33. Management of financial risks

General information on financial risks

As a result of its businesses and the global nature of its operations, Daimler is exposed in particular to market risks from changes in foreign currency exchange rates and interest rates, while commodity price risks arise from procurement. An equity price risk results from investments in listed companies. In addition, the Group is exposed to credit risks from its leasing and financing activities and from its operating business (trade receivables). Furthermore, the Group is exposed to liquidity and country risks relating to its credit and market risks or a deterioration of its operating business or financial market disturbances. If these financial risks materialize, they could adversely affect Daimler's profitability, liquidity and capital resources and financial position.

Daimler has established internal guidelines for risk controlling procedures and for the use of financial instruments, including a clear segregation of duties with regard to financial activities, settlement, accounting and the related controlling. The guidelines upon which the Group's risk management processes for financial risks are based are designed to identify and analyze these risks throughout the Group, to set appropriate risk limits and controls and to monitor the risks by means of reliable and up-to-date administrative and information systems. The guidelines and systems are regularly reviewed and adjusted to changes in markets and products.

The Group manages and monitors these risks primarily through its operating and financing activities and, if required, through the use of derivative financial instruments. Daimler uses derivative financial instruments exclusively for hedging financial risks that arise from its operating business or refinancing activities. Without these derivative financial instruments, the Group would be exposed to higher financial risks (additional information on financial instruments and especially on the volumes of the derivative financial instruments used is included in Note 32). Daimler regularly evaluates its financial risks with due consideration of changes in key economic indicators and up-to-date market information.

Any market sensitive instruments including equity and debt securities that the plan assets hold to finance pension and other post-employment healthcare benefits are not included in the following quantitative and qualitative analysis. See Note 22 for additional information on Daimler's pension and other post-employment benefits.

Credit risk

Credit risk is the risk of economic loss arising from counterparty's failure to repay or service debt in accordance with the contractual terms. Credit risk encompasses both the direct risk of default and the risk of a deterioration of creditworthiness as well as concentration risks.

F.87
Average prices of hedging instruments for the major risks

	At December 31, 2019	2018
Foreign currency risk		
USD per €	1.17	1.18
CNY per €	8.14	8.37
GBP per €	0.88	0.88
Interest rate risk		
Fair value hedges		
Average interest rate – €	-0.92%	-0.82%
Average interest rate – USD	-0.21%	0.46%
Cash flow hedges		
Average interest rate – €	-0.84%	-0.59%
Average interest rate – USD	-0.57%	-0.07%
Commodity risk		
Platinum (in € per troy ounce)	814	819
Palladium (in € per troy ounce)	1,245	688
Aluminum (in € per ton)	–	1,606

The maximum risk positions of financial assets which are generally subject to credit risk are equal to their carrying amounts (without consideration of collateral, if available). There is also a risk of default from irrevocable loan commitments which had not been utilized as of that date, as well as from financial guarantees. The maximum risk position in these cases is equal to the expected future cash outflows. Table ↗ F.88 shows the maximum risk positions.

Liquid assets

Liquid assets consist of cash and cash equivalents and marketable debt securities and similar investments. With the investment of liquid assets, banks and issuers of securities are selected very carefully and diversified in accordance with a limit system. Liquid assets are mainly held at financial institutions within and outside Europe with high creditworthiness, as bonds issued by German federal states and as money market funds. In connection with investment decisions, priority is placed on the borrower's very high creditworthiness and on balanced risk diversification. The limits and their utilizations are reassessed continuously. In this assessment, Daimler also considers the credit risk assessment of its counterparties by the capital markets. In line with the Group's risk policy, most liquid assets are held in investments with an external rating of "A" or better. Liquid assets are thus not subject to a material credit risk and are allocated to stage 1 of the impairment model, which is based on expected credit risk.

F.88

Maximum risk positions of financial assets, irrevocable loan commitments and financial guarantees

	see also Note	Maximum risk position 2019	Maximum risk position 2018
In millions of euros			
Liquid assets		**27,538**	25,430
Receivables from financial services	14	**103,661**	96,740
Trade receivables	19	**12,332**	12,586
Derivative financial instruments used in hedge accounting (assets only)	16	**1,191**	1,033
Derivative financial instruments not used in hedge accounting (assets only)	16	**27**	109
Other receivables and financial assets	16	**3,328**	3,177
Irrevocable loan commitments		**2,038**	2,051
Financial guarantees		**728**	672

Receivables from financial services

Daimler's financing and leasing activities are primarily focused on supporting the sales of the Group's automotive products. As a consequence of these activities, the Group is exposed to credit risk, which is monitored and managed based on defined standards, guidelines and procedures. Daimler manages its credit risk irrespective of whether it is related to a financing contract or to an operating lease or a finance lease contract. For this reason, statements concerning the credit risk of Daimler Mobility refer to the entire financing and leasing business, unless specified otherwise.

