

Deutsche Börse AG

Consolidated financial statements and notes

as at 31 December 2020

Consolidated income statement

for the period 1 January to 31 December 2020

	Note	2020 €m	2019 ¹⁾ €m
Sales revenue	4	3,519.3	3,054.2
Treasury result from banking business	4	196.6	247.7
Other operating income	4	40.5	13.5
Total revenue		3,756.4	3,315.4
Volume-related costs	4	- 542.6	- 379.4
Net revenue (total revenue less volume-related costs)		3,213.8	2,936.0
Staff costs	5	- 822.9	- 747.8
Other operating expenses	6	- 545.8	- 516.6
Operating costs		- 1,368.7	- 1,264.4
Result from financial investments	8	24.3	6.7
Earnings before interest, tax, depreciation and amortisation (EBITDA)		1,869.4	1,678.3
Depreciation, amortisation and impairment losses	10	- 264.3	- 226.2
Earnings before interest and tax (EBIT)		1,605.1	1,452.1
Financial income	8	26.0	10.7
Financial expense	8	- 102.9	- 64.4
Earnings before tax (EBT)		1,528.2	1,398.4
Other tax		- 0.5	- 0.4
Income tax expense	9	- 402.6	- 362.6
Net profit for the period		1,125.1	1,035.4
Net profit for the period attributable to Deutsche Börse AG shareholders		1,079.9	1,003.9
Net profit for the period attributable to non-controlling interests		45.2	31.5
Earnings per share (basic) (€)	21	5.89	5.47
Earnings per share (diluted) (€)	21	5.89	5.47

1) Previous year adjusted

Consolidated statement of comprehensive income

for the period 1 January to 31 December 2020

	Note	2020 €m	2019 €m
Net profit for the period reported in consolidated income statement		1,125.1	1,035.4
Items that will not be reclassified to profit or loss:			
Changes from defined benefit obligations		- 25.2	- 42.1
Equity investments measured at fair value through OCI		25.7	- 10.4
Other		- 0.4	- 0.9
Deferred taxes	14	- 0.4	11.3
		- 0.3	- 42.1
Items that may be reclassified subsequently to profit or loss:			
Exchange rate differences	14	- 106.2	- 1.8
Other comprehensive income from investments using the equity method		- 0.4	- 0.4
Remeasurement of cash flow hedges		- 40.3	0.2
Deferred taxes	14	0.1	0
		- 146.8	- 2.0
Other comprehensive income after tax		- 147.1	- 44.1
Total comprehensive income		978.0	991.3
thereof Deutsche Börse AG shareholders		950.4	960.6
thereof non-controlling interests		27.6	30.7

Consolidated balance sheet

as at 31 December 2020

Assets

	Note	31 Dec 2020 €m	31 Dec 2019 €m
NON-CURRENT ASSETS			
Intangible assets	10		
Software		383.8	404.5
Goodwill		3,957.6	3,470.5
Payments on account and assets under development		126.3	92.5
Other intangible assets		1,255.4	1,040.9
		5,723.2	5,008.4
Property, plant and equipment	11		
Land and buildings		369.2	346.5
Fixtures and fittings		52.4	39.8
Computer hardware, operating and office equipment		101.7	95.9
Payments on account and construction in progress		7.0	15.8
		530.4	498.0
Financial assets	12		
Financial assets at FVOCI			
Strategic investments		107.0	66.3
Debt instruments		4.4	0
Debt financial assets measured at amortised cost		997.5	698.7
Financial assets at FVPL			
Financial instruments held by central counterparties		6,934.7	5,234.2
Other financial debt assets at FVPL		42.4	28.4
		8,086.0	6,027.6
Investment in associates and joint ventures		89.5	44.5
Other non-current assets		6.0	4.0
Deferred tax assets	9	161.7	124.4
Total non-current assets		14,596.7	11,706.9
CURRENT ASSETS			
Debt financial assets measured at FVOCI	12	0.5	0
Debt financial assets measured at amortised cost	12		
Trade receivables		616.6	447.3
Other financial assets at amortised cost		16,225.1	15,381.6
Restricted bank balances		38,420.1	29,988.7
Other cash and bank balances		1,467.3	888.1
Financial assets at FVPL	12		
Financial instruments held by central counterparties		80,768.1	78,301.5
Other financial assets at FVPL		15.8	1.8
Income tax assets	9	109.5	108.5
Other current assets	13	548.1	340.9
Total current assets		138,171.0	125,458.4
Total assets		152,767.7	137,165.3

Equity and liabilities

	Note	31 Dec 2020 €m	31 Dec 2019 €m
EQUITY	14		
Subscribed capital		190.0	190.0
Share premium		1,352.4	1,344.7
Treasury shares		- 465.2	- 471.8
Revaluation surplus		- 92.6	- 52.1
Accumulated profit		5,183.7	4,724.5
Shareholders' equity		6,168.3	5,735.3
Non-controlling interests		387.8	375.3
Total equity		6,556.1	6,110.6
NON-CURRENT LIABILITIES			
Provisions for pensions and other employee benefits	16	222.4	208.2
Other non-current provisions	17, 18	168.0	210.5
Financial liabilities measured at amortised cost	12	3,474.4	2,627.2
Financial liabilities at FVPL	12		
Financial instruments held by central counterparties		6,934.7	5,234.2
Other financial liabilities at FVPL		1.5	84.3
Other non-current liabilities		13.9	19.7
Deferred tax liabilities	9	216.7	226.3
Total non-current liabilities		11,031.4	8,610.4
CURRENT LIABILITIES			
Income tax liabilities		267.1	231.8
Other current provisions	18	313.7	250.7
Financial liabilities at amortised cost	12		
Trade payables		388.6	206.7
Other financial liabilities at amortised cost		14,630.0	14,225.4
Cash deposits by market participants		38,188.8	29,755.8
Financial liabilities at FVPL	12		
Financial instruments held by central counterparties		80,673.1	77,411.5
Other financial liabilities at FVPL		174.1	29.5
Other current liabilities	19	544.7	332.9
Total current liabilities		135,180.2	122,444.3
Total liabilities		146,211.6	131,054.7
Total equity and liabilities		152,767.7	137,165.3

Consolidated cash flow statement

for the period 1 January to 31 December 2020

	Note	2020 €m	2019 €m
Net profit for the period		1,125.1	1,035.4
Depreciation, amortisation and impairment losses	10, 11	264.3	226.2
(Decrease)/increase in non-current provisions		- 61.8	5.9
Deferred tax income	9	- 11.9	- 15.4
Other non-cash income		143.6	52.5
Changes in working capital, net of non-cash items:		82.8	- 273.0
Decrease/(increase) in receivables and other assets		- 78.6	- 106.4
Increase/(decrease) in current liabilities		163.5	- 159.2
Increase in non-current liabilities		- 2.1	- 7.4
Net loss on disposal of non-current assets		- 19.0	- 1.0
Cash flows from operating activities excluding CCP positions		1,523.0	1,030.6
Changes in liabilities from CCP positions		- 832.8	1,895.7
Changes in receivables from CCP positions		721.8	- 2,000.2
Cash flows from operating activities	20	1,412.0	926.1
Payments to acquire intangible assets		- 134.3	- 123.0
Payments to acquire property, plant and equipment		- 61.2	- 61.9
Payments to acquire non-current financial instruments		- 601.2	- 226.5
Payments to acquire investments in associates and joint ventures		- 26.4	- 9.5
Payments to acquire subsidiaries, net of cash acquired		- 448.5	- 666.4
Effects of the disposal of (shares in) subsidiaries, net of cash disposed		20.2	0.1
Proceeds from the disposal of shares in associates and joint ventures		0	4.7
(Net increase)/net decrease in current receivables and securities from banking business with an original term greater than three months		- 341.5	371.4
Net increase/(net decrease) in current liabilities from banking business with an original term greater than three months		177.4	- 62.3
Proceeds from disposals of non-current financial instruments		625.3	47.8
Proceeds from disposals of intangible assets		2.5	2.6
Cash flows from investing activities	22	- 787.7	- 722.9
Proceeds from sale of treasury shares		9.1	6.2
Payments to non-controlling interests		- 26.6	- 24.5
Proceeds from non-controlling interests		0	655.3
Repayment of long-term financing		945.5	0
Proceeds from long-term financing		- 602.9	0
Finance lease payments		- 47.4	- 42.6
Dividends paid	15	- 531.9	- 495.0
Cash flows from financing activities	20	- 254.2	99.4
Net change in cash and cash equivalents		370.0	302.6

	Notes	2020 €m	2019 €m
Net change in cash and cash equivalents (brought forward)		370.0	302.6
Effect of exchange rate differences		- 8.9	3.9
Cash and cash equivalents at beginning of period		2,145.5	1,839.0
Cash and cash equivalents at end of period	20	2,506.7	2,145.5
Interest-similar income received		526.1	540.1
Dividends received		5.4	4.7
Interest paid		- 352.4	- 323.0
Income tax paid		- 381.8	- 494.1

Consolidated statement of changes in equity

for the period 1 January to 31 December 2020

	Attributable to owners of Deutsche Börse AG							Non-controlling interests	Total equity
	Subscribed capital	Share premium	Treasury shares	Revaluation surplus	Accumulated profit	Shareholders' equity			
	€m	€m	€m	€m	€m	€m			
Balance as at 1 January 2019	190.0	1,340.4	- 477.7	- 10.2	3,779.4	4,821.9	133.5	4,955.4	
Net profit for the period	-	-	-	-	1,003.9	1,003.9	31.5	1,035.4	
Other comprehensive income after tax	-	-	-	- 41.9	- 1.4	- 43.3	- 0.8	- 44.1	
Total comprehensive income	-	-	-	- 41.9	1,002.5	960.6	30.7	991.3	
Exchange rate differences and other adjustments	-	-	-	-	13.5	13.5	- 0.8	12.7	
Sales under the Group Share Plan	-	4.3	5.9	-	-	10.2	-	10.2	
Changes due to capital increases/decreases	-	-	-	-	-	-	- 24.5	- 24.5	
Changes from business combinations	-	-	-	-	424.1	424.1	236.4	660.5	
Dividends paid	-	-	-	-	- 495.0	- 495.0	-	- 495.0	
Transactions with shareholders	-	4.3	5.9	-	- 57.4	- 47.2	211.1	163.9	
Balance as at 31 December 2019	190.0	1,344.7	- 471.8	- 52.1	4,724.5	5,735.3	375.3	6,110.6	
Balance as at 1 January 2020	190.0	1,344.7	- 471.8	- 52.1	4,724.5	5,735.3	375.3	6,110.6	
Profit for the period	-	-	-	-	1,079.9	1,079.9	45.2	1,125.1	
Other comprehensive income	-	-	-	- 40.5	- 89.0	- 129.5	- 17.6	- 147.1	
Total comprehensive income	-	-	-	- 40.5	990.9	950.4	27.6	978.1	
Exchange rate differences and other adjustments	-	-	-	-	0.2	0.2	- 0.2	0.0	
Sales under the Group Share Plan	-	7.7	6.6	-	-	14.3	-	14.3	
Changes from non-controlling interests	-	-	-	-	-	-	11.7	11.7	
Dividends paid	-	-	-	-	- 531.9	- 531.9	- 26.6	- 558.5	
Transactions with shareholders	-	7.7	6.6	-	- 531.7	- 517.4	- 15.1	- 532.5	
Balance as at 31 December 2020	190.0	1,352.4	- 465.2	- 92.6	5,183.7	6,168.3	387.8	6,556.1	

Notes to the consolidated financial statements

Basis of preparation

1. General principles

Company information

Deutsche Börse AG is the parent company of Deutsche Börse Group. Deutsche Börse AG (the “company”) has its registered office in Frankfurt/Main, Germany, and is registered in the commercial register B of the Frankfurt/Main Local Court (Amtsgericht Frankfurt am Main) under HRB 32232. Deutsche Börse AG and its subsidiaries operate cash and derivatives markets. Its business areas range from pre-IPO and growth financing services, the admission of securities to listing, through trading, clearing and settlement, down to custody of securities. Furthermore, IT services are provided and market information distributed. Moreover, certain subsidiaries of Deutsche Börse AG own a banking license and offer banking services to customers. For details regarding internal organisation and reporting, see [Fundamental information about the Group](#).

Basis of reporting

The 2020 consolidated financial statements have been prepared in compliance with the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) and the related interpretations issued by the International Financial Reporting Interpretations Committee (IFRIC), as adopted by the European Union in accordance with Regulation No. 1606/2002 of the European Parliament and of the Council on the application of international accounting standards.

The disclosures required in accordance with the Handelsgesetzbuch (HGB, German Commercial Code) section 315e (1) have been presented in the notes to the consolidated financial statements and the [remuneration report of the combined management report](#).

The consolidated income statement is structured using the nature of expense method.

Deutsche Börse AG’s consolidated financial statements have been prepared in euros, the functional currency of Deutsche Börse AG. Unless stated otherwise, all amounts are shown in millions of euros (€m). Due to rounding, actual amounts may differ from unrounded or disclosed figures. This may cause slight deviations from the figures disclosed in the previous year.

Disclosures on capital management are included in the [risk report section](#) of the [combined management report](#) and are an integral part of the consolidated financial statements. These audited disclosures are color-coded into the [risk report](#) with a gray background.

All accounting policies, estimates, measurement uncertainties and discretionary judgements referring to a specific subject matter are described in the corresponding note. Such disclosures are focused on applicable accounting options under IFRSs. Deutsche Börse Group does not present the underlying published IFRS guidelines, unless this is considered crucial to enhance transparency. The annual

financial statements of subsidiaries included in the consolidated financial statements have been prepared on the basis of the Group-wide accounting policies based on IFRS that are described in the following. They were applied consistently to the periods shown.

The listing of the composition of items of assets and liabilities and items of the consolidated statement of comprehensive income is based on materiality. Deutsche Börse Group defines materiality as a share of approximately 10 percent of the relevant total.

New accounting standards – implemented in the year under review

In the 2020 reporting period, the following standards and interpretations issued by the IASB and adopted by the European Commission were applied to Deutsche Börse Group for the first time. They were not applied earlier than required.

Standard/Amendment/Interpretation		Application date	Effects at Deutsche Börse Group
IAS 1, IAS 8	Amendment: Definition of Material	1 Jan 2020	none-material
IFRS 3	Amendment: Definition of a Business	1 Jan 2020	none
IFRS 9, IAS 39, IFRS 7	IBOR Reform 1: amendments of IFRS 9, IAS 39 and IFRS 7	1 Jan 2020	none
IFRS 16	Amendment: COVID-19-related to rent concessions	1 June 2020	none
	Revised Framework	1 Jan 2020	none-material

New accounting standards – not yet implemented

The IASB issued the following new or amended Standards and Interpretations, which were not applied in the consolidated financial statements, because endorsement by the EU was still pending or the application was not mandatory. The new or amended Standards and Interpretations must be applied for financial years beginning on or after the effective date. Even though early application may be permitted for some standards, Deutsche Börse Group does usually not use any early application options.

Standard/Amendment/Interpretation		Application date	Effects at Deutsche Börse Group
IAS 1	Amend-ments in clas-si-fi-ca-tion of li-a-bil-i-ties as current or non-current	1 Jan 2023	See notes under this table
IFRS 3	Amendments to IFRS 3 relate to a reference to the Conceptual Framework	1 Jan 2022	non
IFRS 4	Amendment to IFRS 4: Extension of the temporary exemption from applying IFRS 9	1 Jan 2021	none
IFRS 9, IAS 39, IFRS 7, and others	IBOR REFORM 2: Amendment of IFRS 9, IAS 39 and IFRS 7 and other standards	1 Jan 2021	See notes under this table
IAS 16	Amendments to IAS 16: Clarifications	1 Jan 2022	none
IFRS 17	Insurance Contracts	1 Jan 2023	See notes under this table
IAS 37	Amendments to IAS 37: Onerous contracts - Cost of Fulfilling a Contract	1 Jan 2022	none
Annual Improvement Cycle 2018 - 2020	The annual improvements resulted in amendments to IFRS 1, IFRS 9, IAS 41 and IFRS 16	1 Jan 2022	none

Amendment to IAS 1 Classification of Liabilities as Current or Non-current

The amendments only relate to the presentation of liabilities in the statement of financial position – not the amount or the timing of recognition of assets, liabilities, income and expenses or disclosure made by entities about these items. The amendments clarify that liabilities must be classified as current or non-current on the basis of the rights that are in existence at the reporting date. The potential effects of amendments to the presentation of consolidated financial statements of Deutsche Börse Group are currently being examined.

Amendment of IFRS 9, IAS 39 and IFRS 7 and other standards – IBOR Reform Phase 2

IBOR Reform Phase 2 relates to matters that may have an effect on financial reporting when a reference interest rate is replaced by an alternative interest rate. The amendments concern exemptions for the presentation and recognition of contractual modifications to financial instruments. The change in contractual cash flows is not to be shown in the result of the modification; the subsequent measurement is rather to be made on the basis of the updated effective interest rate, so capturing the effect on earnings over the remaining term. This expedient affects Deutsche Börse Group in terms of the recognition and presentation of floating-rate financial instruments, to the extent that old reference interest rates have to be replaced due to the reform. The practical expedient also states that hedging relationships are not discontinued solely because of such adjustments. This amendment has no effect on the consolidated financial statements of Deutsche Börse Group, because it does not use interest rate hedges. There are also additional disclosure obligations that particularly affect the presentation of risk management by Deutsche Börse Group.

IFRS 17 “Insurance Contracts”

IFRS 17 establishes the principles for the recognition, measurement, presentation and disclosure of insurance contracts. The objective of IFRS 17 is to ensure that an entity provides relevant information that faithfully represents insurance contracts. According to the standard, insurance liabilities shall be measured at the current fulfilment cash flows instead of historical costs. Furthermore, the objective is to form a uniform basis regarding the recognition, measurement and presentation of insurance contracts, including the notes. The effective date was deferred and is now applicable in the EU for financial years beginning on or after 1 January 2023. The standard has not yet been endorsed by the EU. On the basis of our analysis we are not expecting any effect on the financial position and financial performance of Deutsche Börse Group.

2. Consolidation principles

Intra-Group assets and liabilities are eliminated. Income arising from intra-Group transactions is netted against the corresponding expenses. Intercompany profits or losses arising from deliveries of intra-Group goods and services, as well as dividends distributed within the Group, are eliminated. Deferred taxes for consolidation adjustments are recognised where these are expected to reverse in subsequent years.

Interests in equity attributable to non-controlling interest shareholders are carried under “non-controlling interests” within equity. Where these are classified as “puttable instruments”, they are reported under “liabilities” at cost.

Currency translation

Transactions denominated in a currency other than a company’s functional currency are translated into the functional currency at the spot exchange rate applicable at the transaction date. At the reporting date, monetary balance sheet items in foreign currency are measured at the exchange rate at the

reporting date, while non-monetary balance sheet items recognised at historical cost are measured at the exchange rate on the transaction date. By contrast, non-monetary balance sheet items measured at fair value are translated at the exchange rate prevailing at the valuation date. Exchange rate differences for monetary balance sheet items are recognised either as other operating income or expenses, or as the treasury result from banking business or as result from financial investments in the period in which they arise, unless the underlying transactions are hedged. Exchange rate differences for non-monetary balance sheet items at fair value are recognised in other comprehensive income. Gains and losses from a monetary item that forms part of a net investment in a foreign operation are recognised directly in “retained earnings”.

The balance sheet items of companies whose functional currency is not the euro are translated into the reporting currency as follows: assets and liabilities are translated into euros at the closing rate, equity is translated at historical rates and the items in the consolidated income statement are translated at the average exchange rates for the reporting period. Resulting exchange differences are recognised directly in “retained earnings”. When the relevant subsidiary is sold, these exchange rate differences are recognised in the net profit for the period in which the deconsolidation gain or loss is realised.

The following euro exchange rates of consequence to Deutsche Börse Group were applied:

Exchange rates

		Average rate 2020	Average rate 2019	Closing price as at 31 Dec 2020	Closing price as at 31 Dec 2019
Swiss francs	CHF (Fr.)	1.0713	1.1112	1.0832	1.0857
US dollars	USD (US\$)	1.1477	1.1195	1.2299	1.1212
Czech koruna	CZK (Kč)	26.5249	25.6700	26.2698	25.4068
Singapore dollar	SGD (S\$)	1.5791	1.5256	1.6254	1.5090
British pound	GBP (£)	0.8908	0.8767	0.8999	0.8537

Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising from initial consolidation are reported in the functional currency of the foreign operation and translated at the closing rate.

Net investments in a foreign operation

Translation differences arising from a monetary item that is part of a net investment in a foreign operation of Deutsche Börse Group are initially recognized in other comprehensive income and reclassified from equity to profit or loss on disposal of the net investment.

Subsidiaries and business combinations

Deutsche Börse AG and all subsidiaries directly or indirectly controlled by Deutsche Börse AG are included in the consolidated financial statements. Deutsche Börse AG controls a company if it is exposed to variable returns resulting from its involvement with the company in question or has rights to such returns and is able to influence them by using its power over the company.

Initial consolidation of subsidiaries in the course of business combinations uses the purchase method. The acquiree's identifiable assets, liabilities and contingent liabilities are recognised at their acquisition date fair values. Any excess of cost over the acquirer's interest in the fair value of the subsidiary's net identifiable assets is recognised as goodwill. Goodwill is reported in subsequent periods at cost less accumulated impairment losses.

Deutsche Börse AG's equity interests in subsidiaries, associates and joint ventures as at 31 December 2020 included in the consolidated financial statements are presented in the list of shareholdings in [note 33](#).

Acquisitions

Fondcenter AG, Zurich, Switzerland (Fondcenter)

In the third quarter of 2020 Clearstream Holding AG, Frankfurt, Germany (a wholly-owned subsidiary of Deutsche Börse AG) completed the acquisition of 51.2 per cent of the shares in Fondcenter AG Zurich, Switzerland (since renamed Clearstream Fund Centre AG) for a purchase price of CHF 392.5 million (1st tranche). Clearstream Holding AG will acquire the remaining 48.8 per cent of the shares in the course of a second transaction (2nd tranche). The acquisition of the 2nd tranche is expected to take place in the second quarter of 2022. Deutsche Börse Group recognised the related purchase price liability of CHF 433.4 million in the category “Financial liabilities measured at amortised cost” when the 1st tranche was consolidated as of 30 September 2020 and so does not present an “Equalisation item for non-controlling interests”. This liability is measured at the expected settlement amount using the effective interest method.

The new entity will be the centre of excellence for fund distribution services within the Deutsche Börse Group and is presented in the IFS segment. Combining it with the existing services from Clearstream Fund Desk (formerly Swisscanto Funds) creates a leading provider of fund services, with great benefits for the customers of UBS and Clearstream.

Deutsche Börse Group expects the transaction to deliver considerable synergies both in terms of revenue and cost effects. Such synergies are reflected in particular by the goodwill resulting from the transaction. The purchase price allocation – preliminary as at the reporting date – yielded the following effects:

Goodwill resulting from the business combination with Fondcenter AG

	Preliminary goodwill calculation 30 Sep 2020 €m
Consideration transferred	
Purchase price in cash	363.3
Effective part of the cashflow hedge	3.1
Put options	401.5
Acquired bank balances	– 3.8
Total consideration	764.1
Acquired assets and liabilities	
Customer relationships	240.6
Software	5.6
Other non-current assets	2.0
Current assets	120.8
Deferred tax assets	34.7
Pension provisions (less plan assets)	– 3.6
Other non-current liabilities	– 1.3
Current liabilities	– 119.6
Total assets and liabilities acquired	279.2
Goodwill (not tax-deductible)	484.9

The full consolidation of Fondscenter resulted in an increase in net revenue of €14.1 million as well as an increase in earnings after tax amounting to €8.1 million. If the company had been fully consolidated as at 1 January 2020, this would have resulted in an increase in net revenue of €46.2 million as well as an increase in income after tax amounting to €11.1 million.

Quantitative Brokers, LLC, New York, USA (Quantitative Brokers)

In the fourth quarter 2020 Deutsche Börse Systems Inc., Chicago, USA (a wholly-owned subsidiary of Deutsche Börse AG) completed the acquisition of 72.8 per cent of the shares in Quantitative Brokers, LLC, New York, USA, for a purchase price of US\$ 108.9 million. The parties also agreed on reciprocal options that may over time lead to a complete acquisition of the shares in Quantitative Brokers. Since Deutsche Börse Group can choose to fulfil these options with treasury shares, the shares are classified as equity and no financial liability is recognised.

Quantitative Brokers is an independent provider of sophisticated execution algorithms and data-based analytics applications for global futures, option and interest rate markets. The transaction is allocated to the Eurex segment. Deutsche Börse Group is expecting significant synergies from the transaction, particularly in revenue, which is reflected in the goodwill resulting from the transaction. The purchase price allocation – preliminary as at the reporting date – yielded the following effects:

Goodwill resulting from the business combination with Quantitative Brokers, LLC

	Preliminary goodwill calculation 1 Dec 2020 €m
Consideration transferred	
Purchase price in cash	90.5
Cash-Flow Hedge	0.5
Acquired bank balances	– 8.1
Total consideration	82.9
Acquired assets and liabilities	
Customer relationships	29.5
Software	10.2
Property, Plant & Equipment	1.7
Current assets	3.0
Non-current liabilities	– 1.4
Current liabilities	– 8.4
Deferred tax liabilities on temporary differences	– 4.1
Non-controlling interests	– 11.7
Total assets and liabilities acquired	18.8
Goodwill (bot tax-deductible)	64.1

The full consolidation of Quantitative Brokers resulted in an increase in net revenue of €1.3 million as well as an reduction of earnings after tax amounting to €– 0.2 million. If the company had been fully consolidated as at 1 January 2020, this would have resulted in an increase in net revenue of €18.8 million as well as a reduction of income after tax amounting to €– 3.3 million.

Axioma Inc, New York, USA (Axioma)

In the context of the acquisition of Axioma Inc, New York, USA (Axioma) on 13 September 2019 there was an adjustment to the opening balance sheet with an effect on the preliminary goodwill within the 12-month period. This adjustment resulted in a reduction of current financial assets and a corresponding increase in goodwill of €4.3 million.

The final purchase price allocation is as follows:

Goodwill resulting from the business combination with Axioma Inc.

	Preliminary goodwill calculation 13 Sep 2019 €m
Consideration transferred	
Purchase price in cash	648.3
Non-controlling interests	84.0
Acquired bank balances	– 1.9
Total consideration	730.3
Acquired assets and liabilities	
Customer relationships	36.3
Trade names	65.0
Software	90.3
Software in development	15.2
Other non-current assets	15.2
Other current assets (without cash)	37.2
Deferred tax liabilities	– 36.8
Other non-current and current liabilities	– 71.5
Contract liabilities	– 21.5
Total assets and liabilities acquired	129.4
Goodwill (not tax-deductible)	600.9

Institutional Shareholder Services Inc., Rockville, USA (ISS)

Deutsche Börse AG announced on 17 November 2020 that it had signed binding contracts for the acquisition of Institutional Shareholder Services, Inc. (ISS), a leading provider of governance solutions, ESG data and analytics.

Deutsche Börse will hold a majority share of approximately 81 per cent of ISS. The transaction is based on a valuation of US\$ 2,275 million cash and debt-free for 100 per cent of ISS. Deutsche Börse financed €1 billion of the transaction with debt and the remainder with cash.

The expertise of ISS in ESG and data will enable Deutsche Börse to become a leading global provider of ESG data. The two companies' business is largely complementary and enables revenue synergies along the entire value chain of Deutsche Börse Group.

When the transaction is complete ISS will continue to operate with the same independence as before with regard to its data and research services. The current management team around CEO Gary Retelny will co-invest in the transaction and continue to manage the ISS business after the transaction.

The transaction was closed on 25 February 2021 and ISS will be reported in Deutsche Börse Group's financial statements as a separate operating segment from that date.

