Notes to the Consolidated Financial Statements

of the Volkswagen Group as of December 31, 2020

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 2020 in compliance with the International Financial Reporting Standards (IFRSs), as adopted by the European Union. All the IFRSs adopted by the EU and required to be applied have been complied with.

The accounting policies applied in the previous year were generally retained. The only changes required resulted from new or amended standards.

Moreover, all the provisions of German commercial law that Volkswagen is additionally required to apply, as well as the German Corporate Governance Code, have been complied with in the preparation of the consolidated financial statements. 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 aforementioned 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 16, 2021. 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 2020.

On January 1, 2020, an amended definition of a business in IFRS 3 (Business Combinations) entered into force. According to the new definition, a set of activities and assets is a business only if it includes, as a minimum, an input and a substantive process that together significantly contribute to the ability to create outputs. At the same time, the definition of an output has been narrowed by focusing on goods and services provided to customers and on generating investment income. The reference to an ability to reduce costs as a single criterion has been removed. In addition, an optional concentration test has been introduced that permits an assessment of whether an acquired set of activities and assets is not a business.

Furthermore, amendments to IFRS 16 entered into force on June 1, 2020. These amendments exempt lessees from having to consider whether a rent concession in connection with the Covid-19 pandemic in relation to lease payments that, according to the original agreement, would have been due on or before June 30, 2021 is a lease modification and allows lessees to account for such rent concessions as if they were not lease modifications. The Volkswagen Group is electing not to apply this option.

In addition, as from January 1, 2020, the application of amendments to IFRS 9, IAS 39 and IFRS 7 (Benchmark Interest Rate Reform – Phase 1) became mandatory. In the previous year, the Volkswagen Group had voluntarily opted for early application of these amendments. This affects hedges that existed at the beginning of the reporting period or have subsequently been designated as such. In application of the associated practical expedient, the Volkswagen Group regards the effectiveness of designated hedges as given and not negatively impacted by the IBOR reform so that it will consequently not be necessary to terminate any hedges.

Also as of January 1, 2020, amendments to IAS 1 and IAS 8 entered into force, which clarify and standardize the definition of “material”.

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

New and amended IFRSs not applied

In its 2020 consolidated financial statements, Volkswagen AG did not apply the following accounting pronouncements that have been adopted by the IASB until December 31, 2020, 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	Updating a Reference to the Conceptual Framework	May 14, 2020	Jan. 1, 2022	No	No material impact
IFRS 4	Extension of the Temporary Exemption from Applying IFRS 9	June 25, 2020	Jan. 1, 2021	Yes	None
IFRS 4; IFRS 7; IFRS 9; IFRS 16 and IAS 39	Interest Rate Benchmark Reform (Phase 2)	Aug. 27, 2020	Jan. 1, 2021	Yes	No material impact
IFRS 17	Insurance Contracts	May 18, 2017	Jan. 1, 2023[2]	No	No material impact
IFRS 17	Insurance Contracts – several amendments	June 25, 2020	Jan. 1, 2023	No	No material impact
IAS 1	Classification of liabilities as current or non-current	Jan. 23, 2020	Jan. 1, 2023	No	No material impact
IAS 16	Property, Plant and Equipment: Proceeds before intended use	May 14, 2020	Jan. 1, 2022	No	No material impact
IAS 37	Onerous contracts – cost of fulfilling a contract	May 14, 2020	Jan. 1, 2022	No	No material impact
	Annual Improvements 2018 – 2020[3]	May 14, 2020	Jan. 1, 2022	No	No material impact

1 Effective date from Volkswagen AG’s perspective.
2 On June 25, 2020, the IASB published amendments to IFRS 17, that led, among other things, to the effective date being deferred to January 1, 2023.
3 Minor amendments to a number of IFRSs (IFRS 1, IFRS 9 and IAS 41).

Key events

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 2.0 l diesel engines in the USA. In this context, Volkswagen AG announced that noticeable discrepancies between the figures recorded in testing and those measured 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.

The so-called 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. No member of the Board of Management had, at that time and for many years to follow, knowledge of the development and implementation of this software function.

There are furthermore no findings that, following the publication in May 2014 of the study by the International Council on Clean Transportation, an unlawful “defeat device” under US law was disclosed either to the Ausschuss für Produktsicherheit (Product Safety Committee) or to the persons responsible for preparing the 2014 annual and consolidated financial statements as the cause of the high NO_x emissions in certain US vehicles with 2.0 l type EA 189 diesel engines. Rather, at the time the 2014 annual and consolidated financial statements were being prepared, the persons responsible for preparing these financial statements remained under the impression that the issue could be resolved with comparatively little expense.

In the course of the summer of 2015, however, it became progressively 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 that was later identified as an unlawful “defeat device” as defined by US law. This culminated in Volkswagen's disclosure of a “defeat device” to the EPA and the California Air Resources Board, a department of the Environmental Protection Agency of the State of California, on September 3, 2015. According to the assessment at the time by the responsible persons dealing with the matter, the magnitude of the costs expected to result for the Volkswagen Group (recall costs, retrofitting costs, and financial penalties) was not fundamentally dissimilar to that in previous cases involving other vehicle manufacturers. It therefore appeared to be manageable overall considering the business activities of the Volkswagen Group. This assessment by Volkswagen AG was based, among other things, on the advice of a law firm engaged in the USA for regulatory approval issues, according to which similar cases had in the past been amicably resolved 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 2020, additional expenses of €0.9 billion had to be recognized in this context, primarily related to legal risks.

Further information on the litigation in connection with the diesel issue can be found in the “Litigation” section.

Effects of the Covid-19 Pandemic

By causing a global decline in demand – driven among other factors by measures taken by governments in the form of restrictions on trade in motor vehicles – as well as temporary production stoppages, the Covid-19 pandemic had a negative impact on the Volkswagen Group's net assets, financial position and results of operations in fiscal year 2020. Since the Covid-19 pandemic still persists at the beginning of 2021, effects on the net assets, financial position and results of operations are again expected for 2021. Please also refer to our comments in the 2020 group management report, specifically in the chapters entitled Business Development, Results of Operations, Financial Position and Net Assets, Report on Expected Developments and Report on Risks and Opportunities.

During the preparation of the consolidated financial statements as of December 31, 2020, the effects of the Covid-19 pandemic had to be analyzed, in particular in the following areas:

- The impairment testing of nonfinancial assets, especially goodwill, acquired brand names, as well as some capitalized development costs and property, plant and equipment, took the planning influenced by the Covid-19 pandemic into consideration. No need to recognize significant impairment losses was identified.
- The impairment tests on lease assets identified no material impact of the Covid-19 pandemic on forecast residual values for the vehicles for the entire Group.
- Impairment tests conducted on financial assets, taking adjusted default expectations into account, did not identify any need for material additional impairment losses.
- The review of the impact of changes in the timings and amounts of hedged items caused by the Covid-19 pandemic on the effectiveness and accounting treatment of hedges did not identify any material factors with an impact on profits.
- The turbulence in the commodity and capital markets had an impact particularly on the treatment of derivatives to which hedge accounting is not applied and the measurement of receivables and liabilities denominated in foreign currencies, sometimes with offsetting consequences.

For more information on these areas, please also refer to our additional comments in the "Accounting policies" section and in the notes to the relevant income statement items.

Material Transactions

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 involves the provision of financial resources totaling USD 1.0 billion, spread over several years, and the contribution by Volkswagen of its consolidated subsidiary Autonomous Intelligent Driving (AID). Furthermore, Volkswagen acquired 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, was executed as of June 1, 2020. After proportional profit elimination, the contribution of AID to Argo AI at fair value resulted in a non-cash gain of €0.8 billion, which was recognized in the other operating result. Argo AI is accounted for as a joint venture and included in the consolidated financial statements using the equity method.

As part of the planned squeeze-out at AUDI AG under the German Stock Corporation Act, Volkswagen AG announced on June 16, 2020 that the cash compensation for the transfer of the shares held by minority shareholders had been set at €1,551.53 per share. On July 31, 2020, the Annual General Meeting of AUDI AG approved the squeeze-out under stock corporation law at AUDI AG and thus the transfer of all outstanding Audi shares to Volkswagen AG. Following the resolution, the present value of the put options granted, amounting to approximately €0.2 billion, had to be recognized as a current liability not affecting net income. The noncontrolling interests in the Volkswagen Group's equity and the retained earnings attributable to the shareholders of Volkswagen AG declined accordingly. This resolution took effect upon its entry in the commercial register on November 16, 2020. In December 2020, a former shareholder of AUDI AG initiated award proceedings against Volkswagen AG at the Munich I Regional Court, asking the court to review the amount of the cash settlement offered by Volkswagen AG.

On October 6, 2020, the Volkswagen Group completed the sale of its 76% interest in Renk AG following the required regulatory approvals. The sale price was €0.5 billion. The transaction generated an operating profit of €0.1 billion, which is reported in other operating result. It also resulted in an increase in net liquidity of €0.4 billion.

In fiscal year 2020, the Volkswagen Group took part in a capital increase at QuantumScape Corporation, a US-based company that develops solid-state batteries, entering into forward purchase agreements for new shares. The capital contribution comprises two tranches of USD 100 million each. The first tranche was already executed in December 2020. Execution of the second tranche is subject to a technical milestone being reached. Since there has meanwhile been a merger with a special purpose acquisition company (SPAC), which resulted in a listing on the New York Stock Exchange, the forward purchases are measured with reference to the share price of QuantumScape Corporation until the contribution has been made and the new shares have been issued. The measurement and realization resulted in a non-cash gain of €1.4 billion in fiscal year 2020, which is reported in the other financial result under gains and losses from changes in the fair value of hedges/derivatives to which hedge accounting is not applied.

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:

	2020	2019
Volkswagen AG and consolidated subsidiaries		
Germany	145	151
Abroad	736	714
Subsidiaries carried at cost		
Germany	78	78
Abroad	284	290
Associates, joint ventures and other equity investments		
Germany	80	76
Abroad	119	107
	1,442	**1,416**

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) and have as far as possible exercised the option not to publish annual financial statements:

> AUDI AG, Ingolstadt
> Audi Berlin GmbH, Berlin
> Audi Frankfurt GmbH, Frankfurt am Main
> Audi Hamburg GmbH, Hamburg
> Audi Hannover GmbH, Hanover
> AUDI Immobilien GmbH & Co. KG, Ingolstadt
> Audi Leipzig GmbH, Leipzig
> Audi München GmbH, Munich
> Audi Sport GmbH, Neckarsulm
> Audi Stuttgart GmbH, Stuttgart
> Auto & Service PIA GmbH, Munich
> 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
> MAHAG Automobilhandel und Service GmbH & Co. oHG, Munich
> MAHAG GmbH, Munich
> MAHAG Sportwagen Zentrum Albrechtstraße GmbH, Munich
> MAN Energy Solutions SE, Augsburg
> MOIA GmbH, Berlin
> MOIA Operations Germany GmbH, Hanover
> Porsche Consulting GmbH, Bietigheim-Bissingen
> Porsche Deutschland GmbH, Bietigheim-Bissingen
> Porsche Dienstleistungs GmbH, Stuttgart
> Porsche Digital 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 Immobilien GmbH & Co. KG, Stuttgart
> Porsche Investments 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
> Schwaba GmbH, Augsburg
> SEAT Deutschland Niederlassung GmbH, Frankfurt am Main
> SKODA AUTO Deutschland GmbH, Weiterstadt

- SZM Sportwagen Zentrum München GmbH, Munich
- VfL Wolfsburg-Fußball GmbH, Wolfsburg
- VGRD GmbH, Wolfsburg
- VGRHH GmbH, Hamburg
- 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 car.SW Org Wolfsburg AG, 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 Sachsen GmbH, Zwickau
- Volkswagen Sechste Leasingobjekt GmbH, Braunschweig
- Volkswagen Siebte Leasingobjekt GmbH, Braunschweig
- Volkswagen Software Asset Management GmbH, Wolfsburg
- Volkswagen Vermögensverwaltungs-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	27
Newly acquired subsidiaries	0	3
Newly formed subsidiaries	0	13
	4	**43**
Deconsolidated		
Mergers	3	3
Liquidations	4	2
Sales/other	3	16
	10	**21**

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, Germany (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, 2020, the quoted market price of the shares in Sinotruk amounted to €1,436 million (previous year: €1,312 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, Germany.

As of December 31, 2020, the quoted market price of the shares in Bertrandt amounted to €116 million (previous year: €165 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. held around 60% of the shares of HERE International B.V., Eindhoven (the Netherlands), as of the end of fiscal year 2020. 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 January 2020, in which Volkswagen participated. As a result, the shares in There Holding B.V., which are accounted for using the equity method, increased by €19 million.

As early as in December 2019, it was announced that additional investors would acquire shares in HERE International B.V. Following the signing in December 2019 and after all antitrust approvals had been obtained, Mitsubishi Corporation (MC), Tokyo (Japan), and Nippon Telegraph and Telephone Corporation of Japan (NTT), Tokyo (Japan), jointly acquired 30% of the shares of HERE International B.V. as of May 29, 2020. As a result, the interest held by There Holding B.V. in HERE International B.V. declined from around 85% to around 60%. In June 2020 and September 2020, capital reductions were implemented at the level of There Holding B.V. in connection with the sale of shares. In this process, an amount of €197 million was attributable to the interest held by Volkswagen.

Volkswagen's ownership interest in There Holding B.V. continues to amount to 29.7%.

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, on the basis of contractual arrangements with Navistar, TRATON SE is entitled to two out of ten seats on the Board of Directors and in view of existing cooperation agreements, the investment in Navistar is reported under equity-accounted investments in the consolidated financial statements.

On November 7, 2020, TRATON SE and Navistar announced that they had entered into a binding merger agreement under which TRATON SE would acquire all outstanding ordinary shares of Navistar not already owned by TRATON SE at a cash price of USD 44.50 per ordinary share. At the time of the agreement, TRATON SE held 16.7% of Navistar's outstanding shares. Expected to be completed in mid-2021, the transaction is subject to approval by Navistar shareholders, customary closing conditions and regulatory approvals.

As of December 31, 2020, the quoted market price of the shares in Navistar amounted to €596 million (previous year: €429 million).

SUMMARIZED FINANCIAL INFORMATION ON MATERIAL ASSOCIATES ON A 100% BASIS

€ million	Sinotruk[1]	Bertrandt[2]	There Holding	Navistar[3]
2020				
Equity interest in %	25	29	30	17
Noncurrent assets	2,578	666	1,190	1,765
Current assets	8,755	481	24	3,921
Noncurrent liabilities	185	408	–	6,072
Current liabilities	7,180	197	0	2,888
Net assets	3,969	541	1,214	–3,274
Sales revenue	9,072	915	–	6,664
Earnings after tax from continuing operations	538	–19	206	–292
Earnings after tax from discontinued operations	–	–	–	–
Other comprehensive income	–1	–1	10	212
Total comprehensive income	537	–20	216	–80
Dividends received[4]	30	5	–	–
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	–	–

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
2020				
Net assets at January 1	3,758	578	1,597	–3,339
Profit or loss	538	–19	206	–292
Other comprehensive income	–1	–1	10	212
Changes in reserves	–124	–	–599	7
Foreign exchange differences	–56	–	–	153
Dividends[1]	–146	–16	–	–15
Net assets at December 31	3,969	541	1,214	–3,274
Proportionate equity	992	157	361	–547
Consolidation/Goodwill/Others	–384	–36	–	923
Carrying amount of equity-accounted investments	608	120	361	376
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

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	2020	2019
Earnings after tax from continuing operations	–25	27
Earnings after tax from discontinued operations	–	–
Other comprehensive income	0	12
Total comprehensive income	–26	39
Carrying amount of equity-accounted investments	1,663	597

There were unrecognized losses of €7 million (previous year: €54 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
2020			
Equity interest in %	40	50	30
Noncurrent assets	11,504	8,871	932
Current assets	9,844	6,509	3,889
of which cash and cash equivalents	3,525	2,711	123
Noncurrent liabilities	1,062	843	130
of which financial liabilities[2]	–	–	–
Current liabilities	12,759	10,601	4,291
of which financial liabilities[2]	–	–	–
Net assets	7,528	3,936	399
Sales revenue	46,282	20,350	23,446
Depreciation and amortization	1,785	1,776	25
Interest income	126	62	5
Interest expenses	6	38	–
Earnings before tax from continuing operations	4,937	2,187	465
Income tax expense	1,272	444	118
Earnings after tax from continuing operations	3,665	1,743	347
Earnings after tax from discontinued operations	–	–	–
Other comprehensive income	24	–9	–
Total comprehensive income	3,689	1,734	347
Dividends received[3]	1,308	1,230	149
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

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
2020			
Net assets at January 1	7,403	4,802	548
Profit or loss	3,665	1,743	347
Other comprehensive income	24	–9	–
Changes in share capital	–	–	–
Changes in reserves	–	–	–
Foreign exchange differences	–149	–33	0
Dividends[1]	–3,416	–2,567	–497
Net assets at December 31	7,528	3,936	399
Proportionate equity	3,011	1,968	120
Consolidation/Goodwill/Others	–792	–803	–
Carrying amount of equity-accounted investments	2,219	1,165	120
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

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	2020	2019
Earnings after tax from continuing operations	166	434
Earnings after tax from discontinued operations	–	–
Other comprehensive income	–186	3
Total comprehensive income	–20	436
Carrying amount of equity-accounted investments	3,447	1,887

There were unrecognized losses of €26 million (previous year: €29 million) relating to investments in joint ventures. Contingent liabilities to joint ventures amounted to €248 million (previous year: €224 million), while financial guarantees stood at €70 million (previous year: €134 million). Cash funds of joint ventures amounting to €197 million (previous year: €276 million) are deposited as collateral for asset-backed securities transactions and are therefore not freely available.

IFRS 5 – NON-CURRENT ASSETS HELD FOR SALE

As of December 31, 2019, the RENK AG subgroup and the consolidated subsidiary Autonomous Intelligent Driving (AID) were classified as disposal groups held for sale in accordance with IFRS 5 and measured at their carrying amounts. Assets of €795 million and liabilities of €370 million attributable to the disposal groups were reported in a separate balance sheet item as of December 31, 2019.

The sale of RENK was completed on October 6, 2020 following the required regulatory approvals. The sale price was €0.5 billion.

The contribution of AID was effected as of June 1, 2020. After proportional profit elimination, the contribution of AID to Argo AI at fair value resulted in a non-cash gain of €0.8 billion, which was recognized in the other operating result.

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 always 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 generally 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 at least 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 is 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; they are 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 =	2020	2019	2020	2019
Argentina	ARS	103.28799	67.23626	100.39080	53.78083
Australia	AUD	1.58605	1.60080	1.61589	1.61071
Brazil	BRL	6.37555	4.51350	6.27218	4.41485
Canada	CAD	1.56275	1.46205	1.55979	1.48595
Czech Republic	CZK	26.23900	25.40650	26.30420	25.66983
India	INR	89.69000	80.15450	89.57211	78.86396
Japan	JPY	126.51000	121.89500	126.26457	122.08649
Mexico	MXN	24.41145	21.24340	24.29728	21.56326
People’s Republic of China	CNY	8.02895	7.81470	7.95821	7.73444
Poland	PLN	4.55615	4.25970	4.47717	4.29784
Republic of Korea	KRW	1,336.21000	1,296.35000	1,332.54652	1,304.89265
Russia	RUB	91.77540	69.84685	90.25599	72.46709
South Africa	ZAR	18.01515	15.76470	18.11555	16.17716
Sweden	SEK	10.02470	10.44505	10.17259	10.58593
United Kingdom	GBP	0.89925	0.84995	0.90553	0.87744
USA	USD	1.22760	1.12275	1.21663	1.11974

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 – if they have finite useful lives – amortized over their useful lives 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 have been capitalized at cost, provided the cash-generating unit to which the respective intangible asset is attributable is not impaired and the other criteria for recognition as assets are met. If at least one of the criteria for recognition as assets is 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, powertrains or software developed – generally between three and nine years.