Exposure to credit risk from financing and lease activities is monitored based on the portfolio subject to credit risk. The portfolio subject to credit risk consists of wholesale and retail receivables from financial services and the portion of the operating lease portfolio that is subject to credit risk. Receivables from financial services comprise claims arising from finance lease contracts and repayment claims from financing loans. The operating lease portfolio is reported under equipment on operating leases in the Group's Consolidated Financial Statements. Overdue lease payments from operating lease contracts are recognized in receivables from financial services.

The Daimler Mobility segment has guidelines setting the framework for effective risk management at a global as well as a local level. In particular, these rules deal with minimum requirements for all risk-relevant credit processes, the definition of financing products offered, the evaluation of customer quality, requests for collateral as well as the treatment of unsecured loans and non-performing claims. The limitation of concentration risks is implemented primarily by means of global limits, which refer to single customer exposures. As of December 31, 2019, exposure to the biggest 15 customers did not exceed 4.4% (2018: 3.8%) of the total portfolio.

With respect to its financing and lease activities, the Group holds collateral for customer transactions limiting actual credit risk through its fair value. The value of collateral generally depends on the amount of the financed assets. The financed vehicles usually serve as collateral. Furthermore, Daimler Mobility limits credit risk from financing and lease activities, for example through advance payments from customers.

For the assessment of the default risk of retail and small business customers scoring systems are applied to evaluate their creditworthiness. Corporate customers are evaluated using internal rating instruments. Both evaluation processes use external credit bureau data if available. The scoring and rating results as well as the availability of security and other risk mitigation instruments, such as advance payments, guarantees and, to a lower extent, residual debt insurances, are essential elements for credit decisions.

For information on credit risks included in receivables from financial services, see Note 14. Information on the measurement of expected credit losses is provided in Note 1.

If, in connection with contracts, a worsening of payment behavior or other causes of a credit risk are recognized, collection procedures are initiated by claims management to obtain the overdue payments of the customer, to take possession of the asset financed or leased or, alternatively, to renegotiate the impaired contract. Restructuring policies and practices are based on the indicators or criteria which, in the judgment of local management, indicate that repayment will probably continue and that the total proceeds expected to be derived from the renegotiated contract exceed the expected proceeds to be derived from repossession and remarketing. For receivables from financial services, significant modifications of financial assets only occurred in rare cases and immaterial volume.

The allowance ratio increased compared to the low level of the previous year.

Trade receivables
Trade receivables are mostly receivables from worldwide sales activities of vehicles and spare parts. The credit risk from trade receivables encompasses the default risk of customers, e.g. dealers and general distribution companies, as well as other corporate and private customers. In order to identify credit risks, Daimler assesses the creditworthiness of customers. Daimler manages its credit risk from trade receivables using appropriate IT applications and databases on the basis of internal guidelines which have to be followed globally.

A significant part of the trade receivables from each country's domestic business is secured by various country-specific types of collateral. This collateral includes conditional sales, guarantees and sureties as well as mortgages and advance payments from customers.

For trade receivables from export business, Daimler also evaluates its customers' creditworthiness by means of an internal rating process under consideration of the respective country risk. In this context, the year-end financial statements and other relevant information on the general distribution companies such as payment history are used and assessed.

Depending on the creditworthiness of the customers, Daimler usually establishes credit limits and limits credit risks with the following types of collateral:

- credit insurances,
- first-class bank guarantees and
- letters of credit.

These procedures are defined in the export credit guidelines, which have Group-wide validity.

For impairments of trade receivables, the simplified approach is applied, whereby these receivables are allocated to stage 2. Credit losses until maturity for these trade receivables are recognized upon initial recognition.

Further information on trade receivables and the status of impairments recognized is provided in Note 19.