Associates

Investments in associates and joint ventures are measured at cost on initial recognition and accounted for using the equity method upon subsequent measurement. Where Deutsche Börse Group's share of the voting rights in a company amounts to less than 20 per cent, Deutsche Börse Group's significant influence is exercised through the Group's representation on the supervisory board or the board of directors.

3. Adjustments

Deutsche Börse Group modified its segment reporting with effect from the first quarter of 2020 to better emphasise the Group's growth areas. The former GSF (collateral management) segment has been allocated in full to the Clearstream (post-trading) segment. The former Data (data business) segment is now reported within the Xetra (securities trading) and Eurex (financial derivatives) segments. In this context the existing goodwill for the previous segments is also allocated to the cash-generating units (CGU).

Deutsche Börse Group adjusted the structure of the consolidated income statement in 2020 to enable greater transparency concerning the Group's financial performance. The former item "Net interest income from banking business" has been renamed "Treasury result from banking business". "Net income from strategic investments" was renamed "Result from financial investments", since this is a more accurate description.

For all adjustments, there was no impact on the consolidated statement of comprehensive income, consolidated balance sheet, consolidated statement of changes in equity, consolidated statement of cash flows and earnings per share.

Notes on the consolidated income statement

4. Net revenues

Recognition of income and expenses

Overall, Deutsche Börse Group's net revenue comprised the following items:

- Revenue,
- Treasury result from banking business,
- Other operating income, and
- Volume-related costs.

Revenue recognition

This section comprises details on revenue from contracts with customers. This includes in particular: revenue recognition, trade receivables as well as contract liabilities (see [note 19](#) concerning the balances of contractual liabilities). Revenue is recognised in Deutsche Börse Group's segments as follows:

Eurex (financial derivatives)

Revenue in the derivatives business is generated primarily from equity index derivatives, interest rate derivatives and equity derivatives, fees that are charged for transactions with regard to the matching/registration, administration and regulation of order book and off-book transactions on Eurex Germany. Fees, as well as any reductions are specified in price lists and circulars. Rebates depend mainly on monthly volumes or the monthly fulfilment of liquidity provisioning obligations in certain products or product groups. Revenue for transactions in listed derivatives is recognised as soon as contracts are matched/registered and there is no unfulfilled obligation towards the customer. Receivables are recognised if the agreed service is rendered at a specific point in time and the claim to the consideration solely depends on the course of time. Transaction fees are invoiced on a monthly basis and are payable when invoiced. Since discounts are generally granted on a monthly basis, the recognition of a contractual liability is not necessary. Payments are generally debited directly from the clearing member immediately after invoicing.

Fees are also collected for clearing and settlement services provided for off-exchange (over-the-counter, OTC) transactions, mainly comprising posting and administration fees. Fees for these transactions and the related discounts are also specified in price lists and circulars of Eurex Clearing AG. In the case of OTC transactions, posting fees are recognised at novation on a monthly basis. These fees are recognised at a specific point in time; namely, when the promised service is transferred at a specific point in time, and the entitlement to consideration depends solely on the passage of time. OTC administrative fees are recognised over time as the service is provided until the transaction has been closed, terminated or has matured. A receivable is recognised monthly based on the usage within the respective month, provided that the respective position is still open at month end. In general, the payments are directly debited from the clearing member.

In addition, infrastructure fees are charged for the technical connections to the trading and clearing systems of Deutsche Börse Group. The customer has use of the company's service and uses the service as it is performed over the life of the contract. As the smallest reporting period is the same as the contract term, the percentage of completion equals 100 per cent. The infrastructure revenue generated from this is usually realised monthly with invoicing.

Market participants subscribe to real-time trading and market signals or licence these services for their own use, processing, or dissemination. The customer simultaneously receives and consumes the benefits provided by the entity's performance during the contract term. Customers report their usage, and fees are charged in the month after usage. Deutsche Börse Group puts together monthly estimates that are based on the trend of the preceding months. Revenue estimates are revised when warranted by the circumstances. Increases and decreases in estimated revenue are reflected in the consolidated income statement in the period in which the circumstances that give rise to the revision become known by the management. Revenue is recognised based on the price specified in the price list. Customers are invoiced on a monthly basis, and consideration is payable when invoiced.

EEX (commodities)

Its product portfolio comprises contracts on power, natural gas and emission allowances, as well as freight rates and agricultural products. Revenue is generated primarily from fees that are charged for exchange trading and clearing of commodity products. Transaction fees are specified in the price list. Rebates are granted primarily in the form of monthly rebates for the provision of a certain volume or level of liquidity. These types of rebates are dependent upon the total monthly volume or the monthly fulfilment of certain liquidity provision obligations. Revenue is recognised as soon as contracts are matched/registered and there is no unfulfilled obligation towards the customer as the service has already been performed by this point in time. EEX recognises receivables when the promised service is provided at a certain time and the entitlement to consideration depends solely on the passage of time. Most of the invoiced amounts are debited directly from the clearing members. Infrastructure fees are accounted for in the same way as described in the [section "Eurex \(financial derivatives\)"](#).

360T (foreign exchange)

360T is a provider of optimised services covering the entire trading process of foreign-exchange products and generates commission income from trading fees. In addition, 360T generates other fees in the form of access fees to use the trading platform, installation fees from the onboarding of customers on its trading platform, as well as user set-up fees and fees for the programming and maintenance of necessary interfaces. Revenue is recognised when the contractually agreed service is provided to the customer. Revenue from the use of the platform and maintenance fees are recognised on a pro-rata basis. Access fees, transaction fees, as well as trading platform fees, contain different discount schedules on a monthly basis. Such discounts are considered accordingly in the month in which the services are rendered and reduce the sales revenue of such period. They are invoiced on a monthly basis. Maintenance fees are invoiced on an annual basis.

Xetra (securities trading)

As a general rule, securities intended for trading on the regulated market of Fankfurter Wertpapierbörse (FWB, the Frankfurt Stock Exchange) are subject to the admission and listing, or inclusion, resolved by FWB's Exchange Management. Deutsche Börse AG, as the operator of the public-sector exchange, charges fees for the admission, listing, inclusion and quotation of securities on the regulated market. Fees charged for the admission and inclusion of securities with definite maturities on the regulated market are realised using the projected useful lives of the underlying securities. Accordingly, the fees charged for the listing of securities on the regulated unofficial market are realised using the projected useful lives of the underlying securities. The method for measuring the percentage of completion of the performance obligation on the basis of projected useful lives is considered appropriate within the meaning of IFRS 15. Invoicing is made on a quarterly basis, and receivables are payable upon receipt of invoice.

Listing fees are levied for the activity of all bodies of FWB, which supervise the trading and the settlement of trades as well as ensure the proper functioning of all trading activities (permanent possibility to make use of exchange facilities). Listing fees are recurring fees, which are charged for a service that is delivered over time. Accordingly, revenue is realised on a pro-rata basis. Revenue from fees for listings on the regulated unofficial market is realised in a similar manner. This revenue is presented under "Listing revenue".

Contracts for trading and clearing cash market products, contracts for trading data and market signals and contracts for infrastructure services in the Xetra (securities trading) segment are accounted for in the same way as described in the [section "Eurex \(financial derivatives\)"](#).

Clearstream (post-trading)

Clearstream provides post-trading infrastructure and services; it offers transaction settlement services as well as administration and custody of securities. The fees are calculated in accordance with the prices set in the price list as well as with any relevant discounts granted. In accordance with the general terms and conditions, the customer authorises direct debiting and consequently no financing component has been identified. Customers in the custody business receive the benefit from the service provided and consume it at the same time as the performance is fulfilled during the contract period. The revenue generated from this is generally realised on a monthly basis upon invoicing.

Fees collected for the administration of securities and for settlement services are recognised when the agreed service is provided to the customer. This occurs when instructions are received and the transactions are processed. The service has been fulfilled at this point in time. Receivables are recognised if the agreed service is rendered at a specific point in time and the claim to the consideration solely depends on the course of time. Since discounts are generally granted on a monthly basis, the recognition of a contractual liability is not necessary. Customers are invoiced on a monthly basis and consideration is payable when invoiced.

Via Clearstream, Deutsche Börse Group provides a comprehensive range of global securities financing (GSF) services with the two most prominent being collateral management and securities lending services. Customers of collateral management services simultaneously receive and consume the benefits with the company's performance of the service. Revenue is recognised over time concurrent with the provision of collateral management services. Services in the securities lending business, on the other hand, are provided at a specific point in time.

In addition, infrastructure fees are charged for the technical connections to the custody and clearing systems of Deutsche Börse Group. They are accounted for in the same way as described in the [section "Eurex \(financial derivatives\)"](#).

IFS (investment fund services)

The IFS segment provides services to standardise fund processing and to increase efficiency and safety in the investment fund sector. The services offered comprise order routing, settlement and asset administration, as well as custody services. With the acquisition of Fondcenter AG (now Clearstream Fund Centre AG), IFS expands its range of services to include the distribution and placement of domestic and foreign collective investments schemes. Services and distribution agreements are concluded with fund providers and asset managers. The so-called Trailer Fee In is incurred; these fees are presented in "Funds Distribution". The trailer fee margin, which is the difference between the trailer fees paid by the fund providers for the distribution of their funds and the trailer fees ultimately paid by the Fund Centre to the distribution partners, is included in the Net Revenue. In addition, service fees are recognised for the administration of the distribution agreements and for granting access to the fund platform. Revenue is recognised when the promised service is transferred to the customer. This occurs when instructions are received and the transactions are processed. The service has been fulfilled at this point in time. Revenue is recognised based on the price specified in the price list and reduced by the corresponding rebates. Customers are invoiced on a monthly basis and consideration is payable when invoiced.

Qontigo (index and analytics business)

The Qontigo segment comprises the index and analytics business. The index offering ranges from blue-chip to benchmark to strategy to sustainability to smart-beta indices. The Group generates revenue from calculating and marketing indices, which financial market participants use as underlyings for financial instruments or as a benchmark for the performance of investment funds. In its analytics business Qontigo offers its clients risk-analytics and portfolio-construction tools.

Customers in the index business simultaneously receive and consume all of the benefits provided during the contract term. The recognition of revenue for index licences is based on fixed payments, variable payments (usage-based volumes; mostly assets under management), or a combination of the two. For variable payments, customers report their usage, and fees are invoiced in the quarter after usage; monthly estimates are recognised. This is determined either based on the customer's average usage over the previous twelve months, adjusted to take into account current developments in the markets, or based on the real data in the markets on a customer level. Revenue estimates are revised when warranted by the circumstances. Increases and decreases in estimated revenue are reflected in the consolidated income statement in the period in which the circumstances that give rise to the revision become known by the management. For two fee components (minimum fee and usage-based fee), a contract liability is recognised and reduced each month based on the usage that has been recognised each month. Customers are invoiced on a quarterly basis, and consideration is payable when invoiced.

Customers of the analytics business either receive the right to access the intellectual property, or receive the right to use the intellectual property. The intellectual property licences are granted for software products, which are subsequently referred to as “SaaS Front Office” and “SaaS Middle Office”. Revenue generated with SaaS Front Office fees is recognised at a specific point in time because all contractual obligations are fulfilled, and the customer obtains control of the asset, as soon as the licence key is transferred to the customer. SaaS Middle Office fees are recognised over time, i.e. the contractual term. Fees are also charged for the maintenance and servicing (summarized as "Main-tenance") of the software products, which are realized over the contract term. For this purpose, the transaction price for maintenance is calculated and allocated according to the "expected cost plus a margin" approach. This revenue is presented under “Axioma”.

Treasury result from banking business

The treasury result from banking business stems mainly from investing surplus liquidity and from the fair value measurement of foreign exchange transactions. It also includes income from exchange rate differences resulting from finance instruments in the banking business. Given the currently prevailing interest rate anomaly, Deutsche Börse Group also generates interest income from customer balances held at Deutsche Börse Group (in a negative interest rate environment). Furthermore, this item comprises interest payments made on customer balances (positive interest rate environment) as well as cash investments (negative interest rate environment) and fees for providing customer credit lines. Interest income and interest expenses are calculated, allocated, and realised when due, with the applicable effective interest rate on a daily basis.

Other operating income

Other operating income is income not attributable to the typical business model of Deutsche Börse Group; it is therefore not disclosed as part of revenue. Other operating income is usually realised when all chances and risks have been transferred. Other operating income comprises, for instance, income from subleasing property, income from exchange rate differences in non-banking business as well as the reversal of impairments recognised on trade receivables.

Volume-related costs

The “Volume-related costs” item comprises expenses that are directly related to revenue and are directly dependent on the following items in particular:

- The number of certain trade or settlement transaction,
- The custody volume or the Global Security Financing volume,
- The volume of market data acquired,
- The sales commission for the distribution of investments to the distribution partner,
- “Revenue-Sharing” agreements or “maker-taker” pricing models.

Volume-related costs are not incurred if the corresponding revenue is no longer generated.

Composition of net revenue (part 1)

	Sales revenue		Treasury result from banking business	
	2020 €m	2019 ¹⁾ €m	2020 €m	2019 €m
Eurex (financial derivatives)				
Equity index derivatives	600.3	534.6	0	0
Interest rate derivatives	203.4	214.0	0	0
Equity derivatives	56.9	58.4	0	0
OTC Clearing	50.0	41.8	0	0
Margin fees	22.6	17.0	83.4	46.3
Infrastructure	84.2	76.7	0	0
Eurex Data	62.1	62.7	0	0
Other	33.5	30.2	0	0
	1,113.0	1,035.4	83.4	46.3
EEX (commodities)				
Power derivatives	128.0	113.3	1.4	7.7
Power spot	72.7	72.6	0	0
Gas	54.5	55.1	0	0
Annual fees	17.0	17.0	0	0
Technical connection fees	10.2	10.2	0	0
Market Data Services	7.7	6.9	0	0
Other	35.6	32.9	3.8	3.7
	325.7	308.0	5.2	11.4
360T (foreign exchange)				
Trading	86.7	82.8	0	0
Other	20.8	15.1	0	0
	107.5	97.9	0	0
Xetra (cash equities)				
Trading and clearing	237.3	169.7	0	0
Listing	18.0	19.3	0	0
Xetra Data	113.6	119.8	0	0
Regulatory Services	12.7	14.6	0	0
Xetra Infrastructure	43.9	46.3	0	0
	425.5	369.7	0	0

1) Previous year adjusted.

Composition of net revenue (part 2)

	Other operating income		Volume-related costs		Net revenue	
	2020 €m	2019 ¹⁾ €m	2020 €m	2019 ¹⁾ €m	2020 €m	2019 ¹⁾ €m
Eurex (financial derivatives)						
Equity index derivatives	0.1	0.2	- 59.9	- 50.8	540.5	484.0
Interest rate derivatives	0.1	0.1	- 3.4	- 3.2	200.1	210.9
Equity derivatives	0.1	0.1	- 8.6	- 7.4	48.4	51.1
OTC Clearing	22.3	11.7	- 17.4	- 12.3	54.9	41.2
margin fees	- 20.6	- 11.0	0	0	85.4	52.3
Infrastructure	0	0	- 0.2	- 0.2	84.0	76.5
Eurex Data	8.7	8.8	- 11.0	- 10.7	59.8	60.8
Other	7.3	6.4	- 3.6	- 4.1	37.2	32.5
	18.0	16.3	- 104.1	- 88.7	1,110.3	1,009.3
EEX (commodities)						
Power derivatives	0.5	0	- 14.1	- 15.9	115.8	105.1
Power spot	0	0	- 0.6	- 1.7	72.1	70.9
Gas	0	0	- 11.5	- 12.3	43.0	42.8
Annual fees	0	0	0	0	17.0	17.0
Technical connection fees	0	0	0	0	10.2	10.2
Market Data Services	0	0	0	0	7.7	6.9
Other	1.6	1.3	- 4.6	- 1.5	36.4	36.4
	2.1	1.3	- 30.8	- 31.4	302.2	289.3
360T (foreign exchange)						
Trading	0	0	- 4.8	- 5.9	81.9	76.9
Other	0.4	0.1	- 1.6	0	19.6	15.2
	0.4	0.1	- 6.4	- 5.9	101.5	92.1
Xetra (cash equities)						
Trading and clearing	1.0	0.7	- 35.0	- 19.0	203.3	151.4
Listing	1.7	1.5	- 0.8	- 0.9	18.9	19.9
Xetra Data	6.9	5.4	- 27.0	- 27.2	93.5	98.0
Regulatory Services	20.4	0	- 0.9	- 0.9	32.2	13.7
Xetra Infrastructure	0	0	- 0.1	0	43.8	46.3
	30.0	7.6	- 63.8	- 48.0	391.7	329.3

1) Previous year adjusted.

Composition of net revenue (part 3)

	Sales revenue		Treasury result from banking business	
	2020 €m	2019 ¹⁾ €m	2020 €m	2019 ¹⁾ €m
Clearstream (post-trading)				
Custody	565.6	532.3	0	0
Settlement	180.8	130.7	0	0
Net interest income from banking business	0	0	100.8	188.2
Third-party services	23.9	24.6	0	0
GSF Lending services	54.3	62.5	0	0
GSF Collateral management	52.9	49.9	0	0
Connectivity ICSD	74.4	65.9	0	0
Other	47.9	39.0	7.3	1.7
	999.8	904.9	108.1	189.9
IFS (investment fund services)				
Custody	92.1	80.0	0	0
Settlement	78.6	58.6	0	0
Connectivity	26.0	19.0	0	0
Funds distribution	101.2	0	0	0
Other	36.7	37.1	-0.1	0.1
	334.6	194.7	-0.1	0.1
Qontigo (index and analytics business)				
ETF licenses	39.6	43.0	0	0
Exchange licenses	37.8	34.4	0	0
Other licenses	114.8	101.9	0	0
Axioma	85.7	27.4	0	0
	277.9	206.7	0	0
Total	3,584.0	3,117.3	196.6	247.7
Consolidation of internal revenue	- 64.7	- 63.1	0	0
Group	3,519.3	3,054.2	196.6	247.7

1) Previous year adjusted.

Composition of net revenue (part 4)

	Other operating income		Volume-related costs		Net revenue	
	2020 €m	2019 ¹⁾ €m	2020 €m	2019 ¹⁾ €m	2020 €m	2019 ¹⁾ €m
Clearstream (post-trading)						
Custody	0.2	0.2	- 148.3	- 140.8	417.5	391.7
Settlement	0.6	0	- 66.6	- 48.5	114.8	82.2
Net interest income from banking business	0	0	- 0.3	0	100.5	188.2
Third Parties	0	0	- 0.1	- 0.3	23.8	24.3
GSF Lending services	0	0	- 29.0	- 33.4	25.3	29.1
GSF Collateral management	0	0	- 1.3	- 1.0	51.6	48.9
Connectivity ICSD	0	0	- 5.3	- 5.7	69.1	60.2
Other	0.8	1.3	- 31.4	- 23.9	24.6	18.1
	1.6	1.5	- 282.3	- 253.6	827.2	842.7
IFS (investment fund services)						
Custody	0	0	- 4.7	- 3.3	87.4	76.7
Settlement	0	0	- 6.6	- 5.0	72.0	53.6
Connectivity	0	0	- 1.4	- 1.1	24.6	17.9
Funds distribution	0.3	0	- 87.1	0	14.4	0
Other	0.1	0	- 2.3	- 2.3	34.4	34.9
	0.4	0	- 102.1	- 11.7	232.8	183.1
Qontigo (index and analytics business)						
ETF licenses	0	0	- 4.9	- 4.3	34.7	38.7
Exchange licenses	0	0	- 3.1	- 2.9	34.7	31.5
Other licenses	0	0.3	- 9.2	- 8.0	105.6	94.2
Axioma	1.7	0.1	- 14.3	- 1.7	73.1	25.8
	1.7	0.4	- 31.5	- 16.9	248.1	190.2
Total	54.2	27.2	- 621.0	- 456.2	3,213.8	2,936.0
Consolidation of internal revenue	- 13.7	- 13.7	78.4	76.8	0	0
Group	40.5	13.5	- 542.6	- 379.4	3,213.8	2,936.0

1) Previous year adjusted.

Composition of treasury result from banking business

	2020 €m	2019 ¹⁾ €m
Interest income from positive interest environment		
Debt financial assets measured at amortised cost	64.9	207.7
Interest expenses from positive interest environment		
Financial liabilities measured at amortised cost	– 31.3	– 71.7
Interest income from negative interest environment		
Debt financial assets measured at amortised cost	378.2	242.6
Interest expenses from negative interest environment		
Financial liabilities measured at amortised cost	– 256.0	– 186.8
Net interest income	155.8	191.8
Result from fair value valuation of foreign currency derivatives	33.4	54.4
Other currency result	7.6	1.6
Other result from securities	– 0.3	0
Total	196.6	247.7

1) Previous year adjusted.

Other operating income

Other operating income of €40.5 million (2019: €13.5 million) mainly comprises income from exchange rate differences of €6.0 million (2019: €4.6 million), income from services of €1.3 million (2019: €1.2 million), income from written-off receivables of €1.2 million (2019: €– 0.1 million) and rental income from subleases (income from operating leases) of €0.7 million (2019: €1.0 million). There was additional income of €19.8 million from the disposal of the Regulatory Reporting Hub in 2020.

5. Staff costs

Composition of staff costs

	2020 €m	2019 €m
Wages and salaries	682.2	622.1
Social security contributions, retirement and other benefits	140.7	125.7
Total	822.9	747.8

Wages and salaries comprise costs associated with the efficiency programme of €36.4 million (2019: €42.1 million).

6. Other operating expenses

Composition of other operating expenses

	2020 €m	2019 €m
Costs for IT service providers and other consulting services	248.2	226.4
IT costs	139.3	125.4
Non-recoverable input tax	40.0	37.8
Premises expenses	31.8	32.3
Insurance premiums, contributions and fees	21.6	13.3
Advertising and marketing costs	15.6	21.9
Travel, entertainment and corporate hospitality expenses	5.8	24.6
Cost of exchange rate differences	5.7	5.7
Voluntary social benefits	4.4	6.4
Supervisory Board remuneration	4.1	4.1
Short-term leases	3.0	2.0
Miscellaneous	26.2	16.7
Total	545.8	516.6

Composition of fees paid to the auditor

	2020		2019	
	Total €m	Germany €m	Total €m	Germany €m
Statutory audit services	6.1	4.2	4.5 ¹⁾	2.6
Other assurance or valuation services ²⁾	0.6	0.3	0.4	0.1
Tax advisory services	0.8	0.3	0.5	0.3
Other services	0.2	0.1	0.2	0.1
Total	7.7	4.9	5.6	3.1

1) Thereof €– 0.2 million for 2018.

2) Service according to ISAE 3402 and ISAE 3000.

Fees paid for “statutory audit services” rendered by KPMG AG Wirtschaftsprüfungsgesellschaft mainly comprise the audit of the consolidated financial statements according to IFRS, of the annual financial statements of Deutsche Börse AG according to the Handelsgesetzbuch (HGB, German Commercial Code) and of the annual financial statements of various subsidiaries according to the respective local GAAP. This item also includes statutory additions to the audit scope as well as key points of the audit agreed with the Supervisory Board. Services rendered during the reporting year also included reviews of the half-yearly financial statement and quarterly statements.

7. Result from financial investments

“Net income from strategic investments” was renamed “Result from financial investments”, since this is a more accurate description. The item comprises measurement effects, dividend payments, distributions, foreign currency translation effects and write-downs on financial investments. Gains and losses on financial investments at FVPL are recognised on a net basis in the period in which they arise.

Distributions from funds and dividends are recognised in profit or loss when the Group’s right to receive payments is established and when such dividends are not capital repayments.

Composition of result from financial investments

	2020 €m	2019 €m
Result of the equity method measurement of associates	21.5	0.2
Result of strategic investments measured at fair value through other comprehensive income (dividends)	0.3	0.8
Result of financial investments measured at amortised cost	- 5.3	0
Result of financial investments measured at fair value through profit or loss	2.9	5.7
Result of derivatives	5.2	0
Result of hedge accounting	- 0.2	0
Total	24.3	6.7

In addition to the result of the equity valuation the net income from associates also includes impairment losses. No impairment loss was recognised in the reporting year (2019: €0.0 million). The increase is mainly due to the at-equity valuation of Tradegate AG Wertpapierhandelsbank which is based on the positive business performance in the reporting year.

For changes in financial investments see [note 12](#).

8. Financial result

The financial result comprises interest income and expenses which are not attributable to the banking business of Deutsche Börse Group, and are therefore not recognised in net revenue. Interest income and expense are recognised using the effective interest method over the respective financial instrument’s term to maturity. Interest income is recognised when it is probable that the economic benefits associated with the transaction will flow to the entity and the income can be measured reliably. Interest expense is recognised in the period in which it is incurred.

Composition of financial income

	2020 €m	2019 €m
Interest income from financial assets measured at fair value through other comprehensive income	0.1	0
Interest income from financial assets measured at amortised cost	0.4	1.3
Interest income from financial assets measured at fair value through profit or loss	0.1	0.3
Interest income on tax refunds	25.3	7.0
Other interest income and similar income	0.1	2.1
Total	26.0	10.7

Composition of financial expense

	2020 €m	2019 €m
Interest expense from financial assets measured at amortised cost	3.9	2.8
Interest expense from financial liabilities measured at amortised cost	49.7	48.2
Transaction cost of financial liabilities measured at amortised cost	3.4	2.2
Interest expense on taxes	35.8	3.1
Interest expense on lease liabilities	5.5	5.2
Expense of the unwinding of the discount on pension provisions	1.8	2.8
Other interest expense	2.8	0.2
Total	102.9	64.4

9. Income tax expense

Deutsche Börse Group is subject to the tax laws of those countries in which it operates and generates income. If it is probable that the tax authorities will not accept the disclosed amounts or the legal assessments on which the Group's tax declarations are based (uncertain tax positions), tax liabilities are recognised based on the best possible estimate of expected cash outflows. Tax assets are recognised if it is considered likely that they will be realised. The discretion in assessing uncertain tax positions is reexercised if there is a change in the underlying facts or their legal assessment (e.g. change in case law).

Deferred tax assets and liabilities are computed using the balance sheet liability approach. The deferred tax calculation is based on temporary differences between the carrying amounts of assets and liabilities in the IFRS financial statements and their tax base that will lead to a future tax liability or benefit when assets are used or sold or liabilities are settled. These differences are used to calculate deferred tax assets or liabilities.

The deferred tax assets or liabilities are measured using the tax rates that are currently expected to apply when the temporary differences reverse, based on tax rates that have been enacted or substantively enacted by the reporting date. Deferred tax assets are recognised for the unused tax loss carryforwards only to the extent that it is probable that future taxable profit will be available. Deferred tax assets and deferred tax liabilities are offset where a legally enforceable right to set off current tax assets against current tax liabilities exists, and the deferred tax assets and deferred tax liabilities relate to income taxes levied by the same taxation authority.

Composition of income tax expense

	2020 €m	2019 €m
Current income tax expense/(-income)	414.5	378.0
for the current year	425.5	384.4
for previous years	- 11.0	- 6.4
Deferred income tax expense/(-income)	- 11.9	- 15.4
due to temporary differences	- 25.2	- 22.7
due to tax loss carryforwards	0.3	- 0.4
due to changes in tax legislation and/or tax rates	0	7.7
for previous years	13.0	0
Total	402.6	362.6

Allocation of income tax expense to Germany and foreign jurisdictions

	2020 €m	2019 €m
Current income tax expense/(-income)	414.5	378.0
Germany	310.4	245.4
Foreign jurisdictions	104.1	132.6
Deferred income tax expense/(-income)	- 11.9	- 15.4
Germany	- 9.9	- 6.4
Foreign jurisdictions	- 2.0	- 9.0
Total	402.6	362.6

Tax rates of 27.4 to 31.9 per cent (2019: 27.4 to 31.9 per cent) were used in the reporting period to calculate income taxes for the German Group companies. These reflect trade income tax at rates of 11.6 to 16.1 per cent (2019: 11.6 to 16.1 per cent), corporation tax of 15 per cent (2019: 15 per cent) and the 5.5 per cent solidarity surcharge (2019: 5.5 per cent) on corporation tax.

