlying assumptions that reflect the current state of available knowledge. Specifically, the expected future development of business was based on the circumstances known at the date of preparation of these consolidated financial statements and a realistic assessment of the future development of the global and sector-specific environment. Our estimates and assumptions remain subject to a high degree of uncertainty because future business developments are subject to uncertainties that in part cannot be influenced by the Group. This applies in particular to short- and medium-term cash flow forecasts and to the discount rates used.

Developments in this environment that differ from the assumptions and that cannot be influenced by management could result in amounts that differ from the original estimates. If actual developments differ from the expected developments, the underlying assumptions and, if necessary, the carrying amounts of the assets and liabilities affected are adjusted.

Global gross domestic product (GDP) rose by 2.6% (previous year: 3.2%) in 2019. Our forecasts are based on the assumption that global economic growth will slow down somewhat in 2020. As a result, from today's perspective, we are not expecting material adjustments in the following fiscal year in the carrying amounts of the assets and liabilities reported in the consolidated balance sheet.

Estimates and assumptions by management were based in particular on assumptions relating to the development of the general economic environment, the automotive markets and the legal environment. These and further assumptions are explained in detail in the Report on Expected Developments, which is part of the Group Management Report.

Segment reporting

Segments are identified on the basis of the Volkswagen Group's internal management and reporting. In line with the Group's multibrand strategy, each of its brands (operating segments) is managed by its own Board of Management. The Group targets and requirements laid down by the Board of Management of Volkswagen AG must be complied with. Segment reporting comprises four reportable segments: Passenger Cars and Light Commercial Vehicles, Commercial Vehicles, Power Engineering and Financial Services. As a result of an internal management change as from January 1, 2019, light commercial vehicles of the Volkswagen Commercial Vehicles brand are no longer allocated to the Commercial Vehicles segment, but reported under the Passenger Cars and Light Commercial Vehicles segment. The prior-year figures have been adjusted accordingly.

The activities of the Passenger Cars and Light Commercial Vehicles segment cover the development of vehicles and engines, the production and sale of passenger cars and light commercial vehicles, and the corresponding genuine parts business. In the Passenger Cars and Light Commercial Vehicles reporting segment, the individual brands are being combined into a single reportable segment, in particular as a response to the high degree of technological and economic interlinking in the production network. Furthermore, there is collaboration within key areas such as procurement, research and development or treasury.

The Commercial Vehicles segment primarily comprises the development, production and sale of trucks and buses, the corresponding genuine parts business and related services. Just as in the case of the car brands, there is collaboration within the areas procurement, development and sales. The aim is to achieve further forms of interlinking.

The activities of the Power Engineering segment consist of the development and production of large-bore diesel engines, turbo compressors, industrial turbines and chemical reactor systems, as well as the production of gear units, propulsion components and testing systems.

The activities of the Financial Services segment comprise dealer and customer financing, leasing, banking and insurance activities, fleet management and mobility services. In this segment, combinations occur especially while taking into account the comparability of the type of services as well as the regulatory situation.

Purchase price allocation for companies acquired is allocated directly to the corresponding segments.

At Volkswagen, segment profit or loss is measured on the basis of the operating result.

In the segment reporting, the share of the result of joint ventures is contained in the share of the result of equity-accounted investments in the corresponding segments.

The reconciliation contains activities and other operations that by definition do not constitute segments. It also includes the unallocated Group financing activities. Consolidation adjustments between the segments are also contained in the reconciliation.

Investments in intangible assets, property, plant and equipment, and investment property are reported net of investments in right-of-use assets from leases.

As a matter of principle, business relationships between the companies within the segments of the Volkswagen Group are transacted at arm's length prices.

REPORTING SEGMENTS 2018[1]

€ million	Passenger Cars and Light Commercial Vehicles	Commercial Vehicles	Power Engineering	Financial Services	Total segments	Reconciliation	Volkswagen Group
Sales revenue from external customers	176,613	23,803	3,605	31,592	235,613	236	235,849
Intersegment sales revenue	12,895	979	3	3,190	17,067	–17,067	–
Total sales revenue	189,508	24,781	3,608	34,782	252,680	–16,830	235,849
Depreciation and amortization	12,700	1,966	378	6,523	21,567	–56	21,511
Impairment losses	629	89	–	469	1,186	110	1,296
Reversal of impairment losses	156	6	2	98	262	–	262
Segment result (operating result)	13,068	1,191	–64	2,793	16,988	–3,068	13,920
Share of the result of equity-accounted investments	3,094	213	3	58	3,369	–	3,369
Interest result and other financial result	164	297	2	–70	393	–2,039	–1,646
Equity-accounted investments	6,731	971	18	712	8,434	–	8,434
Investments in intangible assets, property, plant and equipment, and investment property	16,709	1,380	176	510	18,776	187	18,962

1 The prior-year figures have been adjusted to reflect a change in the allocation of Light Commercial Vehicles of the Volkswagen Commercial Vehicles brand.

REPORTING SEGMENTS 2019

€ million	Passenger Cars and Light Commercial Vehicles	Commercial Vehicles	Power Engineering	Financial Services	Total segments	Reconciliation	Volkswagen Group
Sales revenue from external customers	186,511	25,401	3,995	36,446	252,353	280	252,632
Intersegment sales revenue	15,762	1,043	2	3,714	20,522	–20,522	–
Total sales revenue	202,273	26,444	3,997	40,160	272,875	–20,242	252,632
Depreciation and amortization	14,622	2,280	420	8,080	25,402	–996	24,406
Impairment losses	201	1	–	538	740	209	949
Reversal of impairment losses	886	71	2	181	1,140	–15	1,124
Segment result (operating result)	15,610	1,653	–93	3,212	20,381	–3,422	16,960
Share of the result of equity-accounted investments	3,053	225	–1	71	3,349	–	3,349
Interest result and other financial result	–1,582	–70	1	–64	–1,715	–238	–1,953
Equity-accounted investments	6,232	1,118	34	784	8,169	–	8,169
Investments in intangible assets, property, plant and equipment, and investment property	17,098	1,460	197	223	18,977	423	19,401

RECONCILIATION

€ million	2019	2018[1]
Segment sales revenue	**272,875**	**252,680**
Unallocated activities	969	981
Group financing	28	24
Consolidation	–21,239	–17,835
Group sales revenue	**252,632**	**235,849**
Segment result (operating result)	**20,381**	**16,988**
Unallocated activities	–72	–22
Group financing	–38	–17
Consolidation	–3,312	–3,029
Operating result	**16,960**	**13,920**
Financial result	**1,396**	**1,723**
Consolidated result before tax	**18,356**	**15,643**

1 The prior-year figures have been adjusted to reflect a change in the allocation of Light Commercial Vehicles of the Volkswagen Commercial Vehicles brand.

BY REGION 2018

€ million	Germany	Europe/Other markets[1]	North America	South America	Asia-Pacific	Hedges sales revenue	Total
Sales revenue from external customers	43,526	99,563	37,656	10,405	43,166	1,535	235,849
Intangible assets, property, plant and equipment, lease assets and investment property	95,217	36,110	29,332	2,795	2,830	–	166,285

1 Excluding Germany.

BY REGION 2019

€ million	Germany	Europe/Other markets[1]	North America	South America	Asia-Pacific	Hedges sales revenue	Total
Sales revenue from external customers	48,991	105,009	43,351	11,297	43,974	11	252,632
Intangible assets, property, plant and equipment, lease assets and investment property	101,092	47,353	26,771	3,064	3,562	–	181,842

1 Excluding Germany.

Allocation of sales revenue to the regions follows the destination principle.

The allocation of interregional intragroup transactions has been unitary presented according to the economic ownership regarding the segment assets.

Income statement disclosures

1. Sales revenue

STRUCTURE OF GROUP SALES REVENUE 2018[1]

€ million	Passenger Cars and Light Commercial Vehicles	Commercial Vehicles	Power Engineering	Financial Services	Total Segments	Reconciliation	Volkswagen Group
Vehicles	141,339	16,035	–	–	157,374	–10,548	146,826
Genuine parts	12,703	3,316	–	–	16,019	–100	15,919
Used vehicles and third-party products	11,776	1,387	–	–	13,163	–609	12,554
Engines, powertrains and parts deliveries	11,773	676	–	–	12,449	–9	12,440
Power Engineering	–	–	3,608	–	3,608	–3	3,605
Motorcycles	582	–	–	–	582	–	582
Leasing business	889	1,651	–	26,667	29,207	–4,200	25,006
Interest and similar income	230	6	–	7,302	7,537	–187	7,351
Hedges sales revenue	1,440	12	–	–	1,451	83	1,535
Other sales revenue	8,776	1,699	–	814	11,289	–1,258	10,031
	189,508	**24,781**	**3,608**	**34,782**	**252,680**	**–16,830**	**235,849**

1 Since January 1, 2019, sales revenue from the sale of light commercial vehicles of the Volkswagen Commercial Vehicles brand has not been reported in the Commercial Vehicles segment. The prior-year figures have been adjusted accordingly.

STRUCTURE OF GROUP SALES REVENUE 2019

€ million	Passenger Cars and Light Commercial Vehicles	Commercial Vehicles	Power Engineering	Financial Services	Total Segments	Reconciliation	Volkswagen Group
Vehicles	154,377	17,387	–	–	171,764	–14,552	157,212
Genuine parts	13,329	3,464	–	–	16,793	–117	16,676
Used vehicles and third-party products	12,583	1,415	–	–	13,997	–549	13,449
Engines, powertrains and parts deliveries	11,496	641	–	–	12,137	–21	12,116
Power Engineering	–	–	3,997	–	3,997	–2	3,994
Motorcycles	603	–	–	–	603	0	603
Leasing business	986	1,735	0	30,795	33,517	–4,370	29,147
Interest and similar income	235	5	–	8,031	8,271	–205	8,066
Hedges sales revenue	–143	–18	–	0	–161	171	11
Other sales revenue	8,808	1,814	–	1,334	11,956	–597	11,359
	202,273	**26,444**	**3,997**	**40,160**	**272,875**	**–20,242**	**252,632**

For segment reporting purposes, the sales revenue of the Group is presented by segment and market.

Other sales revenue comprises revenue from workshop services and license revenue, among other things.

Of the sales revenue recognized in the period under review, an amount of €6,333 million was included in contract liabilities as of January 1, 2019.

€359 million (previous year: €667 million) of the sales revenue recognized in the period under review is attributable to performance obligations satisfied in a prior period.

In addition to existing performance obligations of €3,967 million (previous year: €3,614 million) in the Power Engineering segment, most of which are expected to be satisfied or for which sales revenue is expected to be recognized by December 31, 2020, the vast majority of the Volkswagen Group's performance obligations that are unsatisfied as of the reporting date relate to vehicle deliveries. Most of these deliveries had already been made at the time this report was prepared, or will be made in the first quarter of 2020. The calculation of the amounts for the Power Engineering Business Area took account of both contracts with a term of more than one year and service contracts under which the Volkswagen Group realizes sales revenue in exactly the same amount as the customer benefits from the provision of services by the Company. In the case of variable consideration, sales revenue is only recognized to the extent that there is reasonable assurance that this sales revenue will not subsequently have to be reversed or adjusted downward.

2. Cost of sales

Cost of sales includes interest expenses of €2,705 million (previous year: €2,270 million) attributable to the financial services business.