Derivative financial instruments
The Group uses derivative financial instruments exclusively for hedging financial risks that arise from its operational business, financing activities or liquidity management. Daimler manages its credit risk exposure in connection with derivative financial instruments through a limit system, which is based on the review of each counterparty's financial strength. This system limits and diversifies the credit risk. As a result, Daimler is exposed to credit risk only to a small extent with respect to its derivative financial instruments. In accordance with the Group's risk policy, most derivatives are contracted with counterparties which have an external rating of "A" or better.

Other receivables and financial assets
With respect to other receivables and financial assets included in other financial assets in 2019 and 2018, Daimler is exposed to credit risk only to a small extent.

Irrevocable loan commitments
The Daimler Mobility segment in particular is exposed to credit risk from irrevocable loan commitments to retailers and end customers. At December 31, 2019, irrevocable loan commitments amounted to €2,038 million (2018: €2,051 million). These loan commitments had a maturity of less than one year and are not subject to a material credit risk.

Financial guarantees
The maximum potential obligations resulting from financial guarantees amount to €728 million at December 31, 2019 (2018: €672 million) and include liabilities recognized at December 31, 2019 in the amount of €107 million (2018: €124 million). Financial guarantees principally represent contractual arrangements. These guarantees generally provide that in the event of default or non-payment by the primary debtor, the Group will be required to settle such financial obligations.

Liquidity risk

Liquidity risk comprises the risk that a company cannot meet its financial obligations in full.

Daimler manages its liquidity by holding adequate volumes of liquid assets and by maintaining syndicated credit facilities in addition to the cash inflows generated by its operating business. Additionally, the possibility to securitize receivables of financial services business (ABS transactions) also reduces the Group's liquidity risk. Liquid assets comprise cash and cash equivalents and marketable debt securities and similar investments. The Group can dispose of these liquid assets at short notice.

The funds raised are used to finance working capital and capital expenditure as well as the cash needs of the lease and financing business and unexpected liquidity needs. In accordance with internal guidelines, the refunding of the lease and financing business is generally carried out with matching maturities so that financing liabilities have the same maturity profile as the leased assets and the receivables from financial services.

At December 31, 2019, liquidity amounted to €27.5 billion (2018: €25.4 billion). In 2019, significant cash inflows resulted from the operations of the industrial business. Furthermore, a dividend payment from Beijing Benz Automotive Co., Ltd. had a positive effect on liquidity. Cash outflows resulted in particular from investments in intangible assets and property, plant and equipment, income taxes paid and a fine notice concluding the administrative offense proceedings against Daimler AG. At Daimler Mobility, cash outflows mainly resulted from the portfolio growth of the leasing and sales finance activities and from the merger of the mobility services of Daimler Group and BMW Group. Cash inflows and outflows in connection with the cash flow of the financing activities were also effective.

From an operating point of view, the management of the Group's liquidity exposures is centralized by a daily cash-pooling process. This process enables Daimler to manage its liquidity surplus and liquidity requirements according to the actual needs of the Group and each subsidiary. The Group's short-term and mid-term liquidity management takes into account the maturities of financial assets and financial liabilities and estimates of cash flows from the operating business.

In general, Daimler makes use of a broad spectrum of financial instruments to cover its funding requirements. Depending on funding requirements and market conditions, Daimler issues commercial paper, bonds, debt obligations and financial instruments secured by receivables in various currencies. Bank credit facilities are also used to cover financing requirements. Potential downgrades of Daimler's credit ratings could have a negative impact on the Group's financing. Since July 2018, Daimler has a syndicated credit facility with a volume of €11 billion with a consortium of international banks at its disposal. Exercising an optional extension of one year beyond the original term grants additional financial flexibility for Daimler until 2024. The term can be extended for another year until 2025. As of December 31, 2019, the credit line is still not utilized.

In addition, customer deposits at Mercedes-Benz Bank are used as a further source of refinancing.

Table ↗ F.89 provides an overview of how the future liquidity situation of the Group can be affected by the cash flows from liabilities, financial guarantees and irrevocable loan commitments as of December 31, 2019.

Information on the Group's financing liabilities is also provided in Note 24.