Amortization charges on intangible assets are 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 indefinite and finite useful lives. Normally, the respective brand is the cash-generating unit that is used as the testing level. Jointly used (corporate) assets are allocated to the cash-generating units using allocation formulas. Measurement of value in use is based on management's current medium-term planning (referred to as budget planning round). The planning period generally covers five years. 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, expected trends in the Volkswagen Group's market shares, the volume and timing of the development of vehicle models and investments in production facilities, as well as changes in price and cost structures, taking particular account of the transformation to e-mobility and an increase in regulatory requirements. The planning for the Financial Services segment is likewise prepared on the basis of these expectations, and also reflects the relevant market penetration rates of expected vehicle sales with finance or lease agreements and other services, as well as 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 is based on the assumption that global economic output and, consequently, trends in the automotive market will recover overall in 2021, provided successful, lasting containment of the Covid-19 pandemic is achieved. However, this growth will most likely be sufficient for the economy to recover to approximately its pre-pandemic level. We continue to believe that risks will arise from protectionist tendencies, turbulence in the financial markets and structural deficits in individual countries. In addition, growth prospects will be negatively impacted by ongoing geopolitical tensions and conflicts. We anticipate that both the advanced economies and the emerging markets will experience positive momentum. Furthermore, we anticipate that the global economy will also continue to grow in the period from 2022 to 2025. The Volkswagen Group's automotive market and volume planning reflects the above regional differentiation and takes account of the impact of the Covid-19 pandemic on the initial years of the planning period. The negative impact on earnings expected to arise from 2021 onward from more stringent emission and fuel consumption legislation and the sustained effects of the Covid-19 pandemic is to be offset by corresponding programs to increase efficiency. The change in the operating return on sales assumed for fiscal year 2021 for the purpose of the impairment test is within the range forecast by Volkswagen.

The 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	2020	2019
Passenger Cars segment	6.8%	5.7%
Commercial Vehicles segment	8.7%	7.7%
Power Engineering segment	9.3%	7.9%

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 is taken into account. The composition of the peer groups used to determine beta factors and leverage is continuously reviewed and adjusted if necessary.

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.

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. The 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.

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

The Volkswagen Group accounts 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.

If the Volkswagen Group is the lessee, it generally recognizes in its balance sheet a right-of-use asset and a lease liability for each lease. 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 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.

Practical expedients are allowed 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 being as of low value if the value of the leased asset when 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 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 from within the company, 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 is 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 attributable to the Volkswagen Group of increases or reductions in equity at the associates and joint ventures after their acquisition, 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).

To encourage lending to private households and companies affected by the Covid-19 pandemic, the ECB provided additional liquidity on favorable terms under the TLTRO III program. The Volkswagen Group is of the view that this support constitutes a government grant. The income from these government grants within the meaning of IAS 20 is recognized in the interest result.

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 but 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 period of more than 90 days, 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 other comprehensive income (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

Share-based payment comprises 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. These cash-settled share-based payments are measured at fair value, which is determined using a recognized option pricing model, until maturity. The total compensation cost to be recognized corresponds to the actual payment and 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 with economic benefits 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 –0.23% (previous year: –0.10%) 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 resources with economic benefits 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 resources with economic benefits 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 services have been rendered or the goods have been delivered, i.e. when the customer has obtained control of the goods or services. 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 related 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 ratably as income 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. 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 sections entitled "IFRS 7 (Financial Instruments)" and "Financial risk management and financial instruments" contain 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. Actuarial gains or losses arising from changes in measurement inputs 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 invariably means that unused provisions are reversed or additional amounts have to be recognized for provisions. 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 retrospective tax 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 compared to 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 conditions for awarding the grants and that the grants will in fact 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. 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.

The global spread of the SARS-COV-2 virus, the associated restrictions, and the resulting downturn in demand and supply meant that negative growth of 4.0% was recorded for the world economy in 2020 (previous year: positive growth of 2.6%).

The Volkswagen Group’s planning is based on the assumption that global economic output will recover overall in 2021, provided successful, lasting containment of the Covid-19 pandemic is achieved.

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.

The activities of the Passenger Cars and Light Commercial Vehicles segment cover the development of vehicles, engines and vehicle software, 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. As in the case of the passenger car brands, there is collaboration within the areas procurement, development and sales. The aim is to create closer cooperation within the business areas.

The Power Engineering segment combines the large-bore diesel engines, turbomachinery, special gear units, and propulsion components businesses. Until October 2020, it also included the Renk business; for further information see the "Key events" section.

The activities of the Financial Services segment comprise dealership and customer financing, leasing, banking and insurance activities, fleet management and mobility services. In this segment, activities are combined for reporting purposes taking into particular account the comparability of the type of services and of the regulatory environment.

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 segment reporting, the share of the result of joint ventures is contained in 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 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

REPORTING SEGMENTS 2020

€ million	Passenger Cars and Light Commercial Vehicles	Commercial Vehicles	Power Engineering	Financial Services	Total segments	Reconciliation	Volkswagen Group
Sales revenue from external customers	160,674	21,114	3,638	37,223	222,649	235	222,884
Intersegment sales revenue	15,310	1,042	2	3,555	19,908	–19,908	–
Total sales revenue	175,984	22,156	3,640	40,778	242,557	–19,673	222,884
Depreciation and amortization	15,428	2,309	379	8,647	26,763	–1,014	25,749
Impairment losses	370	179	64	742	1,355	–49	1,306
Reversal of impairment losses	32	1	–	204	237	–8	229
Segment result (operating result)	8,381	–79	–482	3,012	10,832	–1,157	9,675
Share of the result of equity-accounted investments	2,615	85	–3	60	2,756	–	2,756
Interest result and other financial result	–3	–170	–2	–296	–471	–294	–765
Equity-accounted investments	8,129	1,135	29	786	10,080	–	10,080
Investments in intangible assets, property, plant and equipment, and investment property	15,677	1,309	147	208	17,340	405	17,745

RECONCILIATION

€ million	2020	2019
Segment sales revenue	**242,557**	**272,875**
Unallocated activities	997	969
Group financing	27	28
Consolidation/Holding company function	–20,698	–21,239
Group sales revenue	**222,884**	**252,632**
Segment result (operating result)	**10,832**	**20,381**
Unallocated activities	–28	–72
Group financing	–8	–38
Consolidation/Holding company function	–1,121	–3,312
Operating result	**9,675**	**16,960**
Financial result	**1,991**	**1,396**
Consolidated result before tax	**11,667**	**18,356**

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.

BY REGION 2020

€ million	Germany	Europe/Other markets[1]	North America	South America	Asia-Pacific	Hedges sales revenue	Total
Sales revenue from external customers	42,847	90,652	36,810	8,632	44,288	–345	222,884
Intangible assets, property, plant and equipment, lease assets and investment property	105,630	47,680	23,852	2,323	3,611	–	183,096

1 Excluding Germany.

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

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

Income statement disclosures

1. Sales revenue

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**

STRUCTURE OF GROUP SALES REVENUE 2020

€ million	Passenger Cars and Light Commercial Vehicles	Commercial Vehicles	Power Engineering	Financial Services	Total Segments	Reconciliation	Volkswagen Group
Vehicles	129,913	13,385	–	–	143,298	–13,703	129,595
Genuine parts	11,755	3,249	–	–	15,004	–118	14,886
Used vehicles and third-party products	11,716	1,455	–	–	13,171	–637	12,535
Engines, powertrains and parts deliveries	12,625	669	–	–	13,294	–41	13,253
Power Engineering	–	–	3,640	–	3,640	–2	3,638
Motorcycles	567	–	–	–	567	–	567
Leasing business	767	1,698	0	31,608	34,073	–4,334	29,739
Interest and similar income	192	8	–	7,707	7,907	–261	7,646
Hedges sales revenue	–357	–18	–	0	–375	30	–345
Other sales revenue	8,806	1,709	–	1,463	11,978	–608	11,370
	175,984	**22,156**	**3,640**	**40,778**	**242,557**	**–19,673**	**222,884**

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 €6,815 million (previous year: €6,333 million) was included in contract liabilities as of January 1, 2020.

€345 million (previous year: €359 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 €3,676 million (previous year: €3,967 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, 2021, the vast majority of the Volkswagen Group's performance obligations that were 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 2021. The calculation of the amounts for the Power Engineering Business Area took account of both contracts with a term of up to one year and service contracts under which the Volkswagen Group realizes sales revenue in exactly the same amount as the customer benefits from the services rendered 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 €2,303 million (previous year: €2,705 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 €1,180 million (previous year: €830 million). The impairment losses totaling €356 million (previous year: €295 million) recognized during the reporting period on intangible assets and items of property, plant and equipment result primarily from lower values in use of various products in the Passenger Cars segment, due to market and exchange rate risks, and in particular from expected declines in volumes. The impairment losses on lease assets in the amount of €824 million (previous year: €535 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. €60 million (previous year: €25 million) of this figure is reported in current lease assets.

Government grants related to income amounted to €1,001 million in the fiscal year (previous year: €657 million) and were generally allocated to the functional areas.

3. Distribution expenses

Distribution expenses amounting to €18.4 billion (previous year: €21.0 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 €9.4 billion (previous year: €9.8 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	2020	2019
Income from reversal of loss allowances on receivables and other assets	1,334	1,482
Income from reversal of provisions and accruals	1,086	969
Income from foreign currency hedging derivatives within hedge accounting	1,185	686
Income from other hedges	1,709	1,177
Income from foreign exchange gains	2,588	2,346
Income from sale of promotional material	312	498
Income from cost allocations	1,039	985
Income from investment property	10	12
Gains on asset disposals and the reversal of impairment losses on noncurrent assets	299	1,182
Miscellaneous other operating income	2,876	2,116
	12,438	**11,453**

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	2020	2019
Loss allowances on trade receivables including construction contracts	316	317
Loss allowances on other receivables and other assets	2,302	1,783
Losses from foreign currency hedging derivatives within hedge accounting	1,034	997
Expenses from other hedges	1,806	1,332
Foreign exchange losses	3,123	2,013
Expenses from cost allocations	743	563
Expenses for termination agreements	391	54
Losses on disposal of noncurrent assets	212	119
Miscellaneous other operating expenses	3,979	5,712
	13,904	**12,890**

Allowances on other receivables and other assets include allowances on receivables from long-term construction contracts amounting to €1.2 million (previous year: €0.3 million).

Expenses from other hedges include 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.

Miscellaneous other operating expenses consist, among other items, of 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	2020	2019
Share of profits of equity-accounted investments	3,159	3,501
of which from joint ventures	2,916	3,257
of which from associates	243	244
Share of losses of equity-accounted investments	403	152
of which from joint ventures	269	10
of which from associates	134	142
	2,756	**3,349**

8. Interest result

€ million	2020	2019
Interest income	**793**	**910**
Other interest and similar income	788	904
Income from valuation of interest derivatives	5	6
Interest expenses	**–2,291**	**–2,524**
Other interest and similar expenses	–1,499	–1,401
Expenses from valuation of interest derivatives	–23	–6
Interest expenses included in lease payments	–206	–217
Interest result on other liabilities	–104	–238
Net interest on the net defined benefit liability	–459	–662
Interest result	**–1,498**	**–1,614**

9. Other financial result

€ million	2020	2019
Income from profit and loss transfer agreements	23	19
Cost of loss absorption	–103	–72
Other income from equity investments	91	178
Other expenses from equity investments	–433	–374
Income from marketable securities and loans	–230	27
Realized income of loan receivables and payables in foreign currency	1,097	877
Realized expenses of loan receivables and payables in foreign currency	–1,620	–980
Gains and losses from remeasurement and impairment of financial instruments	–61	228
Gains and losses from fair value changes of hedging instruments/derivatives not included in hedge accounting	1,950	–240
Gains and losses from fair value changes of hedging instruments/derivatives included in hedge accounting	20	0
Other financial result	**733**	**–339**

Gains and losses from changes in the fair value of hedges/derivatives to which hedge accounting is not applied relate primarily to gains on the measurement and realization of forward purchase agreements for new shares in QuantumScape Corporation in an amount of €1.4 billion. See the “Key Events” section for more information.

10. Income tax income/expense

COMPONENTS OF TAX INCOME AND EXPENSE

€ million	2020	2019
Current tax expense, Germany	940	1,473
Current tax expense, abroad	2,210	2,673
Current income tax expense	**3,150**	**4,147**
of which prior-period income (–)/expense (+)	299	32
Deferred tax income (–)/expense (+), Germany	–1,026	115
Deferred tax income (–)/expense (+), abroad	719	65
Deferred tax income (–)/expense (+)	**–307**	**180**
Income tax income/expense	**2,843**	**4,326**

The statutory corporation tax rate in Germany for the 2020 assessment period was 15%. Including trade tax and the solidarity surcharge, this resulted in an aggregate tax rate of 30.0% (previous year: 29.8%).

A tax rate of 30.0% (previous year: 29.8%) was used to measure deferred taxes in the German consolidated tax group.

The local income tax rates applied to companies outside Germany vary, as in the previous year, 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 2020 of €392 million (previous year: €692 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, 2020	Dec. 31, 2019
Indefinitely to be carried forward	15,024	14,498
Carried forward within 10 years	3,215	568
Carried forward from 10 to 20 years	4,849	5,579
Total	**23,088**	**20,645**

€ million	EXPIRY OF UNUSABLE TAX LOSS CARRYFORWARDS	
	Dec. 31, 2020	Dec. 31, 2019
Non-expiring tax loss carryforwards	4,584	5,919
Expiry within 10 years	2,180	473
Expiry from 10 to 20 years	2,164	1,743
Expiry over 20 years	11	62
Total	**8,939**	**8,197**

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 €55 million (previous year: €36 million). Deferred tax expense was reduced by €134 million (previous year: €66 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 €470 million (previous year: €58 million). Deferred tax income resulting from the reversal of a write-down of deferred tax assets amounts to €36 million (previous year: €35 million).

Tax credits granted by various countries amounted to €376 million (previous year: €378 million).

No deferred tax assets were recognized for deductible temporary differences of €899 million (previous year: €897 million) and for tax credits of €105 million (previous year: €138 million) that would expire in the next 20 years.

In accordance with IAS 12.39, deferred tax liabilities of €166 million (previous year: €231 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 €54 million at Group level (previous year: €116 million).

Deferred tax assets of €12,591 million (previous year: €1,006 million) were recognized without being offset by deferred tax liabilities in the same amount. In fiscal year 2020, the deferred tax assets of companies within the German tax group recognized due to positive results in the past 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.

€7,997 million (previous year: €7,820 million) of the deferred taxes recognized in the balance sheet was credited to equity and relates to other comprehensive income. €53 million (previous year: €53 million) of this figure is attributable to noncontrolling interests. In fiscal year 2020, deferred tax income of €73 million from the remeasurement of pension plans directly through equity was reclassified within equity. The classification of changes in deferred taxes is presented in the statement of comprehensive income.

In fiscal year 2020, tax effects of €5 million resulting from equity transaction costs were recognized in equity.

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:

	DEFERRED TAX ASSETS		DEFERRED TAX LIABILITIES	
€ million	Dec. 31, 2020	Dec. 31, 2019	Dec. 31, 2020	Dec. 31, 2019
Intangible assets	655	267	10,811	10,555
Property, plant and equipment, and lease assets	5,599	5,576	8,150	8,493
Noncurrent financial assets	17	18	97	43
Inventories	2,317	2,348	893	821
Receivables and other assets (including Financial Services Division)	1,858	2,270	10,236	9,670
Other current assets	4,480	3,768	242	7
Pension provisions	10,285	9,013	27	52
Liabilities and other provisions	13,284	13,358	5,156	4,167
Loss allowances on deferred tax assets from temporary differences	–499	–141	–	–
Temporary differences, net of loss allowances	37,997	36,478	35,611	33,809
Tax loss carryforwards, net of loss allowances	3,465	3,068	–	–
Tax credits, net of loss allowances	271	239	–	–
Value before consolidation and offset	**41,733**	**39,786**	**35,611**	**33,809**
of which attributable to noncurrent assets and liabilities	27,924	26,307	28,085	26,736
Offset	31,172	29,627	31,172	29,627
Consolidation	2,925	2,947	451	826
Amount recognized	**13,486**	**13,106**	**4,890**	**5,007**

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 2020 of €2,843 million (previous year: €4,326 million) was €657 million lower (previous year: €1,144 million) than the expected tax expense of €3,500 million that would have resulted from application of a tax rate for the Group of 30.0% (previous year: 29.8%) to the earnings before tax of the Group.

RECONCILIATION OF EXPECTED TO EFFECTIVE INCOME TAX

€ million	2020	2019
Profit before tax	11,667	18,356
Expected income tax income (–)/expense (+) (tax rate 30.0%; previous year: 29.8%)	**3,500**	**5,470**
Reconciliation:		
Effect of different tax rates outside Germany	–364	–843
Proportion of taxation relating to:		
tax-exempt income	–1,501	–1,124
expenses not deductible for tax purposes	540	509
effects of loss carryforwards	520	163
permanent differences	65	51
Tax credits	–117	–54
Prior-period tax expense	–211	–151
Effect of tax rate changes	54	116
Nondeductible withholding tax	419	359
Other taxation changes	–62	–170
Effective income tax expense	**2,843**	**4,326**
Effective tax rate in %	24.4	23.6

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 2020 and 2019 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, preferred shares are entitled to a €0.06 higher dividend than ordinary shares.

		2020	2019
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	8,824	14,029
Earnings attributable to noncontrolling interests	€ million	–43	143
Earnings attributable to Volkswagen AG hybrid capital investors	€ million	533	540
Earnings attributable to Volkswagen AG shareholders	€ million	8,334	13,346
of which basic/diluted earnings attributable to ordinary shares	€ million	4,898	7,849
of which basic/diluted earnings attributable to preferred shares	€ million	3,435	5,497
Earnings per ordinary share – basic/diluted	€	16.60	26.60
Earnings per preferred share – basic/diluted	€	16.66	26.66

Balance sheet disclosures

12. Intangible assets

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**

CHANGES IN INTANGIBLE ASSETS IN THE PERIOD JANUARY 1 TO DECEMBER 31, 2020

€ 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, 2020	**16,878**	**23,247**	**6,188**	**36,895**	**9,889**	**93,098**
Foreign exchange differences	33	77	–77	–299	–281	–548
Changes in consolidated Group	–	31	8	15	56	111
Additions	–	–	4,576	1,897	1,038	7,511
Transfers	–	–	–4,150	4,150	–58	–58
Disposals	–	37	107	1,341	310	1,795
Balance at Dec. 31, 2020	**16,911**	**23,318**	**6,438**	**41,316**	**10,334**	**98,317**
Amortization and impairment						
Balance at Jan. 1, 2020	**86**	**–**	**45**	**19,053**	**7,700**	**26,884**
Foreign exchange differences	–5	–	0	–172	–232	–409
Changes in consolidated Group	–	–	–	–	9	9
Additions to cumulative amortization	3	–	–	4,514	733	5,249
Additions to cumulative impairment losses	–	37	55	75	62	229
Transfers	–	–	–6	7	0	1
Disposals	–	37	–	1,344	226	1,606
Reversal of impairment losses	–	–	7	–	0	7
Balance at Dec. 31, 2020	**83**	**–**	**87**	**22,133**	**8,046**	**30,349**
Carrying amount at Dec. 31, 2020	**16,828**	**23,318**	**6,351**	**19,183**	**2,288**	**67,968**

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	2020	2019
Brand names by operating segment		
Porsche	13,823	13,823
Scania Vehicles and Services	971	932
MAN Truck & Bus	1,127	1,127
MAN Energy Solutions	415	415
Ducati	404	404
Other	89	93
	16,828	**16,793**
Goodwill by operating segment		
Porsche	18,825	18,825
Scania Vehicles and Services	2,808	2,699
MAN Truck & Bus	587	587
MAN Energy Solutions	263	265
Ducati	290	290
ŠKODA	155	160
Porsche Holding Salzburg	130	151
Other	260	271
	23,318	**23,247**

The impairment test for recognized goodwill and brand names is based on value in use, which has been determined at the level of the respective brand. In this process, the WACC rates, based on the risk-free rate of interest, a market risk premium and the cost of debt, are applied. For more information on the general approach and key assumptions, please refer to the details provided on intangible assets in the “Accounting policies” section.