A tax rate of 24.9 per cent (2019: 24.9 per cent) was used for the Group companies in Luxembourg. This includes trade tax at a rate of 6.7 per cent (2019: 6.7 per cent) and corporation tax at 18.2 per cent (2019: 18.2 per cent).

Tax rates of 10.0 to 34.6 per cent (2019: 10.0 to 34.6 per cent) were applied to the Group companies in the remaining countries; see [note 33](#).

Current income tax expense was reduced by €0.3 million in the reporting year by utilization of previously unrecognised tax loss carryforwards (2019: nil). Deferred tax income of €2.4 million resulted from previously unrecognised tax losses (2019: nil). As in the previous year, there were no effects resulting from changes of the impairment of deductible temporary differences.

The following table shows the carrying amounts of deferred tax assets and liabilities as at the reporting date by line item or loss carryforward:

Composition of deferred taxes

	Deferred tax assets		Deferred tax liabilities	
	31.12.2020 €m	31.12.2019 €m	31.12.2020 €m	31.12.2019 €m
Intangible assets	86.0	63.8	- 254.1	- 265.8
Internally developed software	30.0	47.4	- 32.5	- 32.9
Other	56.0	16.4	- 221.6	- 232.9
Financial assets	1.7	1.2	- 13.8	- 5.2
Other assets	7.4	3.1	- 16.3	- 8.4
Provisions for pensions and other employee benefits	88.1	78.6	- 17.7	- 15.1
Other provisions	18.1	14.7	- 0.1	- 0.1
Liabilities	40.8	18.3	- 10.7	- 2.9
Tax loss carryforwards	15.6	15.9	0	0
Deferred taxes (before netting)	257.7	195.6	- 312.7	- 297.5
thereof recognised in profit and loss	190.4	135.4	- 303.4	- 295.6
thereof recognised in other comprehensive income ¹⁾	67.3	60.2	- 9.3	- 1.9
Deferred taxes set off	- 96.0	- 71.2	96.0	71.2
Total	161.7	124.4	- 216.7	- 226.3

1) See note 14 for further information on deferred taxes recognised in other comprehensive income.

Short-term elements of deferred taxes are recognised in non-current assets and liabilities, in line with IAS 1 "Presentation of Financial Statements".

At the end of the reporting period, accumulated unused tax losses for which no deferred tax assets were recognised amounted to €27.2 million (2019: €39.5m). These unused tax loss carryforwards are entirely attributed to other jurisdictions (2019: Germany €4.6 Mio. €, other jurisdictions €34.9m).

The losses can be carried forward indefinitely in Germany subject to the minimum taxation rules. In the US, losses may be carried forward for a maximum period of 20 years, provided they were incurred before 1 January 2018. In accordance with the latest tax reform in the US, adopted at the end of December 2017, losses incurred after 31 December 2017 may be carried forward indefinitely, taking into account newly introduced minimum taxation rules. In all other countries, losses can be carried forward indefinitely.

There were no unrecognised deferred tax liabilities on future dividends of subsidiaries and associates or on gains from the disposal of subsidiaries and associates in the reporting period (2019: nil).

Reconciliation from expected to reported tax expense

	2020 €m	2019 ¹⁾ €m
Earnings before tax (EBT)	1,528.2	1,398.4
Expected tax expense	397.3	363.6
Effects of different tax rates	- 15.2	- 12.3
Effects of non-deductible expenses	15.5	10.4
Effects of tax-exempt income	- 1.3	- 1.8
Tax effects from loss carryforwards	0.9	0.3
Effects from changes in tax rates	0	7.7
Effects from intra-group restructuring	1.5	- 5.0
Other	2.0	6.1
Income tax expense arising from current year	400.7	369.0
Income taxes for previous years	1.9	- 6.4
Income tax expense	402.6	362.6

1) For a more accurate presentation, tax income of €10.0 million has been reclassified from „effects of tax-exempt income“ to „other“.

To determine the expected tax expense, earnings before tax have been multiplied by the composite tax rate of 26 per cent assumed for 2020 (2019: 26 per cent).

As at 31 December, the reported tax rate was 26.3 per cent (2019: 25.9 per cent).

Notes on the consolidated statement of financial position

10. Intangible assets

Recognition and measurement

Capitalised development costs are amortised from the date of first use of the software using the straight-line method over the asset's expected useful life. The useful life of internally developed software is generally assumed to be five years; a useful life of seven years is used as the basis in the case of newly developed trading platforms and clearing or settlement systems, and for certain upgrades to these systems.

Purchased software is generally amortised based on the projected useful life. The amortisation period for intangible assets with finite useful lives is reviewed at a minimum at the end of each financial year. If the expected useful life of an asset differs from previous estimates, the amortisation period is adjusted accordingly.

The other intangible assets were largely acquired within the context of business combinations and refer to exchange licences, trade names and customer relationships. The acquisition costs correspond to the fair values as at the acquisition date. Depending on the relevant acquisition transaction, the expected useful life is 5 years for trade names with finite useful lives, 4 to 24 years for participant and customer relationships, and 2 to 20 years for other intangible assets.

Exchange licences as well as certain trade names have no finite useful lives, and, in addition, there is an intention to maintain the exchange licences as part of the general business strategy; therefore, an indefinite useful life is assumed.

Intangible assets are derecognised on disposal or when no further economic benefits are expected to flow from them.

Impairment tests

At each reporting date, the Group assesses whether there are any indications that an intangible asset may be impaired. If this is the case, the carrying amount is compared with the recoverable amount (the higher of the value in use and fair value less costs of disposal) to determine the amount of any potential impairment.

Value in use is estimated on the basis of the discounted estimated future cash flows from continuing use of the asset and from its ultimate disposal, before taxes. For this purpose, discount rates are estimated based on the prevailing pre-tax weighted average cost of capital. If no recoverable amount can be determined for an asset, the recoverable amount of the cash-generating unit (CGU) to which the asset can be allocated is determined.

Irrespective of any indications of impairment, intangible assets with indefinite useful lives and intangible assets not yet available for use must be tested for impairment at least once a year. Impairment tests for (groups of) CGUs with allocated goodwill are carried out on 30 September every financial year. If the estimated recoverable amount of the asset or CGU is lower than the respective carrying amount, an impairment loss is recognised and the net carrying amount of the asset or CGU, respectively, is reduced to its estimated recoverable amount.

Additional impairment testing was carried out for intangible assets as of 30 June 2020 in response to the Covid-19 pandemic. It did not identify any impairment. At the acquisition date, goodwill is allocated to the CGU, or groups of CGUs, that is/are expected to create synergies from the relevant acquisition. If changes arise in the structure of CGUs, for example through a new segmentation, goodwill is allocated taking into account the relative fair values of the newly defined CGUs. Irrespective of any indications of impairment, these items must be tested for impairment at least annually at the lowest level of impairment at which Deutsche Börse Group monitors the respective goodwill. An impairment loss is recognised if the carrying amount of the CGU, or groups of CGUs, to which goodwill is allocated (including the carrying amount of that goodwill) is higher than the recoverable amount of this group of assets. The impairment loss is first allocated to the goodwill, then to the other assets in proportion to their carrying amounts.

The recoverable amount of the (groups of) CGUs was determined based on the fair value less costs to sell. The value in use was only determined if the fair value less costs to sell did not exceed the carrying amount. Given that no active market was available for the (groups of) CGUs, the determination of fair values less costs to sell was based on the discounted cash flow method (level 3 input factors). The detailed planning period covers a respective time period of five years; for (groups of) CGUs, which have been allocated an asset with an indefinite useful life, such time period ends in perpetuity. Individual costs of capital are determined for each (group of) CGU(s), for the purpose of discounting projected cash flows. These capital costs are based on data incorporating beta factors, borrowing costs, as well as the capital structure of the respective peer group. Pricing, trading volumes, assets under custody, market share assumptions or general business development assumptions are based on past experience or market research. Other key assumptions are mainly based on external factors and generally correspond to internal management planning. Significant macroeconomic indicators include, for instance, equity index levels, volatility of equity indices, as well as interest rates, exchange rates, GDP growth, unemployment levels and government debt. When calculating value in use, the projections are adjusted for the effects of future restructurings and performance investments, if appropriate.

At each reporting date, the Group assesses whether there are any indications that an impairment recognised for non-current assets in previous years (except goodwill) no longer applies. If this is the case, the carrying amount of the asset is increased and the difference is recognised in profit or loss. The maximum amount of this reversal is limited to the carrying amount that would have resulted if no impairment loss had been recognised in previous periods. Deutsche Börse Group does not reverse any goodwill impairments.

Intangible assets

	Purchased software €m	Internally developed software €m	Goodwill €m	Payments on account and construction in progress €m	Other intangible assets €m	Total €m
Historical cost as at 1 Jan 2019	188.9	1,076.1	2,865.6	60.5	1,079.1	5,270.2
Acquisitions from business combinations	95.5	0	609.3	15.2	110.4	830.4
Additions	15.7	53.0	0	44.6	9.7	123.0
Disposals	- 2.3	0	0	0	0	- 2.3
Reclassifications	0	17.9	0	- 17.9	- 0.1	- 0.1
Exchange rate differences	- 1.0	0.2	- 4.4	0	0.7	- 4.5
Historical cost as at 31 Dec 2019	296.8	1,147.2	3,470.5	102.4	1,199.8	6,216.7
Acquisitions through business combinations	15.8	0	550.2	0	271.2	837.2
Adjustment of previous year Goodwill	0	0	4.3	0	0	4.3
Additions	13.9	54.8	0	64.8	0.8	134.3
Disposals	- 3.3	- 0.1	0	- 0.2	0	- 3.6
Reclassifications	1.1	23.1	0	- 23.8	- 0.1	0.3
Exchange rate differences	- 8.6	- 1.9	- 67.4	- 1.4	- 19.4	- 98.7
Historical cost as at 31 Dec 2020	315.7	1,223.1	3,957.6	141.8	1,452.3	7,090.5
Amortisation and impairment losses as at 1 Jan 2019	153.1	790.9	0	8.2	126.4	1,078.6
Amortisation	20.3	77.7	0	0	32.5	130.5
Impairment losses	0	0	0	1.8	0	1.8
Disposals	- 2.3	0	0	0	0	- 2.3
Reclassifications	0	0	0	0	0	0
Exchange rate differences	- 0.2	0	0	- 0.1	0	- 0.3
Amortisation and impairment losses as at 31 Dec 2019	170.9	868.6	0	9.9	158.9	1,208.3
Amortisation	30.5	86.3	0	0	38.5	155.3
Impairment losses	0	2.6	0	5.6	0	8.2
Disposals	- 2.2	0	0	0	0	- 2.2
Reclassifications	0	0	0	0	0	0
Exchange rate differences	- 1.2	- 0.5	0	0	- 0.5	- 2.2
Amortisation and impairment losses as at 31 Dec 2020	198.0	957.0	0	15.5	196.9	1,367.4
Carrying amount as at 31 Dec 2019	125.9	278.6	3,470.5	92.5	1,040.9	5,008.4
Carrying amount as at 31 Dec 2020	117.7	266.1	3,957.6	126.3	1,255.4	5,723.2

Material intangible assets

	Carrying amount as of		Remaining amortisation period as at	
	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 years	31 Dec 2019 years
Customer Relationship Clearstream Funds Centre	237.1	n/a	19.8	n/a
Customer Relationship 360T	179.7	189.8	17.8	18.8

Software, payments on account and software in development

Deutsche Börse Group recognises research costs as expenses in the period in which they are incurred. Development costs for internally developed intangible assets are only capitalised when the definition and recognition criteria for intangible assets according to IAS 38 are met, and development costs can be separated from research costs.

Development costs that have to be capitalised include direct labour costs, costs of purchased services and workplace costs, including proportionate overheads that can be directly attributed to the preparation of the respective asset for use, such as costs for the software development environment. Development costs that do not meet the requirements for capitalisation are recognised through profit or loss. Interest expense that cannot be allocated directly to one of the development projects is recognised through profit or loss in the reporting period.

Total development costs came to €158.2 million in 2020 (2019: €142.2 million), of which €104.0 million was capitalised (2019: €97.5 million).

The impairments tests carried out at Deutsche Börse Group in 2020 resulted in impairment losses totalling €8.2 million (2020: €1.8 million). They are shown in the item “Depreciation, amortisation and impairment losses” and relate to the following assets:

- An impairment loss of €2.6 million (recoverable amount: negative) in the fourth quarter 2020 relates to the SecLending system for clearing CCP securities lending transactions. Upcoming technological investments exceed the expected revenues. The providing of clearing services for securities lending transactions is being discontinued as a result.
- Another impairment loss of €1.0 million (recoverable amount: negative) in the fourth quarter 2020 was recognised on C7 software and relates to a decision that Eurex Crypto Futures were not introduced in 2020.
- Another impairment loss in the fourth quarter of €0.4 million (recoverable amount: negative) relates to capitalised development costs for planned new asset class from Cascade, which was intended to offer the settlement of Cascade-registered shares in the investment funds business, too. The impairment loss is the result of investigations which showed that there is a smaller market need for this product due to regulatory changes.
- After Regulatory Services was carved out, Regulatory Services GmbH was sold to Trax NL B.V. (a wholly owned subsidiary of MarketAxess Holdings Inc.) on 30 November 2020. The disposal of Regulatory Services GmbH and the loss of its clients was the reason for the impairment loss of €4.2 million on the IT platform RRH 2.0 (recoverable amount: negative).

The recoverable amount was measured at fair value less costs to sell, using a discounted cash flow model (level 3 inputs).

Goodwill and other intangible assets from business combinations

Changes in goodwill classified by (groups of) CGUs

	Eurex €m	Clear- stream €m	Qontigo €m	IFS €m	360T €m	EEX €m	Xetra €m	GSF €m	Data €m	Total €m
Balance as at 1 Jan 2019	1,293.5	969.1	18.5	56.6	244.1	115.6	6.7	142.1	19.4	2,865.6
Acquisitions through business combinations	0	0	596.4	10.0	0	2.9	0	0	0	609.3
Exchange rate differences	0.1	-0.1	-6.3	-0.3	1.1	1.0	0	0	0.1	-4.4
Balance as at 31 Dec 2019	1,293.6	969.0	608.6	66.3	245.2	119.5	6.7	142.1	19.5	3,470.5
Reallocation due to change in reporting structure	17.0	142.1	0	0	0	0	2.5	-142.1	-19.5	0
Acquisitions through business combinations	64.1	0	0	484.9	0	1.2	0	0	0	550.2
Adjustment of previous year Goodwill	0	0	4.3	0	0	0	0	0	0	4.3
Exchange rate differences	-2.3	0	-53.6	-1.5	-5.0	-4.9	-0.1	0	0	-67.4
Balance as at 31 Dec 2020	1,372.4	1,111.1	559.3	549.7	240.2	115.8	9.1	0	0	3,957.6

Changes in other intangible assets by category

	Exchange licences €m	Trade names €m	Member and customer relationships €m	Miscellaneous intangible assets €m	Total €m
Balance as at 1 Jan 2019	24.0	460.0	464.7	4.0	952.7
Acquisitions through business combinations	0	65.4	44.0	1.0	110.4
Additions	0	0	8.5	1.2	9.7
Amortisation	0	-0.1	-31.2	-1.2	-32.5
Exchange rate differences	0.5	-0.6	0.8	0	0.7
Reclassifications	0	0	0	-0.1	-0.1
Balance as at 31 Dec 2019	24.5	524.7	486.8	4.9	1,040.9
Acquisitions through business combinations	0	0	270.3	0.9	271.2
Additions	0	0	0.3	0.5	0.8
Amortisation	0	-0.4	-36.5	-1.6	-38.5
Exchange rate differences	-2.1	-6.2	-10.5	-0.1	-19.0
Reclassifications	0	0	0	0	0
Balance as at 31 Dec 2020	22.4	518.1	710.4	4.6	1,255.4

Key assumptions used for impairment tests in 2020

(Group of) CGUs	Allocated book value Mio. €	Risk-free interest rate %	Market risk premium %	Discount rate %	Perpetuity growth rate %	CAGR ¹⁾	
						Net revenue %	Operating costs %
Goodwill							
Eurex ²⁾	1,310.0	- 0.2	7.8	6.2	1.5	3.9	1.4
Clearstream ²⁾	1,111.1	- 0.2	7.8	7.6	1.0	2.7	1.9
Qontigo	585.5	- 0.2	7.8	7.5	1.5	12.6	6.9
360T	551.8	- 0.2	7.8	7.5	1.5	10.4	2.8
EEX	242.7	- 0.2	7.8	7.7	2.0	9.7	5.0
IFS	118.2	- 0.2	7.8	7.1	1.5	6.9	2.1
Xetra	9.1	- 0.2	7.8	7.5	1.0	5.6	8.4
Trade names and exchange licences							
STOXX	420.0	- 0.3	7.8	7.4	1.5	7.9	5.9
Axioma	58.7	1.4	6.3	7.8	2.5	15.8	4.7
Nodal	26.1	1.4	6.3	7.6	1.5	23.8	6.8
360T	19.9	- 0.3	7.8	7.7	2.0	8.7	7.1
EEX	13.5	- 0.3	7.8	7.0	1.5	6.0	4.3
360TGTX	1.6	0.9	6.3	7.7	2.0	17.8	11.0
Structured Products	0.2	- 0.3	7.8	7.4	1.0	- 2.5	1.5

1) CAGR = compound annual growth rate

2) The CGU Data was allocated to Eurex and Xetra / The CGU GSF was allocated to Clearstream

Key assumptions used for impairment tests in 2019

	Book value Mio. €	Risk-free interest rate %	Market risk premium %	Discount rate %	Perpetuity growth rate %	CAGR ¹⁾	
						Net revenue %	Operating costs %
Goodwill							
Eurex	1,293.6	- 0.2	7.5	5.8	1.0	4.9	3.9
Clearstream	969.0	- 0.2	7.5	7.0	1.0	3.1	3.3
Qontigo	608.5	- 0.2	7.5	7.4	1.5	13.2	20.7
360T	245.2	- 0.2	7.5	7.3	2.0	11.1	6.7
GSF	142.1	- 0.2	7.5	8.1	1.5	4.6	2.6
EEX	119.5	- 0.2	7.5	6.7	1.5	8.0	6.0
IFS	66.3	- 0.2	7.5	7.8	1.5	9.9	5.5
Data	19.5	- 0.2	7.5	7.6	1.5	3.6	5.5
Xetra	6.7	- 0.2	7.5	6.2	1.0	2.8	3.1
Trade names and exchange licences							
STOXX	420.0	0.2	7.5	7.8	1.5	8.3	3.4
Axioma	64.3	2.3	6.0	8.5	1.5	26.6	16.9
Nodal	28.6	2.3	6.0	8.0	1.5	9.0	7.2
360T Core	19.9	0.2	7.5	7.7	2.0	8.7	4.5
EEX Core	14.3	0.2	7.5	7.0	1.5	5.6	4.5
360TGTX	1.7	2.3	6.0	8.6	2.0	21.3	12.0
Structured Products	0.2	0.2	7.5	7.0	1.0	2.9	2.5

1) CAGR = compound annual growth rate

Even in case of a reasonably possible change of the parameters, none of the above-mentioned CGUs, or groups of CGUs, would be impaired.

11. Property, plant and equipment

Measurement of purchased property, plant and equipment

Depreciable items of property, plant and equipment are carried at cost less cumulative depreciation. The straight-line depreciation method is used. The carrying amount is immediately written down to its recoverable amount if the carrying amount is higher than its recoverable amount. Costs of an item of property, plant and equipment comprise all costs directly attributable to the production process, as well as an appropriate proportion of production overheads. No borrowing costs were recognised in the reporting period and in the previous year as they could not be directly allocated to any particular development project. If it is probable that the future economic benefits associated with an item of property, plant and equipment will flow to the Group and the cost of the asset in question can be reliably determined, expenditure subsequent to acquisition is added to the carrying amount of the asset as incurred. The carrying amounts of any parts of an asset that have been replaced are derecognised. Repair and maintenance costs are expensed as incurred.

Useful life of property, plant and equipment

	Depreciation period
IT hardware	3 to 5 years
Operating and office equipment	5 to 25 years
Leasehold improvements	Based on lease term

Measurement of right-of-use assets

Deutsche Börse Group leases a large number of different assets. This includes mainly buildings and passenger vehicles. Right-of-use assets are measured at cost. Any accumulated depreciation and impairment amounts are deducted from the cost of right-of-use assets as part of subsequent measurement. This does not apply to short-term leases with a term of not more than twelve months and leases for low-value assets. Expenses in the reporting year resulting from the above-mentioned short-term and low-value assets are reported in other operating expenses.

Useful life of property, plant and equipment

	Depreciation period
Right-of-use – land and buildings	Based on lease term
Right-of-use – IT hardware, operating and office equipment as well as carpool	Based on lease term

As a lessor in the case of an operating lease, the Group presents the leased asset as an item of property, plant and equipment and measures such asset at amortised cost. The lease instalments received during the period are shown under other operating income.

Property, plant and equipment (incl. Right-of-use assets)

	Land and buildings (right-of-use)	Fixtures and fittings	IT hardware, operating and office equipment as well as carpool			Advance payments made and construction in progress	Total
	€m	€m	Right-of-use	Purchased	Total	€m	€m
			€m	€m	€m		
Historical costs as at 1 Jan 2019	258.3	83.5	4.5	271.1	275.6	14.8	632.2
Acquisitions through business combinations	10.2	1.5	3.0	0.8	3.8	0	15.5
Additions	120.7	9.7	2.3	44.0	46.3	8.1	184.8
Disposals	0	-24.5	0	-12.6	-12.6	-0.3	-37.4
Reclassifications	0	7.1	0	-0.2	-0.2	-6.8	0.1
Exchange rate differences	-0.1	0.2	0	0.1	0.1	0	0.2
Historical costs as at 31 Dec 2019	389.1	77.5	9.8	303.2	313.0	15.8	795.4
Acquisitions through business combinations	3.1	0	0	0.3	0.3	0.5	3.9
Additions	70.3	13.1	3.0	43.4	46.4	4.7	134.5
Disposals	-0.7	-3.1	0	-6.3	-6.3	-0.9	-11.0
Reclassifications	0	9.7	0	3.1	3.1	-13.1	-0.3
Exchange rate differences	-2.3	-0.6	-0.2	-0.5	-0.7	0	-3.6
Historical costs as at 31 Dec 2020	459.5	96.6	12.6	343.2	355.8	7.0	918.9
Depreciation and impairment losses as at 1 Jan 2019	0	52.2	0	186.3	186.3	0	238.5
Amortisation	42.5	7.8	2.7	40.9	43.6	0	93.9
Disposals	0	-22.5	0	-12.3	-12.3	0	-34.8
Exchange rate differences	0.1	0.2	0.1	-0.6	-0.5	0	-0.2
Depreciation and impairment losses as at 31 Dec 2019	42.6	37.7	2.8	214.3	217.1	0	297.4
Amortisation	48.5	9.2	4.2	39.0	43.2	0	100.9
Disposals	-0.4	-2.5	0	-5.8	-5.8	0	-8.7
Exchange rate differences	-0.4	-0.3	-0.1	-0.3	-0.4	0	-1.1
Depreciation and impairment losses as at 31 Dec 2020	90.3	44.1	6.9	247.2	254.1	0	388.5
Carrying amount as at 31 Dec 2019	346.5	39.8	7.0	88.9	95.9	15.8	498.0
Carrying amount as at 31 Dec 2020	369.2	52.5	5.7	96.0	101.7	7.0	530.4

The average remaining term of leases is 16.9 years.

The remaining term of the material sub-lease is two years; it is then renewed automatically for an indefinite period. Both parties can terminate the lease at the end of the remaining term by giving notice of six months.

For details regarding the corresponding lease liabilities, please see [note 12](#).

12. Financial instruments

Financial assets

Recognition and derecognition

Financial assets are recognised when the Group or one of its companies becomes party to a financial instrument. Regular way purchases and sales of financial assets are generally recognised and derecognised at the trade date. Purchases and sales of debt instruments classified as “at amortised cost” and of equities eligible for clearing via the central counterparties (CCPs) of Deutsche Börse Group are recognised and derecognised at the settlement date. Financial assets are derecognised when the contractual rights to the cash flows expire or when the company transfers these rights in a transaction that transfers substantially all risks and rewards of ownership of the financial assets.

Clearstream Banking S.A. acts as a principal in securities borrowing and lending transactions in the context of the ASLplus securities lending system and is an intermediate between lender and borrower without becoming a contracting party from an economic perspective. Consequently, these transactions are not recognised in the consolidated balance sheet.

Initial measurement and classification

Financial assets are first recognised at fair value. For financial assets not measured at fair value through profit or loss the recognised amount also includes transaction costs that can be allocated directly to the acquisition of this asset. Transaction costs of financial assets at fair value through profit or loss are expensed.

Financial assets are classified at the acquisition date, from which subsequent measurement is derived. Deutsche Börse Group allocates its financial assets to the following measurement categories:

- At fair value (either at “fair value through other comprehensive income” (FVOCI) or “fair value through profit or loss” (FVPL))
- At amortised cost (aAC)

Debt instruments are allocated on the basis of the business model for managing the financial assets and the contractual cash flow characteristics. Debt instruments are only reclassified if the business model for managing them is changed. Deutsche Börse Group does not make use of the option to designate debt instruments as at fair value through profit or loss on initial recognition (fair value option).

The allocation of investments in equity securities held for trading depends on whether the option of designating the corresponding financial instruments as at fair value through other comprehensive income (FVOCI option) is used on initial recognition. Each individual equity instrument can be allocated separately and may not be changed in subsequent periods.

Subsequent measurement of debt instruments

Deutsche Börse Group allocates each debt instrument to one of the following categories:

- **Amortised cost (aAC):** Assets allocated to the “hold” business model and whose cash flows consist of solely payments of principal and interest are measured at amortised cost. Interest income from these financial assets is measured using the effective interest method. Gains and losses from derecognition, impairment and exchange rate movements are recognised through profit or loss. Measurement effects are shown in banking business or non-banking business depending on how the financial assets are allocated. For financial assets from banking business all measurement effects are shown in the treasury result from banking business. Interest income from the non-banking business are shown in the financial result. All other effects of non-banking business are presented in result from financial investments. All effects relating to the measurement of trade receivables are shown in other operating income and expenses.
- **Fair value through other comprehensive income (FVOCI):** Investments in debt instruments allocated to the “hold and sell” business model and whose cash flows consist solely of payments of principal and interest are measured at fair value through other comprehensive income. Impairments on these debt instruments are recognised in profit or loss in the result from financial investments. On disposal of these debt instruments the cumulative gains or losses in the revaluation reserve are recycled to profit or loss in the result from financial investments. Interest income from fixed income securities in this category are shown in the financial result.
- **Fair value through profit or loss (FVPL):** Financial assets that do not meet the criteria for measurement at amortised cost or at FVOCI, are measured at FVPL and their measurement effects are shown in result from financial investments. Distributions from fund interests are also shown in result from financial investments. Interest income from fixed income securities in this category are shown in the financial result.

Subsequent measurement of equity instruments

Equity instruments are always subsequently measured at fair value. Since Deutsche Börse Group has used the irrevocable FVOCI option for all equity instruments as of the reporting date, gains and losses are recognised in other comprehensive income. When the item is derecognised the gains and losses are not recycled through profit or loss, but reclassified to retained earnings. Dividends from these financial investments are shown in net income from financial investments.

Impairment

As a rule, any impairment for expected credit losses for debt instruments reported at amortised cost and at fair value through other comprehensive income is determined using the three-stage impairment model in IFRS 9. The losses represent a forward-looking measurement of future losses that are generally subject to estimates.

Stage 1: The impairment upon initial recognition is measured on the basis of the expected losses for the next twelve months.

Stage 2: If a financial asset's credit risk has increased significantly, the expected credit loss is determined over the entire term. A significant increase in credit risk is determined individually using internal ratings.

Stage 3: Credit-impaired financial assets are allocated to Stage 3 and the impairment is based on the full lifetime expected credit losses. This is the case if there are observable data of significant financial difficulties and there is a high risk of default, even if the definition of a default has not yet been met.