F.89

Liquidity runoff for liabilities and financial guarantees[1]

	Total	2020	2021	2022	2023	2024	≥ 2025
In millions of euros							
Financing liabilities[2]	171,904	65,925	38,789	22,508	10,729	8,857	25,096
thereof lease liabilities	4,949	792	661	540	459	382	2,115
Derivative financial instruments[3]	90	709	-48	-191	-121	-99	-160
Trade payables[4]	12,707	12,704	2	1	–	–	–
Miscellaneous other financial liabilities excluding accrued interest and liabilities from financial guarantees	7,454	5,653	788	377	261	141	234
Obligations from sales	5,200	5,200	–	–	–	–	–
Irrevocable loan commitments[5]	2,038	2,038	–	–	–	–	–
Financial guarantees[6]	728	728	–	–	–	–	–
	200,121	92,957	39,531	22,695	10,869	8,899	25,170

1 The amounts were calculated as follows:
(a) If the counterparty can request payment at different dates, the liability is included on the basis of the earliest date on which Daimler can be required to pay. The customer deposits of Mercedes-Benz Bank are mostly considered in this analysis to mature within the first year.
(b) The cash flows of floating interest financial instruments are estimated on the basis of forward rates.
2 The stated cash flows of financing liabilities consist of their undiscounted principal and interest payments.
3 The undiscounted sum of the net cash outflows of the derivative financial instruments is shown for the respective year. For individual periods, this may also include negative cash flows from derivatives with an overall positive fair value.
4 The cash outflows of trade payables are undiscounted.
5 The maximum available amounts are stated.
6 The maximum potential obligations under the issued guarantees are stated. It is assumed that the amounts are due within the first year.

Country risk

Country risk is the risk of economic loss arising from changes of political, economic, legal or social conditions in the respective country, e.g. resulting from sovereign measures such as expropriation or interdiction of foreign currency transfers.

Daimler is exposed to country risk mainly resulting from cross-border funding or collateralization of Group companies and customers, from investments in subsidiaries, associated companies, joint ventures and joint operations as well as from cross-border trade receivables. Country risks also arise from cross-border cash deposits at financial institutions.

Daimler manages these risks via country exposure limits (e.g. for hard currency portfolios of financial services entities) and via insurance of equity investments in high-risk countries. An internal rating system serves as a basis for Daimler's risk-oriented country exposure management; it assigns all countries to risk classes, with consideration of capital market indications of country risks.

Finance market risks

The global nature of its businesses exposes Daimler to significant market risks resulting from fluctuations in foreign currency exchange rates, interest rates and commodity prices. The Group is also exposed to equity price risk in connection with its investments in listed companies.

Daimler manages market risks to minimize the impact of fluctuations in foreign exchange rates, interest rates and commodity prices on the earnings of the Group and its segments. The Group calculates its overall exposure to these market risks to provide the basis for hedging decisions, which include the selection of hedging instruments and the determination of hedging volumes and the corresponding periods. The hedging strategy is specified at Group level and implemented in the segments according to the respective risk volumes. Decisions regarding the management of market risks from foreign exchange rates and commodities, as well as asset-/liability management (interest rates) are regularly made by the relevant Daimler risk management committees. Exposures are the basis for the hedging strategies and are updated regularly.

Certain existing benchmark interest rates including those of the London Interbank Offer Rate (for USD, GBP, CHF and JPY) will be comprehensively and internationally reformed by the end of 2021. As a result, those interest rates will be gradually abolished and replaced with alternative risk-free reference rates. Alternative interest rates are being developed on a national level in the context of the respective legal systems and currencies; they can therefore vary with regard to their structure, methodology and period of publication.

The effect of the application of the new interest rates on the consolidated financial statements is currently being reviewed. In order to conduct financial transactions based on the new indices, Daimler is preparing its IT-systems accordingly. Market uncertainty still exists about when the new interest rates will be available, how they will be calculated and how their application will affect financial transactions. Daimler regularly discusses current developments of alternative risk-free interest rates with its international banking partners.

As part of its risk management system, Daimler employs value at risk analyses. In performing these analyses, Daimler quantifies its market risk due to changes in foreign currency exchange rates and interest rates and certain commodity prices on a regular basis by predicting the potential loss over a target time horizon (holding period) and confidence level.

The value at risk calculations employed:

- express potential losses in fair values, and
- assume a 99% confidence level and a holding period of five days.

At the Group level, Daimler calculates the value at risk for exchange rate and interest rate risk according to the variance-covariance approach. The value at risk calculation method for commodity hedging instruments is based on a Monte Carlo simulation.

When calculating value at risk using the variance-covariance approach, Daimler first computes the current market value of the Group's financial instruments portfolio. Then the sensitivity of the portfolio value to changes in the relevant market risk factors, such as particular foreign currency exchange rates or interest rates of specific maturities, is quantified. Based on volatilities and correlations of these market risk factors, which are obtained from the RiskMetrics™ dataset, a statistical distribution of potential changes in the portfolio value at the end of the holding period is computed. The loss which is reached or exceeded with a probability of only 1% can be derived from this calculation and represents the value at risk.