Moreover, the following aspects were of significance for the brands with material recognized brand names and goodwill:

The planning of the Porsche cash-generating unit is based on a significant increase in the proportion of electric vehicles over the planning period and the implementation of further optimization measures.

Planning at Scania Vehicles and Services is based on the growing share of electric vehicles in the fleet, against a backdrop of market demand for electric models, which tend to be more expensive.

For MAN Truck & Bus, the planning assumes a continuous improvement in the operating result in the course of the detailed planning period.

For all cash-generating units, 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	2020	2019	%
Total research and development costs	13,885	14,306	–2.9
of which: capitalized development costs	6,473	5,171	25.2
Capitalization ratio in %	46.6	36.1	
Amortization of capitalized development costs	4,644	4,064	14.3
Research and development costs recognized in profit or loss	**12,056**	**13,199**	**–8.7**

13. Property, plant and equipment

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 Due to the initial application of IFRS 16, the values in the opening balance were adjusted.

CHANGES IN PROPERTY, PLANT AND EQUIPMENT IN THE PERIOD JANUARY 1 TO DECEMBER 31, 2020

€ 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, 2020	**43,531**	**50,090**	**81,997**	**7,526**	**183,143**
Foreign exchange differences	–907	–1,343	–1,765	–200	–4,214
Changes in consolidated Group	153	0	47	–32	168
Additions	1,914	1,281	3,935	4,410	11,540
Transfers	852	1,040	2,096	–3,883	105
Disposals	392	1,246	1,920	56	3,613
Balance at Dec. 31, 2020	**45,151**	**49,822**	**84,389**	**7,766**	**187,129**
Depreciation and impairment					
Balance at Jan. 1, 2020	**17,389**	**36,498**	**62,862**	**242**	**116,991**
Foreign exchange differences	–326	–973	–1,393	–9	–2,701
Changes in consolidated Group	34	9	28	–	71
Additions to cumulative depreciation	2,050	3,226	6,561	–	11,838
Additions to cumulative impairment losses	58	46	18	6	127
Transfers	115	–19	98	–193	2
Disposals	177	1,116	1,760	13	3,066
Reversal of impairment losses	0	6	7	3	16
Balance at Dec. 31, 2020	**19,142**	**37,665**	**66,408**	**30**	**123,245**
Carrying amount at Dec. 31, 2020	**26,009**	**12,158**	**17,981**	**7,736**	**63,884**

Government grants of €156 million (previous year: €146 million) were deducted from the cost of property, plant and equipment.

In connection with land and buildings, real property liens of €1,063 million (previous year: €1,221 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, 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 Due to the initial application of IFRS 16, the values in the opening balance were adjusted.

CHANGES IN LEASE ASSETS AND INVESTMENT PROPERTY IN THE PERIOD JANUARY 1 TO DECEMBER 31, 2020

€ million	Lease assets	Investment property	Total
Cost			
Balance at Jan. 1, 2020	**64,384**	**845**	**65,229**
Foreign exchange differences	–2,972	–23	–2,995
Changes in consolidated Group	15	–	15
Additions	24,772	27	24,799
Transfers	67	39	106
Disposals	19,139	19	19,159
Balance at Dec. 31, 2020	**67,127**	**869**	**67,996**
Depreciation and impairment			
Balance at Jan. 1, 2020	**15,446**	**307**	**15,753**
Foreign exchange differences	–975	–4	–979
Changes in consolidated Group	3	–	3
Additions to cumulative depreciation	8,645	17	8,662
Additions to cumulative impairment losses	764	1	765
Transfers	35	1	36
Disposals	7,282	11	7,293
Reversal of impairment losses	195	0	195
Balance at Dec. 31, 2020	**16,441**	**311**	**16,752**
Carrying amount at Dec. 31, 2020	**50,686**	**558**	**51,244**

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 €1,199 million (previous year: €1,206 million). Fair value is estimated using an investment method based on internal calculations (Level 3 of the fair value hierarchy). Operating expenses of €55 million (previous year: €56 million) were incurred for the maintenance of investment property in use. Expenses of €0.4 million (previous year: €0.1 million) were incurred for unused investment property.

Rental income from investment property amounted to €58 million in the fiscal year (previous year: €61 million).

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, 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.

CHANGES IN EQUITY-ACCOUNTED INVESTMENTS AND OTHER EQUITY INVESTMENTS IN THE PERIOD JANUARY 1 TO DECEMBER 31, 2020

€ million	Equity-accounted investments	Other equity investments	Total
Gross carrying amount			
Balance at Jan. 1, 2020	**8,639**	**2,616**	**11,255**
Foreign exchange differences	–49	–24	–73
Changes in consolidated Group	–756	–186	–943
Additions	3,756	488	4,244
Transfers	–	0	0
Disposals	196	50	246
Changes recognized in profit or loss	2,693	–3	2,690
Dividends[1]	–3,195	–	–3,195
Other changes recognized in other comprehensive income	–280	–8	–288
Balance at Dec. 31, 2020	**10,610**	**2,833**	**13,443**
Impairment losses			
Balance at Jan. 1, 2020	**470**	**714**	**1,183**
Foreign exchange differences	–5	–5	–10
Changes in consolidated Group	–108	57	–52
Additions	185	245	429
Transfers	–	–	–
Disposals	–	41	41
Reversal of impairment losses	11	1	12
Balance at Dec. 31, 2020	**531**	**968**	**1,499**
Carrying amount at Dec. 31, 2020	**10,080**	**1,865**	**11,945**

1 Dividends are shown before withholding tax.

Equity-accounted investments include joint ventures in the amount of €6,951 million (previous year: €5,851 million) and associates in the amount of €3,129 million (previous year: €2,318 million).

In the fiscal year, under additions to equity-accounted investments, an amount of €1.7 billion is attributable to the acquisition of shares in Argo AI, a total of €1.0 billion to the acquisition of additional shares in Volkswagen (Anhui) Automotive Company (formerly: JAC Volkswagen Automotive Company) and shares in Anhui Jianghuai Automobile Group Holdings; an amount of €0.5 billion relates to the capital increase at QuantumScape Corporation and the realization of a forward purchase transaction in this context. Further information on Argo AI and QuantumScape Corporation can be found in the “Key Events” section.

The main changes in the consolidated Group affecting equity-accounted investments in an amount of €–0.8 billion relate to the reclassification of shares in Volkswagen (Anhui) Automotive Company following its first-time consolidation.

Of the other changes recognized in other comprehensive income, €–239 million (previous year: €53 million) is attributable to joint ventures and €–41 million (previous year: €22 million) to associates. They are mainly the result of foreign exchange differences in the amount of €–319 million (previous year: €94 million), pension plan remeasurements in the amount of €103 million (previous year: €1 million) and fair value measurement of cash flow hedges in the amount of €16 million (previous year: €–27 million).

16. Noncurrent and current financial services receivables

€ million	Carrying amount Current	Carrying amount Noncurrent	Carrying amount Dec. 31, 2020	Fair value Dec. 31, 2020	Carrying amount Current	Carrying amount Noncurrent	Carrying amount Dec. 31, 2019	Fair value Dec. 31, 2019
Receivables from financing business								
Customer financing	26,758	46,157	72,916	75,296	22,873	49,175	72,048	73,248
Dealer financing	12,435	1,994	14,428	14,400	16,781	2,512	19,293	19,270
Direct banking	307	7	314	315	305	5	310	310
	39,500	**48,157**	**87,658**	**90,010**	**39,958**	**51,692**	**91,650**	**92,827**
Receivables from operating leases	379	–	379	379	285	–	285	285
Receivables from finance leases	18,127	34,408	52,534	54,604	18,371	35,281	53,652	54,742
	58,006	**82,565**	**140,571**	**144,994**	**58,615**	**86,973**	**145,588**	**147,855**

The receivables from customer financing and finance leases contained in financial services receivables of €140.6 billion (previous year: €145.6 billion) increased by €21 million (previous year: increased by €2 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, €33 million (previous year: €181 million) was furnished as collateral for financial liabilities and contingent liabilities.

The receivables from dealer financing include €35 million (previous year: €22 million) receivable from unconsolidated affiliated companies.

17. Noncurrent and current other financial assets

€ million	Carrying amount			Carrying amount		
	Current	Noncurrent	Dec. 31, 2020	Current	Noncurrent	Dec. 31, 2019
Positive fair values of derivative financial instruments	2,616	3,435	6,051	1,622	1,628	3,250
Receivables from loans, bonds, profit participation rights (excluding interest)	6,421	3,568	9,988	6,639	3,278	9,917
Miscellaneous financial assets	4,197	832	5,029	3,955	646	4,601
	13,234	**7,834**	**21,068**	**12,216**	**5,553**	**17,769**

Other financial assets include receivables from related parties of €9.7 billion (previous year: €9.7 billion). Other financial assets amounting to €124 million (previous year: €244 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, miscellaneous financial assets include receivables from restricted deposits that serve as collateral (mainly under asset-backed securities transactions).

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

€ million	Dec. 31, 2020	Dec. 31, 2019
Transactions for hedging		
foreign currency risk from assets using fair value hedges	44	39
foreign currency risk from liabilities using fair value hedges	14	36
interest rate risk using fair value hedges	819	662
interest rate risk using cash flow hedges	11	13
foreign currency and price risk from future cash flows (cash flow hedges)	2,247	785
Hedging transactions Total	**3,134**	**1,535**
Assets related to derivatives not included in hedging relationships	2,917	1,715
Total	**6,051**	**3,250**

Positive fair values of €0 million (previous year: €6 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

€ million	CARRYING AMOUNT			CARRYING AMOUNT		
	Current	Noncurrent	Dec. 31, 2020	Current	Noncurrent	Dec. 31, 2019
Other recoverable income taxes	4,063	1,058	5,121	4,244	806	5,050
Miscellaneous receivables	3,318	1,810	5,128	3,028	1,916	4,945
	7,381	**2,867**	**10,248**	**7,272**	**2,722**	**9,995**

Miscellaneous receivables include assets to fund post-employment benefits in the amount of €41 million (previous year: €65 million). This item also includes the share of the technical provisions attributable to reinsurers amounting to €46 million (previous year: €58 million).

Current other receivables are predominantly non-interest-bearing.

Other receivables include contingent receivables from long-term construction contracts recognized in accordance with project progress. They correspond to the contract assets recognized under contracts with customers and changed as follows:

€ million	2020	2019
Contingent construction contract receivables Balance at Jan. 1	**314**	**352**
Additions and disposals	64	–36
Changes in consolidated Group	–	–
Change in valuation allowances	10	1
Classified as held for sale	–	4
Changes in estimates and assumptions as well as contract modifications	–	–
Foreign exchange differences	0	2
Contingent construction contract receivables at Dec. 31	**389**	**314**

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, 2020, costs to obtain contracts amounting to €63 million (previous year: €65 million) were recognized as assets. In 2020, amortization charges on capitalized costs to obtain contracts amounted to €23 million (previous year: €13 million). No impairment losses were recognized on capitalized costs to obtain contracts in 2020 and 2019.

19. Tax assets

€ million	CARRYING AMOUNT			CARRYING AMOUNT		
	Current	Noncurrent	Dec. 31, 2020	Current	Noncurrent	Dec. 31, 2019
Deferred tax assets	–	13,486	13,486	–	13,106	13,106
Tax receivables	1,186	376	1,563	1,190	341	1,531
	1,186	**13,862**	**15,049**	**1,190**	**13,447**	**14,637**

Deferred tax assets include an amount of €7,405 million (previous year: €7,490 million) arising from recognition and measurement differences between IFRS carrying amounts and the tax base, which will reverse within one year.

20. Inventories

€ million	Dec. 31, 2020	Dec. 31, 2019
Raw materials, consumables and supplies	6,966	6,099
Work in progress	4,022	4,110
Finished goods and purchased merchandise	27,204	30,617
Current lease assets	5,337	5,699
Prepayments	288	222
Hedges on inventories	6	–6
	43,823	**46,742**

At the same time as the relevant revenue was recognized, inventories in the amount of €170 billion (previous year: €192 billion) were included in cost of sales. Loss allowances (excluding lease assets) recognized as expenses in the reporting period amounted to €697 million (previous year: €672 million). Vehicles with a value amounting to €320 million (previous year: €340 million) were assigned as collateral for partial retirement obligations.

21. Trade receivables

€ million	Dec. 31, 2020	Dec. 31, 2019
Trade receivables from		
third parties	12,706	13,445
unconsolidated subsidiaries	181	180
joint ventures	3,305	4,283
associates	50	32
other investees and investors	2	1
	16,243	**17,941**

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

22. Marketable securities

The marketable securities serve to safeguard liquidity. They are mainly short-term fixed-income securities and shares. Most securities are measured at fair value. Current securities amounting to €661 million (previous year: €639 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, 2020	Dec. 31, 2019
Bank balances	33,403	25,264
Checks, cash-in-hand, bills and call deposits	507	659
	33,909	**25,923**

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.

CHANGE IN ORDINARY AND PREFERRED SHARES AND SUBSCRIBED CAPITAL

	SHARES		€	
	2020	2019	2020	2019
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 €4,028 million are eligible for distribution following the transfer of €3,165 million to the revenue reserves. The Board of Management and Supervisory Board will propose to the Annual General Meeting that a total dividend of €2,419 million, i.e. €4.80 per ordinary share and €4.86 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 2020.

HYBRID CAPITAL

In June 2020, Volkswagen AG placed two unsecured subordinated hybrid notes with an aggregate principal amount of €3.0 billion via a subsidiary, Volkswagen International Finance N.V., Amsterdam, the Netherlands (VIF). The hybrid notes are perpetual, but may be called unilaterally by VIF. The first possible call date for the first note (€1.5 billion and a coupon of 3.500%) is after five years, and the first possible call date for the second note (€1.5 billion and a coupon of 3.875%) is after nine years. This resulted in an inflow of cash funds amounting to €2,984 million, less transaction costs of €16 million. Additionally, there were noncash effects from the deferral of taxes amounting to €5 million.

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 is called.

NONCONTROLLING INTERESTS

As of December 31, 2020, noncontrolling interests amounted to €1,734 million (previous year: €1,870 million). Most of the noncontrolling interests in equity arose as a result of the IPO of the TRATON GROUP in fiscal year 2019.

On February 28, 2020, Volkswagen AG announced that it was planning to increase its interest in AUDI AG from approximately 99.64% to 100%. On July 31, 2020, the Annual General Meeting of AUDI AG resolved to implement a squeeze-out under stock corporation law (see “Key events” section).

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

€ million	2020	2019
Equity interest in %[1]	10.28	10.28
Equity interest	1,495	1,640
Noncurrent assets	29,599	29,623
Current assets	14,401	16,728
Noncurrent liabilities	14,582	14,938
Current liabilities	15,459	16,664
Sales revenue	22,580	26,901
Earnings after tax	–161	1,517
Other comprehensive income, net of tax	–288	–316
Dividend paid to noncontrolling interest shareholders	1	116
Gross cash flow	1,970	3,433
Change in working capital	17	–2,346
Cash flows from operating activities	1,987	1,087
Cash flows from investing activities	–1,293	634
Net cash flow	694	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, 2020	Current	Noncurrent	Dec. 31, 2019
Bonds	25,909	66,717	92,626	19,789	68,839	88,629
Commercial paper and notes	16,146	21,380	37,526	18,103	20,147	38,250
Liabilities to banks	18,060	17,273	35,333	17,337	15,337	32,674
Deposits business	26,735	2,411	29,145	30,252	2,395	32,647
Loans and miscellaneous liabilities	794	1,909	2,702	1,429	1,629	3,058
Lease liabilities	1,005	5,119	6,124	1,002	5,208	6,210
	88,648	**114,809**	**203,457**	**87,912**	**113,556**	**201,468**

26. Noncurrent and current other financial liabilities

€ million	Carrying amount			Carrying amount		
	Current	Noncurrent	Dec. 31, 2020	Current	Noncurrent	Dec. 31, 2019
Negative fair values of derivative financial instruments	1,474	1,935	3,409	2,245	1,950	4,195
Interest payable	604	97	702	691	116	807
Miscellaneous financial liabilities	8,512	2,224	10,737	7,922	2,434	10,356
	10,590	**4,257**	**14,847**	**10,858**	**4,499**	**15,358**

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

€ million	Dec. 31, 2020	Dec. 31, 2019
Transactions for hedging		
foreign currency risk from assets using fair value hedges	39	107
foreign currency risk from liabilities using fair value hedges	39	5
interest rate risk using fair value hedges	116	97
interest rate risk using cash flow hedges	100	53
foreign currency and price risk from future cash flows (cash flow hedges)	1,284	2,172
Hedging transactions Total	**1,578**	**2,435**
Liabilities related to derivatives not included in hedging relationships	1,831	1,760
Total	**3,409**	**4,195**

Negative fair values of €101 million (previous year: €63 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, 2020	Current	Noncurrent	Dec. 31, 2019
Payments received on account of orders	7,484	5,541	13,024	7,474	5,202	12,676
Liabilities relating to						
other taxes	3,294	110	3,404	2,812	133	2,946
social security	616	112	727	610	162	772
wages and salaries	4,501	960	5,462	5,848	1,008	6,856
Miscellaneous liabilities	2,085	1,183	3,267	2,576	766	3,342
	17,979	**7,905**	**25,884**	**19,320**	**7,271**	**26,591**

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

€ million	2020	2019
Liabilities from advance payments received under contracts with customers at Jan. 1	**10,907**	**9,669**
Additions and disposals	847	1,245
Changes in consolidated Group	13	12
Classified as held for sale	–	167
Changes in estimates and assumptions as well as contract modifications	–	–
Foreign exchange differences	–369	148
Liabilities from advance payments received under contracts with customers at Dec. 31	**11,398**	**10,907**

28. Tax liabilities

	CARRYING AMOUNT			CARRYING AMOUNT		
€ million	Current	Noncurrent	Dec. 31, 2020	Current	Noncurrent	Dec. 31, 2019
Deferred tax liabilities	–	4,890	4,890	–	5,007	5,007
Provisions for taxes	2,213	3,292	5,505	1,876	2,991	4,867
Tax payables	340	–	340	408	–	408
	2,552	**8,181**	**10,734**	**2,283**	**7,998**	**10,282**

Deferred tax liabilities include an amount of €502 million (previous year: €387 million) arising from recognition and measurement differences between IFRS carrying amounts and the tax base, which will reverse 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 2020, they amounted to a total of €2,622 million (previous year: €2,565 million) in the Volkswagen Group. Of this figure, contributions to the compulsory state pension system in Germany amounted to €1,826 million (previous year: €1,796 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, from changes in assumptions, as well as from gains or losses on plan assets, excluding amounts included in net interest income or expenses. 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 €25 million for fiscal year 2021.

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 2020, €15 million (previous year: €18 million) was recognized as an expense for healthcare costs. The related carrying amount as of December 31, 2020 was €228 million (previous year: €266 million).