This item also includes impairment losses on intangible assets (primarily development costs), property, plant and equipment (primarily other equipment, operating and office equipment), and lease assets in the amount of €830 million (previous year: €1,165 million). The impairment losses totaling €295 million (previous year: €631 million) recognized during the reporting period on intangible assets and items of property, plant and equipment result in particular from lower values in use of various products in the Passenger Cars segment, from market and exchange rate risks, and in particular from expected declines in volumes. The impairment losses on lease assets in the amount of €535 million (previous year: €534 million) are predominantly attributable to the Financial Services segment. They are based on constantly updated internal and external information that is factored into the forecast residual values of the vehicles. Thereof, €25 million (previous year: €24 million) are reported in current lease assets.

Government grants related to income amounted to €657 million in the fiscal year (previous year: €466 million) and were generally allocated to the functional areas.

3. Distribution expenses

Distribution expenses amounting to €21.0 billion (previous year: €20.5 billion) include nonstaff overheads and personnel costs, and depreciation and amortization applicable to the distribution function, as well as the costs of shipping, advertising and sales promotions.

4. Administrative expenses

Administrative expenses of €9.8 billion (previous year: €8.8 billion) mainly include nonstaff overheads and personnel costs, as well as depreciation and amortization charges applicable to the administrative function.

5. Other operating income

€ million	2019	2018
Income from reversal of loss allowances on receivables and other assets	1,482	1,586
Income from reversal of provisions and accruals	969	1,144
Income from foreign currency hedging derivatives within hedge accounting	686	822
Income from foreign exchange gains	2,346	2,530
Income from other hedges	1,177	1,138
Income from sale of promotional material	498	483
Income from cost allocations	985	1,139
Income from investment property	12	14
Gains on asset disposals and the reversal of impairment losses	1,182	390
Miscellaneous other operating income	2,116	2,383
	11,453	**11,631**

Foreign exchange gains mainly comprise gains from changes in exchange rates between the dates of recognition and payment of receivables and liabilities denominated in foreign currencies, as well as exchange rate gains resulting from measurement at the closing rate. Foreign exchange losses from these items are included in other operating expenses.

Income from other hedges includes primarily foreign exchange gains from the fair value measurement of financial instruments used to hedge exchange rates and commodity prices and that are not designated in a hedging relationship. Foreign exchange losses are included in other operating expenses.

6. Other operating expenses

€ million	2019	2018
Loss allowances on trade receivables including construction contracts	317	315
Loss allowances on other receivables and other assets	1,783	1,833
Losses from foreign currency hedging derivatives within hedge accounting	997	856
Expenses from other hedges	1,332	1,592
Foreign exchange losses	2,013	2,800
Expenses from cost allocations	563	650
Expenses for termination agreements	54	36
Losses on disposal of noncurrent assets	119	161
Miscellaneous other operating expenses	5,712	6,488
	12,890	**14,731**

Allowances on other receivables and other assets include allowances on receivables from long-term construction contracts amounting to €0.3 million (previous year: €1.0 million).

Expenses from other hedges include primarily foreign exchange losses from the fair value measurement of financial instruments used to hedge exchange rates and commodity prices and that are not designated in a hedging relationship.

Miscellaneous other operating expenses consist mainly of litigation expenses in connection with the diesel issue (see the “Key Events” section for more information).

7. Share of the result of equity-accounted investments

€ million	2019	2018
Share of profits of equity-accounted investments	3,501	3,551
of which from joint ventures	3,257	3,320
of which from associates	244	231
Share of losses of equity-accounted investments	152	182
of which from joint ventures	10	23
of which from associates	142	159
	3,349	**3,369**

8. Interest result

€ million	2019	2018
Interest income	**910**	**967**
Other interest and similar income	904	950
Income from valuation of interest derivatives	6	17
Interest expenses	**–2,524**	**–1,547**
Other interest and similar expenses	–1,401	–974
Expenses from valuation of interest derivatives	–6	–1
Interest expenses included in lease payments	–217	–27
Interest result from discounting/unwinding discount on other noncurrent liabilities	–238	77
Net interest on the net defined benefit liability	–662	–623
Interest result	**–1,614**	**–580**

9. Other financial result

€ million	2019	2018
Income from profit and loss transfer agreements	19	77
Cost of loss absorption	–72	–54
Other income from equity investments	178	101
Other expenses from equity investments	–374	–360
Income from marketable securities and loans	27	–355
Realized income of loan receivables and payables in foreign currency	877	1,161
Realized expenses of loan receivables and payables in foreign currency	–980	–1,130
Gains and losses from remeasurement and impairment of financial instruments	228	–41
Gains and losses from fair value changes of derivatives not included in hedge accounting	–240	–453
Gains and losses from fair value changes of derivatives included in hedge accounting	0	–12
Other financial result	**–339**	**–1,066**

10. Income tax income/expense

COMPONENTS OF TAX INCOME AND EXPENSE

€ million	2019	2018
Current tax expense, Germany	1,473	1,131
Current tax expense, abroad	2,673	2,401
Current income tax expense	**4,147**	**3,533**
of which prior-period income (–)/expense (+)	32	79
Deferred tax income (–)/expense (+), Germany	115	429
Deferred tax income (–)/expense (+), abroad	65	–472
Deferred tax income (–)/expense (+)	**180**	**–43**
Income tax income/expense	**4,326**	**3,489**

The statutory corporation tax rate in Germany for the 2019 assessment period was 15%. Including trade tax and the solidarity surcharge, this resulted in an aggregate tax rate of 29.8% (previous year: 29.9%).

A tax rate of 29.8% (previous year: 29.8%) was used to measure deferred taxes in the German consolidated tax group.

The local income tax rates applied for companies outside Germany vary between 0% and 45%. In the case of split tax rates, the tax rate applicable to undistributed profits is applied.

The realization of tax benefits from tax loss carryforwards from previous years resulted in a reduction in current income taxes in 2019 of €692 million (previous year: €732 million).

The tax loss carryforwards and the expiry of loss carryforwards that could not be used changed as follows:

€ million	PREVIOUSLY UNUSED TAX LOSS CARRYFORWARDS Dec. 31, 2019	Dec. 31, 2018
Indefinitely to be carried forward	14,498	13,217
Carried forward within 10 years	568	636
Carried forward from 10 to 20 years	5,579	6,648
Total	**20,645**	**20,501**

€ million	EXPIRY OF UNUSABLE TAX LOSS CARRYFORWARDS Dec. 31, 2019	Dec. 31, 2018
Non-expiring tax loss carryforwards	5,919	5,390
Expiry within 10 years	473	432
Expiry from 10 to 20 years	1,743	2,047
Expiry over 20 years	62	126
Total	**8,197**	**7,995**

The benefit arising from previously unrecognized tax losses or tax credits of a prior period that is used to reduce current tax expense in the current fiscal year amounts to €36 million (previous year: €94 million). Deferred tax expense was reduced by €66 million (previous year: €116 million) because of a benefit arising from previously unrecognized tax losses and tax credits of a prior period. Deferred tax expense resulting from the write-down of a deferred tax asset amounts to €58 million (previous year: €95 million). Deferred tax income resulting from the reversal of a write-down of deferred tax assets amounts to €35 million (previous year: €231 million).

Tax credits granted by various countries amounted to €378 million (previous year: €385 million).

No deferred tax assets were recognized for deductible temporary differences of €897 million (previous year: €1,123 million) and for tax credits of €138 million (previous year: €123 million) that would expire in the next 20 years, or for tax credits of €0 million (previous year: €3 million) that will not expire.

In accordance with IAS 12.39, deferred tax liabilities of €231 million (previous year: €213 million) for temporary differences and undistributed profits of Volkswagen AG subsidiaries were not recognized because control exists.

Deferred tax expense resulting from changes in tax rates amounted to €116 million at Group level (previous year: €79 million).

Deferred taxes in respect of temporary differences and tax loss carryforwards of €1,006 million (previous year: €8,235 million) were recognized without being offset by deferred tax liabilities in the same amount. In fiscal year 2018, the deferred tax assets of companies within the German tax group were recognized due to positive results in the past and were included in this analysis. The companies concerned are expecting positive tax income in the future, following losses in the reporting period or the previous year.

€7,820 million (previous year: €4,532 million) of the deferred taxes recognized in the balance sheet was credited to equity and relates to other comprehensive income. €53 million (previous year: €2 million) of this figure is attributable to noncontrolling interests. There were effects from capital transactions with noncontrolling interest shareholders in the reporting period. In fiscal years 2019 and 2018, there were only immaterial changes arising from items that will not be reclassified to profit or loss and were recognized directly in equity. The first-time application of IFRS 9 in the year 2018 resulted in adjustments and reclassifications totaling €33 million, which were accounted for as a deduction from equity. Changes in deferred taxes classified by balance sheet item are presented in the statement of comprehensive income.

In fiscal year 2018, tax effects of €6 million resulting from equity transaction costs were recognized in equity. The calling of the first tranche of the hybrid capital issued in September 2013 resulted in a reduction of equity in the amount of €5 million in the year 2018.

DEFERRED TAXES CLASSIFIED BY BALANCE SHEET ITEM

The following recognized deferred tax assets and liabilities were attributable to recognition and measurement differences in the individual balance sheet items and to tax loss carryforwards:

€ million	DEFERRED TAX ASSETS Dec. 31, 2019	DEFERRED TAX ASSETS Dec. 31, 2018	DEFERRED TAX LIABILITIES Dec. 31, 2019	DEFERRED TAX LIABILITIES Dec. 31, 2018
Intangible assets	267	370	10,555	10,402
Property, plant and equipment, and lease assets	5,576	4,677	8,493	6,996
Noncurrent financial assets	18	35	43	179
Inventories	2,348	2,458	821	838
Receivables and other assets (including Financial Services Division)	2,270	2,113	9,670	7,990
Other current assets	3,768	3,653	7	5
Pension provisions	9,013	6,429	52	33
Liabilities and other provisions	13,358	10,173	4,167	3,581
Loss allowances on deferred tax assets from temporary differences	–141	–151	–	–
Temporary differences, net of loss allowances	36,478	29,758	33,809	30,024
Tax loss carryforwards, net of loss allowances	3,068	3,246	–	–
Tax credits, net of loss allowances	239	259	–	–
Value before consolidation and offset	**39,786**	**33,262**	**33,809**	**30,024**
of which noncurrent	26,307	21,530	26,736	23,147
Offset	29,627	26,038	29,627	26,038
Consolidation	2,947	2,906	826	1,044
Amount recognized	**13,106**	**10,131**	**5,007**	**5,030**

In accordance with IAS 12, deferred tax assets and liabilities are offset if, and only if, they relate to income taxes levied by the same taxation authority and relate to the same tax period.

The tax expense reported for 2019 of €4,326 million (previous year: €3,489 million) was €1,144 million lower (previous year: €1,188 million) than the expected tax expense of €5,470 million that would have resulted from application of a tax rate for the Group of 29.8% (previous year: 29.9%) to the earnings before tax of the Group.

RECONCILIATION OF EXPECTED TO EFFECTIVE INCOME TAX

€ million	2019	2018
Profit before tax	18,356	15,643
Expected income tax income (–)/expense (+) (tax rate 29.8%; previous year: 29.9%)	**5,470**	**4,677**
Reconciliation:		
Effect of different tax rates outside Germany	–843	–684
Proportion of taxation relating to:		
tax-exempt income	–1,124	–1,152
expenses not deductible for tax purposes	509	440
effects of loss carryforwards and tax credits	163	255
permanent differences	51	61
Tax credits	–54	–69
Prior-period tax expense	–151	–406
Effect of tax rate changes	116	79
Nondeductible withholding tax	359	502
Other taxation changes	–170	–214
Effective income tax expense	**4,326**	**3,489**
Effective tax rate in %	23.6	22.3

11. Earnings per share

Basic earnings per share are calculated by dividing earnings attributable to Volkswagen AG shareholders by the weighted average number of ordinary and preferred shares outstanding during the reporting period. Since there were no transactions in 2019 and 2018 that had a dilutive effect on the number of shares, diluted earnings per share are equivalent to basic earnings per share.