If the credit risk for debt instruments at amortised cost and at fair value through profit or loss is low in absolute terms as at the reporting date, they remain in Stage 1 even if the default risk has increased.

Deutsche Börse Group has identified the following two triggers to identify an event of default and which cause a transfer to stage 3 accordingly:

Legal default event: a contractual partner is unable to fulfil its contractual obligation according to an agreement with Deutsche Börse Group due to insolvency/bankruptcy.

Contractual default event: a contractual partner is unable or unwilling to fulfil, in a timely manner, one or more of its scheduled contractual obligations according to an agreement with Deutsche Börse Group. The non-fulfilment of the contractual obligation could potentially result in a financial loss for Deutsche Börse Group.

Within Deutsche Börse Group, the expected credit losses for trade receivables are measured based on the simplified approach, which requires lifetime expected losses to be recognised from initial recognition of a receivable. For trade receivables, a default is assumed for amounts which are overdue for more than 360 days.

Financial Liabilities

Recognition and derecognition

Financial liabilities are recognised when a Group company becomes a party to the instrument. Purchases and sales of equities via the central counterparty Eurex Clearing AG are recognised at the settlement date analogous to financial assets. Financial liabilities are derecognised when the contractual obligation has been extinguished because it has been discharged or cancelled or has expired.

Financial liabilities measured at amortised cost

Financial liabilities not held for trading are generally accounted for at amortised cost. The borrowing costs associated with the placement of financial liabilities are included in the carrying amount and accounted for using the effective interest method if they are directly attributable. Discounts are amortised over the term of the liabilities using the effective interest method. Liabilities to non-controlling shareholders for the acquisition of non-controlling shares settled in cash or another financial asset are recognised at the present value of the future purchase price. Subsequent measurement recognises through profit or loss the effect on present value of accrued interest on the financial obligation and all measurement changes in the obligations. The equity interest attributable to a non-controlling shareholder

underlying the transaction is accounted for as if it had already been acquired at the time of the transaction.

Financial liabilities measured at fair value through profit or loss

Contingent purchase payments recognised by the purchaser of a business combination in accordance with IFRS 3 are not measured at amortised cost. The resulting financial liabilities are recognised at fair value through other profit or loss. With a contingent purchase price component the purchaser is obliged to transfer additional assets or shares to the seller if certain conditions are met. Subsequent measurement is at fair value through profit or loss.

Deutsche Börse Group does not make use of the option to designate financial liabilities at fair value through profit or loss upon initial recognition (fair value option).

Deutsche Börse Group's exposure to various risks associated with the financial instruments is discussed in [note 23](#). The maximum exposure to credit risk at the end of the reporting period is the carrying amount of each class of financial assets mentioned above.

Presentation and netting of financial assets and liabilities

Financial assets and liabilities in the statement of financial position are divided into non-current and current. They are presented as non-current assets if the remaining term is more than twelve months as at the reporting date. They are presented as current assets if the remaining term is less than twelve months.

Financial assets and liabilities are offset and only the net amount is presented in the consolidated balance sheet when a Group company currently has a legally enforceable right to offset the recognised amounts and intends either to settle on a net basis or to realise the asset and settle the liability simultaneously.

Derivative financial instruments and hedge accounting

Derivatives are initially recognised at fair value at the time of the derivative contract. They are only used for hedging and not as a speculative investment. Where derivatives do not meet the hedge accounting criteria, they are classified as "held for trading" for accounting purposes and are remeasured at the end of each reporting period at fair value through profit or loss. Gains and losses from the subsequent measurement are either recognised in the treasury result from banking business or in result from financial investments.

Deutsche Börse Group uses foreign exchange derivatives as hedging instruments to hedge existing or expected transactions against foreign exchange risks. When a hedging transaction takes place the economic relationship between the hedging instrument and the hedged item is documented in accordance with the statutory requirements.

Cash flow hedges that qualify for hedge accounting

The effective portion of changes in the fair value of derivatives designated as cash flow hedges is shown in the reserve for cash flow hedges as part of other comprehensive income; it is limited to the cumulative change in the fair value of the hedged item on the basis of its present value since the hedging transaction. Gains or losses on the ineffective portion are recognised directly through profit or loss, either in the treasury result from banking business or in the result from financial investments. If forward contracts are used to hedge planned transactions the Deutsche Börse Group designates the entire change in the fair value of the forward, including the forward component, as a hedging instrument. In this case the gains or losses from the effective portion of the change in fair value for the entire future transaction are recognised in the reserve for cash flow hedges as a component of equity. If the Group uses futures to hedge existing receivables and liabilities, only the spot component of the future is designated. Gains or losses from the effective portion of the change in the spot component of the future are shown in the reserve for cash flow hedges. Changes in the forward component of the hedging instrument that relates to the hedged item are considered to be hedging costs and shown separately in the reserve for hedging costs in other comprehensive income. The fair value of the forward component not included in the hedging relationship at the time it is designated is written off pro rata temporis over the period of the hedging relationship. The amount written down is recycled from the reserve for hedging costs to profit or loss.

Cumulative amounts in the reserve for cash flow hedges are reclassified according to the following methodology:

- If the cash flow hedge serves to hedge planned transactions, the amount from the hedging instrument that has accumulated in other comprehensive income up to the acquisition date is derecognised from the reserve and treated as part of the acquisition costs.
- For cash flow hedges of existing receivables and liabilities, the amount that has accumulated in the reserve for cash flow hedges is reclassified to profit or loss in the periods in which there are changes in the hedged future cash flows recognised through profit or loss.
- If this amount is a loss, however, and the assumption is that all or part of this loss cannot be recouped in future periods, then this amount is recognised immediately through profit or loss.

The effectiveness of the hedging relationship is assessed at the beginning and over the entire duration of the hedging relationship to ensure that there is an economic relationship between the hedging instrument and the hedged item. To hedge foreign currency risks, hedging relationships are established in which all relevant contractual parameters of the hedging transaction match exactly with those of the hedged item. Ineffectiveness may arise in the hedging of foreign currency transactions if the timing of the planned transaction changes compared with the original estimate. Ineffectiveness due to changes in the default risk of Deutsche Börse Group or the counterparty to the hedging transaction is deemed to be negligible. Effectiveness is measured regularly as at the reporting dates. The Group uses the hypothetical derivative method for this purpose.

When a hedging instrument expires or is sold or terminated, or when a hedge no longer meets the criteria for hedge accounting, hedge accounting is discontinued. When the forecast transaction is no longer expected to occur, the cumulative gain or loss and deferred costs of hedging that were reported in equity are immediately reclassified to profit or loss.

Financial assets measured at fair value through other comprehensive income

The item “Equity investments at fair value through other comprehensive income” was renamed “Financial assets at fair value through other comprehensive income”, because equity instruments and debt instruments are now presented together in this category. This item comprises strategic investments which Deutsche Börse Group has irrevocably elected to recognise at fair value through other comprehensive income in this category at initial recognition. The Group believes that this classification is more meaningful. In addition fixed-income securities allocated to the “Hold and sell” business model are also presented at fair value through other comprehensive income.

Composition of financial assets measured at fair value through other comprehensive income

	2020 €m	2019 €m
Strategic investments	107.0	66.3
Listed securities	0	12.5
Unlisted securities	107.0	53.8
Listed debt instruments	4.9	0
Total	111.9	66.3

None of the financial assets have been pledged as collateral by Deutsche Börse Group. Debt securities amounting to €0.5 million expired in 2020. Debt securities amounting to €0.5 million are classified as current as at 31 December 2020; total impairments came to less than €0.1 million.

Amounts recognised in profit or loss and other comprehensive income

	2020 €m	2019 €m
Gains/(losses) recognised in other comprehensive income		
Strategic investments	25.5	– 10.4
Debt instruments	0.3 ¹⁾	0
Total	25.8	– 10.4
Gains/(losses) recognised in profit or loss		
Dividends related to investments derecognised during the period	0.3	0
Dividends related to investments held at the end of the reporting period	0	1.3
Total	0.3	1.3

1) Of which €0.1 million (2019: nil) are attributable to non-controlling interests.

The disposal of one strategic investment resulted in a gain of €0.1 million (2019: €10.5 million), recognised outside profit or loss in retained earnings.

Financial assets and liabilities measured at amortised cost

Composition of financial assets at amortised cost

	31 Dec 2020			31 Dec 2019		
	Non-current €m	Current €m	Total €m	Non-current €m	Current €m	Total €m
Trade receivables	0	616.6	616.6	0	447.3	447.3
of which expected losses	0	– 9.2	– 9.2	0	– 7.1	– 7.1
Other financial assets measured at amortised costs	997.5	16,225.1	17,222.6	698.7	15,381.6	16,080.3
Fixed income securities	992.1	206.0	1,198.0	693.0	592.1	1,285.1
Reverse repo transactions	0	6,176.7	6,176.7	0	6,394.3	6,394.3
Balances on nostro accounts	0	2,252.4	2,252.4	0	1,596.2	1,596.2
Money market lendings	0	6,440.0	6,440.0	0	6,435.8	6,435.8
Customer overdrafts from settlement business	0	267.7	267.7	0	231.7	231.7
Receivables from CCP balances	0	675.6	675.6	0	48.4	48.4
Margin calls	0	156.6	156.6	0	8.0	8.0
Other	5.4	50.0	55.5	5.7	75.1	80.8
of which expected losses	– 0.3	– 0.0	– 0.3	– 0.0	0.0	– 0.0
Restricted bank balances	0	38,420.1	38,420.1	0	29,988.7	29,988.7
Cash and other bank balances	0	1,467.3	1,467.3	0	888.1	888.1
Total	997.5	56,729.1	57,726.6	698.7	46,705.7	47,404.4

In 2020 fixed income securities in the amount of €609.6 million (2019: €596.0 million) expired.

Amounts reported separately under liabilities as cash deposits by market participants are restricted. Such amounts are invested mainly via bilateral or triparty reverse repurchase agreements and in the form of overnight deposits at central banks and banks and shown as restricted bank balances. Government and government-guaranteed bonds with an external rating of at least AA– are accepted as collateral for the reverse repurchase agreements.

Composition of financial liabilities at amortised cost

	31 Dec 2020			31 Dec 2019		
	Non-current €m	Current €m	Total €m	Non-current €m	Current €m	Total €m
Trade payables	0	388.6	388.6	0	206.7	206.7
Other liabilities at amortised costs	3,474.4	14,630.0	18,104.4	2,627.2	14,225.4	16,852.6
Bonds issued	2,637.1	0	2,637.1	2,286.2	0	2,286.2
Deposits from securities settlement business	0	12,191.6	12,191.6	0	13,725.6	13,725.6
Money market borrowings	0	1,176.2	1,176.2	0	19.2	19.2
Purchase price liabilities from business combinations	479.5	0	479.5	0	0	0
Commercial Papers issued	0	546.4	546.4	0	311.9	311.9
Liabilities from CCP balances	0	565.3	565.3	0	49.9	49.9
Leasing liabilities	357.8	51.1	408.9	341.0	41.5	382.5
Bank overdrafts	0	27.8	27.8	0	5.2	5.2
Other	0	71.7	71.7	0	72.0	72.0
Cash deposits from market participants	0	38,188.8	38,188.8	0	29,755.8	29,755.8
Total	3,474.4	53,207.4	56,681.8	2,627.2	44,187.9	46,815.1

Deutsche Börse AG made the investors in a bond a redemption offer in the second quarter of 2020. In the course of this redemption offer €284.9 million was redeemed at a purchase price of 101.0 per cent. In the fourth quarter of 2020 the remaining tranche of the same bond was repaid at its nominal value of €315.1 million as at the termination date. The entire redemption of the bond gave rise to a negative effect of €3.9 million recognised through profit or loss in the reporting year. To refinance this bond a new hybrid bond with a nominal volume of €600.0 million was issued. This hybrid bond has a maturity of 27 years with a redemption option after seven years. It bears interest at 1.25 per cent.

Clearstream Banking AG issued a bond with a nominal volume of €350.0 million and an interest coupon of 0.0 per cent in the fourth quarter 2020. The bond has a maturity of five years.

The financial liabilities recognised on the balance sheet were not secured by liens or similar rights as at 31 December 2020 or as at 31 December 2019.

Cash deposits by market participants

Composition of cash deposits by market participants

	31 Dec 2020 €m	31 Dec 2019 €m
Liabilities from margin payments		
Liabilities from margin payments to Eurex Clearing AG by clearing members	31,750.3	25,461.9
Liabilities from margin payments to European Commodity Clearing AG by clearing members	5,964.8	3,794.7
Liabilities from margin payments to Nodal Clear, LLC by clearing members	473.3	494.2
Liabilities from margin payments to European Energy Exchange AG by clearing members	0.4	0.3
Liabilities from cash deposits by participants in equity trading	0	4.7
Total	38,188.8	29,755.8

Financial assets and liabilities measured at fair value through profit or loss

Financial instruments of the central counterparties

Eurex Clearing AG, European Commodity Clearing AG and Nodal Clear, LLC act as central counterparties:

- Eurex Clearing AG guarantees the settlement of all transactions involving futures and options on Eurex Germany. It also guarantees the settlement of all transactions for Eurex Repo (repo trading platform), certain exchange transactions in equities on Frankfurter Wertpapierbörse (FWB, the Frankfurt Stock Exchange) and certain cash market transactions on the Irish Stock Exchange. Eurex Clearing AG also guarantees the settlement of off-order-book trades entered for clearing in the trading systems of the Eurex exchanges, Eurex Bonds, Eurex Repo, the Frankfurt Stock Exchange and the Irish Stock Exchange. In addition, Eurex Clearing AG clears over-the-counter (OTC) interest rate derivatives and securities lending transactions, where these meet the specified novation criteria.
- European Commodity Clearing AG guarantees the settlement of spot and derivatives transactions at the trading venues of EEX group and the connected partner exchanges.
- Nodal Clear, LLC, as part of the Nodal Exchange Group, is a Derivatives Clearing Organisation (DCO) registered in the United States and is the central counterparty for all transactions executed on Nodal Exchange.

The transactions of the clearing houses are only executed between the respective clearing house and a clearing member. Purchases and sales of equities and bonds via the Eurex Clearing AG central counterparty are recognised and simultaneously derecognised at the settlement date. For products that are marked to market (futures, options on futures, as well as OTC interest-rate derivatives), the clearing houses recognise gains and losses on open positions of clearing members on each exchange day. By means of the variation margin, profits and losses on open positions resulting from market price fluctuations are settled on a daily basis. The difference between this and other margin types is that the variation margin does not comprise collateral, but is a daily offsetting of profits and losses in cash. Therefore, futures and OTC interest rate derivatives are not reported in the consolidated balance sheet. "Traditional" options, for which the buyer must pay the option premium in full upon purchase, are carried in the consolidated balance sheet at fair value. Receivables and liabilities from repo transactions and from cash-collateralised securities lending transactions are classified as held for trading and carried at fair value.

The fair values recognised in the consolidated balance sheet are based on daily settlement prices. These are calculated and published by the clearing house in accordance with the rules set out in the contract specifications.

Composition of financial instruments held by central counterparties

	31 Dec 2020 €m	31 Dec 2019 €m
Repo transactions	58,020.6	60,352.2
Options	29,677.1	23,126.6
Others	5.0	57.0
Total	87,702.7	83,535.8
thereof non-current	6,934.7	5,234.2
thereof current	80,768.1	78,301.5

Receivables and liabilities that may be offset against a clearing member are reported on a net basis. Financial liabilities of €95.0 million (31 December 2019: €890.0 million) were eliminated because of intra-Group GC Pooling transactions.

Other financial assets and liabilities measured at fair value through profit or loss

For greater clarity “Derivatives” are now presented in the item “Other financial assets measured at fair value through profit or loss” or “Other financial liabilities measured at fair value through profit or loss”. These positions of Deutsche Börse are made up as follows:

Other financial assets and liabilities measured at fair value through profit or loss

	Carrying amount 31.12.2020			Carrying amount 31.12.2019		
	Non-current €m	Current €m	Total €m	Non-current €m	Current €m	Total €m
Derivatives	0.2	8.1	8.4	0	1.4	1.4
Forward exchange transactions designated as cash flow hedges	0.2	0	0.2	0	0	0
Foreign currency derivatives not designated as hedges	0	8.1	8.1	0	1.4	1.4
Other financial assets	42.2	7.6	49.8	28.4	0.4	28.8
Fund units and debt securities	42.2	0	42.2	28.4	0	28.4
Contingent consideration	0	7.6	7.6	0	0	0
Other	0	0	0	0	0.4	0.4
Total assets	42.4	15.8	58.2	28.4	1.7	30.2
Derivatives	1.5	172.6	174.1	0	25.9	25.9
Forward exchange transactions designated as cash flow hedges	1.5	39.9	41.4	0	0	0
Foreign currency derivatives not designated as hedges	0	132.7	132.7	0	25.9	25.9
Other financial liabilities	0	1.5	1.5	84.3	3.6	87.9
Contingent consideration	0	1.5	1.5	84.3	3.6	87.9
Total liabilities	1.5	174.1	175.6	84.3	29.5	113.8

As of 31 December 2020 there were foreign currency derivatives not designated in hedges with a term of less than eight months with a nominal amount of €2,524.2 million (31 December 2019: €2,965.6 million with a term of less than seven months). Thereof €510.3 million (31 December 2019: €827 million) is attributable to derivatives with a positive fair value and thereof €2,013.9 million (31 December 2019: €2,138.6 million) is attributable to derivatives with a negative fair value. These foreign currency derivatives were entered into mainly in order to convert USD amounts received into euros for liquidity management purposes on the one hand and as an alternative to unsecured deposits and loans on the other hand with the aim of hedging the unsecured counterparty risk as well as liquidity risk in daily liquidity management.

Amounts recognised in profit or loss

	2020 €m	2019 €m
Net gain/(loss) from derivatives not designated as hedges	38.6	54.4
Net gain/(loss) from cash flow hedges	- 0.2	0
Net gain/(loss) from other financial assets measured at fair value through profit or loss	9.4	6.3
Distributions from fund units	0.8	0.3
Net gain/(loss) from other financial liabilities measured at fair value through profit or loss	1.8	- 3.5
Total	50.4	57.5

Cash flow hedges that qualify for hedge accounting

Deutsche Börse AG entered into cash flow hedges in various currencies in 2020 to hedge existing or forecast transactions. The effects of foreign currency hedging instruments on the financial position and financial performance is as follows:

Forward exchange transactions

	2020	2019
Spot components from forward exchange transactions in CHF		
Carrying amount in €m (non-current financial assets measured at fair value through profit and loss)	0.2	n/a
Nominal amount in Fr.m	56.3	n/a
Due date	31.12.2022	n/a
Hedge ratio	100.0%	n/a
Change in fair value of the hedging instrument in €m	0.2	n/a
Change in value of the hedged item used to measure the ineffectiveness of the hedging relationship in €m	- 0.2	n/a
Weighted average hedge rate for hedging instruments (including forward points) in Fr./€	1.1	n/a
Spot components from forward exchange transactions in CHF		
Carrying amount in €m (non-current financial liabilities measured at fair value through profit and loss)	1.1	n/a
Nominal amount in Fr.m	380.0	n/a
Due date	29.04.2022	n/a
Hedge ratio	100.0%	n/a
Change in fair value of the hedging instrument in €m	- 1.1	n/a
Change in value of the hedged item used to measure the ineffectiveness of the hedging relationship in €m	1.1	n/a
Weighted average hedge rate for hedging instruments (including forward points) in Fr./€	1.1	n/a
Forward exchange transactions USD		
Carrying amount in €m (current financial liabilities measured at fair value through profit and loss)	39.9	n/a
Nominal amount US\$m	1,421.8	n/a
Due date	31.03.2021	n/a
Hedge ratio	67.0%	n/a
Change in fair value of the hedging instrument in €m	- 39.9	n/a
Change in value of the hedged item used to measure the ineffectiveness of the hedging relationship in €m	39.9	n/a
Weighted average hedge rate for hedging instruments (including forward points) in US\$/€	1.2	n/a

The forward contracts are in the same currency as the highly probable future transactions so the hedging ratio is 1:1.

The revaluation surplus for cash shown in other comprehensive income relates to the following hedging instruments:

Cash flow hedge reserve

	Cost of hedging reserve €m	Reserve for cash flow hedges forward exchange transactions €m	Reserve for cash flow hedges foreign currency swaps €m	Total €m
Balance as at 1 Jan 2019	0	0	0	0
Change in fair value of hedging instruments recognised in OCI	0	0	0.2	0
Hedging costs deferred and recognised in other comprehensive income	0	0	0	0
Reclassification to profit or loss	0	0	0	0
Settlement	0	0	0	0
Balance as at 31 Dec 2019	0	0	0.2	0.2
Change in fair value of hedging instruments recognised in OCI	0	- 41.3	0	- 41.3
Hedging costs deferred and recognised in other comprehensive income	- 0.3	0	0	- 0.3
Reclassification to profit or loss	0.2	1.3	0	1.5
Settlement	0	0	- 0.2	- 0.2
Balance as at 31 Dec 2020	- 0.1	- 39.9	0	- 40.1

The separate amount in the hedging reserve comprises the forward component of forward contracts. The separated costs relate to over-time hedged items in the form of existing purchase price obligations from business combinations.

Fair value hierarchy

The financial assets measured at fair value includes financial assets and liabilities of the following three hierarchy levels:

- **Level 1:** Financial instruments with a quoted price for identical assets and liabilities in an active market
- **Level 2:** Financial instruments with no quoted prices for identical instruments on an active market and whose fair value is determined using valuation methods based on observable market parameters
- **Level 3:** Financial instruments where the fair value is determined using one or more unobservable significant inputs. This does not apply to listed equity instruments

There were no transfers between levels for recurring fair value measurements during the year under review.

Fair value hierarchy

	Fair value as at 31 Dec 2020			
	€m	thereof attributable to:		
		Level 1 €m	Level 2 €m	Level 3 €m
Financial assets measured at fair value through other comprehensive income (FVOCI)				
Strategic investments	107.0	0	0	107.0
Debt instruments	4.9	4.9	0	0
Total	111.9	4.9	0	107.0
Financial assets measured at fair value through profit or loss (FVPL)				
Non-current financial instruments held by central counterparties	6,934.7	0	6,934.7	0
Non-current derivatives	0.2	0	0.2	0
Other non-current financial assets at FVPL	42.2	15.8	0	26.4
Current financial instruments held by central counterparties	80,768.1	0	80,768.1	0
Current derivatives	8.1	0	8.1	0
Other current financial assets at FVPL	7.6	0	0	7.6
Total	87,760.9	15.8	87,711.1	34.0
Total assets	87,872.8	20.7	87,711.1	141.0
Financial liabilities measured at fair value through profit or loss (FVPL)				
Non-current financial instruments held by central counterparties	6,934.7	0	6,934.7	0
Non-current derivatives	1.5	0	1.5	0
Current financial instruments held by central counterparties	80,673.1	0	80,673.1	0
Current derivatives	172.6	0	172.6	0
Other current financial liabilities at FVPL	1.5	0	0	1.5
Total liabilities	87,783.4	0	87,781.9	1.5

Fair value hierarchy previous year

	Fair value as at 31 Dec 2019			
	€m	thereof attributable to:		
		Level 1 €m	Level 2 €m	Level 3 €m
Financial assets measured at fair value through other comprehensive income (FVOCI)				
Strategic investments	66.3	12.5	0	53.8
Total	66.3	12.5	0	53.8
Financial assets measured at fair value through profit or loss (FVPL)				
Non-current financial instruments held by central counterparties	5,234.2	0	5,234.2	0
Other non-current financial assets at FVPL	28.4	11.3	0	17.1
Current financial instruments held by central counterparties	78,301.5	0	78,301.5	0
Current derivatives	1.4	0	1.4	0
Other current financial assets at FVPL	0.4	0	0	0.4
Total	83,565.9	11.3	83,537.2	17.5
Total assets	83,632.2	23.8	83,537.2	71.3
Financial liabilities measured at fair value through profit or loss (FVPL)				
Non-current financial instruments held by central counterparties	5,234.2	0	5,234.2	0
Other non-current financial liabilities at FVPL	84.3	0	0	84.3
Current financial instruments held by central counterparties	77,411.5	0	77,411.5	0
Current derivatives	25.9	0	25.9	0
Other current financial liabilities at FVPL	3.6	0	0	3.6
Total liabilities	82,759.5	0	82,671.6	87.9

The derivatives listed in Level 2 include foreign currency forwards. The basis for measuring the market value of the foreign currency forwards is the forward rate at the reporting date for the remaining term. They are based on observable market prices. The basis for measuring the market value of financial instruments held by central counterparties are market transactions for identical or similar assets on non-active markets and option pricing models based on observable prices.

Changes in level 3 financial instruments

	Assets		Liabilities	Total
	Strategic investments €m	Financial assets measured at fair value through profit or loss €m	Financial liabilities measured at fair value through profit or loss €m	
Balance as at 1 Jan 2019	89.7	9.1	- 0.2	98.6
Acquisitions from business combinations	0	0	- 84.0	- 84.0
Additions	0.9	7.9	- 0.3	8.5
Disposals	- 42.7	- 0.3	0	- 43.0
Reclassifications	3.3	- 3.3	0	0
Unrealised capital gains/(losses) recognised in profit or loss	0	4.1	- 3.5	0.6
Other operating income	0	0	0.1	0.1
Result from financial investments	0	4.1	0	4.1
Staff cost	0	0	- 3.6	- 3.6
Changes recognised in the revaluation surplus	1.9	0	0	1.9
Unrealised gains/(losses) from currency translation recognised in equity	0.6	0	0	0.6
Balance as at 31 Dec 2019	53.8	17.5	- 87.9	- 16.7
Acquisitions from business combinations	0	0	0	0
Additions	25.0	14.5	- 3.3	36.2
Disposals	0	- 0.9	0	- 0.9
Reclassifications	5.2	- 6.7	87.8	86.3
Realised capital gains/(losses) recognised in profit or loss	0	0	2.2	2.2
Other operating income	0	0	2.2	2.2
Unrealised capital gains/(losses) recognised in profit or loss	0	9.6	- 0.3	9.3
Other operating income	0	7.6	- 0.3	7.3
Other operating expenses	0	- 0.3	0	- 0.3
Result from financial investments	0	2.3	0	2.3
Changes recognised in the revaluation surplus	26.6	0	0	26.6
Unrealised gains/(losses) from currency translation recognised in equity	- 3.6	0	0	- 3.6
Balance as at 31 Dec 2020	107.0	34.0	- 1.5	139.4

The fair value measurement of Level 3 strategic investments is determined on a quarterly basis using internal valuation models.

The fair value of fund units included in financial assets at FVPL is based on the net asset value determined by the issuer. This position also includes a contingent consideration whose valuation is based on internal discounted cash flow models that discount the expected future payment to the valuation date using risk-adjusted discount rates.

Financial liabilities at fair value mainly consist of contingent considerations which are also valued on the basis of discounted cash flow models in which the present value of obligations was determined using risk-adjusted discount rates. There were no further material changes in the reporting year regarding financial assets and liabilities allocated to Level 3. A change in the parameters observable on the

market, taking into account realistic alternative assumptions, would not have any material effects on the carrying amounts of the unlisted equity securities measured at fair value through profit or loss as at the reporting date.

Debt securities held by Deutsche Börse Group which are disclosed under financial assets measured at amortised cost have a fair value of €1,205.0 million (31 December 2019: €1,360.1million). The fair value of the debt securities was determined by reference to published price quotations in an active market. The securities were allocated to Level 1.

The bonds issued by Deutsche Börse Group have a fair value of €2,784.0 million (31 December 2019: €2,451.1 million) and are disclosed under financial liabilities measured at amortised cost. The fair value of such instruments is based on the debt instruments' quoted prices. Due to insufficient market liquidity, the liabilities were allocated to Level 2. The financial instrument's carrying amount for all other items represents a reasonable approximation of the fair value.