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

€ million	Dec. 31, 2020	Dec. 31, 2019
Present value of funded obligations	24,101	21,090
Fair value of plan assets	13,264	12,478
Funded status (net)	10,838	8,613
Present value of unfunded obligations	34,200	32,710
Amount not recognized as an asset because of the ceiling in IAS 19	2	2
Net liability recognized in the balance sheet	**45,040**	**41,324**
of which provisions for pensions	45,081	41,389
of which other assets	41	65

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 aforementioned 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	
%	2020	2019	2020	2019
Discount rate at December 31	0.70	1.09	1.70	2.30
Payroll trend	3.31	3.59	2.74	2.88[1]
Pension trend	1.49	1.50	2.50	2.68
Employee turnover rate	1.16	1.24	4.36	3.75
Annual increase in healthcare costs	–	–	5.30	5.56

1 Prior-year figures adjusted.

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 Corporate Bond index was taken as the basis for the obligations of German Group companies. Similar indices were used for foreign pension obligations.

Some steps in the calculation of the EUR discount rate were adjusted in the course of the fiscal year in order to better reflect the persistently low interest rates in the valuation technique. The adjustment resulted in an increase in the discount rate by 0.1 percentage points and, consequently, a €1.4 billion decrease in actuarial losses.

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	2020	2019
Net liability recognized in the balance sheet at January 1	**41,324**	**33,022**
Current service cost	2,215	1,555
Net interest expense	459	660
Actuarial gains (–)/losses (+) arising from changes in demographic assumptions	–420	–67
Actuarial gains (–)/losses (+) arising from changes in financial assumptions	4,393	8,689
Actuarial gains (–)/losses (+) arising from experience adjustments	–394	27
Income/expenses from plan assets not included in interest income	677	654
Change in amount not recognized as an asset because of the ceiling in IAS 19	0	21
Employer contributions to plan assets	929	969
Employee contributions to plan assets	–8	–9
Pension payments from company assets	885	873
Past service cost (including plan curtailments)	–99	–25
Gains (–) or losses (+) arising from plan settlements	7	2
Changes in consolidated Group	11	–3
Classified as held for sale	–	14
Other changes	25	–8
Foreign exchange differences from foreign plans	–1	–4
Net liability recognized in the balance sheet at December 31	**45,040**	**41,324**

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	2020	2019
Present value of obligations at January 1	**53,800**	**43,918**
Current service cost	2,215	1,555
Interest cost	631	921
Actuarial gains(–)/losses (+) arising from changes in demographic assumptions	–420	–67
Actuarial gains(–)/losses (+) arising from changes in financial assumptions	4,393	8,689
Actuarial gains(–)/losses (+) arising from experience adjustments	–394	27
Employee contributions to plan assets	17	19
Pension payments from company assets	885	873
Pension payments from plan assets	292	300
Past service cost (including plan curtailments)	–99	–25
Gains (–) or losses (+) arising from plan settlements	7	–8
Changes in consolidated Group	16	–7
Classified as held for sale	–	182
Other changes	–471	–2
Foreign exchange differences from foreign plans	–219	135
Present value of obligations at December 31	**58,301**	**53,800**

In fiscal year 2020, a pension plan in the USA funded by external plan assets was settled. The resulting decrease in the present value of the defined benefit obligation in the amount of €520 million is shown under other changes. The plan settlement led to a loss of €7 million.

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, 2020 € million	DEC. 31, 2020 Change in percent	DEC. 31, 2019 € million	DEC. 31, 2019 Change in percent
Discount rate	is 0.5 percentage points higher	52,604	–9.77	48,598	–9.67
	is 0.5 percentage points lower	64,981	11.46	59,888	11.32
Pension trend	is 0.5 percentage points higher	61,360	5.25	56,633	5.27
	is 0.5 percentage points lower	55,552	–4.71	51,258	–4.73
Payroll trend	is 0.5 percentage points higher	58,808	0.87	54,331	0.99
	is 0.5 percentage points lower	57,843	–0.79	53,319	–0.89
Longevity	increases by one year	60,385	3.57	55,719	3.57

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 21 years (previous year: 22 years).

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

€ million	2020	2019
Active members with pension entitlements	36,124	33,027
Members with vested entitlements who have left the Company	3,642	3,136
Pensioners	18,535	17,637
	58,301	**53,800**

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	2020	2019
Payments due within the next fiscal year	1,162	1,161
Payments due between two and five years	5,334	5,121
Payments due in more than five years	51,806	47,518
	58,301	**53,800**

Changes in plan assets are shown in the following table:

€ million	2020	2019
Fair value of plan assets at January 1	**12,478**	**10,920**
Interest income on plan assets determined using the discount rate	172	261
Income/expenses from plan assets not included in interest income	677	654
Employer contributions to plan assets	929	969
Employee contributions to plan assets	9	9
Pension payments from plan assets	291	299
Gains (+) or losses (–) arising from plan settlements	–	10
Changes in consolidated Group	5	–5
Classified as held for sale	–	167
Other changes	–496	7
Foreign exchange differences from foreign plans	–219	139
Fair value of plan assets at December 31	**13,264**	**12,478**

Other changes in fiscal year 2020 resulted primarily from the derecognition of plan assets in the context of the settlement of a pension plan in the USA funded by external plan assets.

The investment of the plan assets to cover future pension obligations resulted in income of €849 million (previous year: income of €915 million).

Employer contributions to plan assets are expected to amount to €851 million (previous year: €927 million) in the next fiscal year.

Plan assets are invested in the following asset classes:

€ million	DEC. 31, 2020			DEC. 31, 2019		
	Quoted prices in active markets	No quoted prices in active markets	Total	Quoted prices in active markets	No quoted prices in active markets	Total
Cash and cash equivalents	628	–	628	501	–	501
Equity instruments	264	–	264	401	–	401
Debt instruments	496	–	496	850	5	855
Direct investments in real estate	–	121	121	–	110	110
Derivatives	20	–6	14	15	–28	–13
Equity funds	3,640	15	3,655	2,653	20	2,673
Bond funds	6,011	133	6,144	5,729	128	5,857
Real estate funds	190	–	190	170	–	170
Other funds	1,315	28	1,344	1,225	22	1,247
Other instruments	48	360	408	83	594	676

Plan assets include €12 million (previous year: €14 million) invested in Volkswagen Group assets and €5 million (previous year: €14 million) in Volkswagen Group debt instruments.

The following amounts were recognized in the income statement:

€ million	2020	2019
Current service cost	2,215	1,555
Net interest on the net defined benefit liability	459	662
Past service cost (including plan curtailments)	–99	–25
Gains (–) or losses (+) arising from plan settlements	7	2
Net income (–) and expenses (+) recognized in profit or loss	**2,583**	**2,194**

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, 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
Balance at Jan. 1, 2020	**26,988**	**5,993**	**5,260**	**7,976**	**46,217**
Foreign exchange differences	–653	–56	–170	–222	–1,101
Changes in consolidated Group	18	16	0	522	556
Utilization	9,625	2,275	2,347	2,086	16,333
Additions/New provisions	10,890	2,707	1,781	4,393	19,771
Unwinding of discount/effect of change in discount rate	17	108	–20	0	105
Reversals	1,637	223	586	1,117	3,564
Balance at Dec. 31, 2020	**25,998**	**6,270**	**3,918**	**9,465**	**45,652**
of which current	12,394	2,174	2,037	6,359	22,964
of which noncurrent	13,604	4,096	1,881	3,107	22,688

1 Due to the initial application of IFRS 16, the values in the opening balance were adjusted.

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. Depending the jurisdiction concerned, they also include risk provisions for any non-compliance with legal emissions limits. Their measurement takes into account, among other things, the respective sales volume and the legally defined fee or the cost of acquiring emission rights from other manufacturers. Advantage has been taken of synergies between individual brands of the Volkswagen Group by establishing emission pools where possible.

Miscellaneous provisions additionally include provisions amounting to €1,265 million (previous year: €568 million) relating to the insurance business. The increase is mainly due to the expansion of the consolidated Group following an initial consolidation.

31. Trade payables

€ million	Dec. 31, 2020	Dec. 31, 2019
Trade payables to		
third parties	22,163	21,948
unconsolidated subsidiaries	186	222
joint ventures	156	375
associates	167	195
other investees and investors	3	5
	22,677	**22,745**

Other disclosures

32. IAS 23 (Borrowing Costs)

Capitalized borrowing costs amounted to €65 million (previous year: €68 million) and related mainly to capitalized development costs. An average cost of debt of 1.5% (previous year: 1.6%) was used as a basis for capitalization in the Volkswagen Group.

33. 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**

PRESENTATION OF AND CHANGES IN RIGHT-OF-USE ASSETS FROM LEASES FOR THE PERIOD FROM JANUARY 1 TO DECEMBER 31, 2020

€ 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, 2020	**6,253**	**44**	**738**	**7,034**
Foreign exchange differences	–210	–3	–8	–221
Changes in consolidated group	47	–	7	54
Additions	1,240	16	102	1,358
Transfers	–24	–1	2	–23
Disposals	297	1	97	394
Balance at Dec. 31, 2020	**7,009**	**56**	**744**	**7,809**
Depreciation and impairment				
Balance at Jan. 1, 2020	**848**	**23**	**126**	**998**
Foreign exchange differences	–37	–2	–3	–43
Changes in consolidated group	5	–	1	6
Additions to cumulative depreciation	896	8	158	1,062
Additions to cumulative impairment losses	27	–	1	27
Transfers	0	0	–1	–1
Disposals	130	0	78	209
Reversal of impairment losses	0	0	0	0
Balance at Dec. 31, 2020	**1,608**	**28**	**204**	**1,840**
Carrying amount at Dec. 31, 2020	**5,401**	**27**	**540**	**5,969**

Subleases of right-of-use assets generated income of €16 million (previous year: €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, 2020	Dec. 31, 2019
Financial liabilities – Noncurrent	5,119	5,208
Financial liabilities – Current	1,005	1,002
Lease liabilities – Total	**6,124**	**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, 2020	1,005	2,591	2,528	6,124
Lease liabilities at Dec. 31, 2019	1,002	2,613	2,595	6,210

Interest expenses of €216 million (previous year: €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 €285 million (previous year: €270 million) in the fiscal year. This figure does not include any expenses for short-term leases, which totaled €268 million (previous year: €333 million) in the fiscal year. Variable lease expenses not included in the measurement of lease liabilities accounted for €1 million (previous year: €1 million) in the fiscal year.

Leases gave rise to cash outflows totaling €1,865 million (previous year: €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	2020	2019
Future cash outflows to which the lessee is potentially exposed		
Variable lease payments	0	1
Residual value guarantees	0	0
Extension options	3,350	3,575
Termination options	8	3
Obligations under leases not yet commenced	270	359
	3,628	**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 €51,244 million at the end of the fiscal year (previous year: €49,476 million). While €558 million (previous year: €538 million) is attributable to investment property, assets separately reported as lease assets in the balance sheet amount to €50,686 million (previous year: €48,938 million). They relate primarily to vehicles in an amount of €50,605 million (previous year: €48,853 million) as well as land, land rights and buildings, including buildings on third-party land, in an amount of €79 million (previous year: €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:

DISCLOSURE AS OF DECEMBER 31, 2019

€ million	2020	2021	2022	2023	2024	From 2025	Total
Lease payments[1]	8,138	5,526	3,139	829	338	344	**18,315**

1 Prior-year figures adjusted.

DISCLOSURE AS OF DECEMBER 31, 2020

€ million	2021	2022	2023	2024	2025	From 2026	Total
Lease payments	7,893	5,636	3,178	1,220	452	362	**18,741**

BREAKDOWN OF INCOME FROM OPERATING LEASES

€ million	2020	2019
Lease income	12,429	12,014
Income from variable lease payments	7	13
Total	**12,436**	**12,027**

2.2 FINANCE LEASES

Interest income from the net investment in the leases amounted to €2.4 billion (previous year: €2.4 billion) in the fiscal year. Furthermore, a selling profit from the finance leases in the amount of €0.8 billion (previous year: €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, 2020	Dec. 31, 2019
Non-discounted lease payments	**53,162**	**54,302**
Non-guaranteed residual value	4,255	4,112
Unearned interest income	–3,468	–3,789
Loss allowance on lease receivables	–1,414	–971
Net investment	**52,534**	**53,652**

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

DISCLOSURE AS OF DECEMBER 31, 2019

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

DISCLOSURE AS OF DECEMBER 31, 2020

€ million	2021	2022	2023	2024	2025	From 2026	Total
Lease payments	19,059	15,299	12,051	5,684	612	456	**53,162**

34. 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, 2020	Dec. 31, 2019
Financial assets at fair value through profit or loss	21,898	16,331
Financial assets at fair value through other comprehensive income (debt instruments)	3,545	3,139
Financial assets at fair value through other comprehensive income (equity instruments)	152	68
of which classified as held for sale	–	3
Financial assets measured at amortized cost	151,497	149,203
of which classified as held for sale	–	158
Financial liabilities at fair value through profit or loss	2,403	1,760
Financial liabilities measured at amortized cost	230,904	229,229
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, 2019

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

RECONCILIATION OF BALANCE SHEET ITEMS TO CLASSES OF FINANCIAL INSTRUMENTS AS OF DECEMBER 31, 2020

€ 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, 2020
	Carrying amount	Carrying amount	Fair value	Carrying amount	Carrying amount	
Noncurrent assets						
Equity-accounted investments	–	–	–	–	10,080	10,080
Other equity investments	177	–	–	–	1,688	1,865
Financial services receivables	279	47,879	50,231	–	34,408	82,565
Other financial assets	1,512	4,105	4,220	2,217	–	7,834
Tax receivables	–	–	–	–	376	376
Current assets						
Trade receivables	52	16,191	16,191	–	–	16,243
Financial services receivables	26	39,474	39,474	–	18,506	58,006
Other financial assets	2,402	9,915	9,915	917	–	13,234
Tax receivables	–	9	9	–	1,177	1,186
Marketable securities	21,146	15	15	–	–	21,162
Cash, cash equivalents and time deposits	–	33,909	33,909	–	–	33,909
Noncurrent liabilities						
Noncurrent financial liabilities	–	109,690	115,282	–	5,119	114,809
Other noncurrent financial liabilities	1,188	2,322	2,317	748	–	4,257
Current liabilities						
Current financial liabilities	–	87,643	87,643	–	1,005	88,648
Trade payables	–	22,677	22,677	–	–	22,677
Other current financial liabilities	1,215	8,545	8,545	831	–	10,590
Tax payables	–	38	38	–	301	340

The carrying amount of lease receivables was €52.9 billion (previous year: €53.9 billion) and their fair value (fair value hierarchy level 3) was €55.0 billion (previous year: €55.0 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, 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				
Trade receivables	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

€ million	Dec. 31, 2020	Level 1	Level 2	Level 3
Noncurrent assets				
Other equity investments	177	40	0	137
Financial services receivables	279	–	–	279
Other financial assets	1,512	–	784	729
Current assets				
Trade receivables	52	–	–	52
Financial services receivables	26	–	–	26
Other financial assets	2,402	–	2,242	160
Marketable securities	21,146	21,060	86	–
Noncurrent liabilities				
Other noncurrent financial liabilities	1,188	–	644	543
Current liabilities				
Other current financial liabilities	1,215	–	851	364

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

€ 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**

€ million	Dec. 31, 2020	Level 1	Level 2	Level 3
Fair value of financial assets measured at amortized cost				
Financial services receivables	89,705	–	–	89,705
Trade receivables	16,191	–	16,191	–
Other financial assets	14,135	466	4,834	8,834
Tax receivables	9	–	9	–
Cash, cash equivalents and time deposits	33,909	33,721	188	–
Fair value of financial assets measured at amortized cost	**153,950**	**34,187**	**21,223**	**98,540**
Fair value of financial liabilities measured at amortized cost				
Trade payables	22,677	–	22,677	–
Financial liabilities	202,925	41,909	161,016	–
Other financial liabilities	10,862	691	9,851	320
Tax payables	38	–	38	–
Fair value of financial liabilities measured at amortized cost	**236,502**	**42,600**	**193,582**	**320**

DERIVATIVE FINANCIAL INSTRUMENTS WITHIN HEDGE ACCOUNTING BY LEVEL

€ 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	–

€ million	Dec. 31, 2020	Level 1	Level 2	Level 3
Noncurrent assets				
Other financial assets	2,217	–	2,217	–
Current assets				
Other financial assets	917	–	917	–
Noncurrent liabilities				
Other noncurrent financial liabilities	748	–	748	–
Current liabilities				
Other current financial liabilities	831	–	728	102

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. Equity instruments are measured primarily using the relevant business plans and entity-specific discount rates. 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	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	–	–

€ million	Financial assets measured at fair value	Financial liabilities measured at fair value
Balance at Jan. 1, 2020	**913**	**765**
Foreign exchange differences	–39	–9
Changes in consolidated Group	66	–
Total comprehensive income	433	551
recognized in profit or loss	425	452
recognized in other comprehensive income	8	99
Additions (purchases)	312	–
Sales and settlements	–203	–323
Transfers into Level 2	–100	–77
Balance at Dec. 31, 2020	**1,383**	**908**
Total gains or losses recognized in profit or loss	**425**	**–452**
Net other operating expense/income	407	–452
of which attributable to assets/liabilities held at the reporting date	313	–370
Financial result	18	0
of which attributable to assets/liabilities held at the reporting date	7	0

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, 2020, earnings after tax would have been €263 million (previous year: €168 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 as of December 31, 2020 had been 10% higher, earnings after tax would have been €4 million (previous year: €3 million) higher. If the assumed enterprise values as of December 31, 2020 had been 10% lower, earnings after tax would have been €4 million (previous year: €3 million) lower.

Residual value risks result from hedging agreements with dealerships under which earnings effects caused by market-related fluctuations in residual values that arise from buy-back 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, 2020, earnings after tax would have been €382 million (previous year: €354 million) higher. If the prices of the used cars covered by the residual value protection model had been 10% lower as of December 31, 2020, earnings after tax would have been €419 million (previous year: €374 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, 2020, earnings after tax would have been €2 million (previous year: €3 million) lower. If the risk-adjusted interest rates as of December 31, 2020 had been 100 basis points lower, earnings after tax would have been €2 million (previous year: €3 million) higher.

If the corresponding vehicle prices used in the vehicle financing programs had been 10% higher as of December 31, 2020, earnings after tax would have been €2 million (previous year: €5 million) higher. If the corresponding vehicle prices used in the vehicle financing programs had been 10% lower as of December 31, 2020, earnings after tax would have been €2 million (previous year: €5 million) lower.

If the result of operations of equity investments measured at fair value had been 10% better as of December 31, 2020, equity would have been €5.8 million (previous year: €0.2 million) higher, and earnings after tax would have been €2.1 million (previous year: €– million) higher. If the result of operations of equity investments measured at fair value had been 10% worse, equity would have been €5.8 million (previous year: €0.2 million) lower, and earnings after tax would have been €2.1 million (previous year: €– 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.

				AMOUNTS THAT ARE NOT SET OFF IN THE BALANCE SHEET		
€ 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	Financial instruments	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

				AMOUNTS THAT ARE NOT SET OFF IN THE BALANCE SHEET		
€ 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	Financial instruments	Collateral received	Net amount at Dec. 31, 2020
Derivatives	6,216	–165	6,051	–1,770	–35	4,246
Financial services receivables	141,185	–614	140,571	–	–98	140,473
Trade receivables	16,253	–10	16,243	0	–	16,243
Marketable securities	21,162	–	21,162	–	–	21,162
Cash, cash equivalents and time deposits	33,909	–	33,909	–	–	33,909
Other financial assets	15,203	–	15,203	0	–	15,203

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

€ 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, 2020
Derivatives	3,417	–8	3,409	–1,769	–2	1,638
Financial liabilities	203,457	–	203,457	–	–1,955	201,502
Trade payables	22,687	–10	22,677	0	–	22,677
Other financial liabilities	12,247	–771	11,476	–	–	11,476

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 €38 million (previous year: €19 million).