In accordance with Article 27(2) No. 3 of the Articles of Association of Volkswagen AG, the dividend paid for each preferred share is €0.06 higher than that paid for each ordinary share.

		2019	2018
Weighted average number of:			
Ordinary shares – basic/diluted	Shares	295,089,818	295,089,818
Preferred shares – basic/diluted	Shares	206,205,445	206,205,445
Earnings after tax	€ million	14,029	12,153
Earnings attributable to noncontrolling interests	€ million	143	17
Earnings attributable to Volkswagen AG hybrid capital investors	€ million	540	309
Earnings attributable to Volkswagen AG shareholders	€ million	13,346	11,827
of which basic/diluted earnings attributable to ordinary shares	€ million	7,849	6,955
of which basic/diluted earnings attributable to preferred shares	€ million	5,497	4,872
Earnings per ordinary share – basic/diluted	€	26.60	23.57
Earnings per preferred share – basic/diluted	€	26.66	23.63

Balance sheet disclosures

12. Intangible assets

CHANGES IN INTANGIBLE ASSETS IN THE PERIOD JANUARY 1 TO DECEMBER 31, 2018

€ million	Brand names	Goodwill	Capitalized development costs for products under development	Capitalized development costs for products currently in use	Other intangible assets	Total
Cost						
Balance at Jan. 1, 2018	**16,995**	**23,443**	**7,115**	**28,952**	**8,588**	**85,093**
Foreign exchange differences	–43	–131	–20	–125	–103	–421
Changes in consolidated Group	–	6	–	0	12	18
Additions	–	–	4,192	1,042	581	5,815
Transfers	–	–	–4,040	4,040	41	41
Disposals	–	–	32	1,890	127	2,049
Balance at Dec. 31, 2018	**16,952**	**23,318**	**7,215**	**32,020**	**8,992**	**88,496**
Amortization and impairment						
Balance at Jan. 1, 2018	**83**	**0**	**95**	**14,999**	**6,496**	**21,674**
Foreign exchange differences	–2	0	–1	–55	–79	–137
Changes in consolidated Group	–	0	0	–	–1	–1
Additions to cumulative amortization	3	–	–	3,665	669	4,337
Additions to cumulative impairment losses	–	–	3	41	13	57
Transfers	–	–	–15	15	1	1
Disposals	–	–	–	1,897	109	2,005
Reversal of impairment losses	–	–	42	–	0	42
Balance at Dec. 31, 2018	**84**	**1**	**42**	**16,768**	**6,989**	**23,883**
Carrying amount at Dec. 31, 2018	**16,868**	**23,317**	**7,173**	**15,251**	**2,003**	**64,613**

CHANGES IN INTANGIBLE ASSETS IN THE PERIOD JANUARY 1 TO DECEMBER 31, 2019

€ million	Brand names	Goodwill	Capitalized development costs for products under development	Capitalized development costs for products currently in use	Other intangible assets	Total
Cost						
Balance at Jan. 1, 2019	**16,952**	**23,318**	**7,215**	**32,020**	**8,992**	**88,496**
Foreign exchange differences	–18	–57	33	77	12	46
Changes in consolidated Group	5	17	–	–	234	256
Additions	–	–	3,251	1,920	770	5,940
Transfers	–	–	–4,301	4,299	54	52
Classified as held for sale	61	15	–	–	47	122
Disposals	–	16	8	1,421	126	1,571
Balance at Dec. 31, 2019	**16,878**	**23,247**	**6,188**	**36,895**	**9,889**	**93,098**
Amortization and impairment						
Balance at Jan. 1, 2019	**84**	**1**	**42**	**16,768**	**6,989**	**23,883**
Foreign exchange differences	0	–	0	45	6	51
Changes in consolidated Group	–	–	–	–	147	147
Additions to cumulative amortization	3	–	–	4,049	680	4,731
Additions to cumulative impairment losses	–	15	7	8	4	34
Transfers	–	–	–1	1	2	2
Classified as held for sale	0	–	–	–	12	12
Disposals	–	16	–	1,422	114	1,551
Reversal of impairment losses	–	–	3	396	3	402
Balance at Dec. 31, 2019	**86**	**–**	**45**	**19,053**	**7,700**	**26,884**
Carrying amount at Dec. 31, 2019	**16,793**	**23,247**	**6,143**	**17,842**	**2,189**	**66,214**

Other intangible assets comprise in particular concessions, purchased customer lists and dealer relationships, industrial and similar rights, and licenses in such rights and assets.

The allocation of the brand names and goodwill to the operating segments is shown in the following table:

€ million	2019	2018
Brand names by operating segment		
Porsche	13,823	13,823
Scania Vehicles and Services	932	949
MAN Truck & Bus	1,127	1,127
MAN Energy Solutions	415	415
Ducati	404	404
Other	93	150
	16,793	**16,868**
Goodwill by operating segment		
Porsche	18,825	18,825
Scania Vehicles and Services	2,699	2,755
MAN Truck & Bus	587	587
MAN Energy Solutions	265	267
Ducati	290	290
ŠKODA	160	158
Porsche Holding Salzburg	151	156
Other	271	280
	23,247	**23,317**

The impairment test for recognized goodwill and brand names is based on value in use. Recoverability is not affected by a variation in the growth forecast with respect to the perpetual annuity or in the discount rate of +/–0.5 percentage points.

Research and development costs developed as follows:

€ million	2019	2018	%
Total research and development costs	14,306	13,640	4.9
of which capitalized development costs	5,171	5,234	–1.2
Capitalization ratio in %	36.1	38.4	
Amortization of capitalized development costs	4,064	3,710	9.6
Research and development costs recognized in profit or loss	**13,199**	**12,116**	**8.9**

13. Property, plant and equipment

CHANGES IN PROPERTY, PLANT AND EQUIPMENT IN THE PERIOD JANUARY 1 TO DECEMBER 31, 2018

€ million	Land, land rights and buildings, including buildings on third-party land	Technical equipment and machinery	Other equipment, operating and office equipment	Payments on account and assets under construction	Total
Cost					
Balance at Jan. 1, 2018	**34,335**	**45,450**	**68,909**	**6,876**	**155,569**
Foreign exchange differences	–98	–216	–79	–59	–452
Changes in consolidated Group	168	9	6	6	189
Additions	597	1,103	4,960	6,452	13,112
Transfers	858	1,753	2,048	–4,703	–43
Disposals	117	1,424	1,495	35	3,071
Balance at Dec. 31, 2018	**35,743**	**46,676**	**74,350**	**8,537**	**165,305**
Depreciation and impairment					
Balance at Jan. 1, 2018	**14,621**	**32,286**	**53,352**	**69**	**100,327**
Foreign exchange differences	–39	–130	–59	–5	–232
Changes in consolidated Group	10	7	1	–	18
Additions to cumulative depreciation	1,062	3,222	5,593	–	9,876
Additions to cumulative impairment losses	22	21	273	258	574
Transfers	–5	47	–25	–18	–1
Disposals	83	1,370	1,318	0	2,770
Reversal of impairment losses	36	26	14	41	117
Balance at Dec. 31, 2018	**15,552**	**34,057**	**57,803**	**263**	**107,675**
Carrying amount at Dec. 31, 2018	**20,191**	**12,618**	**16,546**	**8,274**	**57,630**
of which assets leased under finance leases Carrying amount at Dec. 31, 2018	267	5	41	0	314

Future finance lease payments due, and their present values, are shown in the following table:

€ million	2019	2020 – 2023	from 2024	Total
Finance lease payments	68	231	360	659
Interest component of finance lease payments	18	73	119	210
Carrying amount of liabilities	**51**	**158**	**241**	**449**

CHANGES IN PROPERTY, PLANT AND EQUIPMENT IN THE PERIOD JANUARY 1 TO DECEMBER 31, 2019

€ million	Land, land rights and buildings, including buildings on third-party land	Technical equipment and machinery	Other equipment, operating and office equipment	Payments on account and assets under construction	Total
Cost					
Balance at Jan. 1, 2019[1]	**39,976**	**46,684**	**74,702**	**8,536**	**169,898**
Foreign exchange differences	198	181	303	36	718
Changes in consolidated Group	56	16	28	8	108
Additions	1,862	1,716	5,403	6,104	15,084
Transfers	1,867	2,776	2,946	–7,109	481
Classified as held for sale	124	206	54	21	406
Disposals	303	1,077	1,331	29	2,740
Balance at Dec. 31, 2019	**43,531**	**50,090**	**81,997**	**7,526**	**183,143**
Depreciation and impairment					
Balance at Jan. 1, 2019[1]	**15,418**	**34,052**	**57,821**	**263**	**107,554**
Foreign exchange differences	48	131	218	6	402
Changes in consolidated Group	0	3	15	0	18
Additions to cumulative depreciation	1,927	3,407	6,237	–	11,572
Additions to cumulative impairment losses	53	2	63	142	260
Transfers	151	20	38	–59	149
Classified as held for sale	26	88	30	–	145
Disposals	149	1,014	1,169	–	2,332
Reversal of impairment losses	32	14	331	109	487
Balance at Dec. 31, 2019	**17,389**	**36,498**	**62,862**	**242**	**116,991**
Carrying amount at Dec. 31, 2019	**26,142**	**13,592**	**19,135**	**7,284**	**66,152**

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

In the previous year, payments for assets leased under operating leases recognized in the income statement amounted to €1,690 million. With respect to internally used assets, € 1,544 million of this figure was attributable to minimum lease payments and €13 million to contingent lease payments in the previous year. The payments of €133 million under subleases primarily related to minimum lease payments in the previous year.

Government grants of €146 million (previous year: €207 million) were deducted from the cost of property, plant and equipment and as in the previous year noncash benefits received amounting to €0.4 million were not capitalized as the cost of assets.

In connection with land and buildings, real property liens of €1,221 million (previous year: €1,062 million) are pledged as collateral for partial retirement obligations, financial liabilities and other liabilities.

14. Lease assets and investment property

CHANGES IN LEASE ASSETS AND INVESTMENT PROPERTY IN THE PERIOD JANUARY 1 TO DECEMBER 31, 2018

€ million	Lease assets	Investment property	Total
Cost			
Balance at Jan. 1, 2018	**52,226**	**748**	**52,973**
Foreign exchange differences	609	12	621
Changes in consolidated Group	–138	–	–138
Additions	21,256	38	21,294
Transfers	–106	2	–104
Disposals	16,354	13	16,367
Balance at Dec. 31, 2018	**57,493**	**786**	**58,279**
Depreciation and impairment			
Balance at Jan. 1, 2018	**13,007**	**279**	**13,287**
Foreign exchange differences	60	2	62
Changes in consolidated Group	–57	–	–57
Additions to cumulative depreciation	7,282	16	7,298
Additions to cumulative impairment losses	510	0	511
Transfers	–8	0	–8
Disposals	6,744	8	6,752
Reversal of impairment losses	103	0	103
Balance at Dec. 31, 2018	**13,947**	**290**	**14,237**
Carrying amount at Dec. 31, 2018	**43,545**	**496**	**44,042**

In the previous year, we had expected to receive the following payments from noncancelable leases and rental agreements:

€ million	2019	2020 – 2023	from 2024	Total
Lease payments	4,108	5,187	17	9,312

CHANGES IN LEASE ASSETS AND INVESTMENT PROPERTY IN THE PERIOD JANUARY 1 TO DECEMBER 31, 2019

€ million	Lease assets	Investment property	Total
Cost			
Balance at Jan. 1, 2019[1]	**57,998**	**803**	**58,802**
Foreign exchange differences	1,075	5	1,080
Changes in consolidated Group	–46	–1	–48
Additions	24,906	43	24,949
Transfers	–533	0	–533
Disposals	19,015	6	19,021
Balance at Dec. 31, 2019	**64,384**	**845**	**65,229**
Depreciation and impairment			
Balance at Jan. 1, 2019[1]	**14,076**	**291**	**14,367**
Foreign exchange differences	333	1	334
Changes in consolidated Group	73	–	73
Additions to cumulative depreciation	8,087	17	8,103
Additions to cumulative impairment losses	510	–	510
Transfers	–151	0	–151
Disposals	7,314	1	7,315
Reversal of impairment losses	169	0	169
Balance at Dec. 31, 2019	**15,446**	**307**	**15,753**
Carrying amount at Dec. 31, 2019	**48,938**	**538**	**49,476**

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

Lease assets include assets leased out under the terms of operating leases and assets covered by long-term buyback agreements.