Offsetting financial instruments

Gross presentation of offset financial instruments held by central counterparties

	Gross amount of financial instruments		Gross amount of offset financial instruments		Net amount of financial instruments	
	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 €m	31 Dec 2019 €m
Financial assets from repo transactions	81,173.2	104,334.5	- 23,152.6	- 43,982.3	58,020.6	60,352.2
Financial liabilities from repo transactions	- 81,078.2	- 103,444.5	23,152.6	43,982.3	- 57,925.6	- 59,462.2
Financial assets from options	78,104.7	78,171.1	- 48,427.6	- 55,044.5	29,677.1	23,126.5
Financial liabilities from options	- 78,104.7	- 78,171.1	48,427.6	55,044.5	- 29,677.1	- 23,126.6

Cash or securities held as collateral by central counterparties

As the clearing houses of the Deutsche Börse Group guarantee the settlement of all traded contracts, they have established multi-level collateral systems. The central pillar of the collateral systems is the determination of the overall risk per clearing member (margin) to be covered by cash or securities collateral. Losses calculated on the basis of current prices and potential future price risks are covered up to the date of the next collateral payment.

In addition to these daily collateral payments, each clearing member must make contributions to the respective default fund (for further details, see the [risk report in the combined management report](#)). Cash collateral is reported in the consolidated balance sheet under “cash deposits by market participants” and the corresponding amounts under “restricted bank balances”.

Securities collateral is generally not derecognised by the clearing member providing the collateral, as the opportunities and risks associated with the securities are not transferred to the secure party. Recognition at the secure party is only permissible if the clearing member providing the transfer is in default according to the underlying contract.

The aggregate margin calls based on the executed transactions and default fund requirements after haircuts was €62,467.3 million as at the reporting date (2019: €52,889.4 million). Collateral totalling €79,747.6 million (2019: €61,711.0 million) was actually deposited.

Composition of collateral held by central counterparties

	31 Dec 2020 €m	31 Dec 2019 €m
Cash collateral (cash deposits) ¹⁾³⁾	38,193.0	26,489.6
Securities and book-entry securities collateral ²⁾³⁾	41,554.6	35,221.4
Total	79,747.6	61,711.0

1) The amount includes the clearing fund totalling €4,600.8 million (2019: € 2,914.5million).

2) The amount includes the clearing fund totalling €2,294.1 million (2019: € 2,055.2 million).

3) The collateral value is determined on the basis of the fair value less a haircut

13. Other current assets

Composition of other current assets

	31 Dec 2020 €m	31 Dec 2019 €m
Other receivables from CCP transactions (commodities)	414.3	208.7
Prepaid expenses	67.6	66.5
Tax receivables (excluding income taxes)	28.9	39.7
Interest receivables on taxes	26.6	19.3
Miscellaneous	10.7	6.7
Total	548.1	340.9

14. Equity

Changes in equity are presented in the consolidated statement of changes in equity. As at 31 December 2020, the number of no-par value registered shares of Deutsche Börse AG in issue was 190,000,000 (31 December 2019: 190,000,000).

Subject to the agreement of the Supervisory Board, the Executive Board is authorised to increase the subscribed share capital by the following amounts:

Composition of authorised share capital

	Number shares	Date of authorisation by the shareholders	Expiry date	Existing shareholders' pre-emptive rights may be disapplied for fractioning and/or may be disapplied if the share issue is:
Authorised share capital I ¹⁾	13,300,000	11 May 2016	10 May 2021	n.a.
Authorised share capital II ²⁾	19,000,000	19 May 2020	18 May 2025	for cash at an issue price not significantly lower than the stock exchange price, up to a maximum amount of 10 per cent of the nominal capital. against non-cash contributions for the purpose of acquiring companies, parts of companies, interests in companies, or other assets.
Authorised share capital III ²⁾	19,000,000	19 May 2024	18 May 2024	n.a.
Authorised share capital IV ¹⁾	6,000,000	17 May 2017	16 May 2022	n.a.

1) Shares may only be issued, excluding shareholders' pre-emptive subscription rights, provided that the aggregate amount of new shares issued excluding shareholders' pre-emptive rights during the term of the authorisation (including under other authorisations) does not exceed 20 per cent of the issued share capital.

2) Shares may only be issued, excluding shareholders' pre-emptive subscription rights, provided that the aggregate amount of new shares issued excluding shareholders' pre-emptive rights during the term of the authorisation (including under other authorisations) does not exceed 10 per cent of the issued share capital.

Contingent capital

By resolution of the Annual General Meeting of 8 May 2019, the Executive Board is authorised, subject to the consent of the Supervisory Board, to issue in the period until 7 May 2024 on one or several occasions convertible bonds and/or warrant-linked bonds or a combination of such instruments with a total principal amount of up to €5,000,000,000 with or without a limited term and to grant holders or creditors of such bonds conversion or option rights, respectively, to acquire new no-par value registered shares in Deutsche Börse AG representing a notional interest in the share capital of up to €17,800,000, as stipulated in the terms and conditions of convertible bonds or the terms and conditions of the warrants attaching to the warrant-linked bonds.

The Executive Board is authorised, subject to the consent of the Supervisory Board, to exclude the subscription rights of the shareholders in relation to bonds with conversion or option rights to acquire shares in Deutsche Börse AG in the following cases: The Executive Board is authorised, subject to the approval of the Supervisory Board, to exclude shareholders' pre-emptive rights to bonds with conversion or option rights to shares of Deutsche Börse AG in the following cases: (i) to avoid fractional amounts, (ii) when the issue price of a bond is not materially below the theoretical fair value determined in accordance with recognised financial techniques and the total number of shares attributable to these bonds does not exceed 10 per cent of the share capital, (iii) to grant the holders of conversion or option rights to shares of Deutsche Börse AG subscription rights to offset any dilutive effects to the same extent as they would be entitled to receive after exercising these rights.

The bonds may also be issued by companies based in Germany or abroad that are affiliated with Deutsche Börse AG within the meaning of sections 15 ff. of the Aktiengesetz (AktG, German Stock Corporation Act). Accordingly, the share capital was contingently increased by up to €17,800,000 (contingent capital 2019). To date, the authorisation to issue convertible bonds and/or bonds with warrants has not been exercised.

There were no further subscription rights to shares as at 31 December 2020 or 31 December 2019.

Revaluation surplus

Revaluation surplus

	Recognition of hidden reserves from fair value measurement €m	Equity investments measured at FVOCI €m	Cash flow hedges €m	Defined benefit obligations €m	Other €m	Total €m
Balance as at 1 Jan 2019 (gross)	103.7	16.5	0	- 177.1	- 0.3	- 57.2
Changes from defined benefit obligations	0	0	0	- 42.1	- 0.9	- 43.0
Fair value measurement	0	- 10.4	0.2	0	0	- 10.2
Balance as at 31 Dec 2019 (gross)	103.7	6.1	0.2	- 219.2	- 1.2	- 110.4
Changes from defined benefit obligations	0	0	0	- 25.2	- 0.4	- 25.6
Fair value measurement	0	25.7	- 40.3	0	0	- 14.6
Balance as at 31 Dec 2020 (gross)	103.7	31.8	- 40.1	- 244.4	- 1.6	- 150.6
Deferred taxes						
Balance as at 1 Jan 2019	0	- 1.9	0	48.8	0.1	47.0
Additions	0	0.1	0	11.1	0.2	11.4
Reversals	0	0	- 0.1	0	0	- 0.1
Balance as at 31 Dec 2019	0	- 1.8	- 0.1	59.9	0.3	58.3
Additions	0	0	0.2	6.9	0.1	7.2
Reversals	0	- 7.5	0	0	0	- 7.5
Balance as at 31 Dec 2020	0	- 9.3	0.1	66.8	0.4	58.0
Balance as at 1 Jan 2019 (net)	103.7	14.6	0	- 128.3	- 0.2	- 10.2
Balance as at 31 Dec 2019 (net)	103.7	4.3	0.1	- 159.3	- 0.9	- 52.1
Balance as at 31 Dec 2020 (net)	103.7	22.5	- 40.0	- 177.6	- 1.2	- 92.6

Retained earnings

The “retained earnings” item includes exchange rate differences amounting to €- 98.3 million (2019: € -8.2 million). In the reporting year €86.1 million (2019: €2.1 million) was transferred from currency translation for foreign subsidiaries and €2.9 million (2019: €0.7 million) in connection with the hedging of foreign exchange risks.

15. Shareholders' equity and appropriation of net profit of Deutsche Börse AG

The annual financial statements of the parent company Deutsche Börse AG, prepared as at 31 December 2020 in accordance with the provisions of the Handelsgesetzbuch (HGB, German Commercial Code), report net profit for the period of €1,161.9m (2019: €825.9m) and equity of €3,511.8m (2019: €2,867.5m). In 2020, Deutsche Börse AG distributed €531.9 Mio. € (€2.90 per share) from distributable profit for the previous year.

Proposal on the appropriation of the unappropriated surplus

	31 Dec 2020 €m
Net profit for the period	1,161.9
Appropriation to other retained earnings in the annual financial statements	– 571.9
Unappropriated surplus	590.0
Proposal by the Executive Board:	
Distribution of a regular dividend to the shareholders of €3.00 per share for 183,521,257 no-par value shares carrying dividend rights	550.6
Appropriation to retained earnings	39.4

No-par value shares carrying dividend rights

	31 Dec 2020 Number	31 Dec 2019 Number
Number of shares issued as at 31 December	190,000,000	190,000,000
Number of treasury shares as at the reporting date	– 6,478,743	– 6,570,965
Number of shares outstanding as at 31 December	183,521,257	183,429,035

The proposal on the appropriation of distributable profit reflects treasury shares held directly or indirectly by the company that do not carry dividend rights under section 71b of the Aktiengesetz (AktG, the German Stock Corporation Act). The number of shares carrying dividend rights can change until the Annual General Meeting through the repurchase or sale of further treasury shares. In this case, with a dividend of €3.00 per eligible share, an amended resolution for the appropriation of distributable profit will be proposed to the Annual General Meeting.

16. Provisions for pensions and other employee benefits

Defined benefit pension plans

Provisions for pensions and similar obligations are measured using the projected unit credit method on the basis of actuarial reports in accordance with IAS 19. Calculating the present value requires certain actuarial assumptions (e.g. discount rate, staff turnover rate, salary and pension trends) to be made. The current service cost and the net interest expense or income for the subsequent period are calculated on the basis of these assumptions.

The fair value of plan assets is deducted from the present value of pension obligations, reflecting the asset ceiling rules if there are any excess plan assets. This results in the net defined benefit liability or asset. Net interest expense for the financial year is calculated by applying the discount rate determined at the beginning of the financial year to the net defined benefit liability determined as at that date.

The relevant discount rate is determined by reference to the return on long-term corporate bonds with a rating of at least AA (Moody's Investors Service, S&P Global Ratings, Fitch Ratings and DBRS) on the basis of the information provided by Bloomberg, and a maturity that corresponds approximately to the maturity of the pension obligations. Moreover, the bonds must be denominated in the same currency as the underlying pension obligation. Measurement of the pension obligations in euros is, in principle, based on a discount rate which is determined according to the Towers Watson "GlobalRate:Link" methodology updated in line with the current market trend.

The actuarial gains or losses and the difference between the expected and the actual return or loss on plan assets are recognised in other comprehensive income in the revaluation surplus. They result from changes in expectations with regard to life expectancy, pension trends, salary trends and the discount rate.

Other long-term benefits for employees and members of executive boards (total disability pension, transitional payments) are also measured using the projected unit credit method. Actuarial gains and losses and past service cost are recognised immediately and in full through profit or loss.

The defined benefit obligations of the companies of Deutsche Börse Group relate primarily to final salary arrangements and pension plans based on capital components, which guarantee employees a choice of either lifelong pensions or capital payments on the basis of the final salary paid. Deutsche Börse Group uses external trust solutions to cover some of its pension obligations.

Net liability of defined benefit obligations

	Germany €m	Luxembourg €m	Other €m	Total 31 Dec 2020 €m	Total 31 Dec 2019 €m
Present value of defined benefit obligations that are at least partially funded	536.1	89.1	41.5	666.7	616.5
Fair value of plan assets	- 374.3	- 58.4	- 31.7	- 464.4	- 428.2
Funded status	161.8	30.7	9.8	202.3	188.3
Present value of unfunded obligations	4.7	0.7	0.1	5.5	5.1
Net liability of defined benefit obligations	166.5	31.4	9.9	207.8	193.4
Impact of minimum funding requirement/asset ceiling	0	0	0	0	0
Amount recognised in the balance sheet	166.5	31.4	9.9	207.8	193.4

The defined benefit plans comprise a total of 2,882 beneficiaries (2019: 2,772). The present value of defined benefit obligations can be allocated to the beneficiaries as follows:

Allocation of the present value of the defined benefit obligation to the beneficiaries

	Germany €m	Luxembourg €m	Other €m	Total 31 Dec 2020 €m	Total 31 Dec 2019 €m
Eligible current employees	225.8	82.0	39.2	347.0	319.7
Former employees with vested entitlements	199.3	7.1	0.4	206.8	192.1
Pensioners or surviving dependants	115.7	0.7	2.0	118.4	109.8
Total	540.8	89.8	41.6	672.2	621.6

Essentially, the retirement benefits encompass the following retirement benefit plans:

Executive boards of Group companies (Germany and Luxembourg)

Individual commitment plans exist for executive board members of certain Group companies; they are based on the plan for executives described in the second paragraph below, i.e. in each calendar year the company provides an annual contribution to a capital component calculated in accordance with actuarial principles. The benefit assets equal the total of the acquired capital components of the individual years and are converted into a lifelong pension once the benefits fall due. In addition, retirement benefit agreements are in place with members of the executive boards of Group companies, under which they are entitled to pension benefits upon reaching the age of 63 and following reappointment. When the term of office began, the replacement rate was 30 per cent of individual pensionable income. It rose by 5 per-centage points with each reappointment, up to a maximum of 50 per cent of pensionable income. Details of the pension commitments for members of Deutsche Börse AG's Executive Board can be found in the [remuneration report](#).

Germany

There is an employee-funded deferred compensation plan for employees of certain Deutsche Börse Group companies in Germany who joined prior to 1 January 2019. Under this plan, it is possible to convert portions of future remuneration entitlements into benefit assets of equal value which bear interest of 6 per cent p.a. The benefits consist of a capital payment made in equal annual instalments over a period of three years upon the reaching the age of 65 or at an earlier date due to disability or death.

In the period from 1 January 2004 to 30 June 2006, executives in Germany were offered the opportunity to participate in the following pension system based on capital components: the benefit is based on annual income received, composed of fixed annual salary and the variable remuneration. The participating companies provide an amount corresponding to a specific percentage of this eligible income every year. This amount is multiplied by a capitalisation factor depending on age, resulting in the "annual capital component". The benefit assets equal the total of the acquired capital components of the individual years and are converted into a lifelong pension once the benefits fall due. This benefit plan was closed to new staff on 30 June 2006; the executives who were employed in the above period can continue to earn capital components.

As part of adjustments to the remuneration systems to bring them into line with supervisory requirements contracts were adjusted for some executives. For executives affected, whose contracts allowed for the inclusion of only the income received and the variable remuneration above the upper limit of the contribution assessment as pensionable income, the pensionable income was determined on the basis of income received from the year 2016. This is adjusted annually to account for the increase of the cost of living according to the consumer price index for Germany as issued by the Federal Statistical Office. For executives affected, whose capital components were calculated on the basis of income received, without observing the upper limit of the contribution assessment, an amount has been determined that will be reviewed annually, and adjusted if necessary, by the Supervisory Board, taking any changes in circumstances in terms of income and purchasing power into account.

Luxembourg

The defined benefit pension plan in favour of Luxembourg employees is funded by means of cash contributions to an “association d'épargne pension” (ASSEP) organised in accordance with Luxembourg law. The benefits consist of a one-off capital payment, which is generally paid upon reaching the age of 65. Contributions to the ASSEP are funded in full by the participating companies. The contributions are determined annually on the basis of actuarial opinions in accordance with Luxembourg law.

Changes in net defined benefit obligations

	Present value of obligations		Fair value of plan assets		Total	
	2020 €m	2019 €m	2020 €m	2019 €m	2020 €m	2019 €m
Balance as at 1 Jan	621.6	536.2	- 428.2	- 372.1	193.4	164.1
Changes through business combinations	0	0.1	0	0	0	0.1
Current service cost	26.2	26.1	0	0	26.2	26.1
Interest expense/(income)	6.0	9.2	- 4.1	- 6.5	1.9	2.7
Past service cost and gains and losses on settlements	0.3	0	0	0	0.3	0
	32.5	35.3	- 4.1	- 6.5	28.4	28.8
Remeasurements						
Return on plan assets, excluding amounts already recognised in interest income	0	0	6.0	- 22.5	6.0	- 22.5
Adjustments to demographic assumptions	0	0	0	0	0	0
Adjustments to financial assumptions	25.1	70.3	0	0	25.1	70.3
Experience adjustments	- 5.8	- 5.6	0	0	- 5.8	- 5.6
Effect of exchange rate differences	0	0	0	0	0	0
	19.3	64.7	6.0	- 22.5	25.3¹⁾	42.2
Effect of exchange rate differences	0.1	0.6	0	- 0.5	0.1	0.1
Contributions:						
Employers	0	0	- 43.6	- 42.5	- 43.6	- 42.5
Plan participants	0.9	0.8	- 0.9	- 0.8	0	0
Benefit payments	- 13.5	- 15.2	13.5	15.2	0	0
Settlements	0	0	0	0	0	0
Tax and administration costs	- 0.8	- 0.9	1.4	1.5	0.6	0.6
Changes in the basis of consolidation	12.1	0	- 8.5	0	3.6	0
Balance as at 31 Dec	672.2	621.6	- 464.4	- 428.2	207.8	193.4

1) Thereof €- 0.2 million (2019: €- 0.2 million) in the offsetting item for non-controlling interests

The basis for determining the discount rate was refined in the financial year. A modified bond selection for the relevant portfolios of high-quality corporate bonds, which is used as the basis for determining the discount rate, resulted in a discount rate of 0.7 percent as of 31 December 2020. Without this change, the discount rate would have been 0.4 percent. This would have led to an increase in the present value of the defined benefit obligation of €29.5 million and, as a result of the adjustments to the financial assumptions, to a corresponding actuarial loss before tax in other comprehensive income.

In 2020, employees converted a total of €4.8 million of their variable remuneration into deferred compensation benefits (2019: €6.4 million).

Assumptions

Provisions for pension plans and other employee benefits are measured annually at the reporting date using actuarial techniques. The assumptions for determining the actuarial obligations for the pension plans differ according to the individual conditions in the countries concerned and are shown in the following table:

Actuarial assumptions

	31 Dec 2020		31 Dec 2019	
	Germany %	Luxembourg %	Germany %	Luxembourg %
Discount rate	0.70	0.70	1.00	1.00
Salary growth	3.00	3.30	3.50	3.30
Pension growth	1.90	1.80	2.00	1.80
Staff turnover rate ¹⁾	2.00	2.00	2.00	2.00

1) Up to the age of 50, afterwards 0 per cent

In Germany, the “2018 G” mortality tables (generation tables) developed by Prof Klaus Heubeck are used. For Luxembourg, generation tables of Institut national de la statistique et des études économiques du Grand-Duché de Luxembourg are used.

Sensitivity analysis

The sensitivity analysis presented in the following considers the change in one assumption of the main plans in Germany and Luxembourg at a time, leaving the other assumptions unchanged from the original calculation, i.e. possible correlation effects between the individual assumptions are not taken into account.

Sensitivity of defined benefit obligation to change in the weighted principal assumptions

	Change in actuarial assumption	Effect on defined benefit obligation			
		2020 defined benefit obligation €m	Change %	2019 defined benefit obligation €m	Change %
	Present value of the obligation ¹⁾	630.6	–	596.0	–
Discount rate	Increase by 1.0 percentage point	537,8	– 14.7	508.1	– 14.7
	Reduction by 1.0 percentage point	746,9	18.4	707.8	18.8
Salary growth	Increase by 0.5 percentage points	642.1	1.8	609.3	2.2
	Reduction by 0.5 percentage points	619,3	– 1.8	585.1	– 1.8
Pension growth	Increase by 0.5 percentage points	643.8	2.1	609.6	2.3
	Reduction by 0.5 percentage points	617,2	– 2.1	583.7	– 2.1
Life expectancy	Increase by one year	650,1	3.1	614.4	3.1
	Reduction by one year	609.9	– 3.3	577.7	– 3.1

1) Prior year adjusted and includes only the main plans in Germany and Luxembourg.

Composition of plan assets

Germany

In Germany, plan assets are held by a trustee in safekeeping for individual companies of Deutsche Börse Group and the beneficiaries. At the company's instruction, the trustee uses the funds transferred to acquire securities, without any consulting by the trustee. The contributions are invested in accordance with an investment policy, which may be amended by the companies represented in the investment committee. The trustee may refuse to carry out instructions if they are in conflict with the fund's allocation rules or the payment provisions. In accordance with the investment policy, a value preservation mechanism is applied; investments can be made in different asset classes.

Luxembourg

In Luxembourg, the Board of Directors of the Clearstream Pension Fund is responsible for determining the investment strategy, with the aim of maximising returns in relation to a benchmark. This benchmark is 75 per cent derived from the return on five-year German federal government bonds and 25 per cent from the return on the EURO STOXX 50 Index. According to the investment policy, the fund may only invest in fixed-income and variable-rate securities, as well as listed investment fund units; it may hold cash, including in the form of money market funds.

Composition of plan assets

	31 Dec 2020		31 Dec 2019	
	€m	%	€m	%
Bonds	349.9	75.3	352.1	82.2
Government bonds	211.5		246.9	
Multilateral development banks	0		0	
Corporate bonds	138.4		105.2	
Derivatives	3.0	0.6	- 0.4	- 0.1
Stock index futures	2.9		0.4	
Interest rate futures	0.1		- 0.8	
Investment funds	28.1	6.1	26.1	6.1
Total listed	381.0	82.0	377.8	88.2
Qualifying insurance policies	31.8	6.8	21.0	4.9
Cash	51.6	11.1	29.4	6.9
Total not listed	83.4	18.0	50.4	11.8
Total plan assets	464.4	100.0	428.2	100.0

As at 31 December 2020, the plan assets did not include any financial instruments of the Group (2019: zero). Neither did they include any properties or other assets used by companies in Deutsche Börse Group.

Risks

In addition to the general actuarial risks, the risks associated with the defined benefit obligations relate especially to financial risks in connection with the plan assets, including in particular counterparty credit and market risks.

Market risk

The return on plan assets is assumed to be the discount rate determined on the basis of corporate bonds with an AA rating. If the actual rate of return on plan assets is lower than the discount rate used, the net defined benefit liability increases accordingly. If volatility is low, the actual return is further expected to exceed the return on corporate bonds with a good rating in the medium to long term. The level of the net liability is influenced by the discount rates in particular, whereby the current low interest rates contribute to a relatively high net liability. Deutsche Börse Group considers the share price risk resulting from derivative positions in equity index futures in the plan assets to be appropriate. The company bases its assessment on the expectation that the overall volume of payments from the pension plans will be manageable in the next few years, that the total amount of the obligations will also be manageable and that it will be able to meet these payments in full from operating cash flows. Any amendments to the investment policy take into account the duration of the pension obligation as well as the expected payments over a period of ten years.

Inflation risk

Possible inflation risks that could lead to an increase in defined benefit obligations exist because some pension plans are final salary plans or the annual capital components are directly related to salaries, i.e. a significant increase in salaries would lead to an increase in the benefit obligation from these plans. In Germany, however, there are no contractual arrangements with regard to inflation risk for these pension plans. An interest rate of 6 per cent p.a. has been agreed for the employee-financed deferred compensation plan; the plan does not include any arrangements for inflation, so that it has to be assumed that there will be little incentive for employees to contribute to the deferred compensation plan in times of rising inflation. In Luxembourg, salaries are adjusted for the effects of inflation on the basis of a consumer price index no more than once a year; this adjustment leads to a corresponding increase in the benefit obligation from the pension plan. Since the obligation will be met in the form of a capital payment, there will be no inflation-linked effects once the beneficiary reaches retirement age.

Duration and expected maturities of the pension obligations

The weighted duration of the pension obligations as at 31 December 2020 is 16.6 years (2019: 16.7 years).

Expected maturities of undiscounted pension payments

	Expected pension payments ¹⁾	
	31 Dec 2020 €m	31 Dec 2019 €m
Less than 1 year	15,7	14,9
Between 1 and 2 years	15,6	13,8
Between 2 and 5 years	50,1	48,0
More than 5 years up to 10 years	144,6	126,8
Total	226,0	203,5

1) The expected payments in Swiss francs were translated into euros at the relevant closing rate on 31 December.

The expected costs of defined benefit plans (excluding service cost for deferred compensation) amount to approximately €17.7 million for the 2021 financial year, including net interest expense.

Defined contribution pension plans and multi-employer plans

Defined contribution plans

There are defined contribution plans as part of the occupational pension system using pension funds and similar pension institutions. In addition, contributions are paid to the statutory pension insurance scheme. The level of contributions is normally determined in relation to income. As a rule, no provisions are recognised for defined contribution plans. The contributions paid are reported as pension expenses in the year of payment. There are defined contribution pension plans for employees in several countries. In addition, the employer pays contributions to employees' private pension funds.

Multi-employer plans

Several Deutsche Börse Group companies are member institutions of BVV Versicherungsverein des Bankgewerbes a.G., a pension insurance provider with registered office in Berlin. Employees and employers make regular contributions, which are used to provide guaranteed pension plans, and a potential surplus. The contributions to be made are derived from contribution rates applied to active employees' monthly gross salaries, taking into account specific financial thresholds. Member institutions have a subsidiary liability for the fulfilment of BVV's agreed pension benefits. However, we consider the risk that this liability will be invoked as remote. Given that BVV membership is governed by several Works Council Agreements, membership termination is subject to certain conditions. Deutsche Börse Group considers BVV pension obligations as multi-employer defined benefit pension plans. However, we currently lack information regarding the allocation of BVV assets to individual member institutions and the respective beneficiaries. Moreover, we do not know Deutsche Börse Group's actual share in BVV's total obligations. This plan is therefore shown in the Group's financial reporting as a defined contribution plan. On the basis of current information published by BVV there is no shortfall that could affect the future contributions payable by the Group.

EPEX Netherlands B.V. participates in the ABP pension fund within the EEX subgroup. Participation is mandatory for all employees. Employer contributions are calculated by ABP and adjusted, if necessary. Since the allocation of assets to member institutions and beneficiaries is not possible, this pension plan can also be presented only as a defined contribution plan.

During the reporting period, the costs associated with defined contribution plans, and designated multi-employer plans, amounted to €47.0 million (2019: €42.8 million). In 2021, Deutsche Börse Group expects to make contributions to multi-employer plans amounting to around €10.6 million.

Composition of other current liabilities

Other long-term employee benefits

	31 Dec 2020 €m	31 Dec 2019 €m
Pensions obligations (IHK)	8.5	8.7
Jubilee	6.2	6.0
Total	14.6	14.7

17. Share-based payment

Deutsche Börse Group operates the Group Share Plan (GSP), the Stock Bonus Plan (SBP), the Co-Performance Investment Plan (CPIP), the Performance Share Plan (PSP) and the Management Incentive Programme (MIP) as well as the Long-term Sustainable Instrument (LSI) and the Restricted Stock Units (RSU), which provide share-based payment components for employees, senior executives and executive board members.

Stock Bonus Plan (SBP)

The SBP is open to senior executives of Deutsche Börse AG and its participating subsidiaries. It grants a long-term remuneration component in the form of so-called SBP shares. These are generally accounted for as share-based payments for which Deutsche Börse AG has a choice of settlement in cash or equity instruments for certain tranches. Tranches due in previous years were each settled in cash. In the reporting period, the company established an additional tranche of the SBP for senior executives who are not risk takers. In order to participate in the SBP, a beneficiary must have earned a bonus. The awards are settled in cash and the SBP shares are measured as cash-settled share-based payment transactions. The cost of the options is estimated using an option pricing model (fair value measurement) and recognised in staff costs in the consolidated income statement.