ASSET-BACKED SECURITIES TRANSACTIONS

Asset-backed securities transactions with financial assets amounting to €30.6 billion (previous year adjusted: €30.8 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 €34.5 billion (previous year: €34.1 billion). Collateral of €48.9 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.

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 10% 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, 2020, the fair value of the assigned receivables still recognized in the balance sheet was €35.4 billion (previous year: €34.8 billion). The fair value of the related liabilities was €30.6 billion (previous year adjusted: €30.7 billion) at that reporting date.

The Volkswagen Bank GmbH Group is 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	2020	2019
Financial instruments at fair value through profit or loss	2,309	–242
Financial assets measured at amortized cost	2,899	6,282
Financial assets at fair value through other comprehensive income (debt instruments)	4	7
Financial liabilities measured at amortized cost	–3,242	–4,420
	1,970	**1,628**

Net gains and losses in the category "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	2020	2019
Financial assets and liabilities measured at amortized cost		
Interest income	6,982	7,563
Interest expenses	3,707	4,120
Financial assets (debt instruments) and liabilities measured at fair value through other comprehensive income		
Interest income	4	8
Interest expenses	–	–

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

€ million	2020	2019
Gains arising from the derecognition of financial assets measured at amortized cost	810	845
Losses arising from the derecognition of financial assets measured at amortized cost	–1,527	–978
	–717	**–133**

In the fiscal year, €2 million (previous year: €2 million) was recognized as an expense and €29 million (previous year: €44 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.

35. 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 the redemption of bonds, inflows from capital increases and the 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 non-cash transactions and are therefore eliminated.

In the fiscal year, cash flows from operating activities include interest received amounting to €7,192 million (previous year: €7,640 million) and interest paid amounting to €2,677 million (previous year: €2,604 million). Cash flows from operating activities also include dividend payments (net of withholding tax) received from joint ventures and associates of €3,098 million (previous year: €3,679 million).

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

€ million	Dec. 31, 2020	Dec. 31, 2019
Cash, cash equivalents and time deposits as reported in the balance sheet	33,909	25,923
Time deposits	–477	–1,593
Cash and cash equivalents as reported in the cash flow statement	**33,432**	**24,329**

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, 2019	Cash-effective changes	NON-CASH CHANGES Foreign exchange differences	Changes in consolidated Group	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 Due to the initial application of IFRS 16, the values in the opening balance were adjusted.
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.

€ million	Jan. 1, 2020	Cash-effective changes	NON-CASH CHANGES Foreign exchange differences	Changes in consolidated Group	Other changes	Dec. 31, 2020
Bonds	88,629	5,366	–979	–	–389	92,626
Other total third-party borrowings	106,630	3,404	–5,638	267	44	104,707
Finance lease liabilities[1]	6,210	–1,100	–195	39	1,170	6,124
Total third-party borrowings	**201,468**	**7,670**	**–6,812**	**306**	**825**	**203,457**
Other financial assets and liabilities	–81	172	132	–	–202	21
Financial assets and liabilities in financing activities	**201,387**	**7,843**	**–6,680**	**306**	**622**	**203,478**

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

36. 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 the control of risks from financial instruments. The Group Board of Management Committee for Risk Management 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 MAN Energy Solutions, Porsche Holding Salzburg and TRATON GROUP 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, see the section on financial risks in the Report on Risks and Opportunities of the group management report.

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 €1.2 billion (previous year: €1.3 billion). Collateral of €237 million (previous year: €285 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 default risk is determined by the guarantee amount. 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 6.0% at the end of 2020 compared with 5.2 % at the end of 2019. 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 26.1% at the end of 2020, as against 34.2 % at the end of 2019. 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, 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 ASSETS MEASURED AT AMORTIZED COST

€ million	Stage 1	Stage 2	Stage 3	Simplified approach	Stage 4	Total
Carrying amount at Jan. 1, 2020	**913**	**677**	**893**	**760**	**94**	**3,336**
Foreign exchange differences	–33	–32	–89	–29	–5	–189
Changes in consolidated group	13	–2	24	2	–	37
Newly extended/purchased financial assets (additions)	415	–	–	252	18	685
Other changes within a stage	79	69	–35	16	5	134
Transfers to						
Stage 1	22	–61	–14	–	–	–53
Stage 2	–126	320	–42	–	–	152
Stage 3	–167	–88	513	–	–	258
Financial instruments derecognized during the period (disposals)	–197	–121	–170	–154	–6	–647
Utilization	–	–	–257	–33	–21	–311
Changes to models or risk parameters	9	23	1	1	2	36
Carrying amount at Dec. 31, 2020	**929**	**786**	**825**	**814**	**87**	**3,440**

The gross carrying amount of assets measured at amortized cost is €136.0 billion (previous year: €137.7 billion), of which €16.7 billion (previous year: €18.5 billion) is attributable to the simplified approach.

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 FINANCIAL GUARANTEES AND CREDIT COMMITMENTS

€ million	Stage 1	Stage 2	Stage 3	Stage 4	Total
Carrying amount at Jan. 1, 2020	**17**	**2**	**0**	**0**	**18**
Foreign exchange differences	–1	0	0	0	–1
Changes in consolidated group	0	–	–	–	0
Newly extended/purchased financial assets (additions)	8	0	0	0	8
Other changes within a stage	1	1	0	0	2
Transfers to					
Stage 1	0	0	–	–	0
Stage 2	0	1	–	–	1
Stage 3	0	0	0	–	0
Financial instruments derecognized during the period (disposals)	–4	–1	–	0	–5
Utilization	–	–	–1	–	–1
Changes to models or risk parameters	0	0	–	–	0
Carrying amount at Dec. 31, 2020	**19**	**3**	**0**	**0**	**22**

CHANGES IN LOSS ALLOWANCE FOR LEASE RECEIVABLES AND CONTRACT ASSETS

	SIMPLIFIED APPROACH	
€ million	2020	2019
Carrying amount at Jan. 1	**1,312**	**1,193**
Foreign exchange differences	–29	14
Changes in consolidated group	0	6
Newly extended/purchased financial assets (additions)	377	249
Other changes	225	261
Financial instruments derecognized during the period (disposals)	–314	–282
Utilization	–107	–88
Changes to models or risk parameters	51	–42
Classified as held for sale	–	0
Carrying amount at Dec. 31	**1,516**	**1,312**

The gross carrying amounts of lease receivables and contract assets declined from €55.6 billion to €54.8 billion in the fiscal year under review.

The loss allowance on assets measured at fair value in Stage 1 rose by €0 million (previous year: €2 million) in fiscal year 2020, resulting in a closing balance of €3 million (previous year: €3 million). Of this amount, €2 million is attributable to Stage 1 (previous year: €2 million) and €1 million to Stage 2 (previous year €1 million).

The amount contractually outstanding for financial assets that have been derecognized in the current year and are still subject to enforcement proceedings is €221 million (previous year: €331 million).

MODIFICATIONS

There were contract modifications to financial assets in the reporting period that did not lead to the derecognition of the asset. These were primarily attributable to credit ratings and relate to financial assets for which loss allowances were measured in the amount of the expected 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 €493 million (previous year: €120 million). In the reporting period, contract modifications resulted in net income/net expenses of €6.4 million (previous year: €–0.2 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 €81 million (previous year: €28 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, 2020	Dec. 31, 2019
Financial instruments measured at fair value	3,545	3,139
Financial instruments measured at amortized cost	151,497	149,045
Financial guarantees and credit commitments	3,788	5,988
Not allocated to a measurement category	52,914	53,938
Total	**211,744**	**212,109**

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, 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**

GROSS CARRYING AMOUNTS OF FINANCIAL ASSETS BY RATING CATEGORY AS OF DECEMBER 31, 2020

€ million	Stage 1	Stage 2	Stage 3	Simplified approach	Stage 4
Credit risk rating grade 1 (receivables with no credit risk – standard loans)	112,446	10,109	–	65,040	106
Credit risk rating grade 2 (receivables with credit risk – intensified loan management)	5,278	12,926	–	2,877	64
Credit risk rating grade 3 (cancelled receivables – non-performing loans)	–	–	2,709	1,157	288
Total	**117,725**	**23,035**	**2,709**	**69,074**	**458**

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, 2019

€ million	Stage 1	Stage 2	Stage 3	Stage 4
Credit risk rating grade 1 (receivables with no credit risk – standard loans)	3,373[1]	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	**3,474**	**203**	**7**	**4**

1 Prior-year figures adjusted.

DEFAULT RISK FOR FINANCIAL GUARANTEES AND CREDIT COMMITMENTS AS OF DECEMBER 31, 2020

€ million	Stage 1	Stage 2	Stage 3	Stage 4
Credit risk rating grade 1 (receivables with no credit risk – standard loans)	3,368	201	–	0
Credit risk rating grade 2 (receivables with credit risk – intensified loan management)	66	82	–	1
Credit risk rating grade 3 (cancelled receivables – non-performing loans)	–	–	10	2
Total	**3,434**	**283**	**10**	**3**

Collateral that was accepted for financial assets in the current fiscal year was recognized in the balance sheet in the amount of €159 million (previous year: €149 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 €27.9 billion as of December 31, 2020 (previous year: €27.0 billion), of which €2.3 billion (previous year: €3.8 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

	REMAINING CONTRACTUAL MATURITIES				REMAINING CONTRACTUAL MATURITIES			
€ million	up to one year	within one to five years	more than five years	2020	up to one year	within one to five years	more than five years	2019
Financial liabilities	89,371	98,159	25,106	212,636	90,137	96,135	25,542	211,814
Trade payables	22,675	1	–	22,677	22,745	0	–	22,745
Other financial liabilities	9,151	2,156	152	11,460	8,633	2,355	176	11,164
Derivatives	73,927	56,294	6,736	136,958	70,932	57,182	5,912	134,027
	195,125	**156,611**	**31,995**	**383,731**	**192,447**	**155,672**	**31,630**	**379,750**

The cash outflows on other financial liabilities include outflows on liabilities for tax allocations amounting to €38 million (previous year: €19 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 also particularly applies if hedges have been closed with offsetting transactions.

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

As of December 31, 2020, the maximum potential liability under financial guarantees amounted to €447 million (previous year: €425 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 are executed or coordinated centrally by Group Treasury; exceptions include the MAN Energy Solutions, Porsche Holding GmbH, Salzburg and TRATON GROUP subgroups, as well as some regions such as South America.

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, 2020	Dec. 31, 2019
Hedging interest rate risk		
Other financial result	–	–
Other operating result	–43	–5
Hedging currency risk		
Other financial result	–	–
Other operating result	–12	–39
Combined interest rate and currency risk hedging		
Other financial result	–	–
Other operating result	0	2

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	2020	2019
Hedging interest rate risk		
Gains or losses from changes in fair value of hedging instruments within hedge accounting		
Recognized in equity	–46	–41
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	–1
Hedging currency risk		
Gains or losses from changes in fair value of hedging instruments within hedge accounting		
Recognized in equity	1,434	–2,136
Recognized in profit or loss	–5	–1
Reclassification from the cash flow hedge reserve to profit or loss		
Due to early discontinuation of the hedging relationships	–15	4
Due to realization of the hedged item	69	137
Combined interest rate and currency risk hedging		
Gains or losses from changes in fair value of hedging instruments within hedge accounting		
Recognized in equity	38	–4
Recognized in profit or loss	–6	2
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	–19	2
Hedging commodities price risk		
Gains or losses from changes in fair value of hedging instruments within hedge accounting		
Recognized in equity	0	–
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	–1	–4

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 differences in the parameters for 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 is 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 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

DISCLOSURES ON HEDGING TRANSACTIONS IN FAIR VALUE HEDGES IN 2020

€ million	Notional amount	Other assets	Other liabilities	Fair value changes to determine hedge ineffectiveness
Hedging interest rate risk				
Interest rate swaps	48,371	819	116	626
Hedging currency risk				
Currency forwards, currency options, cross-currency swaps	6,433	56	79	1
Combined interest rate and currency risk hedging				
Cross-currency interest rate swaps	48	2	–	2

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 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

DISCLOSURES ON HEDGING TRANSACTIONS IN CASH FLOW HEDGES IN 2020

€ million	Notional amount	Other assets	Other liabilities	Fair value changes to determine hedge ineffectiveness
Hedging interest rate risk				
Interest rate swaps	13,461	1	96	–93
Hedging currency risk				
Currency forwards and cross-currency swaps	84,862	1,866	1,174	1,824
Currency options	19,021	347	74	132
Combined interest rate and currency risk hedging				
Cross-currency interest rate swaps	1,607	43	40	2

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 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 FAIR VALUE HEDGES IN 2020

€ 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	19,059	18	14	0
Other financial assets	150	7	–17	–
Financial liabilities	35,924	873	423	–
Hedging currency risk				
Financial services receivables	–	–	–	–
Other financial assets	602	18	8	–
Financial liabilities	951	30	–2	–
Combined interest rate and currency risk hedging				
Financial services receivables	–	–	–	–
Other financial assets	–	–	–	–
Financial liabilities	50	5	5	–

DISCLOSURES ON HEDGED ITEMS IN CASH FLOW HEDGES IN 2019

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

DISCLOSURES ON HEDGED ITEMS IN CASH FLOW HEDGES IN 2020

		RESERVE FOR	
€ million	Changes in fair value to determine hedge ineffectiveness	Active cash flow hedges	Discontinued cash flow hedges
Hedging interest rate risk			
Designated components	–90	–90	1
Non-designated components	–	–	–
Deferred taxes	–	19	0
Total hedging interest rate risk	–90	–71	1
Hedging currency risk			
Designated components	1,956	1,952	4
Non-designated components	–	–1,008	0
Deferred taxes	–	–299	–1
Total hedging currency risk	1,956	644	3
Combined interest rate and currency risk hedging			
Designated components	0	–1	–
Non-designated components	–	–	–
Deferred taxes	–	0	–
Total hedging combined interest rate and currency risk	0	–1	–
Hedging commodity price risk			
Designated components	–	–	0
Non-designated components	–	–	–
Deferred taxes	–	–	0
Total hedging commodity price risk	–	–	0

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, 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**

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, 2020	**–23**	**135**	**–20**	**1**	**93**
Gains or losses from effective hedging relationships	–46	1,984	38	0	1,976
Reclassifications due to changes in whether the hedged item is expected to occur	–	–41	–	–	–41
Reclassifications due to realization of the hedged item	–1	–724	–19	–1	–744
Balance at Dec. 31, 2020	**–70**	**1,355**	**–1**	**0**	**1,284**

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 generally 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	2020	2019
Balance at Jan. 1	**–35**	**–1**
Gains and losses from non-designated time value of options		
Hedged item is recognized at a point in time	50	–71
Reclassifications due to changes in whether the hedged item is expected to occur		
Hedged item is recognized at a point in time	0	0
Reclassification due to realization of the hedged item		
Hedged item is recognized at a point in time	43	38
Balance at Dec. 31	**59**	**–35**

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

	CURRENCY RISK	
€ million	2020	2019
Balance at Jan. 1	**–942**	**–628**
Gains and losses from non-designated forward elements and CCBS		
Hedged item is recognized at a point in time	–600	–973
Reclassification due to realization of the hedged item		
Hedged item is recognized at a point in time	749	656
Reclassification due to changes in whether the hedged item is expected to occur		
Hedged item is recognized at a point in time	26	3
Balance at Dec. 31	**–766**	**–942**

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 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 2020 as part of foreign currency risk management were amongst others in Australian dollars, Brazilian real, British pound 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, 2020:

€ million	DEC. 31, 2020 +10%	DEC. 31, 2020 –10%	DEC. 31, 2019 +10%	DEC. 31, 2019 –10%
Exchange rate				
EUR / GBP				
Hedging reserve	951	–947	1,472	–1,472
Earnings after tax	–59	59	–172	172
EUR / USD				
Hedging reserve	168	–75	964	–979
Earnings after tax	–527	527	–473	473
EUR / CNY				
Hedging reserve	520	–477	739	–761
Earnings after tax	–114	114	–155	155
EUR / CHF				
Hedging reserve	454	–442	414	–396
Earnings after tax	–4	4	–1	1
EUR / SEK				
Hedging reserve	287	–287	87	–85
Earnings after tax	–78	78	–122	122
EUR / JPY				
Hedging reserve	280	–274	342	–344
Earnings after tax	–32	32	–13	13
EUR / AUD				
Hedging reserve	172	–172	87	–87
Earnings after tax	–22	22	–25	25
EUR / KRW				
Hedging reserve	114	–114	79	–78
Earnings after tax	–55	55	–19	19
EUR / CAD				
Hedging reserve	123	–117	190	–190
Earnings after tax	–11	11	–14	14
CZK / GBP				
Hedging reserve	109	–109	136	–136
Earnings after tax	–1	1	0	0
CZK / PLN				
Hedging reserve	85	–85	105	–105
Earnings after tax	–3	3	1	–1
EUR / TWD				
Hedging reserve	75	–75	88	–88
Earnings after tax	–10	10	–6	6
EUR / CZK				
Hedging reserve	50	–50	98	–98
Earnings after tax	–31	31	–62	62
BRL / USD				
Hedging reserve	–1	0	–1	1
Earnings after tax	71	–71	74	–74
EUR / BRL				
Hedging reserve	3	–3	6	–6
Earnings after tax	–64	64	–111	111

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, 2020, equity would have been €218 million (previous year: €98 million) lower. If market interest rates had been 100 bps lower as of December 31, 2020, equity would have been €241 million (previous year: €90 million) higher.

If market interest rates had been 100 bps higher as of December 31, 2020, earnings after tax would have been €16 million lower (previous year: €55 million higher). If market interest rates had been 100 bps lower as of December 31, 2020, earnings after tax would have been €23 million higher (previous year: €47 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. Likewise, selected commodities were purchased on the spot market, which led to a corresponding increase in inventories. 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, 2020, earnings after tax would have been €559 million (previous year: €415 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, the Investment Guidelines define fixed minimum values, which are to be met by taking suitable risk management measures. 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, 2020, earnings after tax would have been €160 million (previous year: €118 million) higher and equity would have been €2 million (previous year: €3 million) higher. If share prices had been 10% lower as of December 31, 2020, earnings after tax would have been €179 million (previous year: €175 million) lower and equity would have been €2 million (previous year: €3 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, 2020, the value at risk was €213 million (previous year: €147 million) for interest rate risk and €148 million (previous year: €172 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: €170 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 aforementioned uncertainty arising from the IBOR reform.

The uncertainty relates mainly to the following interest rate benchmarks: USD LIBOR, GBP 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. Any measures required have already been initiated for certain interest rate benchmarks; for other interest rate benchmarks, they will be initiated in good time in the future. By adapting systems and processes, these 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.

NOTIONAL AMOUNT OF DERIVATIVES

The notional amounts of hedging instruments exposed to the uncertainty from the IBOR reform described above are €25,466 million (previous year: €35,389 million) in total. In the fiscal year, €12,617 million of this total was attributable to the USD LIBOR (previous year: €12,847 million), €9,147 million to the GBP LIBOR (previous year: €13,112 million), €3,620 million to the CAD CDOR (previous year: €3,990 million) and €82 million to the JPY LIBOR (previous year: €0 million). Compared with the previous year, we believe that the notional amounts of AUD BBSW and NOK OIBOR hedging instruments are no longer exposed to any uncertainty from the IBOR reform.