Investment property includes apartments rented out and leased dealerships with a fair value of €1,206 million (previous year: €1,106 million). Fair value is estimated using an investment method based on internal calculations (Level 3 of the fair value hierarchy). Operating expenses of €56 million (previous year: €46 million) were incurred for the maintenance of investment property in use. Expenses of €0.1 million (previous year: €0.6 million) were incurred for unused investment property.

15. Equity-accounted investments and other equity investments

CHANGES IN EQUITY-ACCOUNTED INVESTMENTS AND OTHER EQUITY INVESTMENTS IN THE PERIOD JANUARY 1 TO DECEMBER 31, 2018

€ million	Equity-accounted investments	Other equity investments	Total
Gross carrying amount			
Balance at Jan. 1, 2018	**8,431**	**1,827**	**10,259**
Foreign exchange differences	–9	9	0
Changes in consolidated Group	269	–368	–99
Additions	247	693	939
Transfers	–	0	0
Disposals	84	19	103
Changes recognized in profit or loss	3,371	–	3,371
Dividends[1]	–3,460	–	–3,460
Other changes recognized in other comprehensive income	62	1	62
Balance at Dec. 31, 2018	**8,826**	**2,142**	**10,968**
Impairment losses			
Balance at Jan. 1, 2018	**238**	**507**	**745**
Foreign exchange differences	–1	–1	–2
Changes in consolidated Group	–	–4	–4
Additions	155	172	326
Transfers	–	0	0
Disposals	–	5	5
Reversal of impairment losses	–	1	1
Balance at Dec. 31, 2018	**392**	**668**	**1,060**
Carrying amount at Dec. 31, 2018	**8,434**	**1,474**	**9,908**

1 Dividends are shown before withholding tax.

CHANGES IN EQUITY-ACCOUNTED INVESTMENTS AND OTHER EQUITY INVESTMENTS IN THE PERIOD JANUARY 1, DECEMBER 31, 2019

€ million	Equity-accounted investments	Other equity investments	Total
Gross carrying amount			
Balance at Jan. 1, 2019	**8,826**	**2,142**	**10,968**
Foreign exchange differences	22	6	28
Changes in consolidated Group	16	–252	–236
Additions	236	856	1,093
Transfers	–	0	0
Classified as held for sale	–	15	15
Disposals	76	88	164
Changes recognized in profit or loss	3,326	–	3,326
Dividends[1]	–3,786	–	–3,786
Other changes recognized in other comprehensive income	75	–34	41
Balance at Dec. 31, 2019	**8,639**	**2,616**	**11,255**
Impairment losses			
Balance at Jan. 1, 2019	**392**	**668**	**1,060**
Foreign exchange differences	1	0	1
Changes in consolidated Group	–	–131	–131
Additions	143	226	369
Transfers	–	–	–
Classified as held for sale	–	0	0
Disposals	–	31	31
Reversal of impairment losses	67	18	85
Balance at Dec. 31, 2019	**470**	**714**	**1,183**
Carrying amount at Dec. 31, 2019	**8,169**	**1,902**	**10,071**

1 Dividends are shown before withholding tax.

Equity-accounted investments include joint ventures in the amount of €5,851 million (previous year: €6,372 million) and associates in the amount of €2,318 million (previous year: €2,062 million).

Of the other changes recognized in other comprehensive income, €53 million (previous year: €7 million) is attributable to joint ventures and €22 million (previous year: €55 million) to associates. They are mainly the result of foreign exchange differences in the amount of €94 million (previous year: €9 million), pension plan remeasurements in the amount of €1 million (previous year: €31 million) and fair value measurement of cash flow hedges in the amount of €–27 million (previous year: €28 million).

16. Noncurrent and current financial services receivables

€ million	CARRYING AMOUNT			FAIR VALUE	CARRYING AMOUNT			FAIR VALUE
	Current	Noncurrent	Dec. 31, 2019	Dec. 31, 2019	Current	Noncurrent	Dec. 31, 2018	Dec. 31, 2018
Receivables from financing business								
Customer financing	22,873	49,175	72,048	73,248	21,487	45,089	66,575	67,500
Dealer financing	16,781	2,512	19,293	19,270	14,781	2,099	16,879	16,839
Direct banking	305	5	310	310	284	3	288	288
	39,958	**51,692**	**91,650**	**92,827**	**36,551**	**47,191**	**83,742**	**84,627**
Receivables from operating leases	285	–	285	285	219	–	219	219
Receivables from finance leases	18,371	35,281	53,652	54,742	17,446	31,501	48,948	49,572
	58,615	**86,973**	**145,588**	**147,855**	**54,216**	**78,692**	**132,909**	**134,418**

The receivables from customer financing and finance leases contained in financial services receivables of €145.6 billion (previous year: €132.9 billion) increased by €2 million (previous year: decreased by €26 million) as a result of a fair value adjustment from portfolio hedging.

The receivables from customer and dealer financing are secured by vehicles or real property liens. Of the receivables, €181 million (previous year: €175 million) was furnished as collateral for financial liabilities and contingent liabilities.

The receivables from dealer financing include €22 million (previous year: €24 million) receivable from unconsolidated affiliated companies.

The receivables from finance leases – almost all of them for vehicles – were based on the following expected cash flows as of December 31, 2018:

€ million	2019	2020 – 2023	from 2024	Total
Future payments from finance lease receivables	18,768	33,611	156	52,534
Unearned finance income from finance leases (discounting)	–1,321	–2,256	–9	–3,586
Present value of minimum lease payments outstanding at the reporting date	**17,446**	**31,355**	**146**	**48,948**

17. Noncurrent and current other financial assets

	CARRYING AMOUNT			CARRYING AMOUNT		
€ million	Current	Noncurrent	Dec. 31, 2019	Current	Noncurrent	Dec. 31, 2018
Positive fair value of derivatives	1,622	1,628	3,250	2,047	1,932	3,979
Receivables from loans, bonds, profit participation rights (excluding interest)	6,639	3,278	9,917	5,513	3,441	8,953
Miscellaneous financial assets	3,955	646	4,601	4,026	1,149	5,175
	12,216	**5,553**	**17,769**	**11,586**	**6,521**	**18,107**

Other financial assets include receivables from related parties of €9.7 billion (previous year: €8.8 billion). Other financial assets amounting to €244 million (previous year: €89 million) were furnished as collateral for financial liabilities and contingent liabilities. There is no original right of disposal or pledge for the furnished collateral on the part of the collateral taker.

In addition, the miscellaneous financial assets include cash and cash equivalents that serve as collateral (mainly under asset-backed securities transactions).

The positive fair values of derivatives relate to the following items:

€ million	Dec. 31, 2019	Dec. 31, 2018
Transactions for hedging		
foreign currency risk from assets using fair value hedges	39	109
foreign currency risk from liabilities using fair value hedges	36	77
interest rate risk using fair value hedges	662	561
interest rate risk using cash flow hedges	13	54
foreign currency and price risk from future cash flows (cash flow hedges)	785	2,049
Hedging transactions Total	**1,535**	**2,851**
Assets related to derivatives not included in hedging relationships	1,715	1,128
Total	**3,250**	**3,979**

Positive fair values of €6 million (previous year: €24 million) were recognized from transactions for hedging interest rate risk (fair value hedges) used in portfolio hedges.

Further details on derivative financial instruments as a whole are given in the section entitled “Financial risk management and financial instruments".

18. Noncurrent and current other receivables

	CARRYING AMOUNT			CARRYING AMOUNT		
€ million	Current	Noncurrent	Dec. 31, 2019	Current	Noncurrent	Dec. 31, 2018
Other recoverable income taxes	4,244	806	5,050	4,189	773	4,962
Miscellaneous receivables	3,028	1,916	4,945	2,015	1,835	3,849
	7,272	**2,722**	**9,995**	**6,203**	**2,608**	**8,811**

Miscellaneous receivables include assets to fund post-employment benefits in the amount of €65 million (previous year: €76 million). This item also includes the share of the technical provisions attributable to reinsurers amounting to €58 million (previous year: €60 million).

Current other receivables are predominantly non-interest-bearing.

Other receivables include contingent receivables from long-term construction contracts recognized using the percentage of completion (PoC) method. They were reported under trade receivables in the previous year. They correspond to the contract assets recognized under contracts with customers and changed as follows:

€ million	2019	2018
Contingent construction contract receivables at Jan. 1	**352**	**338**
Additions and disposals	–36	4
Changes in consolidated Group	–	–
Change in valuation allowances	1	10
Classified as held for sale	4	–
Changes in estimates and assumptions as well as contract modifications	–	–
Foreign exchange differences	2	0
Contingent construction contract receivables at Dec. 31	**314**	**352**

Costs to fulfill contracts were not capitalized in the Volkswagen Group. The Volkswagen Group capitalizes costs to obtain a contract and amortizes them on a straight-line basis over the life of the contract only if they are material, the underlying contract has a term of at least one year, and these costs would not have been incurred, if the corresponding contract had not been entered into. On December 31, 2019, costs to obtain contracts amounting to €65 million (previous year: €– million) were recognized as assets. In 2019, amortization charges on capitalized costs to obtain contracts amounted to €13 million (previous year: €– million). No impairment losses were recognized on capitalized costs to obtain contracts in 2019 and 2018.

19. Tax assets

	CARRYING AMOUNT			CARRYING AMOUNT		
€ million	Current	Noncurrent	Dec. 31, 2019	Current	Noncurrent	Dec. 31, 2018
Deferred tax assets	–	13,106	13,106	–	10,131	10,131
Tax receivables	1,190	341	1,531	1,879	476	2,355
	1,190	**13,447**	**14,637**	**1,879**	**10,606**	**12,486**

€7,490 million (previous year: €6,036 million) of the deferred tax assets are due within one year.

20. Inventories

€ million	Dec. 31, 2019	Dec. 31, 2018
Raw materials, consumables and supplies	6,099	5,543
Work in progress	4,110	4,382
Finished goods and purchased merchandise	30,617	30,553
Current lease assets	5,699	5,107
Prepayments	222	168
Hedges on inventories	–6	–8
	46,742	**45,745**

At the same time as the relevant revenue was recognized, inventories in the amount of €192 billion (previous year: €179 billion) were included in cost of sales. Loss allowances (excluding lease assets) recognized as expenses in the reporting period amounted to €672 million (previous year: €902 million). Vehicles amounting to €340 million (previous year: €316 million) were assigned as collateral for partial retirement obligations.