The Monte Carlo simulation uses random numbers to generate possible changes in market risk factors consistent with current market volatilities. The changes in market risk factors allow the calculation of a possible change in the portfolio value over the holding period. Running multiple iterations of this simulation leads to a distribution of portfolio value changes. The value at risk can be determined based on this distribution as the portfolio value loss which is reached or exceeded with a probability of 1%.

Exchange rate risk

Transaction risk and currency risk management. The global nature of Daimler's businesses exposes cash flows and earnings to risks arising from fluctuations in exchange rates. These risks primarily relate to fluctuations between the euro and the US dollar, the Chinese renminbi, the British pound and other currencies such as currencies of growth markets. In the operating vehicle business, the Group's exchange rate risk primarily arises when revenue is generated in a currency that is different from the currency in which the costs of revenue is converted into the currency in which the costs are incurred, it may be inadequate to cover the costs if the value of the currency in which the revenue is generated declined in the interim relative to the value of the currency in which the costs were incurred. This risk exposure primarily affects Mercedes-Benz Cars/Mercedes-Benz Vans, which generate a major portion of their revenue in foreign currencies and incur manufacturing costs primarily in euros. Daimler Trucks/Daimler Buses are also exposed to transaction risks, but only to a minor degree because of their global production network. The exposures of these segments serve as a basis for analyzing exchange rate risks at Group level. In addition, the Group is indirectly exposed to transaction risk from its equity-method investments.

The Group's overall currency exposure is reduced by natural hedging, which consists of the currency exposures of the business operations of individual segments partially offsetting each other at Group level. These natural hedges eliminate the need for hedging to the extent of the matched exposures. To provide an additional natural hedge against any remaining transaction risk exposure, Daimler generally strives to increase cash outflows in the same currencies in which the Group has a net excess inflow.

In order to mitigate the impact of currency exchange rate fluctuations for the operating business (future transactions), Daimler continually assesses its exposure to exchange rate risks and hedges a portion of those risks by using derivative financial instruments. Daimler's Foreign Exchange Committee (FXCo) manages the Group's exchange rate risk and its hedging transactions through currency derivatives. The FXCo consists of representatives of the relevant segments and central functions. The Corporate Treasury department aggregates foreign currency exposures from Daimler's subsidiaries and operative units and implements the FXCo's decisions concerning foreign currency hedging through transactions with international financial institutions. For reporting purposes and accounting for hedge relationships, those hedges are allocated to Mercedes-Benz Cars/Mercedes-Benz Vans and Daimler Trucks/Daimler Buses. Suitable measures are generally taken without delay to eliminate any over-hedging at Group level regarding hedging transactions caused by changes in exposure. In the case of over hedges at the level of Mercedes-Benz Cars/Mercedes-Benz Vans or Daimler Trucks/Daimler Buses, designated hedging relations are reviewed with respect to any requirements to discontinue hedge accounting.

Risk Controlling regularly informs the Board of Management of the actions taken by Corporate Treasury based on the FXCo's decisions.

The Group's targeted hedge ratios for forecasted operating cash flows in foreign currency are indicated by a reference model. On the one hand, the hedging horizon is naturally limited by uncertainty related to cash flows that lie far in the future; on the other hand, it may also be limited by the fact that appropriate currency contracts are not available. This reference model aims to limit risks for the Group from unfavorable movements in exchange rates while preserving some flexibility to participate in favorable developments. Based on this reference model and depending on the market outlook, the FXCo determines the hedging horizon, which usually varies from one to five years, as well as the average hedge ratios. Reflecting the character of the underlying risks, the hedge ratios decrease with increasing maturities. At year-end 2019, foreign exchange management showed an unhedged position in the automotive business in calendar year 2020 for the underlying forecasted cash flows in US dollars of 27%, for the underlying forecasted cash flows in Chinese renminbi of 40% and for the underlying forecasted cash flows in British pounds of 26%.

The hedged position of the operating vehicle businesses is influenced by the amount of derivative currency contracts held. The derivative financial instruments used to cover foreign currency exposure are primarily forward foreign exchange contracts and currency options. Daimler's guidelines call for a mixture of these instruments depending on the assessment of market conditions. Value at risk is used to measure the exchange rate risk inherent in these derivative financial instruments.