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

	REMAINING TERM			TOTAL NOTIONAL AMOUNT	TOTAL NOTIONAL AMOUNT
€ million	up to one year	within one to five years	more than five years	Dec. 31, 2020	Dec. 31, 2019
Notional amount of hedging instruments within hedge accounting					
Hedging interest rate risk					
Interest rate swap	18,225	38,981	4,626	61,832	69,460
Hedging currency risk					
Currency forwards/Cross-currency swaps					
Currency forwards/Cross-currency swaps in CNY	5,217	1,051	–	6,268	10,869
Currency forwards/Cross-currency swaps in GBP	10,526	6,656	–	17,182	25,153
Currency forwards/Cross-currency swaps in USD	12,411	16,404	3,501	32,316	23,965
Currency forwards/Cross-currency swaps in other currencies	18,607	16,922	–	35,529	34,091
Currency options					
Currency options in USD	2,297	6,452	–	8,749	8,755
Currency options in CNY	3,986	–	–	3,986	2,047
Currency options in other currencies	2,123	4,164	–	6,287	4,395
Combined interest rate and currency risk hedging					
Cross-currency interest rate swaps	1,138	517	–	1,655	2,228
Notional amount of other derivatives					
Hedging Interest rate risk					
Interest rate swap	20,308	36,174	17,996	74,478	70,852
Hedging Currency risk					
Currency forwards/Cross-currency swaps					
Currency forwards/Cross-currency swaps in USD	6,636	4,479	608	11,722	11,498
Currency forwards/Cross-currency swaps in other currencies	13,654	1,291	32	14,977	21,105
Currency options					
Currency options in USD	82	–	–	82	188
Currency options in other currencies	41	–	–	41	487
Combined interest rate and currency risk hedging					
Cross-currency interest rate swaps	3,870	8,088	2,542	14,501	13,499
Hedging Commodity price risk					
Forward commodity contracts (aluminum)	1,001	2,099	–	3,099	3,041
Forward commodity contracts (copper)	333	604	–	938	956
Forward commodity contracts (nickel)	267	1,451	608	2,326	2,075
Forward commodity contracts (other)	96	47	–	143	188

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.

The notional volume with a remaining maturity of less than one year was €10.4 billion (previous year: €18.2 billion), and the notional volume with a remaining maturity of more than one year amounted to €0.2 billion (previous year: €– billion).

Also in connection with fund investments, the Group held credit default swaps with a notional amount of €36.6 billion (previous year: €30.6 billion).

Existing cash flow hedges in the notional amount of €2.1 billion (previous year: €0.2 billion) 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 0.72% 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 1.19; EUR/GBP at 0.89; EUR/CNY at 8.02.

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	–0.4707	0.4178	–0.7357	2.8501	0.4538	0.0147	–0.1458	0.0495	0.1818
Interest rate for one year	–0.5150	0.4386	–0.7293	2.9022	0.5548	–0.0131	–0.0958	0.0034	0.1821
Interest rate for five years	–0.4645	0.8320	–0.5610	3.3500	1.1150	0.1926	–0.0375	0.1325	0.4300
Interest rate for ten years	–0.2650	1.2375	–0.2875	4.0700	1.2850	0.3966	0.0513	0.3880	0.9240

37. 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 ensure that resources are used as efficiently as possible 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. In the reporting year, the Automotive Division’s operating result was weighed down primarily by the continued negative impact of the spread of the SARS-CoV-2 virus. This resulted in a negative value contribution of €54 million.

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. The 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 6.5% in the reporting period, which is below the minimum rate of return on invested capital of 9% and on a level with the current cost of capital of 6.5%.

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	2020	2019
Automotive Division[1]		
Operating result after tax	7,450	13,019
Invested capital (average)	114,907	116,016
Return on investment (ROI) in %	**6.5**	**11.2**
Cost of capital in %	6.5	6.3
Opportunity cost of invested capital	7,504	7,328
Value contribution[2]	**–54**	**5,691**
Financial Services Division		
Earnings before tax	2,776	3,219
Average equity	31,463	29,684
Return on equity before tax in %	**8.8**	**10.8**
Equity ratio in %	**13.2**	**12.8**

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.

38. Contingent liabilities

€ million	Dec. 31, 2020	Dec. 31, 2019
Liabilities under guarantees	525	574
Liabilities under warranty contracts	165	192
Assets pledged as security for third-party liabilities	19	19
Other contingent liabilities	7,912	7,708
	8,621	**8,494**

It was considered improbable in the fiscal year under review that there would be an outflow of economic resources relating to the contingent liabilities based on trust assets and liabilities of the savings and trust entities belonging to the South American subsidiaries not included in the consolidated balance sheet.

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 €4.2 billion (previous year: €3.7 billion), of which €3.5 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 €0.5 billion for potential liabilities resulting from the risk of tax proceedings instituted by the Brazilian tax authorities against MAN Latin America.

Since 2016, the U.S. National Highway Traffic Safety Administration (NHTSA) has announced further extensions of the recalls for various models from different manufacturers containing certain airbags produced by the Takata company. Recalls were also demanded 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.

In line with IAS 37.92, no further statements have been made concerning estimates of financial impact or regarding uncertainty as to 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. Further information can be found under the section entitled “Litigation”.

39. 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 connection with products and services or in relation to employees, public authorities, dealers, investors, customers, suppliers, 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.

Various legal proceedings are pending worldwide, particularly in the USA, in which customers are asserting purported product-related 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. Compliance with legal or regulatory requirements (such as the GDPR) is another area in which risks may arise. This is particularly true in gray areas where Volkswagen and the relevant public authorities may interpret the law differently.

In connection with their business activities, Volkswagen Group companies engage in constant dialogue with regulatory agencies including the German Kraftfahrt-Bundesamt (Federal Motor Transport Authority). It is not possible to predict with assurance how government regulators will assess certain issues of fact and law in a particular situation. For this reason, the possibility that certain vehicle characteristics and/or type approval aspects may in particular ultimately be deemed deficient or impermissible cannot be ruled out. This is fundamentally a question of the regulatory agency's specific evaluation in a concrete situation.

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. 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; this may result in delivery and production restrictions or interruptions.

Criminal acts by individuals, which even the best compliance management system can never completely prevent, are another potential source of legal risks.

Appropriate insurance has been taken out to cover these risks where they were sufficiently definite and such coverage was economically sensible. Where necessary based on the information currently available, identified and correspondingly measurable risks have been reflected by recognizing provisions in amounts considered appropriate or disclosing contingent liabilities, as the case may be. 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 or by provisions cannot be ruled out. This is, for instance, the case with regard to the legal risks assessed in connection with 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 2.0 l diesel engines in the USA. In this context, Volkswagen AG announced that noticeable discrepancies between the figures recorded in testing and those measured 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.

The so-called 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. No member of the Board of Management had, at that time and for many years to follow, knowledge of the development and implementation of this software function.

There are furthermore no findings that, following the publication in May 2014 of the study by the International Council on Clean Transportation, an unlawful “defeat device” under US law was disclosed either to the Ausschuss für Produktsicherheit (Product Safety Committee) or to the persons responsible for preparing the 2014 annual and consolidated financial statements as the cause of the high NO_x emissions in certain US vehicles with 2.0 l type EA 189 diesel engines. Rather, at the time the 2014 annual and consolidated financial statements were being prepared, the persons responsible for preparing these financial statements remained under the impression that the issue could be resolved with comparatively little expense.

In the course of the summer of 2015, however, it became progressively 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 that was later identified as an unlawful “defeat device” as defined by US law. This culminated in Volkswagen's disclosure of a “defeat device” to the EPA and the California Air Resources Board, a department of the Environmental Protection Agency of the State of California, on September 3, 2015. According to the assessment at the time by the responsible persons dealing with the matter, the magnitude of the costs expected to result for the Volkswagen Group (recall costs, retrofitting costs, and financial penalties) was not fundamentally dissimilar to that in previous cases involving other vehicle manufacturers. It therefore appeared to be manageable overall considering the business activities of the Volkswagen Group. This assessment by Volkswagen AG was based, among other things, on the advice of a law firm engaged in the USA for regulatory approval issues, according to which similar cases had in the past been amicably resolved 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.

As a consequence of the diesel issue, numerous judicial and regulatory proceedings were initiated in various countries. Volkswagen has in the interim 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. The agreements in question include various partial consent decrees as well as a plea agreement that 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. Although Volkswagen is 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 last remaining vehicle class settlement program for customers in the United States, which pertained to second Generation 3.0 l TDI vehicles, ended in May 2020.

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. For all clusters (groups of vehicles) within its jurisdiction, the Kraftfahrt-Bundesamt (KBA – German Federal Motor Transport Authority) determined that implementation of the technical measures would not result in any adverse changes in fuel consumption, CO_2 emissions, 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 potential, 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. AUDI AG currently anticipates that the total cost, including recall expenses, 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 software updates still being developed are expected to be submitted to the KBA in 2021 for approval.

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 commenced in some countries. Criminal investigations into the core factual issues are being conducted by the Offices of the Public Prosecutor in Braunschweig and Munich.

In May 2020, the criminal proceedings against the current Chairman of the Board of Management of Volkswagen AG and a former member of its Board of Management (currently Chairman of the Supervisory Board) regarding alleged market manipulation relating to capital market disclosure obligations in connection with the diesel issue were definitively terminated by the Braunschweig Regional Court against payment in each case of a court-imposed sum of €4.5 million, thereby also terminating to the same extent the proceedings against Volkswagen AG as collateral participant. After permitting the charges against a former Chairman of the Board of Management of Volkswagen AG and the related action against Volkswagen AG to go forward in September 2020, the Braunschweig Regional Court in January 2021 terminated these proceedings – provisionally as regards the indictment which is for the time being still pending against the former Chairman of the Board of Management, but definitively as regards Volkswagen AG.

In September 2020, the Braunschweig Regional Court accepted the indictment of the same former Chairman of the Board of Management of Volkswagen AG and others on charges that include fraud in connection with the diesel issue involving type EA 189 engines and opened the main trial proceedings.

In June 2020, the Munich II Regional Court accepted the substantially unchanged indictment of the Munich II Office of the Public Prosecutor, which also names the former Chairman of the Board of Management of AUDI AG, and opened the main trial proceedings on charges of, among other things, fraud in connection with the diesel issue involving 3.0 l TDI engines. Trial proceedings commenced in September 2020.

In August 2020, the Munich II Office of the Public Prosecutor issued a further indictment charging three former members of the Board of Management of AUDI AG and others with, among other things, fraud in connection with the diesel issue involving 3.0 l and 4.2 l TDI engines.

In connection with the diesel issue, the Stuttgart Office of the Public Prosecutor is conducting a criminal investigation on suspicion of fraud and illegal advertising; this investigation also involves a member of the Board of Management of Dr. Ing. h.c. F. Porsche AG.

The respective Group companies have 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.

As the type approval authority of proper jurisdiction, the KBA is moreover continuously testing Audi, Volkswagen, 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.

Moreover, additional administrative proceedings relating to the diesel issue are ongoing in other jurisdictions.

The companies of the Volkswagen Group are cooperating with the government authorities.

Risks may furthermore result from possible decisions by the European Court of Justice construing EU type approval provisions.

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 less than 10%. Provisions were recognized to a small extent.

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

A general possibility exists 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, England and Wales, France, Germany, Italy, the Netherlands, Portugal, and South Africa. 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 had been pending against Volkswagen AG and other Volkswagen Group companies, including the Australian subsidiaries. In December 2019, Volkswagen AG reached tentative agreements with the Australian class action plaintiffs terminating the litigation; the court approved these agreements in April 2020. Volkswagen AG anticipates that the total cost of settling these actions will be approximately AUD 180 million. 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 continues to anticipate payment of a fine of up to AUD 125 million.

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. Given the opt-out rule, the class action potentially covers all vehicles with type EA 189 engines purchased by consumers on the Belgian market after September 1, 2014, unless the right to opt out is actively exercised. 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 consumer protection class actions are pending. The first of these class actions pertains to some 17 thousand Amarok vehicles and the second to roughly 67 thousand later generation Amaroks. In the first class action, 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 appeals judgment remains non-final since Volkswagen do Brasil has appealed it to a higher court. So far no judgment has been rendered in the second class action proceeding.

In Germany, Volkswagen AG and Verbraucherzentrale Bundesverband e.V. (Federation of Consumer Organizations) entered into an out of court settlement on February 28, 2020 terminating the consumer action for model declaratory judgment. The terms of the settlement require Volkswagen AG to offer individual settlements to consumers who registered claims under the action for model declaratory judgment and meet the settlement criteria. As a result, Volkswagen AG entered into individual settlements in the reporting year with some 245 thousand customers in an aggregate amount of roughly €770 million. The process of settling the consumer action for model declaratory judgment is thus almost complete. Verbraucherzentrale Bundesverband e.V. withdrew the action for model declaratory judgment on April 30, 2020.

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, for which the opt-in period has expired. In these proceedings, the High Court in England and Wales ruled in April 2020 that the switch logic in the EA 189 engine constituted an unlawful defeat device; the court believed that it was also bound by the findings of the KBA (German Federal Motor Transport Authority) in this respect. In August 2020, the Court of Appeal rejected Volkswagen's appeal against the High Court's ruling on these preliminary questions; this decision is final. The question of liability on the part of Volkswagen was not a matter addressed by the High Court's ruling and will be dealt with at a later stage of the proceedings. The main trial proceedings are to begin in January 2023.

In France, the French consumer organization Confédération de la Consommation, du Logement et du Cadre de Vie (CLCV) filed a class action in September 2020 against Volkswagen Group Automotive Retail France and Volkswagen AG for up to 950 thousand French owners and lessees of vehicles with type EA 189 engines. This is an opt-in class action in which the affected consumers are not required to opt into the class action until a legally final judgment is rendered.

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 breaches 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 the majority of the registrations is still unclear.

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. Proceedings in the matter are presently suspended. Furthermore, in April 2020 an opt-out class action lawsuit seeking monetary damages on behalf of Dutch consumers was served on Volkswagen by the Diesel Emissions Justice Foundation. It is currently unclear whether other consumers in addition to those in the Netherlands may join this class action. The class action relates to vehicles with type EA 189 engines, among others.

In Portugal, a Portuguese consumer organization has filed an opt-out class action. Potentially, up to approximately 139 thousand vehicles with type EA 189 engines are 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 these lawsuits are seeking damages or rescission of the purchase contract. In Germany, over 55 thousand individual lawsuits are currently pending. In May 2020, the Bundesgerichtshof (BGH – Federal Court of Justice) handed down its first decision ever in an individual product-related lawsuit in connection with the diesel issue. The BGH held that the buyer, who had purchased a vehicle with a type EA 189 engine prior to public disclosure of the diesel issue, had a claim for damages against Volkswagen AG. While the buyer can require reimbursement of the vehicle's purchase price, he must accept a deduction for the benefit derived from using the vehicle and must return it to Volkswagen AG. The judgment clarified the BGH's stance on the fundamental issues underlying a large number of the individual diesel lawsuits then still pending in Germany. On this basis, it has since been possible to conclude settlements and thus significantly reduce the number of individual lawsuits pending. In a series of fundamental judgments rendered in July 2020, the BGH decided further legal issues of major importance for the litigation still pending with regard to vehicles with type EA 189 engines. The BGH held that plaintiffs who purchased their vehicle after the ad hoc announcement of September 22, 2015 have no claim for damages. The court furthermore ruled that purchasers of affected vehicles are not entitled to tort interest under section 849 of the German Civil Code. The court also made it clear that a plaintiff's potential damage claim may be completely offset by the benefit derived from using the vehicle.

Volkswagen estimates the likelihood that the plaintiffs will prevail to be 50% or less in the great majority of cases: 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 remote. Since most of these actions are still in an early procedural stage, it is in many cases not yet possible to quantify the realistic risk exposure. Furthermore, 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 and what prospect of success such lawsuits might have.

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 before the Braunschweig Regional Court. In August 2016, the Braunschweig Regional Court issued an order referring common questions of law and fact relevant to the investor lawsuits pending before it to the Higher Regional Court in Braunschweig for binding declaratory rulings pursuant to the Kapitalanleger-Musterverfahrensgesetz (KapMuG – German Capital Investor Model Declaratory Judgment Act). In this proceeding, common questions of law and fact relevant to these actions are to be adjudicated by the Braunschweig Higher Regional Court in a single consolidated proceeding (model case proceedings). The lawsuits filed with the Braunschweig Regional Court are 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 the pending cases that have been stayed as described. The model case plaintiff is Deka Investment GmbH. Oral argument in the model case proceedings before the Braunschweig Higher Regional Court began in September 2018 and will be continued at subsequent hearings.

Further investor lawsuits have been filed with the Stuttgart Regional Court against Volkswagen AG, in some cases along with Porsche SE as joint and several debtor. A further investor action for model declaratory judgment is pending before the Stuttgart Higher Regional Court against Porsche SE; Volkswagen AG is involved in this action as a third party intervening in support of a party to the dispute. The Wolverhampton City Council, Administrating Authority for the West Midlands Metropolitan Authorities Pension Fund, has been appointed model case plaintiff. The first hearing for oral argument in these proceedings has yet to take place.

Additional investor lawsuits have been filed with various courts in Germany and the Netherlands.

Excluding the United States and Canada, claims in connection with the diesel issue totaling roughly €9.7 billion are currently pending worldwide against Volkswagen AG in the form of investor lawsuits, judicial applications for dunning and conciliation procedures, and claims under the KapMuG. 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. Contingent liabilities have been disclosed where the chance of success was estimated to be not less than 10%.

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 against Volkswagen AG and other Volkswagen Group companies, in particular by customers, investors, salespersons, and various government agencies in Canada and the United States, including the attorneys general of several US states.

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. The claims asserted by Illinois have been dismissed in full, but Illinois has appealed the dismissal of a subset of its claims. Certain claims asserted by Montana, Ohio, Texas, two Texas counties, Hillsborough County (Florida), and Salt Lake County (Utah) have also been dismissed, but these suits are currently proceeding as to other claims. Volkswagen has asked the US Supreme Court to review a decision by the US Court of Appeals for the Ninth Circuit that declined to dismiss certain claims brought by Hillsborough and Salt Lake Counties. A Texas appellate court dismissed claims asserted by Texas against Volkswagen AG and AUDI AG for lack of personal jurisdiction. Texas has indicated that it will seek discretionary review by the Texas Supreme Court of that decision.

In March 2019, the US Securities and Exchange Commission (SEC) filed a lawsuit against, among others, Volkswagen AG, Volkswagen Group of America Finance, LLC, and VW Credit, Inc., 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. In August 2020, the US District Court for the Northern District of California granted in part and denied in part Volkswagen's motion to dismiss. The claims dismissed by the court included all claims against VW Credit, Inc. related to asset-backed securities. In September 2020, the SEC filed an amended complaint that, among other things, removed the dismissed claims.

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 charging a quasi-criminal enforcement-related offense with respect to certain Volkswagen and Audi 2.0 l diesel vehicles. As to private civil law matters, in an environmental class action lawsuit seeking punitive damages on behalf of the residents of the Province of Quebec, after authorizing the case to proceed as a class, a Quebec court ruled in October 2020 that issues raised as to the viability of plaintiffs' damages theory should be deferred until trial. On that basis, the court denied a motion to dismiss by Volkswagen. The case remains in the early stages.

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

5. Special audit
In a November 2017 ruling, 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 the members of the Board of Management and Supervisory Board of Volkswagen AG breached their duties in connection with the diesel issue from June 22, 2006 onwards 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 constitutional rights. 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 April 2020, the Celle Higher Regional Court issued a ruling appointing a different special auditor. Volkswagen AG has filed a constitutional complaint with the Federal Constitutional Court contesting this formally unappealable decision as well on grounds of infringement of its constitutional rights and has suggested joinder of this matter with its initial constitutional complaint against the decision to appoint the special auditor. It is currently unclear when the Federal Constitutional Court will rule on the two constitutional complaints. The constitutional complaints have no suspensory effect.