21. Trade receivables

€ million	Dec. 31, 2019	Dec. 31, 2018
Trade receivables from		
third parties	13,445	13,356
unconsolidated subsidiaries	180	206
joint ventures	4,283	3,958
associates	32	51
other investees and investors	1	317
	17,941	**17,888**

In the previous year contingent receivables from long-term construction contracts recognized using the percentage of completion (PoC) method were reported under trade receivables, which are now included in other receivables.

The fair values of the trade receivables correspond to the carrying amounts.

22. Marketable securities

The marketable securities serve to safeguard liquidity. They are short-term fixed-income securities and shares. Most securities are measured at fair value. Current securities amounting to €639 million (previous year: €997 million) were furnished as collateral for financial liabilities and contingent liabilities. There is no original right of disposal or pledge for the furnished collateral on the part of the collateral taker.

23. Cash, cash equivalents and time deposits

€ million	Dec. 31, 2019	Dec. 31, 2018
Bank balances	25,264	28,522
Checks, cash-in-hand, bills and call deposits	659	416
	25,923	**28,938**

Bank balances are held at various banks in different currencies and include time deposits, for example.

24. Equity

The subscribed capital of Volkswagen AG is composed of no-par value bearer shares with a notional value of €2.56. As well as ordinary shares, there are preferred shares that entitle the bearer to a €0.06 higher dividend than ordinary shares, but do not carry voting rights.

The Annual General Meeting on May 14, 2019 resolved to create authorized capital of up to €179 million, expiring on May 13, 2024, to issue new preferred bearer shares.

In June 2018, Volkswagen AG placed unsecured subordinated hybrid notes with an aggregate principal amount of €2.8 billion via a subsidiary, Volkswagen International Finance N.V., Amsterdam, the Netherlands (VIF). The perpetual hybrid notes were issued in two tranches and can be called by VIF. The first call date for the first tranche (€1.3 billion and a coupon of 3.375%) is after 6 years, and the first call date for the second tranche (€1.5 billion and a coupon of 4.625%) is after 10 years.

Interest may be accumulated depending on whether a dividend is paid to Volkswagen AG shareholders. Under IAS 32, these hybrid notes must be classified in their entirety as equity. The capital raised was recognized in equity, less a discount and transaction costs and net of deferred taxes. The interest payments payable to the noteholders will be recognized directly in equity. IAS 32 only allows these hybrid notes to be classified as debt once the respective hybrid note was called.

In July 2018, Volkswagen AG called the first tranche of hybrid notes with an aggregate principal amount of €1.3 billion placed in 2013 via VIF (issuer). In addition, other effects of €14 million had to be recognized in equity.

The expiry of the put options granted to noncontrolling interest shareholders of MAN SE on March 4, 2019 resulted in an increase in equity of €0.7 billion. See the “Key Events” section for more information.

CHANGE IN ORDINARY AND PREFERRED SHARES AND SUBSCRIBED CAPITAL

	SHARES		€	
	2019	2018	2019	2018
Balance at January 1	501,295,263	501,295,263	1,283,315,873	1,283,315,873
Capital increase	–	–	–	–
Balance at December 31	501,295,263	501,295,263	1,283,315,873	1,283,315,873

The capital reserves comprise the share premium totaling €14,225 million (previous year: €14,225 million) from capital increases, the share premium of €219 million from the issuance of bonds with warrants and an amount of €107 million appropriated on the basis of the capital reduction implemented in 2006. No amounts were withdrawn from the capital reserves.

DIVIDEND PROPOSAL

In accordance with section 58(2) of the Aktiengesetz (AktG – German Stock Corporation Act), the dividend payment by Volkswagen AG is based on the net retained profits reported in the annual financial statements of Volkswagen AG prepared in accordance with the German Commercial Code. Based on these annual financial statements of Volkswagen AG, net retained profits of €3,273 million are eligible for distribution following the transfer of €1,685 million to the revenue reserves. The Board of Management and Supervisory Board will propose to the Annual General Meeting that a total dividend of €3,271 million, i.e. €6.50 per ordinary share and €6.56 per preferred share, be paid from the net retained profits. Shareholders are not entitled to a dividend payment until it has been resolved by the Annual General Meeting.

A dividend of €4.80 per ordinary share and €4.86 per preferred share was distributed in fiscal year 2019.

NONCONTROLLING INTERESTS

As of December 31, 2019, noncontrolling interests amounted to €1,870 million (previous year: €225 million). Most of the noncontrolling interests in equity arose as a result of the IPO of the TRATON GROUP. See the “Key Events” section for further details.

The table below shows summarized financial information of the TRATON GROUP, including goodwill and fair value adjustments at the acquisition date:

€ million	TRATON GROUP
Equity interest in %[1]	10.28
Equity interest	1,640
Earnings after tax attributable to noncontrolling interests	125
Noncurrent assets	29,623
Current assets	16,728
Noncurrent liabilities	14,938
Current liabilities	16,664
Sales revenue	26,901
Earnings after tax	1,517
Other comprehensive income, net of tax	–316
Gross cash flow	3,433
Change in working capital	–2,346
Cash flows from operating activities	1,087
Cash flows from investing activities	634
Net cash flow	1,721

1 The percentage only includes direct noncontrolling interests.

25. Noncurrent and current financial liabilities

€ million	Carrying amount			Carrying amount		
	Current	Noncurrent	Dec. 31, 2019	Current	Noncurrent	Dec. 31, 2018
Bonds	19,789	68,839	88,629	19,132	62,416	81,549
Commercial paper and notes	18,103	20,147	38,250	22,381	18,975	41,356
Liabilities to banks	17,337	15,337	32,674	18,455	15,447	33,903
Deposits business	30,252	2,395	32,647	28,555	1,455	30,010
Loans and miscellaneous liabilities	1,429	1,629	3,058	1,183	2,433	3,617
Lease liabilities	1,002	5,208	6,210	51	399	449
	87,912	**113,556**	**201,468**	**89,757**	**101,126**	**190,883**

26. Noncurrent and current other financial liabilities

€ million	Carrying amount			Carrying amount		
	Current	Noncurrent	Dec. 31, 2019	Current	Noncurrent	Dec. 31, 2018
Negative fair values of derivative financial instruments	2,245	1,950	4,195	1,439	1,134	2,573
Interest payable	691	116	807	661	113	774
Miscellaneous financial liabilities	7,922	2,434	10,356	7,316	1,972	9,288
	10,858	**4,499**	**15,358**	**9,416**	**3,219**	**12,635**

The negative fair values of derivatives relate to the following items:

€ million	Dec. 31, 2019	Dec. 31, 2018
Transactions for hedging		
foreign currency risk from assets using fair value hedges	107	65
foreign currency risk from liabilities using fair value hedges	5	10
interest rate risk using fair value hedges	97	61
interest rate risk using cash flow hedges	53	17
foreign currency and price risk from future cash flows (cash flow hedges)	2,172	936
Hedging transactions Total	**2,435**	**1,088**
Liabilities related to derivatives not included in hedging relationships	1,760	1,484
Total	**4,195**	**2,573**

Negative fair values of €63 million (previous year: €22 million) were recognized from transactions for hedging interest rate risk (fair value hedges) used in portfolio hedges.

Further details on derivative financial instruments as a whole are given in the section entitled “Financial risk management and financial instruments".

27. Noncurrent and current other liabilities

	CARRYING AMOUNT			CARRYING AMOUNT		
€ million	Current	Noncurrent	Dec. 31, 2019	Current	Noncurrent	Dec. 31, 2018
Payments received on account of orders	7,474	5,202	12,676	6,936	4,300	11,235
Liabilities relating to						
other taxes	2,812	133	2,946	2,273	112	2,384
social security	610	162	772	546	43	589
wages and salaries	5,848	1,008	6,856	5,299	947	6,247
Miscellaneous liabilities	2,576	766	3,342	2,539	1,046	3,585
	19,320	**7,271**	**26,591**	**17,593**	**6,448**	**24,041**

The liabilities from payments on account received under contracts with customers correspond to contract liabilities under contracts with customers. They changed as follows:

CHANGES IN LIABILITIES FROM PAYMENTS ON ACCOUNT RECEIVED UNDER CONTRACTS WITH CUSTOMERS

€ million	2019	2018
Liabilities from advance payments received under contracts with customers at Jan. 1	**9,669**	**7,261**
Additions and disposals	1,245	2,395
Changes in consolidated Group	12	4
Classified as held for sale	167	–
Changes in estimates and assumptions as well as contract modifications	–	–
Foreign exchange differences	148	8
Liabilities from advance payments received under contracts with customers at Dec. 31	**10,907**	**9,669**

28. Tax liabilities

	CARRYING AMOUNT			CARRYING AMOUNT		
€ million	Current	Noncurrent	Dec. 31, 2019	Current	Noncurrent	Dec. 31, 2018
Deferred tax liabilities	–	5,007	5,007	–	5,030	5,030
Provisions for taxes	1,876	2,991	4,867	1,412	3,047	4,458
Tax payables	408	–	408	456	–	456
	2,283	**7,998**	**10,282**	**1,867**	**8,077**	**9,944**

€387 million (previous year: €407 million) of the deferred tax liabilities are due within one year.

29. Provisions for pensions and other post-employment benefits

Provisions for pensions are recognized for commitments in the form of retirement, invalidity and dependents' benefits payable under pension plans. The benefits provided by the Group vary according to the legal, tax and economic circumstances of the country concerned, and usually depend on the length of service and remuneration of the employees.

Volkswagen Group companies provide occupational pensions under both defined contribution and defined benefit plans. In the case of defined contribution plans, the Company makes contributions to state or private pension schemes based on legal or contractual requirements, or on a voluntary basis. Once the contributions have been paid, there are no further obligations for the Volkswagen Group. Current contributions are recognized as pension expenses of the period concerned. In 2019, they amounted to a total of €2,565 million (previous year: €2,385 million) in the Volkswagen Group. Of this figure, contributions to the compulsory state pension system in Germany amounted to €1,796 million (previous year: €1,745 million).

In the case of defined benefit plans, a distinction is made between pensions funded by provisions and externally funded plans.

The pension provisions for defined benefits are measured by independent actuaries using the internationally accepted projected unit credit method in accordance with IAS 19, under which the future obligations are measured on the basis of the ratable benefit entitlements earned as of the balance sheet date. Measurement reflects actuarial assumptions as to discount rates, salary and pension trends, employee turnover rates, longevity and increases in healthcare costs, which were determined for each Group company depending on the economic environment. Remeasurements arise from differences between what has actually occurred and the prior-year assumptions as well as from changes in assumptions. They are recognized in other comprehensive income, net of deferred taxes, in the period in which they arise.

Multi-employer pension plans exist in the Volkswagen Group in the United Kingdom, Switzerland, Sweden and the Netherlands. These plans are defined benefit plans. A small proportion of them are accounted for as defined contribution plans, as the Volkswagen Group is not authorized to receive the information required in order to account for them as defined benefit plans. Under the terms of the multi-employer plans, the Volkswagen Group is not liable for the obligations of the other employers. In the event of its withdrawal from the plans or their winding-up, the proportionate share of the surplus of assets attributable to the Volkswagen Group will be credited or the proportionate share of the deficit attributable to the Volkswagen Group will have to be funded. In the case of the defined benefit plans accounted for as defined contribution plans, the Volkswagen Group's share of the obligations represents a small proportion of the total obligations. No probable significant risks arising from multi-employer defined benefit pension plans that are accounted for as defined contribution plans have been identified. The expected contributions to those plans will amount to €22 million for fiscal year 2020.