The number of stock options is determined by the amount of the individual and performance-based SBP bonus for the financial year, divided by the average share price (Xetra closing price) of Deutsche Börse AG's shares in the fourth quarter of the financial year in question. Neither the converted SBP bonus nor the stock options are paid at the time the bonus is determined. Rather, the entitlement is generally received three years after the grant date (the "waiting period"). Within this period, beneficiaries cannot assert shareholder rights (in particular, the rights to receive dividends and attend the Annual General Meeting). Once they have met the condition of service, the beneficiaries' claims resulting from the SBP are calculated on the first trading day following the last day of the waiting period. The current market price at that date (closing auction price of Deutsche Börse shares in electronic trading on the Frankfurt Stock Exchange) is multiplied by the number of stock options. Stock options are settled in cash.

Evaluation of the SBP

The company uses an adjusted Black-Scholes model (Merton model) to calculate the fair value of the stock options.

Valuation parameters for SBP shares

		Tranche 2020 ²⁾	Tranche 2019	Tranche 2018	Tranche 2017	Tranche 2016 ¹⁾
Term to		31.03.2024	31.03.2023	28.02.2022	28.02.2021	31.03.2020
Risk-free interest rate	%	- 0.77	- 0.77	- 0.75	- 0.75	- 0.75
Volatility of Deutsche Börse AG shares	%	25.38	27.92	33.31	25.90	0.0
Dividend yield	%	2.08	2.08	2.08	2.08	2.08
Exercise price	€	0	0	0	0	0

1) The number of stock options, settlement obligation, and short-term provision of the 2016 tranche includes the unsettled shares of the 2015 tranche.

2) Given that the 2020 SBP tranche stock options for senior executives will not be granted until the 2021 financial year, the number of shares applicable as at the reporting date may be adjusted during the 2021 financial year.

The valuation model does not take into account hurdle rates. The volatilities applied correspond to the market volatilities of comparable options with comparable maturities.

Valuation of SBP shares

Tranche	Balance at 31 Dec 2020 Number	Deutsche Börse AG share price at 31 Dec 2020 €	Intrinsic value/ option at 31 Dec 2020 €	Fair value/ option at 31 Dec 2020 €	Settlement obligation €m	Current provision at 31 Dec 2020 €m	Non-current provision at 31 Dec 2020 €m
2016	147	139,25	139,25	115.30	0.0	0.0	0
2017	11,915	139,25	139,25	133.21	1.6	1.6	0.0
2018	11,151	139,25	139,25	95.79	1.1	0	1.0
2019	6,825	139,25	139,25	62.55	0.4	0	0.4
2020	8,187	139,25	139,25	30.64	0.3	0	0.3
Total	38,225				3.4	1.6	1.7

Average price of the exercised and forfeited share options

Tranche	Average price of the exercised share options €	Average price of the forfeited share options €
2016	117.78	134.53
2017	136.87	126.72
2018	141.65	88.92
2019	121.40	59.17

The stock options from the 2016 SBP tranche were exercised in the reporting period following the expiration of the waiting period. Shares of the SBP tranches 2017, 2018 and 2019 were paid to former employees as part of severance payments in the year under review.

The carrying amount of the provision for the SBP results from the measurement of the number of SBP stock options at the fair value of the closing auction price of Deutsche Börse shares in electronic trading at the Frankfurt Stock Exchange at the reporting date and its proportionate recognition over the waiting period.

Provisions for the SBP amounting to € 3.4 million were recognised at the reporting date of 31 December 2020 (31 December 2019: € 4.3 million). The total expense for LSI stock options in the reporting period amounted to € 3.4 million (2019: € 2.6 million).

Change in number of SBP shares allocated

	Balance at 31 Dec 2019	Additions/ (disposals) Tranche 2016	Additions/ (disposals) Tranche 2017	Additions/ (disposals) Tranche 2018	Additions/ (disposals) Tranche 2019	Additions/ (disposals) Tranche 2020	Fully settled cash options	Options forfeited	Balance at 31 Dec 2020
To other senior executives	48,062	620	352	275	- 1,326	8,187	- 16,412	- 1,533	38,225
Total	48,062	620	352	275	- 1,326	8,187	- 16,412	- 1,533	38,225

Long-term Sustainable Instrument (LSI) and Restricted Stock Units (RSU)

In 2014, Deutsche Börse Group introduced the Long-Term Sustainable Instrument (LSI) plan in order to provide share-based remuneration in line with regulatory requirements. This programme was extended in 2016 with the Restricted Stock Units (RSU) plan. The following disclosures relate to both plans.

Long-term Sustainable Instrument (LSI)

The LSI remuneration model requires at least half of a part of the variable remuneration to be settled in cash and half in phantom shares of Deutsche Börse AG (LSI shares). All tranches will be settled in cash. A portion of the variable remuneration is paid in the subsequent year and another portion over a further period of three or four years. Moreover, a portion of the variable remuneration shall be converted into RSU, subject to a three-year retention period after grant and a one-year waiting period (RSU shares). Deutsche Börse Group thus measures the LSI shares as cash-settled share-based payment transactions. The options are measured using an option pricing model (fair value measurement). Any right to payment of a stock bonus only vests after the expiration of the one-year service period on which the plan is based, taking certain waiting periods into account.

The number of LSI and RSU shares for the 2015 to 2019 2019 tranches is calculated by dividing the proportionate LSI or RSU bonus, respectively, for the year in question by the average closing price of Deutsche Börse AG shares in the last month of a financial year. The number of LSI and RSU shares for the 2020 tranche is based on the closing auction price of Deutsche Börse shares as at the disbursement date of the cash component of the 2020 tranche in 2021, or on the closing price as at the following trading day on the Frankfurt Stock Exchange. This results in individual LSI tranches for the LSI bonus, which have maturities of between one and five years. The RSU bonus is used as a basis for another four-year tranche. Payment of each tranche is made after a waiting period of one year. Neither remuneration system stipulates any condition of service. Following the expiry of the waiting period, both the LSI and the RSU shares of the 2015 to 2019 tranches are measured on the basis of the average closing price of Deutsche Börse AG shares in the last month preceding the end of the waiting period. The LSI and RSU shares of the 2020 tranche are measured at the closing auction price as at the first trading day in February of the year in which the holding period ends.

Restricted Stock Units (RSU)

Like the LSI plan, the RSU plan applies to risk takers within Deutsche Börse Group. RSU shares are settled in cash; Deutsche Börse Group thus measures the RSU shares as cash-settled share-based payment transactions. The options are measured using an option pricing model (fair value measurement). Any right to payment of a stock bonus only vests after the expiration of the one-year service period on which the plan is based, taking a three-year retention period and a one-year waiting period into account.

Evaluation of the LSI and the RSU

The company uses an adjusted Black-Scholes model (Merton model) to calculate the fair value of the LSI and RSU stock options.

Valuation parameters for LSI and RSU shares

		Tranche 2020	Tranche 2019	Tranche 2018	Tranche 2017	Tranche 2016	Tranche 2015
Term to		31.12.2020 to 31.12.2024	31.12.2019 to 31.12.2023	31.12.2018 to 31.12.2022	31.12.2018 to 31.12.2021	31.12.2018 to 31.12.2020	31.12.2016 to 31.12.2020
Risk-free interest rate	%	- 0,77 to - 0,64	- 0,77 to - 0,68	- 0,77 to - 0,73	- 0,75 to - 0,73	- 0,75 to - 0,73	- 0,75
Volatility of Deutsche Börse AG shares	%	23,49 to 36,25	23,90 to 36,25	24,13 to 36,25	28,69 to 36,25	36,25	0
Dividend yield	%	2,08	2,08	0 to 2,08	0 to 2,08	0 to 2,08	0 to 2,08
Exercise price	€	0	0	0	0	0	0

The valuation model does not take into account hurdle rates. The volatilities applied correspond to the market volatilities of comparable options with comparable maturities.

Valuation of LSI and RSU shares

Tranche	Deutsche Börse AG		Intrinsic value/ option as at 31 Dec 2020 €	Fair value/ option as at 31 Dec 2020 €	Settlement obligation €m	Current provision as at 31 Dec 2020 €m	Non-current provision as at 31 Dec 2020 €m
	Balance as at 31 Dec 2020 Number	share price as at 31 Dec 2020 €					
2015	1,626	139.25	139.25	0.00	0.2	0.2	0.0
2016	49,096	139.25	139.25	137.49	6.8	0.9	5.9
2017	49,762	139.25	139.25	134,89 - 137,49	6.6	0.7	5.9
2018	56,490	139.25	139.25	132,34 - 137,49	7.6	0.8	6.8
2019	49,363	139.25	139.25	129,84 - 137,49	6.6	1.6	5.0
2020	40,899	139.25	139.25	120,30 - 137,49	5.5	0.0	5.5
Total	247,236				33.3	4.2	29.1

Provisions amounting to € 33.3 million were recognised as at 31 December 2020 (31 December 2019: € 33.1 million). The total expense for LSI stock options in the reporting period amounted to € 5.9 million (31 December 2019: € 10.9 million).

Change in number of LSI and RSU shares allocated

	Balance at 31 Dec 2019	Additions/ (disposals) Tranche 2015	Additions/ (disposals) Tranche 2016	Additions/ (disposals) Tranche 2017	Additions/ (disposals) Tranche 2018	Additions/ (disposals) Tranche 2019	Additions/ (disposals) Tranche 2020	Fully settled cash options	Balance at 31 Dec 2020
To other senior executives	244,904	4	- 1,118	- 582	- 408	6,893	40,899	- 43,356	247,236
Total	244,904	4	- 1,118	- 582	- 408	6,893	40,899	- 43,356	247,236

Co-Performance Investment Plan (CPIP) and Performance Share Plan (PSP)

Performance Share Plan (PSP)

The PSP was launched in financial year 2016 for members of the Executive Board of Deutsche Börse AG as well as selected senior executives and employees of Deutsche Börse AG and of participating subsidiaries. The number of phantom PSP shares to be allocated is calculated based on the number of shares granted and the increase of net profit for the period attributable to Deutsche Börse AG shareholders, as well as on the relative performance of the total shareholder return (TSR) on Deutsche Börse AG's shares compared with the total shareholder return of the STOXX Europe 600 Financials Index constituents. The shares are subject to a performance period of five years. The subsequent payment of the stock bonus will be settled in cash. For further details on this plan, please see the [“Principles governing the PSP and assessing target achievement for performance shares”](#) section in the remuneration report.

The 100 per cent stock bonus target was calculated in euros for each Executive Board member. The 100 per cent stock bonus target for selected executives and employees of Deutsche Börse AG and participating subsidiaries is defined by the responsible decision-making bodies. Based on the PSP 100 per cent stock bonus target, the corresponding number of phantom shares for each beneficiary was calculated by dividing the stock bonus target by the average share price (Xetra closing price) of Deutsche Börse AG's shares in the last calendar month preceding the performance period. Any right to payment of a PSP stock bonus vested only at the end of a five-year performance period.

The final number of Performance Shares was calculated by multiplying the original number of Performance Shares with the level of overall target achievement. The PSP level of overall target achievement was based on two performance factors during the performance period: firstly, on the relative performance of the total shareholder return (TSR) on Deutsche Börse AG's shares compared with the total shareholder return of the STOXX Europe 600 Financials Index as the peer group; and secondly, on the increase of Deutsche Börse AG's net profit for the period attributable to shareholders of the parent company. The two performance factors contribute 50 per cent each to calculate overall target achievement.

The payout amount is calculated by multiplying the final number of performance shares with the average share price (Xetra closing price) of Deutsche Börse AG's shares in the last calendar month preceding the performance period, plus the total of dividend payments made during the performance period based on the final number of performance shares. The plans are settled in cash.

Co-Performance Investment Plan (CPIP)

In financial year 2015, a new remuneration programme (Co-Performance Investment Plan, CPIP) was introduced, and the former CEO of Deutsche Börse AG, Carsten Kengeter, was offered a one-time participation. The appropriate number of phantom shares was calculated based on the number of shares granted and the increase of Deutsche Börse AG's net profit for the period attributable to shareholders of Deutsche Börse AG, as well as on the relative performance of the total shareholder return (TSR) on Deutsche Börse AG's shares compared with the total shareholder return of the STOXX Europe 600 Financials Index entities. The performance period for the measurement of the performance criteria commenced on 1 January 2015 and ends on 31 December 2019. The shares are subject to a performance period of five years and a waiting period until 31 December 2019. The subsequent payment of the stock bonus will be settled in cash, by 31 March 2021.

Evaluation of the CPIP and the PSP

The company uses an adjusted Black-Scholes model (Merton model) to calculate the fair value of the CPIP and PSP stock options

Valuation parameters for CPIP and PSP shares

		Tranche 2020	Tranche 2019	Tranche 2018	Tranche 2017	Tranche 2016	Tranche 2015
Term to		31.12.2024	31.12.2023	31.12.2022	31.12.2021	31.12.2020	31.12.2019
Risk-free interest rate	%	- 0.77	- 0.77	- 0.75	- 0.73	- 0.75	- 0.75
Volatility of Deutsche Börse AG shares	%	24.13	25.78	28.69	36.25	29.91	29.91
Dividend yield	%	0	0	0	0	0	0
Exercise price	€	0	0	0	0	0	0
Relative total shareholder return	%	160.00	170.00	250.00	250.00	250.00	250.00
Net profit for the period attributable to Deutsche Börse AG shareholders	%	117.00	118.00	142.00	137,00 - 147,00	171,00 - 181,00	172.00

The valuation model does not take into account hurdle rates. The volatilities applied correspond to the market volatilities of comparable options with comparable maturities.

Valuation of CPIP and PSP shares

Tranche	Balance as at 31 Dec 2020 Number	Deutsche Börse AG share price as at 31 Dec 2020 €	Intrinsic value/ option as at 31 Dec 2020 €	Fair value/ option as at 31 Dec 2020 €	Settlement obligation €m	Current provision as at 31 Dec 2020 €m	Non-current provision as at 31 Dec 2020 €m
2015	87,574	139.25	139.25	150.33	5.5	0	5.5
2016	141,727	139.25	139.25	152.18	21.9	21.9	0.0
2017	138,051	139.25	139.25	119.94	18.9	0	18.9
2018	139,292	139.25	139.25	88.53	15.6	0	15.6
2019 ¹⁾	80,292	139.25	139.25	58.02	5.4	0	5.4
2020	54,084	139.25	139.25	28.45	1.5	0	1.5
Total	641,020				68.8	21.9	46.9

1) The stock options of the 2019 tranche were granted as part of severance agreements.

Provisions for the CPIP and the PSP amounting to € 68.8 million were recognised at the reporting date 31 December 2020 (31 December 2019: € 63.9 million). Of the provisions, € 17.4 million were attributable to members of the Executive Board (2019: €11.3 million). The total expense for CPIP and PSP stock options in the reporting period was € 8.5 million (2019: € 23.9 million). Of that amount, an expense of €6.0 million was attributable to members of the Executive Board (2019: €6.9 million).

Change in number of CPIP and PSP shares allocated

	Balance at 31 Dec 2019	Additions/ (disposals) Tranche 2016	Additions/ (disposals) Tranche 2017	Additions/ (disposals) Tranche 2018	Additions/ (disposals) Tranche 2019	Additions/ (disposals) Tranche 2020	Balance at 31 Dec 2020
To the Executive Board	460,848	- 1,962	- 3,745	- 4,377	2,999	42,280	496,043
To other senior executives	128,630	3,658	2,115	1,238	- 2,468	11,804	144,977
Total	589,478	1,696	- 1,630	- 3,139	531	54,084	641,020

1) The stock options of the 2019 tranche were granted as part of severance agreements.

For further information on the number of stock options granted to Executive Board members, and on the remuneration system for Executive Board members, please refer to the remuneration report.

Group Share Plan (GSP)

Employees of Deutsche Börse Group who are not members of the Executive Board or senior executives have the opportunity to acquire shares of Deutsche Börse AG at a discount under the Group Share Plan (GSP). Under the GSP tranche for the year 2020, the participating employees could subscribe for up to 50 shares of the Company at a discount of 40 per cent and another 50 shares at a discount of 10 per cent. The acquired shares are subject to a lock-up period of two years.

The expense of this discount is recognised in the income statement at the grant date. In the reporting period, an expense totalling € 4,800.0 million (2019: € 4,070.0 million) was recognised in staff expense for the GSP.

Management Incentive Programme (MIP)

The MIP was set up for the senior management of the Qontigo Group. It grants a non-current remuneration component in the form of virtual shares of the Qontigo Group. The remuneration is settled in cash. These are generally accounted for as sharebased payments. The amounts payable to the beneficiaries are intended to reflect the economic development of the Qontigo Group. The MIP contains a time-based and a performance-based component. The vesting period is four years and started one year after closing of the Axioma transaction on 13 September 2019.

Valuation

The value of the virtual shares is determined using a Monte Carlo simulation on the respective balance sheet date, which appropriately reflects the contract-specific conditions. The underlying simulations depend on the underlying from which the payment is linked to the beneficiaries of the MIP. The enterprise value of the Qontigo Group serves as the underlying.

On the basis of the simulations carried out, a discounted average payment of the contractually agreed payment flows to the respective participants as calculated. The main valuation parameters include the enterprise value and the expected volatility of the Qontigo Group as well as the expected term and the contract-specific payment profile.

18. Changes in other provisions

Other provisions

Provisions are recognised if the Group has a present obligation from an event in the past, it is probable that there will be an outflow of resources embodying economic benefits to settle the obligation and the amount of this obligation can be estimated reliably. The amount of the provision corresponds to the best estimate of the expenditure required to settle the obligation at the reporting date. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision will be reversed.

A restructuring provision is only recognised when an entity has a detailed formal plan for the restructuring and has raised a valid expectation in those affected that the restructuring measures will be implemented, for example by starting to implement that plan or by announcing its principal features to those affected by it. The restructuring provisions and the provisions for contractually agreed early retirement benefits and severance payments are recognised in other provisions.

Changes in other provisions (part 1)

	Bonuses €m	Share-based payments €m	Interest on taxes €m	Restructuring and efficiency measures €m
Balance as at 1 Jan 2020	118.3	101.3	70.4	108.6
Changes in the basis of consolidation	3.2	0	0	0
Reclassification	- 8.8	7.4	1.5	0
Utilisation	- 92.7	- 12.8	0	- 26.6
Reversal	- 9.1	- 3.7	- 11.7	- 8.9
Additions	114.2	20.5	32.0	4.8
Currency translation	- 2.3	- 0.2	0	0
Interest	0	0	0	1.5
Balance as at 31 Dec 2020	122.8	112.6	92.1	79.5

Changes in other provisions (part 2)

	Other tax provisions €m	Anticipated Losses €m	Other personnel provisions €m	Miscellaneous €m
Balance as at 1 Jan 2020	34.1	8.7	9.6	16.4
Changes in the basis of consolidation	0.2	0	0	0.7
Reclassification	- 0.3	0	- 6.0	- 0.1
Utilisation	- 0.6	0	- 1.7	- 1.8
Reversal	- 13.6	- 0.7	- 3.9	- 0.4
Additions	19.1	0.0	6.4	9.1
Currency translation	0.0	- 0.1	0.1	- 0.4
Interest	0	0	0	0
Balance as at 31 Dec 2020	38.9	7.9	4.5	23.4

The other non-current and current provisions amount to a total of €481.7 million (31 December 2019: €475.9 million). The non-current provisions of €168.0 million (31 December 2019: €225.2 million) essentially have a residual lifetime between one to five years. Furthermore current provisions exist for €313.7 million (31 December 2019: €250.7 million).

Provisions for restructuring and efficiency measures include provisions for contractually agreed early retirement benefits and severance payments as well as expenses directly related to restructuring measures. All provisions for implementing the restructuring plan (31 December 2019: €16.8 million) were reclassified as provisions for early retirement benefits and provisions for severance payments or reversed in the reporting period.

For details of share-based payments, see [note 17](#).

19. Other liabilities

Deutsche Börse Group reports the following contract liabilities resulting from contracts with customers:

Contract liabilities

	31 Dec 2020 €m	31 Dec 2019 €m
Contract liabilities long-term	13.8	20.2
Contract liabilities short-term	30.5	21.5
Total	44.3	41.7

Composition of other current liabilities

	31 Dec 2020 €m	31 Dec 2019 €m
Liabilities from CCP positions	415.1	210.6
Tax liabilities (excluding income taxes)	42.8	50.6
Contract liability	30.5	21.5
Vacation entitlements, flexitime and overtime credits	29.9	27.7
Social security liabilities	9.1	8.3
Liabilities to employees	6.7	4.2
Liabilities to supervisory bodies	3.0	3.3
Special payments and bonuses	1.4	0
Deferred income	0.4	2.9
Miscellaneous	5.8	3.8
Total	544.7	332.9

Other disclosures

20. Notes on the consolidated cash flow statement

Composition of other non-cash income

	2020 €m	2019 €m
Subsequent measurement of non-derivative financial instruments	39.5	– 16.0
Reversal of discount and transaction costs from long-term financing	8.9	3.0
Equity method measurement	– 17.2	3.9
Impairment of financial instruments	2.1	1.8
Subsequent measurement of derivatives	101.5	26.4
Contract liabilities	2.6	26.3
Gains on the disposal of subsidiaries and equity investments	0	– 1.0
Miscellaneous	6.3	8.0
Total	143.6	52.5

Reconciliation to cash and cash equivalents

Cash and cash equivalents at Deutsche Börse Group comprise cash and bank balances – to the extent that these do not result from reinvesting current liabilities from cash deposits by market participants – as well as receivables and liabilities from banking business with an original maturity of three months or less.

Reconciliation to cash and cash equivalents

	31 Dec 2020 €m	31 Dec 2019 €m
Restricted bank balances	38,420.1	29,988.7
Other cash and bank balances	1,467.3	888.1
Net position of financial instruments held by central counterparties	95.0	890.0
Current financial instruments measured at amortised cost	16,225.1	15,381.6
less financial instruments with an original maturity exceeding 3 months	– 1,919.7	– 1,339.7
Current financial liabilities measured at amortised cost	– 14,630.0	– 14,225.4
less financial instruments with an original maturity exceeding 3 months	1,037.7	317.9
Current liabilities from cash deposits by market participants	– 38,188.8	– 29,755.8
Cash and cash equivalents	2,506.7	2,145.5

Changes in liabilities arising from financing activities

	Bonds issued €m	Leasing liabilities €m
Balance as at 1 Jan 2019	2,283.2	278.1
Lease payments (IFRS 16)	0	– 42.6
Acquisition from business combinations	0	13.2
Additions	0	123.0
Exchange rate differences	0	0
Other	3.0	8.4
Balance as at 31 Dec 2019	2,286.2	380.1
Lease payments (IFRS 16)	0	– 47.4
Acquisition from business combinations	0	2.9
Additions	948.2	73.3
Repayments	– 602.9	– 0.7
Exchange rate differences	0	0
Other	5.5	0.7
Balance as at 31 Dec 2020	2,637.0	408.7

21. Earnings per share

Under IAS 33, earnings per share are calculated by dividing the net profit for the period attributable to Deutsche Börse AG shareholders (net income) by the weighted average number of shares outstanding.

In order to determine diluted earnings per share, potentially dilutive ordinary shares that may be acquired under the share-based payment programmes (see also [note 17](#)) were added to the average number of shares. In order to calculate the number of potentially dilutive ordinary shares, the exercise prices were adjusted for the fair value of the services still to be provided.

In order to determine diluted earnings per share, the 2014 Long-term Sustainable Instrument (LSI) tranche, for which cash settlement has not been resolved, is assumed to be settled with equity instruments – regardless of actual accounting in accordance with IFRS 2. The following potentially dilutive rights to purchase shares were outstanding as at 31 December 2020:

Calculation of the number of potentially dilutive ordinary shares

Tranche	Exercise price €	Adjustment of the exercise price according to IAS 33 €	Average number of outstanding options 31 Dec 2020	Average price for the period ¹⁾ €	Number of potentially dilutive ordinary shares 31 Dec 2020
2014 ²⁾	0	0	440	126.10	0
Total					0

1) Volume-weighted average price of Deutsche Börse AG shares on Xetra calculated on a daily basis for the period 1 January to 31 December 2020.

2) This relates to share subscription rights within the scope of the Long-term Sustainability Instrument (LSI) for senior executives. The quantity of subscription rights under the 2014 LSI tranche may still change from the quantity reported as at the reporting date, since subscription rights will only be granted in future financial years.

As the volume-weighted average share price calculated on a daily basis was higher than the adjusted exercise price for the 2014 tranche, these stock options are considered to be dilutive under IAS 33 as at 31 December 2020.

Calculation of earnings per share (basic and diluted)

	2020	2019
Number of shares outstanding at beginning of period	183,429,035	183,347,045
Number of shares outstanding at end of period	183,521,257	183,429,035
Weighted average number of shares outstanding	183,452,436	183,381,196
Number of potentially dilutive ordinary shares	0	3,252
Weighted average number of shares used to compute diluted earnings per share	183,452,436	183,384,448
Net profit for the period attributable to Deutsche Börse AG shareholders (€m)	1,079.9	1003.9
Earnings per share (basic) (€)	5.89	5.47
Earnings per share (diluted) (€)	5.89	5.47

As in the previous year, there were no subscription rights for Deutsche Börse AG shares in 2020 that were excluded from the calculation of the weighted average of potentially dilutive shares for having a dilutive effect during the reporting year ending on the reporting date.

22. Segment reporting

Deutsche Börse divides its business into seven segments: This structure serves as a basis for the Group's internal management and financial reporting (see the table entitled "Internal organisational and reporting structure" for details).

Segment reporting (part 1)

	Eurex (financial derivatives)		EEX (commodities)		360T (foreign exchange)		Xetra (cash equities)	
	2020	2019	2020	2019	2020	2019	2020	2019
Net revenue (€m)	1,110.3	1,009.3	302.2	289.3	101.5	92.1	391.7	329.3
Operating costs (€m)	- 373.1	- 330.9	- 174.3	- 169.6	- 53.9	- 57.7	- 158.8	- 151.5
EBITDA (€m)	738.8	683.4	127.0	119.4	47.6	34.4	258.7	181.6
EBITDA margin (%)	67.0	68.0	42.0	41.3	47.0	37.4	66.0	55.0
Depreciation, amortisation and impairment losses (€m)	- 55.3	- 55.8	- 35.6	- 31.4	- 20.4	- 19.3	- 23.7	- 20.5
EBIT (€m)	683.5	627.6	91.4	88.0	27.2	15.1	235.0	161.1
Capital expenditure ¹⁾ (€m)	46.1	38.4	21.4	28.6	8.6	6.0	15.3	21.6
Employees (as at 31 December)	1,661	1,437	934	829	272	260	739	738

Segment reporting (part 2)

	Clearstream (post-trading)		IFS (investment fund services)		Qontigo (index and analytics business)		Group	
	2020	2019	2020	2019	2020	2019	2020	2019
Net revenue (€m)	827.2	842.7	232.8	183.1	248.1	190.2	3,213.8	2,936.0
Operating costs (€m)	- 367.3	- 343.4	- 117.5	- 110.3	- 123.8	- 101.0	- 1,368.7	- 1,264.4
EBITDA (€m)	458.0	497.5	115.2	72.8	124.1	89.2	1,869.4	1,678.3
EBITDA margin (%)	55.0	59.0	49.0	39.8	50.0	46.9	58.0	57.2
Depreciation, amortisation and impairment losses (€m)	- 72.5	- 67.5	- 28.5	- 19.2	- 28.3	- 12.5	- 264.3	- 226.2
EBIT (€m)	385.5	430.0	86.7	53.6	95.8	76.7	1,605.1	1,452.1
Capital expenditure ¹⁾ (€m)	68.4	61.0	27.5	22.1	8.1	7.0	195.4	184.7
Employees (as at 31 December)	2,136	2,016	911	887	585	608	7,238	6,775

1) Excluding investments from business combinations.