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 €1.9 billion (previous year: €2.9 billion) has been included in the provisions for litigation and legal risks as of December 31, 2020 to account for the currently known legal risks related to the diesel issue based on the presently available information and the current assessments. Where adequately measurable at this stage, contingent liabilities relating to the diesel issue have been disclosed in the notes in an aggregate amount of €4.2 billion (previous year: €3.7 billion), whereby roughly €3.5 billion (previous year: €3.4 billion) of this amount results from lawsuits filed by investors in Germany. The provisions recognized, the contingent liabilities disclosed, and the other latent legal risks in the context of the diesel issue are in part subject to substantial estimation risks given the complexity of the individual relevant factors, the ongoing coordination with the authorities, and the fact that the fact-finding efforts have not yet been concluded. Should these legal or estimation risks materialize, this could result in further substantial financial charges. In particular, adjustment of the provisions recognized in light of knowledge acquired or events occurring in the future cannot be ruled out.

In line with IAS 37.92, no further statements have been made concerning estimates of financial impact or regarding uncertainty as to 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) filed a claim for damages against Volkswagen AG and Porsche SE 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 being sought based on allegedly assigned rights currently amount to approximately €2.26 billion plus interest. In April 2016, the Hanover Regional Court formulated numerous objects of declaratory judgment that the antitrust panel of the Higher Regional Court in Celle will decide on in model case proceedings under the KapMuG. At the first hearing in October 2017, the court already indicated that it currently sees no justification for claims against Volkswagen AG, both because the pleadings are not sufficiently specific and for substantive legal reasons. Volkswagen AG sees the court's statements as confirmation that the claims against the Company are absolutely baseless. The Higher Regional Court has yet to render a decision as many hearings have been canceled, among other things due to motions for recusal filed by the plaintiff side (so far in all cases without success) and, more recently, as a result of the Covid-19 pandemic.

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, an adverse administrative appeal ruling was rendered against MAN Latin America. MAN Latin America challenged this ruling before the regular court in 2018. Estimation of the risk in the event the tax authorities prevail on all points is subject to uncertainty because of differences in the amount of penalties and interest that might then apply under Brazilian law. However, a positive outcome for MAN Latin America remains the expectation. Should this not occur, a risk of about BRL 3.1 billion could result for the contested period from 2009 onwards; this amount has been included in contingent liabilities in the notes.

In 2011, the European Commission conducted searches at European truck manufacturers for suspected unlawful exchange of information during the period from 1997 to 2011; in November 2014, the Commission issued a statement of objections to MAN, Scania, and the other truck manufacturers concerned. In its settlement decision of July 2016, the European Commission assessed fines against 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 seeking damages have been received from customers. As is the case in any antitrust proceedings, this may result in further lawsuits for damages. No provisions have been recognized or contingent liabilities disclosed for these cases as most of them are still in an early stage and currently cannot be assessed for this reason. In other cases, the chance of a decision by a court of last resort that awards damages against MAN or Scania currently appears remote.

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. The Chinese, South Korean, and Turkish competition authorities have also instituted proceedings in this matter.

In October 2020, the US District Court for the Northern District of California dismissed two antitrust class action complaints. The plaintiffs in these actions alleged that several automobile manufacturers including Volkswagen AG and other Group companies had conspired to unlawfully increase vehicle prices 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 that the alleged agreements unreasonably restrained competition in violation of US law. Plaintiffs have appealed this ruling. Plaintiffs in Canada filed claims with similar allegations on behalf of putative classes of purchasers against several automobile manufacturers, including Volkswagen Group Canada Inc., Audi Canada Inc., and other Volkswagen Group companies. Neither provisions nor contingent liabilities are stated because the early stage of the proceedings makes an assessment of the realistic risk exposure 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.

A settlement between Volkswagen and the Plaintiffs' Steering Committee resolving civil claims relating to approximately 98 thousand gasoline-powered Volkswagen, Audi, Porsche, and Bentley vehicles with automatic transmissions received final approval from the US District Court for the Northern District of California in February 2020.

Porsche AG has discovered potential regulatory issues relating to vehicles for various markets worldwide. There are questions as to the permissibility of specific hardware and software components used in type approval measurements. Differences compared with production versions may also have occurred in certain cases. Based on the information presently available, current production is not affected, however. The issues are unrelated to the defeat devices that were at the root of the diesel issue. Porsche AG is cooperating with the relevant authorities including the Stuttgart Office of the Public Prosecutor, which is investigating the matter in Germany. Based on the available information, no formal criminal investigation has been opened against the company, however. Porsche's own internal investigations are still in progress.

Five complaints related to these matters were filed with the US District Court for the Northern District of California. The complaints alleged that the affected vehicles used certain software and/or hardware that resulted in increased emissions and/or overstated fuel economy estimates as compared to the results of certification testing. The suits named Volkswagen AG, Dr. Ing. h.c. F. Porsche AG, AUDI AG, and Porsche Cars North America, Inc. as defendants; however, each defendant was not named in all the complaints. A consolidated complaint merging the five putative class actions into a single lawsuit was filed in January 2021. AUDI AG is no longer named as a defendant in the consolidated complaint.

Provisions were recognized by Volkswagen Bank GmbH and Volkswagen Leasing GmbH for possible claims in connection with financial services provided to consumers. These relate to actions involving certain features of customer loan and leasing agreements that may toll the running of the statutory cancellation time periods.

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 is assessing the alleged claims and defending itself against them.

In line with IAS 37.92, no further statements have been made concerning estimates of financial impact or regarding uncertainty as to 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.

40. Other financial obligations

€ million	PAYABLE 2020	PAYABLE 2021 – 2024	PAYABLE from 2025	TOTAL Dec. 31, 2019
Purchase commitments in respect of				
property, plant and equipment[1]	7,423	1,412	1	8,836
intangible assets	913	275	1	1,189
investment property	24	–	–	24
Obligations from loan commitments and irrevocable credit commitments[1]	3,242	54	3	3,300
Obligations from leasing and rental contracts	329	172	151	652
Miscellaneous other financial obligations	3,257	1,712	997	5,966
	15,189	**3,626**	**1,153**	**19,968**

1 Prior-year figures adjusted.

€ million	PAYABLE 2021	PAYABLE 2022 – 2025	PAYABLE from 2026	TOTAL Dec. 31, 2020
Purchase commitments in respect of				
property, plant and equipment	6,402	1,037	–	7,438
intangible assets	1,225	107	–	1,332
investment property	6	–	–	6
Obligations from loan commitments and irrevocable credit commitments	3,352	72	6	3,431
Obligations from leasing and rental contracts	313	265	167	746
Miscellaneous other financial obligations	6,291	2,160	575	9,026
	17,589	**3,641**	**748**	**21,978**

Other financial obligations include an amount of €0.9 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. In addition, this item includes payment of the purchase price for the acquisition of all Navistar's outstanding shares totaling around USD 3.7 billion, because the merger agreement between TRATON SE and Navistar contains conditions precedent and the purchase price payment cannot be capitalized at present.

41. Total fee of the Group auditor

Under the provisions of the Handelsgesetzbuch (HGB – German Commercial Code), Volkswagen AG is obliged to disclose the total fee charged for the fiscal year by the Group auditor, Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft (previous year: PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft).

€ million	2020	2019
Financial statement audit services	19	19
Other assurance services	5	4
Tax advisory services	21	1
Other services	7	32
	53	**56**

The financial statement audit services related to the audit of the consolidated financial statements of Volkswagen AG and to the annual financial statements of German Group companies, as well as to reviews of the interim consolidated financial statements of Volkswagen AG and of the interim financial statements of German Group companies. Other assurance services mainly related to statutory and non-statutory audits as well as non-statutory assurance services for capital market transactions. Other services provided by the auditors in the reporting period focused on advice on how to implement new legal standards and advice on corporate governance matters. The tax advisory services provided by the auditors in the reporting period related primarily to assistance in the preparation of tax returns for employees on delegations abroad.

42. Personnel expenses

€ million	2020	2019
Wages and salaries	32,103	34,683
Social security, post-employment and other employee benefit costs	8,413	8,231
	40,516	**42,913**

43. Average number of employees during the year

	2020	2019
Performance-related wage-earners	261,165	265,092
Salaried staff	307,342	304,174
	568,508	**569,266**
of which in the passive phase of partial retirement	10,762	9,554
Vocational trainees	17,678	18,180
	586,185	**587,446**
Employees of Chinese joint ventures	79,260	80,302
	665,445	**667,748**

44. Events after the balance sheet date

In January 2021, Volkswagen AG called a hybrid note with a principal amount of €1.25 billion, which had been placed in 2014 via Volkswagen International Finance N.V., Amsterdam, the Netherlands (issuer). The note, including all unpaid interest accrued up to that point, will be repaid in March 2021. Once called, the note has to be classified as debt in accordance with IAS 32, thus reducing equity and the liquidity of the Volkswagen Group.

On January 26, 2021, the Executive Boards of MAN SE and MAN Truck & Bus SE and the employee representatives signed an agreement covering the key points of a comprehensive realignment of MAN Truck & Bus SE. The agreement reached provides for restructuring of all areas of the MAN Truck & Bus business. The planned measures include reconfiguring the development and production network, with a strong focus on future technologies, as well as cutting around 3,500 jobs across all divisions in Germany by the end of 2022.

The cost of all restructuring measures (including as yet unspecified measures in connection with the production network) over the entire restructuring period is currently expected to be in the upper three-digit million range. Most of the cost will be attributable to HR measures.

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

At the beginning of 2017, the Supervisory Board of Volkswagen Aktiengesellschaft 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 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 were allocated benefits on the basis of 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. For members of the Board of Management and of top management, the annual target amount under the LTI is converted at the time of granting into performance shares on the basis of the initial reference price of Volkswagen's preferred shares. This annual target amount is allocated to the respective beneficiaries as a pure calculation position. Based on the degree of target achievement for the annual earnings per Volkswagen preferred share, the number of performance shares is definitively determined on the basis of a three-year, forward-looking performance period. 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.

For all other beneficiaries, the payment amount is determined by multiplying the target amount by the degree of target achievement for the annual earnings per Volkswagen preferred share and the ratio of the closing reference price at the end of the period, plus a dividend equivalent, to the initial reference price. Target achievement is determined on the basis of a three-year performance period with a forward-looking horizon of one year. As a departure from this, target achievement in 2020 will initially 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. For all beneficiaries, the payment amount under the performance share plan is limited to 200% of the target amount; the payment amount is reduced by 20% if the average ratio of capex to sales revenue or the R&D ratio in the Automotive Division is smaller than 5% during the performance period.

BOARD OF MANAGEMENT

		Dec. 31, 2020	Dec. 31, 2019
Total expense of the reporting period	€ million	2	22
Carrying amount of the obligation	€ million	39	57
Intrinsic value of the obligation	€ million	30	31
Fair value on granting date	€ million	16	20
Granted performance shares	Shares	389,524	431,800
of which granted during the reporting period	Shares	99,150	155,418

The disclosure relates to current and former members of the Board of Management.

MEMBERS OF TOP MANAGEMENT

		Dec. 31, 2020	Dec. 31, 2019
Total expense of the reporting period	€ million	133	115
Carrying amount of the obligation	€ million	132	115
Intrinsic value of the obligation	€ million	130	104
Fair value at grant date	€ million	84	71
Granted performance shares	Shares	1,040,271	531,090
of which granted during the reporting period	Shares	509,181	531,090

MEMBERS OF MANAGEMENT AND SELECTED PARTICIPANTS BELOW MANAGEMENT LEVEL

In the fiscal year, beneficiary members of management and selected participants below management level were allocated a target amount of €629 million (previous year: €– million) on which target achievement of 100% is based. As of December 31, 2020, the total carrying amount of the obligation, which corresponded to the intrinsic value of the liabilities, was €609 million (previous year: €– million). A total expense of €613 million (previous year: €– million) was recognized for this commitment in the reporting period.

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 previous year, changes in the value of the phantom shares led to the recognition of expenses of €0.3 million.

46. 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. This means that Porsche SE cannot elect all shareholder representatives to Supervisory Board of Volkswagen AG 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 estimated in the low triple-digit million euro range will arise for Volkswagen AG. New information emerging in the future 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 in the contribution agreement.

According to a notification dated January 4, 2021, the State of Lower Saxony and Hannoversche Beteiligungsgesellschaft Niedersachsen mbH, Hanover, held 20.00 % of the voting rights of Volkswagen AG on December 31, 2020. 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 2020	SUPPLIES AND SERVICES RENDERED 2019	SUPPLIES AND SERVICES RECEIVED 2020	SUPPLIES AND SERVICES RECEIVED 2019
Porsche SE and its majority interests	5	5	0	1
Supervisory Board members	4	5	1	1
Board of Management members	0	0	0	0
Unconsolidated subsidiaries	872	1,243	1,160	1,597
Joint ventures and their majority interests	17,660	16,627	632	646
Associates and their majority interests	230	181	1,332	1,312
Pension plans	1	1	1	3
Other related parties	0	0	1	1
State of Lower Saxony, its majority interests and joint ventures	11	10	4	4

€ million	RECEIVABLES FROM Dec. 31, 2020	RECEIVABLES FROM Dec. 31, 2019	LIABILITIES (INCLUDING OBLIGATIONS) TO Dec. 31, 2020	LIABILITIES (INCLUDING OBLIGATIONS) TO Dec. 31, 2019
Porsche SE and its majority interests	4	4	0	0
Supervisory Board members	0	0	167	170
Board of Management members	0	0	31	60[1]
Unconsolidated subsidiaries	1,164	1,497	1,477	1,667
Joint ventures and their majority interests	12,207	12,953	2,250	2,683
Associates and their majority interests	397	326	951	1,063
Pension plans	1	1	–	–
Other related parties	0	0	198	264
State of Lower Saxony, its majority interests and joint ventures	25	1	2	0

1 Prior-year figures adjusted.

The tables above do not contain the dividend payments (net of withholding tax) of €3,098 million (previous year: €3,679 million) received from joint ventures and associates and dividends of €756 million (previous year: €753 million) paid to Porsche SE.

Receivables from joint ventures are primarily attributable to loans granted in an amount of €8,534 million (previous year: €8,290 million) as well as trade receivables in an amount of €3,349 million (previous year: €4,375 million). Receivables from non-consolidated subsidiaries also result primarily from loans granted in an amount of €642 million (previous year: €938 million) as well as trade receivables in an amount of €190 million (previous year: €188 million).

Impairment losses of €24 million (previous year: €56 million) were recognized on the outstanding related party receivables. In the fiscal year, expenses of €14 million (previous year: €37 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 €354 million (previous year: €322 million).

In the reporting period, the Volkswagen Group made capital contributions of €505 million (previous year: €668 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 and other related parties relate primarily to interest-bearing bank balances of Supervisory Board members and other related parties 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 €24.2 million (previous year: €50.1 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:

€	2020	2019
Short-term benefits	30,682,893	36,307,352
Benefits based on performance shares and virtual shares	6,570,097	19,606,328
Post-employment benefits (service cost only)	7,248,486	12,901,219
Termination benefits	11,577,039	10,100,271
	56,078,514	**78,915,169**

Benefits paid on the basis of performance shares include the cost of €6.6 million (previous year: €19.5 million) attributable to the performance shares granted to Board of Management members under the remuneration system applicable as from 2017.

In fiscal year 2020, the share price performance up to the settlement date led to the recognition of expense of €– million (previous year: expense of €0.1 million) for the phantom shares.

The post-employment benefits relate to additions to pension provisions for current members of the Board of Management. The termination benefits relate to the payments made to Mr. Sommer in connection with his early departure from the Board of Management on June 30, 2020 and to Mr. Renschler in connection with his early departure from the Board of Management on July 15, 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.

47. German Corporate Governance Code

On November 13, 2020, 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.

In December 2020, 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 2020, 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.

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

€	2020	2019
Board of Management remuneration		
Non-performance-related remuneration	18,578,569	13,332,515
Performance-related remuneration	6,903,129	17,647,682
Long-term incentive component	12,746,420	14,414,075
	38,228,118	**45,394,271**
Supervisory Board remuneration		
Non-performance-related remuneration	4,770,194	4,547,188
Performance-related remuneration	571,002	779,967
	5,341,196	**5,327,155**

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. In addition, Mr. Duesmann was granted compensation of lost entitlements in the amount of €7.3 million due to the change of employer. The fringe benefits result from 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 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)".

Advances granted to members of the Board of Management under the performance share plan amounted to €6.5 million as of December 31, 2020 (previous year: €12.3 million). In the fiscal year, a total of €4.3 million (previous year: €– million) of the advances paid to members of the Board of Management were deducted from the payment amount under the performance share plan.

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, 2020, the pension provisions for members of the Board of Management amounted to €36.6 million (previous year: €60.5 million). Current pensions are index-linked in line 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 €35.9 million (previous year adjusted: €14.5 million) were granted. Pension provisions in accordance with IFRSs for this group of individuals amounted to €396.3 million (previous year: €373.7 million).

In connection with his departure from the Board of Management effective March 31, 2020, Mr. Schot was granted 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 €3.0 million (previous year: €– million).

In connection with his departure from the Board of Management effective June 30, 2020, Mr. Sommer was granted a non-performance-related component of €1.5 million (previous year: €– million).

In connection with his departure from the Board of Management effective July 15, 2020, Mr. Renschler was granted a non-performance-related component of €10.1 million (previous year: €– million).

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

Wolfsburg, February 16, 2021

Volkswagen Aktiengesellschaft
The Board of Management

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 16, 2021

Volkswagen Aktiengesellschaft
The Board of Management

Herbert Diess	Murat Aksel	Oliver Blume
Markus Duesmann	Gunnar Kilian	Thomas Schmall-von Westerholt
Hiltrud Dorothea Werner	Frank Witter	

Independent auditor's report

To VOLKSWAGEN AKTIENGESELLSCHAFT, Wolfsburg

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

OPINIONS

We have audited the consolidated financial statements of VOLKSWAGEN AKTIENGESELLSCHAFT, Wolfsburg, and its subsidiaries (the Group), which comprise the consolidated income statement and consolidated statement of comprehensive income for the fiscal year from 1 January to 31 December 2020, and the consolidated balance sheet as at 31 December 2020, consolidated statement of changes in equity and consolidated cash flow statement for the fiscal year from 1 January to 31 December 2020, 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 fiscal year from 1 January to 31 December 2020. In accordance with German legal requirements, we have not audited the content of the parts of the group management report specified in the appendix to the auditor's report and the company information stated therein that is provided outside of the annual report and is referenced in the group management 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 Sec. 315e (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 31 December 2020 and of its financial performance for the fiscal year from 1 January to 31 December 2020, 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 opinion on the group management report does not cover the content of the parts of the group management report listed in the appendix to the auditor's report.

Pursuant to Sec. 322 (3) 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 OPINIONS

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 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 Art. 10 (2) f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Art. 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 opinions on the consolidated financial statements and on the group management report.

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 fiscal year from 1 January to 31 December 2020. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon; we do not provide a separate opinion on these matters.

Below, we describe what we consider to be the key audit matters:

1. Accounting treatment of the risk provisions for the diesel issue

Reasons why the matter was determined to be a key audit matter

Due to indications of irregularities in connection with exhaust gas emissions from diesel engines in certain vehicles of the Volkswagen Group, regulatory authorities in numerous countries (particularly in Europe, the USA and Canada) commenced investigations in the past few years, some of which are still ongoing.