Owing to their benefit character, the obligations of the US Group companies in respect of post-employment medical care in particular are also carried under provisions for pensions and other post-employment benefits. These post-employment benefit provisions take into account the expected long-term rise in the cost of healthcare. In fiscal year 2019, €18 million (previous year: €14 million) was recognized as an expense for healthcare costs. The related carrying amount as of December 31, 2019 was €266 million (previous year: €231 million).

The following amounts were recognized in the balance sheet for defined benefit plans:

€ million	Dec. 31, 2019	Dec. 31, 2018
Present value of funded obligations	21,090	15,606
Fair value of plan assets	12,478	10,920
Funded status (net)	8,613	4,686
Present value of unfunded obligations	32,710	28,312
Amount not recognized as an asset because of the ceiling in IAS 19	2	23
Net liability recognized in the balance sheet	**41,324**	**33,022**
of which provisions for pensions	41,389	33,097
of which other assets	65	76

SIGNIFICANT PENSION ARRANGEMENTS IN THE VOLKSWAGEN GROUP

For the period after their active working life, the Volkswagen Group offers its employees benefits under attractive, modern occupational pension arrangements. Most of the arrangements in the Volkswagen Group are pension plans for employees in Germany classified as defined benefit plans under IAS 19. The majority of these obligations are funded solely by recognized provisions. These plans are now largely closed to new members. To reduce the risks associated with defined benefit plans, in particular longevity, salary increases and inflation, the Volkswagen Group has introduced new defined benefit plans in recent years whose benefits are funded by appropriate external plan assets. The above-mentioned risks have been largely reduced in these pension plans. The proportion of the total defined benefit obligation attributable to pension obligations funded by plan assets will continue to rise in the future. The significant pension plans are described in the following.

German pension plans funded solely by recognized provisions

The pension plans funded solely by recognized provisions comprise both contribution-based plans with guarantees and final salary plans. For contribution-based plans, an annual pension expense dependent on income and status is converted into a lifelong pension entitlement using annuity factors (guaranteed modular pension entitlements). The annuity factors include a guaranteed rate of interest. At retirement, the modular pension entitlements earned annually are added together. For final salary plans, the underlying salary is multiplied at retirement by a percentage that depends on the years of service up until the retirement date.

The present value of the guaranteed obligation rises as interest rates fall and is therefore exposed to interest rate risk.

The pension system provides for lifelong pension payments. The companies bear the longevity risk in this respect. This is accounted for by calculating the annuity factors and the present value of the guaranteed obligation using the latest generational mortality tables – the “Heubeck 2018 G” mortality tables – which already reflect future increases in life expectancy.

To reduce the inflation risk from adjusting the regular pension payments by the rate of inflation, a pension adjustment that is not indexed to inflation was introduced for pension plans where this is permitted by law.

German pension plans funded by external plan assets

The pension plans funded by external plan assets are contribution-based plans with guarantees. In this case, an annual pension expense dependent on income and status is either converted into a lifelong pension entitlement using annuity factors (guaranteed modular pension entitlement) or paid out in a single lump sum or in installments. In some cases, employees also have the opportunity to provide for their own retirement through deferred compensation. The annuity factors include a guaranteed rate of interest. At retirement, the modular pension entitlements earned annually are added together. The pension expense is contributed on an ongoing basis to a separate pool of assets that is administered independently of the Company in trust and invested in the capital markets. If the plan assets exceed the present value of the obligations calculated using the guaranteed rate of interest, surpluses are allocated (modular pension bonuses).

Since the assets administered in trust meet the IAS 19 criteria for classification as plan assets, they are deducted from the obligations.

The amount of the pension assets is exposed to general market risk. The investment strategy and its implementation are therefore continuously monitored by the trusts' governing bodies, on which the companies are also represented. For example, investment policies are stipulated in investment guidelines with the aim of limiting market risk and its impact on plan assets. In addition, asset-liability management studies are conducted if required so as to ensure that investments are in line with the obligations that need to be covered. The pension assets are currently invested primarily in fixed-income or equity funds. The main risks are therefore interest rate and equity price risk. To mitigate market risk, the pension system also provides for cash funds to be set aside in an equalization reserve before any surplus is allocated.

The present value of the obligation is the present value of the guaranteed obligation after deducting the plan assets. If the plan assets fall below the present value of the guaranteed obligation, a provision must be recognized in that amount. The present value of the guaranteed obligation rises as interest rates fall and is therefore exposed to interest rate risk.

In the case of lifelong pension payments, the Volkswagen Group bears the longevity risk. This is accounted for by calculating the annuity factors and the present value of the guaranteed obligation using the latest generational mortality tables – the "Heubeck 2018 G" mortality tables – which already reflect future increases in life expectancy. In addition, the independent actuaries carry out annual risk monitoring as part of the review of the assets administered by the trusts.

To reduce the inflation risk from adjusting the regular pension payments by the rate of inflation, a pension adjustment that is not indexed to inflation was introduced for pension plans where this is permitted by law.

Calculation of the pension provisions was based on the following actuarial assumptions:

	GERMANY		ABROAD	
%	2019	2018	2019	2018
Discount rate at December 31	1.09	1.97	2.30	3.16
Payroll trend	3.59	3.48	2.16	2.66
Pension trend	1.50	1.50	2.68	2.41
Employee turnover rate	1.24	1.17	3.75	3.93
Annual increase in healthcare costs	–	–	5.56	5.50

These assumptions are averages that were weighted using the present value of the defined benefit obligation.

With regard to life expectancy, consideration is given to the latest mortality tables in each country. The discount rates are generally defined to reflect the yields on prime-rated corporate bonds with matching maturities and currencies. The iBoxx AA 10+ Corporates index was taken as the basis for the obligations of German Group companies. Similar indices were used for foreign pension obligations.

The payroll trends cover expected wage and salary trends, which also include increases attributable to career development.

The pension trends either reflect the contractually guaranteed pension adjustments or are based on the rules on pension adjustments in force in each country.

The employee turnover rates are based on past experience and future expectations.

The following table shows changes in the net defined benefit liability recognized in the balance sheet:

€ million	2019	2018
Net liability recognized in the balance sheet at January 1	**33,022**	**32,666**
Current service cost	1,555	1,410
Net interest expense	660	620
Actuarial gains (–)/losses (+) arising from changes in demographic assumptions	–67	399
Actuarial gains (–)/losses (+) arising from changes in financial assumptions	8,689	–957
Actuarial gains (–)/losses (+) arising from experience adjustments	27	–105
Income/expenses from plan assets not included in interest income	654	–530
Change in amount not recognized as an asset because of the ceiling in IAS 19	21	3
Employer contributions to plan assets	969	708
Employee contributions to plan assets	–9	–9
Pension payments from company assets	873	842
Past service cost (including plan curtailments)	–25	24
Gains (–)/losses (+) arising from plan settlements	2	2
Changes in consolidated Group	–3	10
Classified as held for sale	14	–
Other changes	–8	–5
Foreign exchange differences from foreign plans	–4	–30
Net liability recognized in the balance sheet at December 31	**41,324**	**33,022**

The change in the amount not recognized as an asset because of the ceiling in IAS 19 contains an interest component, part of which was recognized in the financial result in profit or loss, and part of which was recognized outside profit or loss directly in equity.

The change in the present value of the defined benefit obligation is attributable to the following factors:

€ million	2019	2018
Present value of obligations at January 1	**43,918**	**43,829**
Current service cost	1,555	1,410
Interest cost	921	901
Actuarial gains (–)/losses (+) arising from changes in demographic assumptions	–67	399
Actuarial gains (–)/losses (+) arising from changes in financial assumptions	8,689	–957
Actuarial gains (–)/losses (+) arising from experience adjustments	27	–105
Employee contributions to plan assets	19	19
Pension payments from company assets	873	842
Pension payments from plan assets	300	237
Past service cost (including plan curtailments)	–25	24
Gains (–)/losses (+) arising from plan settlements	–8	0
Changes in consolidated Group	–7	10
Classified as held for sale	182	–
Other changes	–2	–460
Foreign exchange differences from foreign plans	135	–73
Present value of obligations at December 31	**53,800**	**43,918**

In the previous year, actuarial gains/losses arising from changes in demographic assumptions were mainly the result of the first-time application of the “Heubeck 2018 G” mortality tables.

Following the regular review of our pension plans, one plan used by South American subsidiaries had to be classified as a defined contribution plan in fiscal year 2018, and this led to a change in the pension obligation reported in the above table. The decrease in the present value of the defined benefit obligation in the amount of €460 million is shown under other changes.

Changes in the relevant actuarial assumptions would have had the following effects on the defined benefit obligation:

Present value of defined benefit obligation if		Dec. 31, 2019 € million	Dec. 31, 2019 Change in percent	Dec. 31, 2018 € million	Dec. 31, 2018 Change in percent
Discount rate	is 0.5 percentage points higher	48,598	–9.67	40,048	–8.81
	is 0.5 percentage points lower	59,888	11.32	48,398	10.20
Pension trend	is 0.5 percentage points higher	56,633	5.27	46,147	5.07
	is 0.5 percentage points lower	51,258	–4.73	41,892	–4.61
Payroll trend	is 0.5 percentage points higher	54,331	0.99	44,382	1.05
	is 0.5 percentage points lower	53,319	–0.89	43,507	–0.94
Longevity	increases by one year	55,719	3.57	45,311	3.17

The sensitivity analysis shown above considers the change in one assumption at a time, leaving the other assumptions unchanged versus the original calculation, i.e. any correlation effects between the individual assumptions are ignored.

To examine the sensitivity of the defined benefit obligation to a change in assumed longevity, the estimates of mortality were reduced as part of a comparative calculation to the extent that doing so increases life expectancy by approximately one year.

The average duration of the defined benefit obligation weighted by the present value of the defined benefit obligation (Macaulay duration) is 22 years (previous year: 19 years).

The present value of the defined benefit obligation is attributable as follows to the members of the plan:

€ million	2019	2018
Active members with pension entitlements	33,027	25,783
Members with vested entitlements who have left the Company	3,136	2,580
Pensioners	17,637	15,555
	53,800	**43,918**

The maturity profile of payments attributable to the defined benefit obligation is presented in the following table, which classifies the present value of the obligation by the maturity of the underlying payments:

€ million	2019	2018
Payments due within the next fiscal year	1,161	1,160
Payments due between two and five years	5,121	5,251
Payments due in more than five years	47,518	37,508
	53,800	**43,918**

Changes in plan assets are shown in the following table:

€ million	2019	2018
Fair value of plan assets at January 1	**10,920**	**11,192**
Interest income on plan assets determined using the discount rate	261	281
Income (+)/expenses (–) from plan assets not included in interest income	654	–530
Employer contributions to plan assets	969	708
Employee contributions to plan assets	9	9
Pension payments from plan assets	299	237
Gains (+)/losses (–) arising from plan settlements	10	2
Changes in consolidated Group	–5	0
Classified as held for sale	167	–
Other changes	7	–455
Foreign exchange differences from foreign plans	139	–46
Fair value of plan assets at December 31	**12,478**	**10,920**

Other changes in the previous year were attributable to the change in the presentation of a plan used by South American subsidiaries.

The investment of the plan assets to cover future pension obligations resulted in income of €915 million (previous year: expenses of €250 million).

Employer contributions to plan assets are expected to amount to €927 million (previous year: €769 million) in the next fiscal year.