Sales revenue is presented separately by external sales revenue and internal (inter-segment) sales revenue. Inter-segment services are charged on the basis of measured quantities or at fixed prices, e.g. the provision of data by the Eurex (financial derivatives) segment to the Data segment. For an overview of intercompany revenues, see [note 4](#). Services between the segments are charged on the basis of assessed quantities or at fixed prices.

Deutsche Börse Group's business model – and that of its segments – is focused on an internationally operating participant base and pricing does not differ depending on the customer's location. From a price, margin and risk perspective, this means that it is not decisive whether sales revenue is generated from German or non-German participants.

The risks and returns from the activities of the subsidiaries operating within the economic environment of the European Monetary Union (EMU) do not differ significantly from each other on the basis of the factors to be considered in identifying information on geographical regions under IFRS 8. As a result, Deutsche Börse Group has designated the following regional segments: the eurozone, the rest of Europe, America and Asia-Pacific.

Sales revenue is allocated to the individual regions according to the customer's domicile, while investments and non-current assets are allocated according to the company's domicile and employees according to their location.

As described above, the analysis of sales is based on the direct customer's billing address. This means e.g. that sales to an American investor trading a product with an Asian underlying via a European clearing member are classified as European sales.

Information on geographical regions

	Sales revenue ¹⁾		Investments ²⁾		Non-current assets ^{3/4)}		Number of employees	
	2020 €m	2019 €m	2020 €m	2019 €m	2020 €m	2019 €m	2020	2019
Euro zone	2,047.8	1,718.1	172.8	176.1	4,008.7	4,043.4	5,042	4,721
Rest of Europe	1,063.2	999.2	15.4	3.7	1,241.0	455.1	1,449	1,360
America	289.1	231.5	6.5	4.8	1,061.6	1,029.9	435	411
Asia-Pacific	183.9	168.5	0.7	0.1	31.7	22.5	312	283
Total of all regions	3,584.0	3,117.3	195.4	184.7	6,343.0	5,550.9	7,238	6,775
Consolidation of internal net revenue	- 64.7	- 63.1						
Group	3,519.3	3,054.2	195.4	184.7	6,343.0	5,550.9	7,238	6,775

1) Including countries in which more than 10 per cent of sales revenue was generated: UK (2020: €732.1 million, 2019: €704.2 million) and Germany (2020: €910.9 million, 2019: €769.6 million)

2) Excluding goodwill and right-of-use assets from leasing.

3) Including countries in which more than 10 per cent of assets are held: Germany (2020: €3,648.1 million, 2019: €3,634.1 million), Switzerland (2020: €1,210.1 million, 2019: €427.2 million) and United States (2020: €1,061.6 million, 2019: €1,029.9 million).

4) These include intangible assets, property, plant and equipment, and investments in associates and joint ventures.

23. Financial risk management

Deutsche Börse Group presents the qualitative disclosures required by IFRS 7, such as the type and extent of risks from financial instruments, as well as the goals, strategies and processes for risk management, in detail in the combined management report (see explanations in the [risk report](#)).

Financial risks arise at Deutsche Börse Group mainly in the form of credit risk. To a smaller extent, the Group is exposed to market risk. Financial risks are quantified using the economic capital concept (please refer to the [risk report](#) for detailed disclosures). Required economic capital is assessed on a 99.98 per cent confidence level for a one-year holding period. It is compared with the Group's liable equity capital adjusted for intangible assets so as to test the Group's ability to absorb extreme and unexpected losses. Required economic capital (REC) for financial risk is calculated at the end of each month and amounted to €764.0 million as at 31 December 2020, whereby €657.0 million stems from credit risk and €107.0 million stems from market risk.

The Group evaluates its financial risk situation on an ongoing basis. In the view of the Executive Board, no threat to the continued existence of the Group can be identified at this time.

Credit risk

Credit risk of financial instruments

Segment		Carrying amounts – maximum risk exposure		Collateral	
		Amount at 31 Dec 2020 €m	Amount at 31 Dec 2019 €m	Amount at 31 Dec 2020 €m	Amount at 31 Dec 2019 €m
Collateralised cash investments					
Reverse repo transactions	Eurex (financial derivatives) ¹¹	574.9	91.2	580.5 ²⁾	100.8 ²⁾
	Clearstream (post-trading)	6,176.7	6,394.3	6,346.0 ³⁾	6,552.2 ³⁾
		6,751.6	6,485.5	6,926.5	6,653.0
Uncollateralised cash investments					
Money market lendings – central banks	Eurex (financial derivatives)	31,711.6	26,038.8	0	0
	Clearstream (post-trading)	6,291.8	5,998.6	0	0
	Group	3,809.7	3,989.7	0	0
Money market lendings – other counterparties	Eurex (financial derivatives)	187.5	0	0	0
	Clearstream (post-trading)	148.3	437.2	0	0
Balances on nostro accounts and other bank deposits	Clearstream (post-trading)	2,252.4	1,604.5	0	0
	Group	3,603.7	748.7	0	0
Securities	Clearstream (post-trading)	1,186.3	1,266.9	0	0
	Eurex (financial derivatives)	7.0	4.2	0	0
	Group	14.9 ⁴⁾	14.0 ⁴⁾	0	0
Fund assets	Group	37.1	28.4	0	0
		49,250.3	40,131.0	0	0
Loans for settling securities transactions					
Technical overdraft facilities	Clearstream (post-trading)	267.7	231.7	n / A ⁵⁾	n / A ⁵⁾
Automated Securities Fails Financing ⁶⁾	Clearstream (GSF)	427.3 ⁷⁾	288.8 ⁷⁾	560.6	316.6
ASLplus securities lending ⁶⁾	Clearstream (GSF)	47,964.3	58,008.6	51,895.4	58,228.6
		48,659.3	58,529.1	52,456.0	58,545.2
Total		104,661.2	105,145.6	59,382.5	65,198.2

	Segment	Carrying amounts – maximum risk exposure		Collateral	
		Amount at 31 Dec 2020	Amount at 31 Dec 2019	Amount at 31 Dec 2020	Amount at 31 Dec 2019
		€m	€m	€m	€m
Balance brought forward		104,661.2	105,145.6	59,382.5	65,198.2
Other financial instruments					
Other loans	Group	0.3	0.3	0	0
Other assets	Group	15.3	23.7	0	0
Trade receivables	Group	625.8	454.4	0	0
Other receivables	Clearstream (post-trading)	147.2	43.1	0	0
	Eurex (financial derivatives)	697.0	48.4	0	0
	Group	27.8	21,6	0	0
Other financial assets at fair value	Group	7.6	0.4	0	0
		1,521.0	591.9	0	0
Financial instruments held by central counterparties		62,467.3⁸⁾	52,889.4⁸⁾	79,747.6⁹⁾	66,680.9⁹⁾
Derivatives		8.4	1.4	0	0
Total		168,657.9	158,628.3	139,130.1	131,879.1

1) Presented in the items "restricted bank balances" and "other cash and bank balances".

2) Thereof none pledged to central banks (2019: nil).

3) Thereof none pledged to central banks (2019: €274.0 million).

4) The amount includes collateral totalling €5.1 million (2019: €5.1 million)

5) The portfolio of deposited collateral is not directly attributed to any utilisation, but is determined by the scope of the entire business relationship and the limits granted.

6) Off-balance-sheet items

7) Meets the IFRS 9 criteria for a financial guarantee contract

8) Net value of all margin requirements resulting from executed trades at the reporting date as well as default fund requirements: this figure represents the risk-oriented view of Eurex Clearing AG and European Commodity Clearing AG, whilst the carrying amount of the "financial instruments held by central counterparties" item in the balance sheet shows the gross amount of the open trades according to IAS 32.

9) Collateral value of cash and securities collateral deposited for margins, covering the net value of all margin and default fund requirements

Cash investments

Deutsche Börse Group is exposed to credit risk in connection with the investment of cash funds. Clearstream receives cash deposits from its customers in various currencies, and invests these cash deposits in money market instruments. Eurex Clearing AG receives cash collateral mainly in its clearing currencies EUR and CHF.

The Group mitigates such risks by investing short-term funds either – to the extent possible – on a secured basis, e.g. via reverse repurchase agreements, or by depositing them with central banks.

According to the treasury policy, eligible collateral mainly consists of highly liquid financial instruments with a minimum rating of AA– (Standard & Poor's/Fitch) or Aa3 (Moody's) issued or guaranteed by governments or supranational institutions.

Unsecured cash investments are permitted only with counterparties with impeccable credit ratings within the framework of defined counterparty credit limits. Counterparty credit risk is monitored on the basis of an internal rating system.

The fair value of securities received under reverse repurchase agreements was €6,926.6 million (2019: €6,653.0 million). Clearstream Banking S.A. and Eurex Clearing AG are entitled to pledge the eligible securities received to their central banks in order to make use of the central banks' monetary policy instruments.

As of 31 December 2020 Clearstream Banking S.A. had pledged securities from the Clearstream investment portfolio valued at €168.2 million to central banks as collateral for credit lines from the central banks. In the reporting period all of these securities stem from Clearstream investment portfolio (in 2019 €202.7 million relates to Clearstream's investment portfolio and €274.0 million relate to reverse repo agreements).

As at 31 December 2020, Eurex Clearing AG had pledged no securities to central banks.

Loans for settling securities transactions

Clearstream (post-trading) grants customers intraday technical overdraft facilities to maximise settlement efficiency. These settlement facilities are subject to internal credit review procedures. They are revocable at the discretion of the Clearstream subgroup and are in general fully secured. As of 31 December 2020 they came to €106.2 billion (2019: €115.5 billion). Of the total, €5.5 billion (2019: €3.4 billion) is unsecured and only relates to credit lines granted to selected central banks and multilateral development banks in compliance with the CSDR exemption as per article 23 of Commission Delegated Regulation (EU) 2017/390. Actual outstandings at the end of each business day generally represent a small fraction of the facilities and amounted to €267.7 million as at 31 December 2020 (2019: €231.7 million); see [note 12](#).

Clearstream (collateral management) also guarantees the risk resulting from the Automated Securities Fails Financing programme it offers to its customers, where Clearstream Banking S.A. acts as an intermediary between borrower and lender. This risk is secured. As of 31 December 2020 the guarantees under this programme amounted to €427.3 million (2019: €288.8 million). Collateral received by Clearstream Banking S.A. in connection with these loans amounted to €560.6 million (2019: €316.6 million).

Under the ASLplus securities lending programme, Clearstream Banking S.A. had securities borrowings from various counterparties totalling €47,964.3 million as at 31 December 2020 (2019: €58,008.6 million). These securities were fully lent to other counterparties. Collateral received by Clearstream Banking S.A. in connection with these loans amounted to €51,895.4 million (2019: €58,228.6 million). This collateral was pledged to the lender, whilst Clearstream Banking S.A. remains its legal owner.

In 2019 and 2020, no losses from credit transactions occurred in relation to any of the transaction types described.

Financial instruments of the central counterparties

To safeguard the Group's central counterparties against the risk of default by a clearing member, the clearing conditions require the clearing members to deposit margins in the form of cash or securities on a daily basis or an intraday basis in the amount stipulated by the respective clearing house. Additional safety mechanisms of the Group's central counterparties are described in detail in the [risk report](#).

Trade receivables

Trading, settlement and custody fees are generally collected without delay by direct debit. Fees for other services, such as the provision of data and information, are settled mainly by transfer. Trade receivables are analysed using an expected credit loss model based on the simplified approach as outlined in IFRS 9. To measure the expected credit loss, trade receivables and contract assets have been grouped based on the days past due. The trade receivables share the main risk characteristics. The expected loss amount has been determined by applying the lifetime expected loss approach. The expected loss rates are based on the payment profiles over a period of five years and the loss profile experienced over that period. As of 31 December 2020 there were no contract assets (2019: nil).

Loss allowances for trade receivables as at 31 December 2020

	<30 days past due €m	<60 days past due €m	<90 days past due €m	<120 days past due €m	<360 days past due €m	>360 days past due €m	Insol- vent €m	Total €m
Expected loss rate	0.1%	0.0%	0.1%	1.3%	5.4%	81.9%	100%	
Trade receivables	33.0	13.3	5.9	3.2	15.0	7.9	1.8	80.1
Loss allowance	0	0	0	0.1	0.8	6.5	1.8	9.2

Loss allowances for trade receivables as at 31 December 2019

	<30 days past due €m	<60 days past due €m	<90 days past due €m	<120 days past due €m	<360 days past due €m	>360 days past due €m	Insol- vent €m	Total €m
Expected loss rate	0.1%	0.0%	0.1%	1.2%	5.4%	81.9%	100%	
Trade receivables	24.6	13.4	5.8	4.4	19.9	5.7	1.3	75.1
Loss allowance	0	0	0	0.1	1.1	4.7	1.3	7.1

Trade receivables are written off when there is no reasonable expectation of recovery. The following criteria are used for the assessment of derecognition:

- Insolvency proceedings are not started for want of assets.
- Insolvency proceedings have not resulted in any payment for a period of three years, and there is no indication that any amount will be received going forward.
- Enforcement activities are not pursued by Deutsche Börse Group due to cost-benefit analysis, or Deutsche Börse Group has tried unsuccessfully to collect the receivable for a period of three years.

In 2019, there were no significant write-offs due to customer defaults. Moreover, no significant payments were received in 2020 for receivables which had previously been written off (2019: nil).

Debt securities

All of the entity's debt securities measured at amortised cost are considered to have low credit risk, and the loss allowance recognised during the period was therefore limited to twelve months' expected losses. The Group considers "low credit risk" for listed bonds to be an investment grade credit rating granted by an external rating agency. All Deutsche Börse Group debt securities measured at fair value through OCI are assigned to stage 1 on initial recognition and are reviewed regularly for changes in credit risk on the basis of their rating. The expected loss for listed debt securities from Deutsche Börse Group is determined using the default rates provided by a rating agency.

Development of the loss allowance

Development of the loss allowance

	Debt securities Stage 1 €m	Trade receivables Stage 1/2 €m	Trade receivables Stage 3 €m	Total €m
Closing loss allowance as at 1 January 2019	0.1	0.9	4.8	5.8
Increase in the allowance recognised in profit or loss during the period	0	0.6	1.8	2.4
Decrease in the allowance recognised in profit or loss during the period	0	- 0.4	- 0.6	- 1.0
Closing loss allowance as at 31 December 2019	0	1.1	6.0	7.1
Increase from business combinations	0	0.1	1.0	1.1
Increase in the allowance recognised in profit or loss during the period	0.3	0.3	2.1	2.7
Decrease in the allowance recognised in profit or loss during the period	0	- 0.6	- 0.8	- 1.4
Closing loss allowance as at 31 December 2020	0.3	0.9	8.3	9.5

Credit risk concentrations

Deutsche Börse Group's business model and the resulting business relationships mean that, as a rule, credit risk is concentrated on the financial services sector. Potential concentrations of credit risk are limited by application of counterparty, group and country credit limits. Collateral and currency concentrations are also monitored.

Management of credit risk concentration, including collateral concentration, and so-called large exposures, is conducted in compliance with applicable regulatory requirements such as those arising from, among others, articles 387–410 of Regulation (EU) 575/2013 (Capital Requirements Regulation, CRR), article 47 paragraph 8 of Regulation (EU) 648/2012 (European Market Infrastructure Regulation, EMIR) and respectively applicable national requirements (see also [note 14](#) for an explanation of regulatory capital requirements). Requirements of concentration risks arising from Regulation (EU) 909/2014 (Central Securities Depository Regulation, CSDR) have been implemented as part of Deutsche Börse Group's affiliated CSDs' authorisation under article 16 CSDR.

The required economic capital (value at risk (VaR) with a 99.98 per cent confidence level) for credit risk is calculated monthly for each day and amounted to €657.0 million as at 31 December 2020 (2019: €510.0 million).

Deutsche Börse Group also applies additional methods in order to detect credit concentration risks. It analyses the impact of a default by its two largest counterparties with unsecured exposures and stressed recovery parameters. In addition, analyses are carried out for the Group's top 5 and top 10 counterparties, based on the risk-weighted exposures of the individual counterparties. All the concentration metrics have dedicated early warning thresholds and limits and are part of the quarterly risk reporting to the Executive Board. As in the previous year, no material adverse credit concentrations were detected in 2020.

Market risk

Market risk arises from changes in interest rates, foreign-exchange rates and other market prices. Deutsche Börse Group is generally only affected to a limited extent by market risk. The required economic capital for market risk is calculated on a monthly basis. As of 31 December 2020 the economic capital for market price risks was €107.0 million (2019: €117.0 million).

In the 2020 financial year, no impairment losses (2019: nil) were recognised in profit or loss for strategic investments that are not included in the VaR for market risk.

Interest rate risk

Changes in market interest rates may affect Deutsche Börse Group's net profit for the period attributable to Deutsche Börse AG shareholders. This risk arises whenever interest terms of financial assets and liabilities are different.

Interest rate sensitive assets include the Group's money market and investment portfolios, whilst interest rate sensitive liabilities mainly consist of short-term debt instruments. Interest rate risk from long-term liabilities of Deutsche Börse AG is mitigated through issuance of fixed-coupon bonds.

To refinance its existing indebtedness Deutsche Börse AG issued debt securities with a nominal volume of €600.0 million in June 2020. This enabled the company to refinance its outstanding hybrid loan of €600 million, which was called and redeemed in full in November 2020. In addition, Clearstream Banking AG issued a five-year senior preferred loan with a nominal volume of €350.0 million in November 2020 as part of the CSDR, in order to increase its qualifying liquid funds. The net proceeds of the loan will be reinvested in line with the financial risk policy in secure assets, to minimise credit and market risks. For further details of the outstanding bonds issued by Deutsche Börse Group, see the [“Net assets” section in the combined management report](#).

Cash received as deposits from market participants is invested mainly via short-term reverse repos and in the form of overnight deposits at central banks, limiting the risk of a negative impact due to a changed interest rate environment. Negative interest rates resulting from reinvestments of these cash deposits are passed on to the respective Clearstream (post-trading) customers after applying an additional margin. For Eurex Clearing AG, interest rates on cash collateral are in principle calculated based on a predefined market benchmark rate per currency after deducting an additional spread per currency. In exceptional cases such as market disruption, Eurex Clearing AG reserves the right to calculate interest rates on cash collateral based on the realised interest rate.

Group entities may furthermore invest their own capital and part of customer cash balances in high-quality liquid bonds. The bond portfolio consists mostly of variable-rate instruments, which leads to a comparably low interest rate risk for the Group.

The risk arising from interest-earning assets and interest-bearing liabilities is monitored on each business day and limited by using a system which includes mismatch limits in combination with interest rate risk limits and stop-loss limits. The interest rate risk limits determine the acceptable maximum loss caused by a hypothetical adverse yield curve shift. The stop-loss limits define the fair value of a portfolio triggering an ad hoc review and risk-reducing actions.

Interest rate swaps as well as swaptions might be used to hedge interest rate risks. As of the reporting date, there are no hedging relationships with regards to interest rate risk in place.

Foreign-exchange rate risk

Measuring and managing foreign-exchange risk is important for reducing Deutsche Börse Group's exposure to exchange rate movements. The three main types of foreign-exchange risk that Deutsche Börse Group is exposed to are cash flow-, translation- and transaction-related foreign-exchange risk. Cash flow risk reflects the risk of fluctuations in Deutsche Börse Group's present value of future operating cash flows from foreign-exchange movements. Translation risk comprises effects from the valuation of the Group's assets and liabilities in foreign currencies. Finally, transaction risk is closely related to cash flow risk; it may arise through changes in the structure of Deutsche Börse Group's asset and liabilities in foreign currencies.

The Group operates internationally and is, to a limited extent, exposed to foreign-exchange risk, primarily in US\$, CHF, £ and CZK. Exchange rate fluctuations may affect the Group's profit margins and the value of assets and liabilities denominated in a currency that is not the functional currency of the relevant Group entity. Respective currency risks arise mainly from operating income and expenses denominated in a currency other than the functional currency, inter alia from that portion of the Clearstream (post-trading) segment's sales revenue and treasury result from banking business that is directly or indirectly in US\$. The Clearstream (post-trading) segment generated 14 per cent of its revenue and treasury result from banking business directly or indirectly in US\$ (2019: 20 per cent).

Currency mismatches are avoided to the maximum extent possible. All types of foreign-exchange risks are measured on a regular basis and monitored on a Group as well as single entity level. Limits are defined for cash flow and translation risk. Deutsche Börse Group's treasury policy defines risk limits which take into account historic foreign-exchange rate fluctuations. Any exposure exceeding those limits must be hedged. Foreign-exchange exposures below the defined limits may also be hedged. Management of foreign-exchange risks is in principle based on the Group level. Hedging may take place on a single entity level if foreign-exchange risk threatens the viability of the single entity.

To eliminate foreign-exchange risks, Deutsche Börse Group uses financial instruments to hedge existing or highly probable forecast transactions. The Group may use foreign-exchange forwards, foreign-exchange options as well as cross-currency swaps to hedge the exposure to foreign-exchange risk. Under the Group's policy, the critical terms of forwards and options must align with the hedged items.

In 2020, Deutsche Börse AG entered into FX derivative contracts to hedge the foreign currency exposure associated to transaction risk. Hereby, the cash flow risk arising from the time gap between signing the contracts and the actual payment out of the transaction was hedged. Cash flow hedge accounting was applied to this hedging.

In addition, for Clearstream (post-trading), the policy stipulates that intraperiod open net foreign-exchange positions are closed out when they exceed €15.0 million. This policy was complied with as in the previous year; as at 31 December 2020, there were no significant net foreign-exchange positions (2019: nil).

Other market risks

Market risk also arises from investments in bonds, investments in funds, futures within the framework of contractual trust arrangements (CTAs) and from the Clearstream Pension Fund in Luxembourg. For the CTAs, the investment is protected by a pre-defined floor, which reduces the risk of extreme losses for Deutsche Börse Group. In addition, there are equity price risks arising from strategic equity investments.

Liquidity risk

For the Group, liquidity risk may arise from potential difficulties in renewing maturing financing, such as commercial paper, issued bonds as well as bilateral and syndicated credit facilities. In addition, financing required for unexpected events may result in a liquidity risk. Most of the Group's cash investments are short-term to ensure that liquidity is available, should such a financing need arise. Eurex Clearing AG and Clearstream may invest stable customer balances for a maximum of one year in secured money market products, or in high-quality securities with a remaining maturity of less than ten years for Clearstream and less than five years for Eurex Clearing, subject to strict monitoring of mismatch and interest rate limits. There is an exception for UK gilts which may have a remaining term to maturity of up to 30 years. Term investments can be transacted via reverse repurchase agreements against highly liquid collateral that can be deposited with the central bank and used as a liquidity buffer if required. Eurex Clearing AG remains almost perfectly matched with respect to the durations of customer cash margins received and respective investments.

The companies of Deutsche Börse Group have the following credit lines at their disposal, which were not utilised as of the balance sheet date.

Contractually agreed credit lines

Company	Purpose of credit line	Currency	Amount at 31 Dec 2020 m	Amount at 31 Dec 2019 m
Deutsche Börse AG	Working capital ¹⁾	€	600.0	605.0
Eurex Clearing AG	Settlement	€	900.0	1,170.0
	Settlement	Fr.	200.0	200.0
	Settlement ²⁾	US\$	300.0	300.0
Clearstream Banking S.A.	Working capital ¹⁾	€	750.0	750.0
	Settlement ²⁾	€	1,250.0	1,250.0
	Settlement ²⁾	US\$	3,050.0	3,050.0
	Settlement ²⁾	£	350.0	350.0
European Energy Exchange AG	Working capital	€	22.0	22.0
	Settlement	€	81.6	0
	Settlement	£	1.0	1.0
Axioma Inc.	Working capital	US\$	29.1	50.0

1) €400.0 million of Deutsche Börse AG's working capital credit lines is a sub-credit line of Clearstream Banking S.A.'s €750.0 million working capital credit line.

2) Including committed foreign exchange swap lines and committed repo lines.

For refinancing purposes, Eurex Clearing AG and the Clearstream Banking S.A. can pledge eligible securities with their respective central banks. Clearstream Banking S.A. has a bank guarantee (letter of credit) in favour of Euroclear Bank S.A./N.V. issued by an international consortium to secure daily deliveries of securities between Euroclear Bank S.A./N.V. and Clearstream Banking S.A. This guarantee amounted to US\$3.0 billion as at 31 December 2020 (2019: US\$ 3.0 billion). Euroclear Bank S.A./N.V. has also issued a guarantee in favour of Clearstream Banking S.A. amounting to US\$3.0 billion (2019: US\$3.0 billion).

A commercial paper programme offers Deutsche Börse AG an opportunity for flexible, short-term financing, involving a total facility of €2.5 billion in various currencies. At the end of the year there was no commercial paper outstanding (2019: nil).

Clearstream Banking S.A. also has a commercial paper programme with a programme limit of €1.0 billion, which is used to provide additional short-term liquidity. As of 31 December 2020 it had issued commercial paper with a nominal volume of €546.4 million (2019: €311.9 million).

In 2019, Standard & Poor's confirmed Deutsche Börse AG's AA credit rating with a stable outlook. At year-end 2020 Deutsche Börse AG was one of only two DAX®-listed companies awarded an AA rating by S&P. Deutsche Börse AG's commercial paper programme also had the highest short-term rating of A-1+. The AA rating of Clearstream Banking S.A. was confirmed with a stable outlook by the rating agencies Fitch and Standard & Poor's in 2020. S&P also rated Clearstream Banking AG as AA in November 2020. For further details on the rating of Deutsche Börse Group, see the ["Financial position" section in the combined management report.](#)

Maturity analysis of financial instruments (1)

	Contractual maturity					Reconciliation to carrying amount Mio. €	Carrying amount Mio. €
	Sight Mio. €	Not more than 3 months Mio. €	More than 3 months but not more than 1 year Mio. €	More than 1 year but not more than 5 years Mio. €	Over 5 years Mio. €		
31 Dec 2020							
Non-derivative financial liabilities							
Non-current financial liabilities measured at amortised cost	0	6.8	38.9	2,239.0	1,477.6	- 287.9	3,474.4
thereof lease liabilities	0	0	0	169.7	224.4	- 36.2	357.9
Non-current financial liabilities at fair value through profit or loss	0	0	0	0	0	0	0
Trade payables	0	388.6	0	0	0	0	388.6
Current financial liabilities measured at amortised cost	13,999.7	409.4	219.2	0	0	1.7	14,630.0
thereof lease liabilities	0	12.8	36.4	0	0	1.8	51.0
Current financial liabilities at fair value through profit or loss	0	0	1.5	0	0	0	1.5
Cash deposits by market participants	38,188.8	0	0	0	0	0	38,188.8
Total non-derivative financial liabilities (gross)	52,188.5	804.8	259.6	2,239.0	1,477.6	- 286.2	56,683.3
Derivatives and financial instruments held by central counterparties							
Financial liabilities and derivatives held by central counterparties	41,684.5	25,965.5	13,023.1	5,903.1	1,031.6	0	87,607.8
less financial assets and derivatives held by central counterparties	- 41,684.5	- 26,060.5	- 13,023.1	- 5,903.1	- 1,031.6	0	- 87,702.8
Cash inflow - derivatives and hedges							
Cash flow hedges	0	1,156.0	0	403.2	0		
Fair value hedges	0	0	0	0	0		
Derivatives held for trading	0	1,870.6	654.1	0	0		
Cash outflow - derivatives and hedges							
Cash flow hedges	0	- 1,200.5	0	- 405.3	0		
Fair value hedges	0	0	0	0	0		
Derivatives held for trading	0	- 1,968.3	- 687.5	0	0		
Total derivatives and hedges	0	- 237.2	- 33.4	- 2.1	0		

Maturity analysis of financial instruments (2)

	Contractual maturity					Reconciliation to carrying amount	Carrying amount
	Sight	Not more than 3 months	More than 3 months but not more than 1 year	More than 1 year but not more than 5 years	Over 5 years		
31 Dec 2019	Mio. €	Mio. €	Mio. €	Mio. €	Mio. €	Mio. €	Mio. €
Non-derivative financial liabilities							
Non-current financial liabilities measured at amortised cost	0	0	45.6	1,457.8	1,362.2	- 238.4	2,627.2
thereof lease liabilities	0	0	0	153.3	227.2	- 39.4	341.0
Non-current financial liabilities at fair value through profit or loss	0	0	0	84.3	0	0	84.3
Trade payables	0.4	204.0	0.7	0	0	1.6	206.7
Current financial liabilities measured at amortised cost	13,826.3	63.7	335.1	0	0	0.3	14,225.5
thereof lease liabilities	0	11.6	33.9	0	0	- 6.4	39.1
Current financial liabilities at fair value through profit or loss	3.6	0	0	0	0	0	3.6
Cash deposits by market participants	29,751.1	4.7	0	0	0	0	29,755.8
Total non-derivative financial liabilities (gross)	43,581.4	272.4	381.4	1,542.1	1,362.2	- 236.5	46,903.0
Derivatives and financial instruments held by central counterparties							
Financial liabilities and derivatives held by central counterparties	11,220.4	59,271.0	6,920.1	4,176.5	1,057.7	0	82,645.7
less financial assets and derivatives held by central counterparties	- 11,220.4	- 60,161.0	- 6,920.1	- 4,176.5	- 1,057.7	0	- 83,535.7
Cash inflow - derivatives and hedges							
Cash flow hedges	0	16.0	80.3	0	0		
Fair value hedges	0	0	0	0	0		
Derivatives held for trading	828.2	75.9	2,172.2	0	0		
Cash outflow - derivatives and hedges							
Cash flow hedges	0	- 16.0	- 79.3	0	0		
Fair value hedges	0	0	0	0	0		
Derivatives held for trading	- 829.6	- 75.7	- 2,171.0	0	0		
Total derivatives and hedges	- 1.4	- 889.9	2.2	0	0		

24. Financial liabilities and other risks

Legal risks

The companies of Deutsche Börse Group are exposed to litigation. Such litigation may result in payments by entities in the Group. If it is more likely than not that an outflow of resources will occur, a provision will be recognised based on an estimate of the most probable amount necessary to settle the obligation if such amount is reasonably estimable. The management of the entity affected must judge whether the possible obligation results from a past event, as well as evaluate the probability of a cash outflow and estimate its amount. As the outcome of litigation is usually uncertain, the judgement is reviewed continuously.