On the basis of its own findings and those of the authorities, the Volkswagen Group implemented various measures, which differed according to the country in some cases and included hardware and software measures, vehicle buybacks and early termination of leases as well as compensation payments to vehicle owners in some instances. The hardware and software measures had largely been completed as of the reporting date. The risk provisions for the diesel issue mainly include provisions for criminal, administrative and civil proceedings. Furthermore, there are legal risks from other criminal and administrative proceedings as well as civil actions, particularly by customers and holders of securities.

The provisions recognized as of 31 December 2020 and the contingent liabilities disclosed in the notes to the consolidated financial statements are subject to a significant estimation risk in view of the extensive ongoing criminal and administrative investigations and proceedings, the complexity of the different issues, developments in court rulings and market conditions for used diesel vehicles. Whether provisions need to be recognized or contingent liabilities disclosed for the legal risks from the diesel issue, and in what amount, depends to a large extent on the assessments and assumptions made by the executive directors. As described in the "Key events" section of the notes to the consolidated financial statements and in the "Report on Expected Developments, Risks and Opportunities" section of the group management report, the executive directors considered in their assessments in particular the fact that, based on the various measures taken to resolve the diesel issue to date, there is still no confirmation that members of the Board of Management were aware of any deliberate manipulation of the engine control unit software prior to the summer of 2015.

In light of the significance of the risk provisions and the extent of the assumptions and scope for judgment by the executive directors, this matter was a key audit matter.

Auditor's response

To assess the recognition and measurement of the provisions for legal risks and the disclosure of contingent liabilities from legal risks arising from the diesel issue, we considered, in particular, work and opinions by experts engaged by the executive directors of the Volkswagen Group in addition to available official notices and court judgments as part of a risk-based selection of significant transactions. Moreover, with the involvement of our own legal and forensic specialists, we held regular meetings with the internal Legal department and the external lawyers engaged by the executive directors of the Volkswagen Group to obtain oral explanations about the current developments and reasons leading to the assessments of the ongoing proceedings. We compared confirmations received from external lawyers with the risk assessment by the executive directors. We also regularly reviewed publicly available information, such as media reports, to assess the completeness of the provisions.

In addition, we reviewed on a sample basis the input factors (quantity and value) of the provisions and contingent liabilities for individual matters using statements of claims received, settlement agreements and court judgments. With regard to the valuation, we also compared the current assessments by the executive directors with past experience, where observable. For significant additions to provisions, we examined whether they were due to new matters or to changes in the estimation inputs and obtained corresponding evidence. To analyze significant utilizations of the provisions, we examined a sample to determine whether they were based on settlement agreements or court judgments and whether corresponding payments were made.

Furthermore, inquiries were made of the executive directors and the external law firms engaged to carry out the investigations, with the assistance of our own forensic specialists, in order to understand and assess the investigations undertaken in terms of when former and current members of the Board of Management became aware of the diesel issue.

Our audit procedures did not lead to any objections relating to the accounting treatment of the risk provisions for the diesel issue.

Reference to related disclosures

The information presented and the statements made in connection with the diesel issue, including the comments on the underlying causes, on when the members of the Board of Management became aware of the issue and on the effects on the accompanying financial statements are contained in the "Key events" and "Litigation" sections of the notes to the consolidated financial statements and in the "Report on Risks and Opportunities" section of the group management report, subsection "Legal risks."

2. Recoverability of goodwill and the acquired brand names

Reasons why the matter was determined to be a key audit matter

The result of the impairment testing of goodwill and the acquired brand names is highly dependent on the executive directors' estimate of future cash flows and which discount rates they use. The recoverable amount of the cash-generating units is calculated on the basis of their value in use, applying discounted cash flow models.

The COVID-19 pandemic has negatively affected the cash inflows of the Volkswagen Group and its brands as a result of the global drop in demand and the temporary production stops. The executive directors of the Volkswagen Group expect cash inflows to continue to be affected in subsequent years.

In addition, the executive directors have scope for judgment in determining the cash-generating units for impairment testing, in determining the discount rates used and the long-term growth rates assumed.

In view of the foregoing, the materiality of goodwill and the acquired brand names in relation to total assets, the complexity of the valuation and the judgment exercised during valuation, the impairment testing of goodwill and the acquired brands was a key audit matter.

Auditor's response

During our audit, we involved valuation specialists to assess among other things the methodology used to perform the impairment tests in light of the provisions of IAS 36. We also checked the arithmetical accuracy of the valuation models used.

On the basis of the Volkswagen Group's internal reporting, we assessed for the acquired brands whether the brands represent the lowest level within the Group at which independent cash inflows are generated and whether goodwill is monitored at brand level for internal management purposes.

We analyzed the planning process established in the Volkswagen Group and tested the operating effectiveness of the controls implemented in the planning process. As a starting point, we compared the Volkswagen Group's five-year operational plan prepared by the executive directors and acknowledged by the Supervisory Board with the forecast figures in the underlying impairment tests. We discussed the key planning assumptions for selected brands to which significant goodwill and acquired brand names are allocated with the executive directors and compared them with past earnings and cash inflows to assess the planning accuracy. Our plausibility testing of the inputs for the impairment tests was based among other things on a comparison with general and industry-specific market expectations underlying the expected cash inflows. We discussed with the executive directors the effects of the COVID-19 pandemic on the development of cash inflows in the individual cash-generating units and compared them with current market expectations. With respect to the rollforward from the medium-term plan to the long-term forecast, we assessed the plausibility of the assumed growth rates by comparing them with observable data.

To assess the discount rates and growth rates applied, we analyzed the inputs used to determine them on the basis of publicly available information and obtained an understanding of the methods used with regard to the relevant requirements of IAS 36.

We also assessed the sensitivity analyses performed by the executive directors in order to estimate any potential impairment risk associated with a reasonably possible change in one of the significant assumptions used in the valuation.

Our procedures did not lead to any reservations relating to the recoverability of goodwill and the acquired brand names.

Reference to related disclosures

With regard to the recognition and measurement policies applied for goodwill and the acquired brand names, refer to the disclosure on intangible assets in the “Accounting policies” section of the notes to the consolidated financial statements. For the related disclosures on judgments by the executive directors and sources of estimation uncertainty as well as the disclosures on goodwill and the acquired brand names, refer to the disclosure in the “Accounting policies” and “Estimates and assumptions by management” sections and in note 12 “Intangible assets” in the “Balance Sheet disclosures” section of the notes to the consolidated financial statements.

3. Capitalization and recoverability of development costs

Reasons why the matter was determined to be a key audit matter

Key criteria for capitalizing development costs are the ability to implement the development projects (including their technical feasibility, the intention to complete them and the ability to use them) as well as the realization of an expected future economic benefit. The complexity of research and development projects is mounting in view of the technological transformation of the Volkswagen Group and the resulting new development areas (including high investments in electromobility, software and autonomous driving). Assessments of project feasibility are playing an ever greater role in this connection and entail the use of considerable judgment.

Where capitalized development costs are not yet subject to amortization, they must be tested for impairment as part of the related cash-generating unit at least annually at the level of the brands defined as cash-generating units. The assumption of realizing future economic benefits and the result of testing the recoverability of capitalized development costs during the analyses and impairment tests performed are highly dependent on the executive directors' estimate of future cash flows and which discount rates they use. The recoverable amount of the cash-generating units is calculated on the basis of their value in use, applying discounted cash flow models. The COVID-19 pandemic has negatively affected the cash inflows of the Volkswagen Group and its brands as a result of the global drop in demand and the temporary production stops. The executive directors of the Volkswagen Group expect cash inflows to continue to be affected in subsequent years.

In light of the foregoing, the materiality of the capitalized development costs in relation to total assets, the total amount of research and development costs and the judgment exercised during valuation, the capitalization of development costs and the impairment test were a key audit matter.

Auditor's response

During our audit, we examined the process for identifying the research and development costs, particularly with reference to the criteria for capitalization. In this connection, we tested process-related controls, carried out analytical audit procedures such as comparisons of project budgets and capitalization rates and inspected documentation on project feasibility. We also assessed the future economic benefit criterion for capitalization based on the assumptions regarding the cash inflows of the cash-generating unit to which the capitalized development work is allocated.

Moreover, we involved valuation specialists to assess among other things the methodology used to determine the relevant cash-generating units and perform the impairment tests in light of the provisions of IAS 36. We also checked the arithmetical accuracy of the valuation models used, analyzed the planning process established in the Volkswagen Group and tested the operating effectiveness of the controls implemented in the planning process.

We discussed with the executive directors the key planning assumptions for a sample we selected of brands with significant capitalized development costs and compared them with past earnings and cash inflows to assess the planning accuracy. Our plausibility testing of the inputs for the impairment tests was based among other things on a comparison with general and industry-specific market expectations underlying the expected cash inflows. We discussed with the executive directors the effects of the COVID-19 pandemic on the development of cash inflows in the individual cash-generating units and compared them with current market expectations. Furthermore, we analyzed the inputs used to determine the discount rates on the basis of publicly available information and obtained an understanding of the calculation with regard to the relevant requirements of IAS 36.

We also assessed the sensitivity analyses performed by the executive directors in order to estimate any potential impairment risk associated with a reasonably possible change in one of the significant assumptions used in the valuation.

Our procedures did not lead to any reservations relating to the recognition and recoverability of the capitalized development costs.

Reference to related disclosures

With regard to the recognition and measurement policies applied for capitalized development costs, refer to the disclosure on intangible assets in the "Accounting policies" section of the notes to the consolidated financial statements. For the related disclosures on judgments by the executive directors and sources of estimation uncertainty as well as the disclosures on capitalized development costs, refer to the disclosures in the "Accounting policies" and "Estimates and assumptions by management" sections and in note 12 "Intangible assets" in the "Balance Sheet disclosures" section of the notes to the consolidated financial statements.

4. Completeness and measurement of provisions for warranty obligations

Reasons why the matter was determined to be a key audit matter

Obligations for warranty claims are calculated on the basis of estimated warranty costs at the level of individual models and model years by reference to claims to date, including their nature, frequency and remediation cost, and by reference to historical and expected policy on ex gratia arrangements. Where unusual individual technical risks are anticipated, an individual assessment is made whether and, if so, to what extent measures are required to remediate them and provisions need to be recognized.

The amount of provisions for warranty claims is significant overall. Besides the general use of judgment in selecting the valuation methods and assessing the obligations, increasing estimation uncertainty stems from the rise in hybrid and battery electric vehicles entering the market and a lack of experience of their susceptibility to faults. In light of the amount of the provisions and the judgment exercised during valuation, the completeness and measurement of provisions for warranty obligations was a key audit matter.

Auditor's response

With regard to the accounting for the provisions for warranty obligations, we examined the underlying processes for recording previous claims, calculating and valuing the estimated future warranty costs and recognizing the provisions, and tested controls.

In light of the uncertainty in relation to the estimated future losses, we assessed the underlying valuation assumptions, especially the expected claim rate per vehicle and the cost thereof, using analyses of historical data. Where there was a lack of past experience, we obtained an understanding of the assumptions made by the executive directors and tested their plausibility using historical data for comparable items. Using the calculation bases derived from these historical data, we checked the estimated costs for expected claims per vehicle. To assess the completeness of the provisions, we also reconciled the number of sold vehicles used to recognize the provision with the sales volumes. We obtained an understanding of the method used for calculating the provisions, including the discounting, and reperformed the calculations.

For significant individual technical risks, we assessed the expected incidence of technical faults and the calculation of expected costs per claim/vehicle using documentation on previous claims, inspecting resolutions passed by technical committees and holding discussions with the departments responsible.

Our audit procedures did not lead to any reservations relating to the completeness and valuation of provisions for warranty obligations.

Reference to related disclosures

With regard to the recognition and measurement policies applied in accounting for provisions for warranty obligations, refer to the disclosures in the "Accounting policies" and "Noncurrent and current other provisions" sections of the notes to the consolidated financial statements.

5. Calculation of the expected residual values of lease assets during impairment testing

Reasons why the matter was determined to be a key audit matter

Lease assets comprise vehicles under leases that are due to expire. There is an impairment risk for these vehicles which is primarily dependent on the residual value expected at the end of the lease. The expected residual value of these vehicles is a significant area which is subject to estimation uncertainty and in which the executive directors of Volkswagen Financial Services AG exercise judgment.

The expected residual value is reviewed quarterly using internal and external marketing results and on the basis of estimates of future market price development.

In light of the existing estimation uncertainty, the judgment exercised in calculating the residual values and the significance of the amount for impairment testing, the calculation of expected residual values was a key audit matter. As it is not possible to make a conclusive assessment of the impact of the global COVID-19 pandemic, the estimation uncertainty in relation to the calculation of the expected residual values is significantly heightened.

Auditor's response

During our audit, we analyzed the process implemented by the executive directors of Volkswagen Financial Services AG for monitoring and calculating the residual values to identify any risks of material misstatement and obtained an understanding of the process steps and controls. On this basis, we tested the operating effectiveness of the implemented controls over the calculation of the expected residual values. To assess the forecasting model used to calculate the residual values, we assessed the validation plan on the basis of the model design and analyzed the validation procedures performed and the backtesting results as to whether any need for an impairment allowance was identified and whether there had been an unusual number of outliers. Furthermore, we assessed whether the assumptions underlying the forecasting model and the inputs used for calculating the expected residual values were clearly documented. We obtained evidence for the main inputs and assumptions used for age, mileage and lifecycle phase of the vehicles to calculate the residual values and examined them for currentness and transparency. We assessed whether the marketing assumptions used reflect current marketing results and industry-specific and general market expectations.

Our audit procedures did not lead to any reservations relating to the calculation of the expected residual values of the lease assets during impairment testing.

Reference to related disclosures

With regard to the recognition and measurement policies applied for lease assets, refer to the disclosure on intangible assets in the "Accounting policies" section of the notes to the consolidated financial statements. For the related disclosures on judgments by the executive directors and sources of estimation uncertainty, refer to the disclosures in the "Accounting policies" and "Estimates and assumptions by management" sections and in note 14 "Lease assets and investment property" in the "Balance Sheet disclosures" section of the notes to the consolidated financial statements.

OTHER INFORMATION

The Supervisory Board is responsible for the Report of the Supervisory Board. The executive directors and the Supervisory Board are responsible for the declaration pursuant to Sec. 161 AktG ["Aktiengesetz": German Stock Corporation Act] on the German Corporate Governance Code, which is part of the group corporate governance declaration. In all other respects, the executive directors are responsible for the other information. The other information comprises the parts of the annual report listed in the appendix.

Our 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 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 Sec. 315e (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 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 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 Sec. 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 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 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 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 Sec. 315e (1) HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express 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 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

Report on the assurance in accordance with Sec. 317 (3b) HGB on the electronic reproduction of the consolidated financial statements and the group management report prepared for publication purposes

Opinion

We have performed assurance work in accordance with Sec. 317 (3b) HGB to obtain reasonable assurance about whether the reproduction of the consolidated financial statements and the group management report (hereinafter the "ESEF documents") contained in the attached electronic file VWAG_JFB_Konzern_2020-12-31 and prepared for publication purposes complies in all material respects with the requirements of Sec. 328 (1) HGB for the electronic reporting format ("ESEF format"). In accordance with German legal requirements, this assurance only extends to the conversion of the information contained in the consolidated financial statements and the group management report into the ESEF format and therefore relates neither to the information contained in this reproduction nor to any other information contained in the abovementioned electronic file.

In our opinion, the reproduction of the consolidated financial statements and the group management report contained in the abovementioned attached electronic file and prepared for publication purposes complies in all material respects with the requirements of Sec. 328 (1) HGB for the electronic reporting format. We do not express any opinion on the information contained in this reproduction nor on any other information contained in the abovementioned file beyond this reasonable assurance opinion and our audit opinion on the accompanying consolidated financial statements and the accompanying group management report for the fiscal year from 1 January 2020 to 31 December 2020 contained in the "Report on the audit of the consolidated financial statements and of the group management report" above.

Basis for the opinion

We conducted our assurance work on the reproduction of the consolidated financial statements and the group management report contained in the abovementioned attached electronic file in accordance with Sec. 317 (3b) HGB and Exposure Draft of IDW Assurance Standard: Assurance in Accordance with Sec. 317 (3b) HGB on the Electronic Reproduction of Financial Statements and Management Reports Prepared for Publication Purposes (ED IDW AsS 410). Our responsibilities under that standard are further described in the "Group auditor's responsibilities for the assurance work on the ESEF documents" section. Our audit firm applied the requirements for quality control systems set forth in IDW Standard on Quality Control: "Requirements for Quality Control in Audit Firms" (IDW QS 1).

Responsibilities of the executive directors and the Supervisory Board for the ESEF documents

The executive directors of the Company are responsible for the preparation of the ESEF documents including the electronic reproduction of the consolidated financial statements and the group management report in accordance with Sec. 328 (1) Sentence 4 No. 1 HGB and for the tagging of the consolidated financial statements in accordance with Sec. 328 (1) Sentence 4 No. 2 HGB.

In addition, the executive directors of the Company are responsible for such internal control as they have considered necessary to enable the preparation of ESEF documents that are free from material non-compliance with the requirements of Sec. 328 Abs. 1 HGB for the electronic reporting format, whether due to fraud or error.

The executive directors of the Company are also responsible for the submission of the ESEF documents together with the auditor's report and the attached audited consolidated financial statements and the audited group management report as well as other documents to be published to the operator of the *Bundesanzeiger* [German Federal Gazette].

The Supervisory Board is responsible for overseeing the preparation of the ESEF documents as part of the financial reporting process.

Group auditor's responsibilities for the assurance work on the ESEF documents

Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material non-compliance with the requirements of Sec. 328 (1) HGB, whether due to fraud or error. We exercise professional judgment and maintain professional skepticism throughout the engagement. We also:

- Identify and assess the risks of material non-compliance with the requirements of Sec. 328 (1) HGB, whether due to fraud or error, design and perform assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance opinion.
- Obtain an understanding of internal control relevant to the assurance on the ESEF documents in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance opinion on the effectiveness of these controls.
- Evaluate the technical validity of the ESEF documents, i.e., whether the electronic file containing the ESEF documents meets the requirements of Delegated Regulation (EU) 2019/815, in the version valid as of the reporting date, on the technical specification for this electronic file.
- Evaluate whether the ESEF documents enable an XHTML reproduction with content equivalent to the audited consolidated financial statements and to the audited group management report.
- Evaluate whether the tagging of the ESEF documents with Inline XBRL technology (iXBRL) enables an appropriate and complete machine-readable XBRL copy of the XHTML reproduction.

Further information pursuant to Art. 10 of the EU Audit Regulation

We were elected as group auditor by the Annual General Meeting on 30 September 2020. We were engaged by the Supervisory Board on 23 November 2020. We have been the group auditor of VOLKSWAGEN AKTIENGESELLSCHAFT since fiscal year 2020.

We declare that the opinions expressed in this auditor's report are consistent with the additional report to the Audit Committee pursuant to Art. 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 Martin Matischiok.

APPENDIX TO THE AUDITOR'S REPORT:

1. Parts of the group management report whose content is unaudited

We have not audited the content of the following part of the group management report:

- The group corporate governance declaration which is published on the website stated in the group management report and is part of the group management report.

2. Further other information

The other information comprises the following parts of the annual report, of which we obtained a copy prior to issuing this auditor's report:

- To our shareholders
- Divisions
- Further information
- Responsibility statement
- Non-financial report

but not the consolidated financial statements, not the group management report disclosures whose content is audited and not our auditor's report thereon.

3. Company information outside of the annual report referenced in the group management report

The group management report contains other cross-references to webpages of the Group. We have not audited the content of the information to which these cross-references refer.

Hanover, 26 February 2021

Ernst & Young GmbH
Wirtschaftsprüfungsgesellschaft

Meyer	Matischiok
Wirtschaftsprüfer	Wirtschaftsprüfer
[German Public Auditor]	[German Public Auditor]