Plan assets are invested in the following asset classes:

€ million	DEC. 31, 2019 Quoted prices in active markets	No quoted prices in active markets	Total	DEC. 31, 2018 Quoted prices in active markets	No quoted prices in active markets	Total
Cash and cash equivalents	501	–	501	666	2	669
Equity instruments	401	–	401	375	–	375
Debt instruments	850	5	855	1,041	4	1,044
Direct investments in real estate	–	110	110	11	100	112
Derivatives	15	–28	–13	–21	–17	–38
Equity funds	2,653	20	2,673	1,433	26	1,459
Bond funds	5,729	128	5,857	5,443	118	5,561
Real estate funds	170	–	170	193	–	193
Other funds	1,225	22	1,247	890	6	896
Other instruments	83	594	676	80	568	648

44.6% (previous year: 53.3%) of the plan assets are invested in German assets, 27.0% (previous year: 27.4%) in other European assets and 28.4% (previous year: 19.3%) in assets in other regions.

Plan assets include €14 million (previous year: €3 million) invested in Volkswagen Group assets and €14 million (previous year: €12 million) in Volkswagen Group debt instruments.

The following amounts were recognized in the income statement:

€ million	2019	2018
Current service cost	1,555	1,410
Net interest on the net defined benefit liability	662	623
Past service cost (including plan curtailments)	–25	24
Gains (–) or losses (+) arising from plan settlements	2	2
Net income (–) and expenses (+) recognized in profit or loss	**2,194**	**2,059**

The above amounts are generally included in the personnel costs of the functional areas in the income statement. Net interest on the net defined benefit liability is reported in interest expenses.

30. Noncurrent and current other provisions

€ million	Obligations arising from sales	Employee expenses	Litigation and legal risks	Miscellaneous provisions	Total
Balance at Jan. 1, 2018	**27,867**	**4,886**	**5,802**	**7,631**	**46,185**
Foreign exchange differences	39	–17	–88	–21	–88
Changes in consolidated Group	–2	–7	–1	–44	–53
Utilization	10,437	1,632	2,396	2,415	16,880
Additions/New provisions	12,179	2,019	2,131	3,153	19,483
Unwinding of discount/effect of change in discount rate	–108	5	–19	9	–114
Reversals	2,503	99	516	662	3,780
Balance at Dec. 31, 2018	**27,035**	**5,155**	**4,913**	**7,651**	**44,754**
of which current	13,986	2,248	2,349	5,291	23,874
of which noncurrent	13,050	2,906	2,563	2,360	20,879
Balance at Jan. 1, 2019[1]	**27,035**	**5,155**	**4,913**	**7,639**	**44,742**
Foreign exchange differences	199	15	–14	41	241
Changes in consolidated Group	–1	3	–1	0	2
Classified as held for sale	33	10	–	12	55
Utilization	9,442	1,899	1,913	2,404	15,658
Additions/New provisions	11,618	2,633	2,835	3,486	20,572
Unwinding of discount/effect of change in discount rate	3	225	–29	20	220
Reversals	2,391	128	531	795	3,845
Balance at Dec. 31, 2019	**26,988**	**5,993**	**5,260**	**7,976**	**46,217**
of which current	13,468	2,466	3,112	5,388	24,434
of which noncurrent	13,520	3,527	2,147	2,588	21,783

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

The obligations arising from sales contain provisions covering all risks relating to the sale of vehicles, components and genuine parts through to the disposal of end-of-life vehicles. They primarily comprise warranty obligations, calculated on the basis of losses to date and estimated future losses. They also include provisions for discounts, bonuses and similar allowances which are incurred after the balance sheet date, but for which there is a legal or constructive obligation attributable to sales revenue before the balance sheet date.

Provisions for employee expenses are recognized for long-service awards, time credits, partial retirement arrangements, severance payments and similar obligations, among other things.

In addition to residual provisions relating to the diesel issue, the provisions for litigation and legal risks contain amounts related to a large number of legal disputes and official proceedings in which Volkswagen Group companies become involved in Germany and internationally in the course of their operating activities. In particular, such legal disputes and other proceedings may occur in relation to suppliers, dealers, customers, employees, or investors. Please refer to the “Litigation” section for a discussion of the legal risks.

Miscellaneous provisions relate to a wide range of identifiable specific risks, price risks and uncertain obligations, which are measured in the amount of the expected settlement value.

Miscellaneous provisions additionally include provisions amounting to €568 million (previous year: €562 million) relating to the insurance business.

31. Put options and compensation rights granted to noncontrolling interest shareholders

In the previous year, this balance sheet item consisted primarily of the present value of the cash settlement of €90.29 per share in accordance with section 305 of the Aktiengesetz (AktG – German Stock Corporation Act) offered to MAN shareholders in connection with the control and profit and loss transfer agreement. The put options granted to noncontrolling interest shareholders expired in the fiscal year. The liability for shares not tendered and for compensation payments remaining after these rights expired was reclassified directly to equity.

Further information can be found in the “Key Events” section.

32. Trade payables

€ million	Dec. 31, 2019	Dec. 31, 2018
Trade payables to		
third parties	21,948	22,928
unconsolidated subsidiaries	222	235
joint ventures	375	327
associates	195	113
other investees and investors	5	4
	22,745	**23,607**

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

	REMAINING CONTRACTUAL MATURITIES			
€ million	under one year	within one to five years	over five years	Total
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

€ 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, 2019
	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: Financial instruments	AMOUNTS THAT ARE NOT SET OFF IN THE BALANCE SHEET: Collateral received	Net amount at Dec. 31, 2018
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: Financial instruments	AMOUNTS THAT ARE NOT SET OFF IN THE BALANCE SHEET: Collateral received	Net amount at Dec. 31, 2019
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: Financial instruments	Amounts that are not set off in the balance sheet: Collateral pledged	Net amount at Dec. 31, 2018
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: Financial instruments	Amounts that are not set off in the balance sheet: Collateral pledged	Net amount at Dec. 31, 2019
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 Foreign exchange differences	NON-CASH CHANGES Changes in consolidated Group	Other changes	Dec. 31, 2018
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 Foreign exchange differences	NON-CASH CHANGES Changes in consolidated Group	NON-CASH CHANGES Classified as held for sale	Other changes	Dec. 31, 2019
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

	SIMPLIFIED APPROACH	
€ million	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 up to one year	within one to five years	more than five years	2019	REMAINING CONTRACTUAL MATURITIES up to one year	within one to five years	more than five years	2018
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	Reserve for 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	Reserve for: 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

	CURRENCY RISK	
€ million	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 +10%	DEC. 31, 2019 –10%	DEC. 31, 2018 +10%	DEC. 31, 2018 –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, CO_2 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 up to one year	REMAINING TERM within one to five years	REMAINING TERM more than five years	TOTAL NOTIONAL AMOUNT Dec. 31, 2019	TOTAL NOTIONAL AMOUNT 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 Division[1]		
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 contribution[2]	**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, CO_2 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 2019	PAYABLE 2020 – 2023	PAYABLE from 2024	TOTAL 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 2020	PAYABLE 2021 – 2024	PAYABLE from 2025	TOTAL 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 2019	Supplies and services rendered 2018	Supplies and services received 2019	Supplies and services received 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 Dec. 31, 2019	Receivables from Dec. 31, 2018	Liabilities (including obligations) to Dec. 31, 2019	Liabilities (including obligations) to 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.

Responsibility Statement

To the best of our knowledge, and in accordance with the applicable reporting principles, the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group, and the Group management report includes a fair review of the development and performance of the business and the position of the Group, together with a description of the material opportunities and risks associated with the expected development of the Group.

Wolfsburg, February 18, 2020

Volkswagen Aktiengesellschaft
The Board of Management

Herbert Diess | Oliver Blume | Gunnar Kilian

Andreas Renschler | Abraham Schot | Stefan Sommer

Hiltrud Dorothea Werner | Frank Witter

Independent Auditor's Report

On completion of our audit, we issued an unqualified auditor's report dated February 26, 2020 in German language. The following text is a translation of this auditor's report. The German text is authoritative:

To VOLKSWAGEN AKTIENGESELLSCHAFT, Wolfsburg

REPORT ON THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS AND OF THE GROUP MANAGEMENT REPORT

AUDIT OPINIONS

We have audited the consolidated financial statements of VOLKSWAGEN AKTIENGESELLSCHAFT, Wolfsburg, and its subsidiaries (the Group), which comprise the balance sheet as at December 31, 2019, and the income statement and the statement of comprehensive income, the statement of changes in equity and the cash flow statement for the financial year from January 1 to December 31, 2019, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of VOLKSWAGEN AKTIENGESELLSCHAFT, which is combined with the Company's management report, for the financial year from January 1 to December 31, 2019. In accordance with the German legal requirements, we have not audited the content of those parts of the group management report listed in the "Other Information" section of our auditor's report.

In our opinion, on the basis of the knowledge obtained in the audit,

> the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to § [Article] 315e Abs. [paragraph] 1 HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at December 31, 2019, and of its financial performance for the financial year from January 1 to December 31, 2019, and

> the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our audit opinion on the group management report does not cover the content of those parts of the group management report listed in the "Other Information" section of our auditor's report.

Pursuant to § 322 Abs. 3 Satz [sentence] 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

BASIS FOR THE AUDIT OPINIONS

We conducted our audit of the consolidated financial statements and of the group management report in accordance with § 317 HGB and the EU Audit Regulation (No. 537/2014, referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and on the group management report.

EMPHASIS OF MATTER – DIESEL ISSUE

We draw attention to the information provided and statements made in section "Key Events" of the notes to the consolidated financial statements and in section "Report on Risks and Opportunities" of the group management report with regard to the diesel issue including information about the allegations made and claims filed, the underlying causes, the non-involvement of members of the board of management as well as the impact on these financial statements.

Based on the results of the various measures taken to investigate the issue presented so far, which underlie the consolidated financial statements and the group management report, there is still no evidence that members of the Company's board of management were aware of the deliberate manipulation of engine management software before summer 2015. Nevertheless, should as a result of the ongoing investigation new solid knowledge be obtained showing that members of the board of management were informed earlier about the diesel issue, this could eventually have an impact on the consolidated financial statements and on the group management report for financial year 2019 and prior years.

The provisions for warranties and legal risks recorded so far are based on the presented state of knowledge. Due to the inevitable uncertainties associated with the current and expected litigation it cannot be excluded that a future assessment of the risks may be different.

Our opinions on the consolidated financial statements and on the group management report are not modified in respect of this matter.

KEY AUDIT MATTERS IN THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from January 1 to December 31, 2019. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our audit opinion thereon; we do not provide a separate audit opinion on these matters.

In our view, the matters of most significance in our audit were as follows:

❶ Accounting treatment of risk provisions for the diesel issue
❷ Recoverability of goodwill and brand names
❸ Recoverability of capitalized development costs
❹ Completeness and measurement of provisions for warranty obligations arising from sales

Our presentation of these key audit matters has been structured in each case as follows:

① Matter and issue
② Audit approach and findings
③ Reference to further information

Hereinafter we present the key audit matters:

❶ Accounting treatment of risk provisions for the diesel issue

① Companies of the Volkswagen Group are involved in investigations by government authorities in numerous countries (in particular in Europe, the United States and Canada) with respect to irregularities in the exhaust gas emissions from diesel engines in certain vehicles of the Volkswagen Group. Different measures are being implemented in various countries for affected vehicles. These include hardware and/or software solutions, vehicle repurchases or the early termination of leases and, in some cases, cash payments to vehicle owners. Furthermore, payments are being made as a result of criminal proceedings and civil law settlements with various parties. In addition, there are civil lawsuits pending from customers, dealers and holders of securities. Further direct and indirect effects concern in particular impairment of assets and customer-specific sales programs.