F.90

Value at risk for exchange rate risk, interest rate risk and commodity price risk

				2019				2018
	Period-end	High	Low	Average	Period-end	High	Low	Average
In millions of euros								
Exchange rate risk (from derivative financial instruments)	**333**	**528**	**333**	**422**	568	695	568	633
Interest rate risk	**131**	**156**	**34**	**94**	26	45	26	36
Commodity price risk (from derivative financial instruments)	**18**	**25**	**17**	**21**	14	23	14	18

Table ↗ **F.90** shows the period-end, high, low and average value at risk figures of the exchange rate risk for the 2019 and 2018 portfolios of derivative financial instruments, which were entered into primarily in connection with the operative vehicle businesses. Average exposure has been computed on an end-of-quarter basis. The offsetting transactions underlying the derivative financial instruments are not included in the following value at risk presentation. See also table ↗ **F.86**.

Hedge accounting. When designating derivative financial instruments, a hedge ratio of 1 is applied. In addition, the respective volume and currency of the hedge and the underlying transaction as well as maturity dates are matched. The Group ensures an economic relationship between the underlying transaction and the hedging transaction by ensuring consistency of currency, volume and maturity. In the case of options for currency hedging, the option premium is not designated into the hedge relationship, but the hedging costs are deferred in other comprehensive income and recognized in profit or loss at the due date of the underlying transaction. The effectiveness of the hedge is assessed at the beginning and during the economic relationship. Possible sources of ineffectiveness of the hedge relationship are:

- Effects of the credit risk on the fair value of the used derivative instrument which is not reflected in the change of the hedged currency risk.

- Changes in the timing of the hedged transactions.

Until year-end 2018, the designation of hedge relationships for a specific currency and maturity had no further differentiation in respect of the expected cash flows by segment. In the context of focusing on the divisional perspective, the designation of hedge relationships for foreign currency risk existing from the Group perspective from expected future cash flows from business operations, primarily from vehicle sales, have been assigned to Mercedes-Benz Cars/Mercedes-Benz Vans and to Daimler Trucks/Daimler Buses starting with 2019. Accordingly, the documentation required under IFRS with regard to this further differentiation of expected cash flows (i.e. the risk management objectives) has been revised for a large proportion of the already designated hedge relationships for foreign currency risk, although there has been no change in the overall Group risk management strategy for foreign currency risk. Pursuant to the described methods applied in preparation of the financial statements, this results in the formal discontinuation and immediate redesignation of existing hedge relationships according to the revised differentiation. The accumulated hedging gains/losses subject to redesignation as of December 31, 2018 remained in the other reserves for derivative financial instruments because the hedged future cash flows are still expected to occur. Further information can be found in table ↗ **F.83**. There were no material effects in 2019.

In 2019, the development of the value at risk from foreign currency hedging was mainly driven by decreases in foreign currency rate volatilities and hedge volumes.

The Group's investments in liquid assets or refinancing activities are generally selected so that possible currency risks are minimized. Transaction risks arising from liquid assets or payables in foreign currencies that result from the Group's investment or refinancing on money and capital markets are generally hedged against currency risks at the time of investing or refinancing in accordance with Daimler's internal guidelines. The Group uses appropriate derivative financial instruments (e.g. cross-currency interest rate swaps) to hedge against currency risk.

Since currency risks arising from the Group's investment or refinancing in foreign currencies and the respective hedging transactions principally offset each other, these financial instruments are not included in the value at risk calculation presented.

Effects of currency translation. For purposes of Daimler's Consolidated Financial Statements, the income and expenses and the assets and liabilities of subsidiaries located outside the euro zone are converted into euros. Therefore, period-to-period changes in average exchange rates may cause translation effects that have a significant impact on, for example, revenue, segment results (EBIT) and assets and liabilities of the Group. Unlike exchange rate transaction risk, exchange rate translation risk does not necessarily affect future cash flows. The Group's equity position reflects changes in book values caused by exchange rates. In general, Daimler does not hedge against exchange rate translation risk.