The Volkswagen Group recognizes the expenses directly related to the diesel issue in its operating income. The special items expensed in financial year 2019 amount to € 2.3 billion. These relate to fines paid (€ 0.5 billion) and to further additions to reserves for legal risks (€ 2.1 billion). The reversal of reserves for technical measures in the amount of € 0.3 billion had an inverse effect. In addition to provisions, contingent liabilities for legal risks in regard to the diesel issue in the amount of € 3.7 billion are reported as of December 31, 2019.

The reported provisions and contingent liabilities are exposed to considerable estimation risk due to the wide-ranging investigations and proceedings that are ongoing, the complexity of the various negotiations and pending approval procedures by authorities, and developments in market conditions. This matter was of particular significance for our audit due to the material amounts of the provisions as well as the scope of assumptions and discretion on the part of the executive directors.

② In order to audit the recognition and measurement of provisions for field activities and vehicle repurchases arising as a result of the diesel issue, we critically examined the processes put in place by the companies of the Volkswagen Group to make substantive preparations to address the diesel issue, and assessed the progress made in implementing the technical solutions developed to remedy it. We compared this knowledge with the technical and legal substantiations of independent experts, as presented to us. We used in particular an IT data analysis solution to examine the quantity structure underlying the field activities and repurchases. We assessed the inputs used to measure the repair solutions and the repurchases. We used this as a basis to evaluate the calculation of the provisions.

In order to audit the recognition and measurement of the provisions for legal risks and the disclosure of contingent liabilities for legal risks resulting from the diesel issue, we assessed both the available official documents as well as in particular the work delivered and opinions prepared by experts commissioned by the Volkswagen Group. As part of a targeted selection of key procedures and supplemented by additional samples, we inspected the correspondence relating to the litigation and, in talks with officials from the affected companies and the lawyers involved, and including our own legal experts, we discussed the assessments made.

Taking into consideration the information provided and statements made in the section entitled "Key events" in the notes to the consolidated financial statements and in the section entitled "Report on Risks and Opportunities" in the group management report with regard to the diesel issue including information about the underlying causes, the non-involvement of members of the board of management as well as the impact on these financial statements, we believe that, overall, the assumptions and inputs underlying the calculation of the risk provisions for the diesel issue are appropriate to properly recognize and measure the provisions.

③ The Company's disclosures on the diesel issue are contained in the sections entitled "Key events" and "Litigation" in the notes to the consolidated financial statements, and in sections entitled “Report on Risks and Opportunities”, sub-section “Legal risks” in the group management report.

❷ Recoverability of goodwill and brand names

① The intangible assets reported in the consolidated financial statements of VOLKSWAGEN AKTIENGESELLSCHAFT include € 23.2 billion in goodwill and € 16.8 billion in purchased brand names (intangible assets with indefinite useful lives). The Company allocates goodwill and brand names to the subgroups and brands, respectively, within the Volkswagen Group. As part of the regular impairment testing of goodwill and brand names, the Company compares the carrying amount of the subgroups and brands, respectively, against their respective recoverable amount. In general, the recoverable amount is calculated on the basis of the value in use. The value in use is calculated using discounted cash flow models on the basis of the Volkswagen Group's five-year operating plan prepared by the executive directors and acknowledged by the Supervisory Board and extrapolated based on assumptions about long-term growth rates. The discount rate used is the weighted average cost of capital for the relevant reporting segment. The result of this measurement depends to a large extent on the executive directors’ assessment with regard to the future cash inflows of the respective subgroups and brands, respectively, and on the discount rate used, and is therefore subject to considerable uncertainty. Against this background and due to the underlying complexity of the measurement models, this matter was of particular importance for our audit.

② As part of our audit, we assessed, among other things, the method used to perform impairment tests and the calculation of the weighted cost of capital. We evaluated the appropriateness of the future cash inflows used in the measurement, including by comparing this data with the five-year operating plan prepared by the executive directors and acknowledged by the Supervisory Board, and through reconciliation with general and sector-specific market expectations. We also evaluated that the costs for Group functions not recognized in a segment were properly included in the impairment test for the respective subgroup and brand, respectively. With the knowledge that even relatively small changes in the discount rate applied can have a material impact on the recoverable amounts calculated in this way, we also focused our testing in particular on the parameters used to determine the discount rate applied and evaluated the measurement model. Furthermore, due to the materiality of the goodwill and brand names, we also performed our own sensitivity analyses for the subgroups and brands, respectively, (comparison of carrying amounts and recoverable amounts) and determined that the respective goodwill and brand names were sufficiently covered by the discounted future cash flows. Overall, we consider the measurement inputs and assumptions used by the executive directors to be in line with our expectations and to lie also within a range that we consider reasonable.

③ The Company's disclosures on goodwill and brand names are contained in section entitled “Intangible assets” in the notes to the consolidated financial statements.

❸ Recoverability of capitalized development costs

① In the consolidated financial statements of VOLKSWAGEN AKTIENGESELLSCHAFT capitalized development costs amounting to € 24.0 billion are reported under the "Intangible assets" balance sheet item. In accordance with IAS 38, research costs are treated as expenses incurred, while development costs for future series products are capitalized provided in particular that sale of these products (in connection with other assets) is likely to bring an economic benefit. Until amortization begins, developments must be tested for impairment in accordance with IAS 36 at least once a year based on the cash-generating units to which they are allocated. To meet this requirement, over the period from capitalization until completion of development the Company assesses whether the capitalized development costs incurred are covered by future cash flows. Once amortization begins, an assessment must be carried out at each reporting date as to whether there are indications of impairment. If this is the case, an impairment test must be performed and any impairment loss recognized. For impairment losses recognized in prior periods, an annual assessment must be carried out as to whether there are indications that the reason for the impairment has ceased to apply. In the financial year, the Volkswagen Group adjusted the definition of cash-generating units for capitalized development costs. While the focus in the Passenger Cars division was previously on individual models or model groups, the Volkswagen Group has made the judgment that the required degree of independence of cash flows from models or model groups is no longer given due to the increasing tightening of CO_2 and emissions-related fleet requirements and other changes in the fourth quarter of 2019 and that brands must therefore now be regarded as the smallest identifiable group of assets that meet the definition criteria of a cash-generating unit.

The Volkswagen Group generally applies the present value of the future cash flows (value in use) from the relevant cash-generating units to test these intangible assets for impairment. The value in use is determined using the discounted cash flow method based on the Group's five-year financial planning prepared by the executive directors. The discount rate used is the weighted average cost of capital (WACC). The weighted average cost of capital applied in the Volkswagen Group includes the weighted average cost of equity and debt before taxes.

Due to the adjusted definition of the cash-generating units a one-time write-up in an amount of € 1.1 billion resulted in the fourth quarter 2019, thereof € 0.9 billion from prior years that are recognized in the "other operating income" income statement line item. Furthermore, the "finance income" is increased by € 0.1 billion due to write-ups at the Chinese joint ventures accounted for at-equity

The result of this measurement depends to a large extent on the executive directors' assessment of future cash inflows and the discount rate used and is therefore subject to considerable uncertainty. Against this background and due to the complex nature of the valuation, this matter was of particular significance in the context of our audit.

② As part of our audit we assessed whether, overall, the assumptions underlying the measurements particularly in the form of future cash inflows, and the discount rates used provide an appropriate basis by which to test the individual cash-generating units for impairment. We based our assessment, among other things, on a comparison with general and sector-specific market expectations as well as the executive directors' detailed explanations regarding key planning value drivers. We also evaluated that the costs for Group functions were properly included in the impairment tests of the respective cash-generating units. With the knowledge that even relatively small changes in the discount rate applied can in some cases have material effects on values, we also focused our testing on the parameters used to determine the discount rate applied and evaluated the measurement model. We also assessed the consistency of the measurement model applied and evaluated the mathematical accuracy of the calculations. With respect to completed development projects, we inquired the executive directors about whether or not there were indications of impairment or that reasons for impairment had ceased to apply, and critically examined these assumptions based on our knowledge of the Group's legal and economic environment. As part of our audit, we also assessed whether the adjusted definition of the cash-generating units is in line with the relevant requirements of IAS 36. In our view, the measurement inputs and assumptions used by the executive directors, and the measurement model, were properly derived for the purposes of conducting impairment tests and the adjustment made to the definition of the cash-generating units are substantiated and reasonably documented.

③ Company's disclosures on capitalized development costs and the associated impairment testing and the adjustment of the cash-generating units are contained in sections entitled "Accounting policies" and "Intangible assets" in the notes to the consolidated financial statements.

❹ Completeness and measurement of provisions for warranty obligations arising from sales

① In the consolidated financial statements of the Volkswagen Group € 27.0 billion in provisions for obligations arising from sales are reported under the "Other provisions" balance sheet item. These obligations primarily relate to warranty claims arising from the sale of vehicles, motorcycles, components and genuine parts. Warranty claims are calculated on the basis of losses to date, estimated future losses and the policy on ex gratia arrangements. An estimate is also made of the discount rate. In addition, assumptions must be made about the nature and extent of future warranty and ex gratia claims. These assumptions are based on qualified estimates.

From our point of view, this matter was of particular significance for our audit because the recognition and measurement of this material item is to a large extent based on estimates and assumptions made by the Company's executive directors.

② With the knowledge that estimated values result in an increased risk of accounting misstatements and that the measurement decisions made by the executive directors have a direct and significant effect on consolidated net profit/loss, we assessed the appropriateness of the carrying amounts, including by comparing these figures with historical data and using the measurement bases presented to us. Furthermore, we assessed that the interest rates with matching terms were properly derived from market data. We evaluated the entire calculations (including discounting) for the provisions using the applicable measurement inputs and assessed the planned timetable for utilizing the provisions.

In doing so, we were able to satisfy ourselves that the estimates applied, and the assumptions made by the executive directors were sufficiently documented and supported to justify the recognition and measurement of the provisions for warranty obligations arising from sales.

③ The Company's disclosures on other provisions are contained in sections entitled “Accounting policies” and “Noncurrent and current other provisions” in the notes to the consolidated financial statements.

OTHER INFORMATION

The executive directors are responsible for the other information. The other information comprises the following non-audited parts of the group management report:

- the statement on corporate governance pursuant to § 289f HGB and § 315d HGB included in section “Corporate Governance Report” of the group management report
- the corporate governance report pursuant to No. 3.10 of the German Corporate Governance Code
- the separate non-financial report pursuant to § 289b Abs. 3 HGB and § 315b Abs. 3 HGB

The other information comprises further the remaining parts of the annual report, – excluding cross-references to external information – with the exception of the audited consolidated financial statements, the audited group management report and our auditor’s report.

Our audit opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

Responsibilities of the Executive Directors and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group’s ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with § 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.
- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective audit opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.
- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

OTHER LEGAL AND REGULATORY REQUIREMENTS

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor by the annual general meeting on May 14, 2019. We were engaged by the supervisory board on May 20, 2019. We have been the group auditor of the VOLKSWAGEN AKTIENGESELLSCHAFT, Wolfsburg, without interruption since the financial year 1948/1949.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

GERMAN PUBLIC AUDITOR RESPONSIBLE FOR THE ENGAGEMENT

The German Public Auditor responsible for the engagement is Frank Hübner.

Hanover, February 26, 2020

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

Harald Kayser Wirtschaftsprüfer (German Public Auditor)	Frank Hübner Wirtschaftsprüfer (German Public Auditor)