Interest rate risk

Daimler uses a variety of interest rate sensitive financial instruments to manage the liquidity needs of the Group. A substantial volume of interest rate sensitive assets and liabilities results from the leasing and sales financing business operated by the Daimler Mobility segment. The Daimler Mobility companies enter into transactions with customers that primarily result in fixed-rate receivables. Daimler's general policy is to match funding in terms of maturities and interest rates wherever economically feasible. However, for a limited portion of the receivables portfolio in selected and developed markets, the Group does not match funding in terms of maturities in order to take advantage of market opportunities. As a result, Daimler is exposed to risks due to changes in interest rates.

An asset/liability committee consisting of members of the Daimler Mobility, Mercedes-Benz Cars and Daimler Trucks segments and the Corporate Treasury department manages the interest rate risk by setting targets for the interest rate risk position. The Treasury Risk Management department and the local Daimler Mobility companies are jointly responsible for achieving these targets. As separate functions, the Treasury Controlling and the Daimler Mobility Controlling & Reporting department monitors target achievement on a monthly basis. In order to achieve the targeted interest rate risk positions in terms of maturities and interest rate fixing periods, Daimler also uses derivative financial instruments such as interest rate swaps. Daimler assesses its interest rate risk position by comparing assets and liabilities for corresponding maturities, including the impact of the relevant derivative financial instruments.

Derivative financial instruments are also used in conjunction with the refinancing related to the automotive segments and liquidity management. Daimler steers the funding activities of the automotive and financial services businesses at the Group level.

Table ↗ **F.90** shows the period-end, high, low and average value at risk figures of the interest rate risk for the 2019 and 2018 portfolios of interest rate sensitive financial instruments and derivative financial instruments of the Group, including the financial instruments of the leasing and sales financing business. Lease liabilities are not included in the value at risk of the interest rate risk. These leasing liabilities have a fixed interest rate and changes in interest rates therefore have no effect on the Group's net profit. The average values have been computed on an end-of-quarter basis.

In the course of 2019, changes in the value at risk of interest rate risks were primarily determined by the development of interest rate volatilities.

Hedge accounting. When designating derivative financial instruments, a hedge ratio of 1 is generally applied. The respective volumes, interest curves and currencies of the hedged item and the hedging instrument as well as maturity dates are matched. In the case of combined derivative financial instruments for interest currency hedges, the cross-currency basis spread is not designated into the hedge relationship, but deferred as a hedging cost in other comprehensive income and recognized in profit or loss over the hedge term. The Group ensures an economic relationship between the underlying transaction and the hedging instrument by ensuring consistency of interest rates, maturity terms and nominal amounts. The effectiveness of the hedge is assessed at the beginning and during the economic relationship using the hypothetical derivative method. Possible sources of ineffectiveness of the hedge relationship are:

- Effects of the credit risk on the fair value of the derivative instrument in use which are not reflected in the change in the hedged interest rate risk.

- Changes in the parameters of the underlying hedged transactions.

Commodity price risk
Daimler is exposed to the risk of changes in commodity prices in connection with procuring raw materials and manufacturing supplies used in production. A small portion of the raw material price risk, primarily relating to forecasted procurement of certain metals, is mitigated with the use of derivative financial instruments.

For precious metals, central commodity management shows an unhedged position of 55% of the forecasted commodity purchases at year-end 2019 for calendar year 2020. The corresponding figure at year-end 2018 was 39% for calendar year 2019.

Table ↗ **F.90** shows the period-end, high, low and average value at risk figures of the commodity price risk for the 2019 and 2018 portfolio of derivative financial instruments used to hedge raw material price risk. Average exposure has been computed on an end-of-quarter basis. The transactions underlying the derivative financial instruments are not included in the value at risk presentation. See also table ↗ **F.86**.

In 2019, the value at risk of commodity derivatives ranged close to the previous year's level.

Hedge accounting. When designating currency derivative financial instruments, Daimler generally applies a hedge ratio of 1. The respective volumes and parameters relevant for the valuation of the hedged item and the hedging instrument as well as maturity dates are matched. The Group ensures an economic relationship between the hedged item and the hedging instrument by ensuring consistency of volumes, parameters relevant for valuation and maturity terms. Effectiveness is assessed at initial designation and during the hedge term. Possible sources of ineffectiveness of the hedge relationship are:

- Effects of the credit risk on the fair value of the derivative instrument in use which are not reflected in the change in the hedged commodity price risk.

- Changes in the timing of the hedged transactions.

Equity price risk
Daimler predominantly holds investments in shares of companies which are classified as long-term investments, some of which are accounted for using the equity method, such as BAIC Motor. These investments are not included in a market risk assessment of the Group.