Deutsche Börse Group recognises provisions for the possible incurrence of losses only if there is a present obligation arising from a past event that is likely to result in an outflow of resources and if the Group can reliably estimate the amount of the obligation (see also [note 17](#)). Contingent liabilities may result from present obligations and from possible obligations arising from events in the past. In order to identify the litigation for which the possibility of incurring a loss is more than unlikely, as well as how the possible loss is estimated, Deutsche Börse Group considers a large number of factors, including the nature of the claim and the facts on which it is based, the jurisdiction and course of the individual proceedings, the experience of Deutsche Börse Group, prior settlement talks (to the extent that they already taken place) as well as expert opinions and evaluations of legal advisers. In principle, losses can arise from legal risks of which the occurrence is not very probable and for which reason no provisions have been recognised. However, since there is some probability of their occurrence, they are presented as contingent liabilities. As a reliable estimate of these contingent liabilities cannot be made either for the time of occurrence or for possible outflows, a statement of the amount would not be representative for potential future losses. For this reason, the contingent liabilities are not disclosed in terms of amount. However, it is also possible that no reliable estimate for a specific litigation could be determined before the approval of the consolidated financial statements, and that – as a result – no provisions are recognised. The companies of Deutsche Börse Group are subject to litigation; as the outcome of litigation is usually uncertain, the judgement is reviewed continuously.

Deutsche Börse Group presents further details of litigation risks in the combined management report (see explanations in the [risk report](#)).

Tax risks

Due to its business activities in various countries, Deutsche Börse Group is exposed to tax risks. A process has been developed to recognise and evaluate these risks, which are initially recognised based on their probability of occurrence. These risks are then measured on the basis of their expected value. A tax liability is recognised in the event that it is more probable than not that the risks will occur. Deutsche Börse Group continuously reviews whether the conditions for recognising corresponding tax liabilities are met.

25. Corporate governance

On 3 December 2020, the Executive and Supervisory Boards issued the latest version of the declaration of compliance in accordance with section 161 of the Aktiengesetz (AktG, the German Stock Corporation Act) and made it permanently available to shareholders on the company's website (see also the [corporate governance statement](#)).

26. Related party disclosures

Related parties as defined by IAS 24 are members of the executive bodies of Deutsche Börse AG and their close family members, as well as the companies classified as associates of Deutsche Börse AG, investors and investees, and companies that are controlled or significantly influenced by members of the executive bodies.

The remuneration of the individual members of the Executive and Supervisory Boards is presented in the [remuneration report](#).

Executive Board

In 2020, the fixed and variable remuneration of the members of the Executive Board, including non-cash benefits granted in the financial year, amounted to €19.4 million (2019: €19.5 million). During the year under review, expenses of €11.3 million (2019: €6.9 million) were recognised in connection with share-based payments to Executive Board members.

The actuarial present value of the pension obligations to Executive Board members was €18.4 million as at 31 December 2020 (2019: €15.6 million). Expenses of €3.2 million (2019: €2.2 million) were recognised as additions to pension provisions.

Former members of the Executive Board or their surviving dependants

The remuneration paid to former members of the Executive Board or their surviving dependants amounted to €8.3 million in 2020 (2019: €9.7 million). The actuarial present value of the pension obligations was €86.0 million as at 31 December 2020 (2019: €84.8 million).

Termination benefits

Expenses of €0.7 million were recognised in connection with the termination of Executive Board appointments.

Supervisory Board

The aggregate remuneration paid to members of the Supervisory Board in the reporting year was €2.5 million (2019: €2.4 million).

In the 2020 financial year, the employee representatives on Deutsche Börse AG's Supervisory Board received remuneration (excluding Supervisory Board remuneration) amounting to €0.8 million (2019: €1.1 million). The total consists of the fixed and variable salary components for those employee representatives.

Business relationships with related parties and key management personnel

The following table shows transactions entered into within the scope of business relationships with non-consolidated companies of Deutsche Börse AG during the 2020 financial year. All transactions took place on standard market terms.

Transactions with related parties

	Amount of the transactions: revenue		Amount of the transactions: expenses		Outstanding balances: receivables		Outstanding balances: liabilities	
	2020 €m	2019 €m	2020 €m	2019 €m	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 €m	31 Dec 2019 €m
Associates	18.6	14.3	- 29.4	- 20.7	1.9	2.3	- 2.2	- 2.2
Total sum of business transactions	18.6	14.3	- 29.4	- 20.7	1.9	2.3	- 2.2	- 2.2

Business relationships with key management personnel

Key management personnel are persons who directly or indirectly have authority and responsibility for planning, directing and controlling the activities of Deutsche Börse Group. The Group defines the members of the Executive Board and the Supervisory Board as key management personnel for the purposes of IAS 24. Key business relationships for Deutsche Börse Group are described below.

European Commodity Clearing Luxembourg S. à r.l., Luxembourg, Luxembourg (ECC Luxembourg) – a subsidiary of European Commodity Clearing AG and therefore a member of the EEX group – entered into a managing director agreement with IDS Lux S. à r.l., Luxembourg. The subject of the agreement is to provide a natural person for the function of managing director in the management of ECC Luxembourg. In addition to this position as managing director of ECC Luxembourg, this person is also a member of the key management personnel at IDS Lux S.à r.l. In the financial year 2020, ECC Luxembourg made payments in the amount of approximately €14 thousand for these management services.

The Board of Directors of LuxCSD S.A., Luxembourg, an associate from Deutsche Börse Group's perspective, comprises two members of management of fully consolidated subsidiaries who are maintaining a key position within these subsidiaries of Deutsche Börse Group. There are business relationships with Clearstream Banking S.A., Luxembourg, Clearstream Services S.A., Luxembourg, Clearstream International S.A., Luxembourg, Clearstream Banking AG, Frankfurt/Main, Germany, and Deutsche Börse AG, Frankfurt/Main, Germany, to LuxCSD S.A. Overall, revenue of €2,276.7 thousand as well as expenses of €1,977 thousand were recognised for such contracts during the reporting year.

Furthermore, an Executive Board member of Clearstream Banking AG concurrently holds an executive position within Deutsche Börse Commodities GmbH, Frankfurt/Main, Germany, an associate of Deutsche Börse Group. During the 2020 financial year, Deutsche Börse Group realised revenue of €9,374.4

thousand and incurred expenses of €25,913.2 thousand based on the business relationship with Deutsche Börse Commodities GmbH.

An Executive Board member of EPEX Spot SE is concurrently the sole shareholder of PELOUPIA SASU, which provides advisory services to EPEX SPOT SE on the basis of a service agreement. In the context of the services provided by PELOUPIA SASU, expenses of €14.0 thousand were incurred in 2020. As at 31 December 2020, liabilities amounted to €5.0 thousand.

One Executive Board member of Deutsche Börse AG as well as one Supervisory Board member of a fully-consolidated company of Deutsche Börse Group are members of the Supervisory Board of China Europe International AG (CEINEX), Frankfurt/Main, Germany. This stock corporation was established as a joint venture between Shanghai Stock Exchange Ltd., Shanghai, China; China Financial Futures Exchange, Shanghai, China; and Deutsche Börse AG. Expenses of €64.3 thousand were incurred in 2020 from the business relationship with CEINEX.

A member of the management of Axioma Inc., New York, USA, as well as one related party to this company which exercises control over the company Cloud9 Smart, New York, USA, maintain business relationships with each other. In the context of the services provided by Cloud9 Smart and Axioma Inc., expenses of €68.5 thousand were incurred in 2020. As at 31 December 2020, liabilities amounted to €28.6 thousand.

Selected executives of Deutsche Börse Group companies also hold a key management position within the Clearstream Pension Fund, an *“association d’épargne pension”* (ASSEP) under Luxembourg law. By means of cash contributions to this ASSEP, Clearstream International S.A., Clearstream Banking S.A., as well as Clearstream Services S.A., fund the defined benefit plan established in favour of their Luxembourg employees.

27. Employees

Employees

	2020	2019
Average number of employees during the year	6,996	6,289
Employed at the reporting date	7,238	6,775
Employees (average annual FTEs)	6,528	5,841

Of the average number of employees during the year, 28 (2019: 26) were classified as Managing Directors (excluding Executive Board members), 348 (2019: 318) as senior executives and 6,620 (2019: 5,945) as employees.

There was an average of 6,528 full-time equivalent (FTE) employees during the year (2019: 5,841). Please also refer to the [“Employees” section in the combined management report](#).

28. Decision-making bodies

The members of the company's decision-making bodies are listed in the [“The Executive Board”](#) and [“The Supervisory Board”](#) chapters of this annual report.

29. Events after the end of the reporting period

Deutsche Börse AG has successfully completed the acquisition of Institutional Shareholder Services Inc., Rockville, USA (ISS) a governance, ESG data and analytics provider on 25 February 2021. The closing took place after the receipt of all necessary regulatory approvals. The transaction, announced in late 2020, is based on a valuation of US\$2,275 million for 100 percent of the business cash and debt free. For more details, see [section “Acquisitions”](#).

To partially finance this acquisition, Deutsche Börse AG successfully placed senior bonds in the amount of €1 billion on 15 February 2021, divided into two tranches with maturities of five and ten years. The five-year bond has a negative yield of – 0.19 percent and a coupon of 0 percent, and the ten-year bond has a yield of 0.19 percent and a coupon of 0.125 percent. In connection with the bond issues, Standard & Poor's has confirmed Deutsche Börse AG's "AA" credit rating with a stable outlook.

30. Date of approval for publication

Deutsche Börse AG's Executive Board approved the consolidated financial statements for submission to the Supervisory Board on 1 March 2021. The Supervisory Board is responsible for examining the consolidated financial statements and stating whether it endorses them.

31. Disclosures on material non-controlling interests

Wesentliche nicht beherrschende Anteile

	European Energy Exchange AG, Leipzig		Qontigo Group, Frankfurt/Main	
	31 Dec 2020	31 Dec 2019	31 Dec 2020	31 Dec 2019
Attributable to non-controlling interests:				
Capital (%)	75.1	75.1	78.3	78.3
Voting rights (%)	62.8	62.8	78.3	78.3
Net profit for the period (in €m)	58.5	53.9	88.5	32.8
Equity (in €m)	532.7	472.8	741.8	783.4
Dividend payments (in €m)	16.2	16.2	61.5	0
Assets (in €m)	593.9	527.0	958.7	1,018.5
Liabilities (in €m)	61.2	54.2	216.9	235.1
Profit/loss (in €m)	58.5	53.9	88.5	32.8
Other comprehensive income (in €m)	- 3.9	0.9	- 66.6	- 10.2
Comprehensive income (in €m)	54.6	54.8	22.0	22.6
Cashflows (in €m)	17.8	- 7.5	7.7	139.1

32. Disclosures on associates

Deutsche Börse Group does not have any material associates. The following table shows summarised financial information for the individual associates that are immaterial when considered separately.

Non-material associates

	31 Dec 2020 ¹⁾ €m	31 Dec 2019 €m
Book value of non-material associates	89.5	44.5
Profit after Tax	18.6	0.9
Other income	0	0
Comprehensive income	18.6	0.9

1) Disclosures are based on preliminary and unaudited figures which may be adjusted subsequently.

33. List of shareholdings

Deutsche Börse AG's equity interests in subsidiaries, associates and joint ventures as at 31 December 2020 included in the consolidated financial statements are presented in the following tables. There were no joint ventures as of the reporting date.

Fully consolidated subsidiaries (part 1)

Company	Domicile	Equity interest as at 31 Dec 2020 direct/(indirect) %
Börse Frankfurt Zertifikate AG	Frankfurt/Main, Germany	100.00
Clearstream Holding AG	Frankfurt/Main, Germany	100.00
Clearstream Banking AG	Frankfurt/Main, Germany	(100.00)
Clearstream Banking S.A.	Luxembourg, Luxembourg	(100.00)
Clearstream Australia Limited	Sydney, Australia	(100.00)
Clearstream Banking Japan, Ltd.	Tokyo, Japan	(100.00)
REGIS-TR S.A.	Luxembourg, Luxembourg	(50.00)
Clearstream Fund Centre AG	Luxembourg, Luxembourg	(51.20)
Clearstream Global Securities Services Limited	Cork, Ireland	(100.00)
Clearstream International S.A.	Luxembourg, Luxembourg	(100.00)
Clearstream Nominees Limited	London, United Kingdom	(100.00)
Clearstream Operations Prague s.r.o.	Prague, Czech Republic	(100.00)
Clearstream Services S.A.	Luxembourg, Luxembourg	(100.00)
REGIS-TR UK Ltd. (dormant)	London, United Kingdom	(50.00)
DB1 Ventures GmbH	Frankfurt/Main, Germany	100.00
Deutsche Boerse Market Data + Services Singapore Pte. Ltd.	Singapore, Singapore	100.00
Deutsche Boerse Systems Inc.	Chicago, USA	100.00
Centana Growth Partners, LLC	New York, USA	(100.00)
Bryant Sands Partners, LLC	Delaware, USA	(100.00)
Bryant Sands Partners II, LLC	Delaware, USA	(100.00)
Quantitative Brokers LLC	New York, USA	(72.60)
Quantitative Brokers Australia Pty Ltd	Sydney, Australia	(72.60)
Quantitative Brokers Software India Private Limited	Chennai, India	(72.24)
Quantitative Brokers UK Limited	Hounslow, United Kingdom	(72.60)
Deutsche Börse Photography Foundation gGmbH	Frankfurt/Main, Germany	100.00
Deutsche Börse Services s.r.o.	Prague, Czech Republic	100.00
Eurex Frankfurt AG	Frankfurt/Main, Germany	100.00
Eurex Clearing AG	Frankfurt/Main, Germany	(100.00)
Eurex Repo GmbH	Frankfurt/Main, Germany	(100.00)
Eurex Securities Transactions Services GmbH	Frankfurt/Main, Germany	(100.00)
Eurex Global Derivatives AG	Zug, Switzerland	100.00
Eurex Services GmbH	Frankfurt/Main, Germany	100.00

Fully consolidated subsidiaries (part 2)

Company	Domicile	Equity interest as at
		31 Dec 2020 direct/(indirect) %
European Energy Exchange AG	Leipzig, Germany	75.05
EEX Asia Pte. Limited	Singapore, Singapore	(75.05)
EEX CEGH Gas Exchange Services GmbH	Vienna, Austria	(38.27)
EEX Link GmbH	Leipzig, Germany	(75.05)
European Commodity Clearing AG	Leipzig, Germany	(75.05)
European Commodity Clearing Luxembourg S.à r.l.	Luxembourg, Luxembourg	(75.05)
EPEX SPOT SE	Paris, France	(38.27)
EPEX Netherlands B.V.	Amsterdam, Netherlands	(38.27)
EPEX SPOT Schweiz AG	Bern, Switzerland	(38.27)
Gaspoint Nordic A/S	Brøndby, Denmark	(75.05)
Grexel Systems oy	Helsinki, Finland	(75.05)
KB Tech Ltd.	Tunbridge Wells, United Kingdom	(75.05)
Nodal Exchange Holdings, LLC	Tysons Corner, USA	(75.05)
Nodal Exchange, LLC	Tysons Corner, USA	(75.05)
Nodal Clear, LLC	Tysons Corner, USA	(75.05)
Power Exchange Central Europe a.s.	Prague, Czech Republic	(50.03)
Lapis HoldCo Inc.	Delaware, USA	100.00
Lapis Intermediate Inc.	Delaware, USA	(100.00)
Lapis Merger Sub Inc.	Delaware, USA	(100.00)
Qontigo GmbH	Frankfurt/Main, Germany	78.32
Axioma Inc.	New York, USA	(78.32)
Axioma (CH) GmbH	Geneva, Switzerland	(78.32)
Axioma (HK) Ltd.	Hong Kong, Hong Kong	(78.32)
Axioma (UK) Ltd.	London, United Kingdom	(78.32)
Axioma Argentina S.A.U.	Buenos Aires, Argentina	(78.32)
Axioma Asia Pte Ltd.	Singapore, Singapore	(78.32)
Axioma Deutschland GmbH	Frankfurt/Main, Germany	(78.32)
Axioma Japan G.K.	Tokyo, Japan	(78.32)
Axioma Ltd.	Sydney, Australia	(78.32)
Axioma S.A.S.U.	Paris, France	(78.32)
Qontigo Index GmbH	Frankfurt/Main, Germany	(78.32)
STOXX Ltd.	Zug, Switzerland	(78.32)
INDEX PROXXY Ltd.	London, United Kingdom	(78.32)
Tradegate Exchange GmbH	Berlin, Germany	63.97
Börse Berlin AG ¹⁾	Berlin, Germany	(63.97)
360 Treasury Systems AG	Frankfurt/Main, Germany	100.00
360 Trading Networks Inc.	New York, USA	(100.00)
360 Trading Networks Limited	Dubai, United Arab Emirates (UAE)	(100.00)
360 Trading Networks Sdn Bhd	Kuala Lumpur, Malaysia	(100.00)
360T Asia Pacific Pte. Ltd.	Singapore, Singapore	(100.00)
360TGTX Inc.	New York, USA	(100.00)
Finbird GmbH	Frankfurt/Main, Germany	(100.00)
ThreeSixty Trading Networks (India) Pte. Ltd.	Mumbai, India	(100.00)

1) Thereof 59.98 percent direct and 3.99 percent indirect.


Associates

Company	Domicile	Equity interest as at 31 Dec 2020 direct/(indirect) %
BrainTrade Gesellschaft für Börsensysteme mbH	Frankfurt/Main, Germany	(37.72)
China Europe International Exchange AG	Frankfurt/Main, Germany	40.00
Clarity AI, Inc.	Delaware, USA	19.90
CloudMargin Ltd.	London, United Kingdom	8.21
Deutsche Börse Commodities GmbH	Frankfurt/Main, Germany	16.20
enermarket GmbH	Frankfurt/Main, Germany	(30.02)
FundsDLT	Luxembourg, Luxembourg	17.91
HQLAx S.à r.l.	Luxembourg, Luxembourg	31.40
LuxCSD S.A.	Luxembourg, Luxembourg	(50.00)
Moorgate PV Holdings LLC	Delaware, USA	(9.55)
Proximity Limited	Delaware, USA	(9.55)
Origin Primary Limited	London, United Kingdom	20.00
R5FX Ltd	London, United Kingdom	15.65
SEPEX a.d.	Belgrade, Serbia	(9.57)
SPARK Commodities Ltd.	Singapore, Singapore	(18.76)
Tradegate AG Wertpapierhandelsbank	Berlin, Germany	19.99
ZDB Cloud Exchange GmbH in Liquidation	Eschborn, Germany	49.90
Zimory GmbH in Liquidation	Berlin, Germany	29.51

Frankfurt/Main, 1 March 2021
Deutsche Börse AG


Theodor Weimer


Christoph Böhm


Thomas Book


Heike Eckert


Stephan Leithner


Gregor Pottmeyer

Responsibility statement by the Executive Board

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 combined 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 principal opportunities and risks associated with the expected development of the Group.

Frankfurt/Main, 4 March 2021

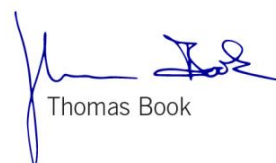
Deutsche Börse AG



Theodor Weimer



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Thomas Book



Heike Eckert



Stephan Leithner



Gregor Pottmeyer

Deutsche Börse AG

Combined management report

as at 31 December 2020

Combined management report

This combined management report covers both Deutsche Börse Group and Deutsche Börse AG and includes the combined non-financial statement according to the CSR Directive. It follows the requirements of the Handelsgesetzbuch (HGB, German Commercial Code) and the Deutscher Rechnungslegungs Standard Nr. 20 (DRS 20, German Accounting Standard No. 20).

Fundamental information about the Group

Overview of Deutsche Börse Group

Business operations and Group structure

Deutsche Börse AG, which is headquartered in Frankfurt/Main, Germany, is the parent company of Deutsche Börse Group. As at 31 December 2020, Deutsche Börse Group employed a total of 7,238 staff (31 December 2019: 6,775), from 110 nationalities at 43 locations around the globe. As one of the largest providers of market infrastructure worldwide, the Group offers a broad product and service range to its clients. These cover the entire financial market transaction process chain: from the provision of market information, indices and analytical solutions (pre-trading), the trading and clearing services on which these are based, and the settlement of transactions right through to the custody of securities and funds, as well as services for liquidity and collateral management (post-trading). The Group also develops and operates the IT systems that support all of these processes.

Deutsche Börse AG markets the price and reference data of the systems and platforms of Deutsche Börse Group as well as any other trading-relevant information. In addition, it develops and markets indices and analytics solutions via its subsidiary Qontigo GmbH. Furthermore, Deutsche Börse AG operates the Eurex[®] Exchange futures and options market via Eurex Frankfurt AG. Commodities spot and derivatives markets are operated by the Group's direct subsidiary European Energy Exchange AG (EEX). Via its subsidiary 360 Treasury Systems AG (360T), Deutsche Börse AG offers a platform for foreign exchange trading. The Group also operates the cash market at Frankfurter Wertpapierbörse (Frankfurt Stock Exchange – FWB[®]), with its fully electronic trading venue Xetra[®], as well as offering trading in structured products (certificates and warrants) in Germany via the Börse Frankfurt Zertifikate AG exchange. The Group also offers clearing services for the cash equities and derivatives markets (Eurex Clearing AG). All post-trading services that Deutsche Börse Group provides for securities are handled by Clearstream Holding AG and its subsidiaries (Clearstream Holding group). These include transaction settlement, the administration and custody of securities, as well as services for investment funds and global securities financing. Deutsche Börse AG and Clearstream Services S.A. develop and operate Deutsche Börse Group's technological infrastructure.

Deutsche Börse Group's full group of consolidated entities is set out in [note 33](#) to the consolidated financial statements.

Reporting segments

Deutsche Börse Group's business is divided into seven segments: Eurex (financial derivatives), EEX (commodities), 360T (foreign exchange), Xetra (cash equities), Clearstream (post-trading), IFS (investment fund services) and Qontigo (index and analytics business).

This structure serves as a basis for the Group's internal management and financial reporting (see the following table entitled "Deutsche Börse Group's reporting segments" for details).

Deutsche Börse Group's reporting segments

Reporting segment	Business areas
Eurex (financial derivatives)	<ul style="list-style-type: none">▪ Electronic trading of derivatives (Eurex Exchange)▪ Eurex Repo[®] OTC trading platform▪ C7[®] electronic clearing architecture▪ Central counterparty for on- and off-exchange derivatives and repo transactions▪ Marketing of licences for trading and market signals▪ Link-up of trading participants
EEX (commodities)	<ul style="list-style-type: none">▪ Electronic trading of electricity and gas products as well as emission rights (EEX group)▪ Central counterparty for traded cash market and derivative products
360T (foreign exchange)	<ul style="list-style-type: none">▪ Electronic trading of foreign exchange (360T[®])▪ Central counterparty for OTC and exchange-traded derivatives
Xetra (cash equities)	<ul style="list-style-type: none">▪ Cash market with the trading venues Xetra[®], Börse Frankfurt and Tradegate▪ Central counterparty for equities and bonds▪ Listing▪ Marketing of licences for trading and market signals▪ Link-up of trading participants▪ Technology solutions for external customers
Clearstream (post-trading)	<ul style="list-style-type: none">▪ Custody and settlement of securities▪ Services for global securities finance and collateral management as well as secured money market transactions, repo and securities lending transactions
IFS (investment fund services)	<ul style="list-style-type: none">▪ Investment fund services (order routing, settlement and custody)▪ Investment fund distribution services (Clearstream Fund Centre)
Qontigo (index and analytics business)	<ul style="list-style-type: none">▪ Development and marketing of indices (STOXX[®] and DAX[®])▪ Innovative portfolio management and risk analysis software

Management

The governing bodies of Deutsche Börse AG, which is a German stock corporation, are the Annual General Meeting, the Supervisory Board and the Executive Board, each of which has its own areas of responsibility.

The Annual General Meeting rules on the appropriation of distributable profit, appoints the shareholder representatives on the Supervisory Board and discharges the Executive Board and the Supervisory Board of liability. In addition, it rules on equity issuance and other matters governed by the Aktiengesetz (AktG, German Stock Corporation Act).

The Supervisory Board appoints, supervises and advises the members of the Executive Board, and is directly involved in decisions of fundamental importance to the Group. Additionally, it approves the consolidated financial statements prepared by the Executive Board. Members of the Supervisory Board are appointed for a period of three years, although the Annual General Meeting may determine a shorter term of office when electing members. As Deutsche Börse AG has more than 2,000 employees in Germany, members of the Supervisory Board must be appointed in accordance with the provisions of the Mitbestimmungsgesetz (German Co-Determination Act). Deutsche Börse's Supervisory Board comprises eight shareholder representatives and eight employee representatives in order to meet the growing demands placed upon Supervisory Board members in connection with the Company's growth and that of the Group as a whole, particularly with regard to the diversity and internationalisation of Supervisory Board work. Further details can be viewed in the "[Corporate governance statement](#)" section.

The Executive Board manages the company at its own responsibility; the Chief Executive Officer (CEO) coordinates the activities of the Executive Board members. In the 2020 financial year, the Executive Board of Deutsche Börse AG comprised six members. The remuneration system and the remuneration paid to individual members of the Executive Board of Deutsche Börse AG is explained in more detail in the [remuneration report](#).

Organisational structure

The responsibilities of the Chief Executive Officer (CEO) include the Group's strategy, M&A activities, communications, legal affairs as well as regulatory matters, and Group Audit. The duties of the Chief Financial Officer (CFO) comprise, among other things, financial reporting and controlling, risk management, treasury and investor relations. The Trading & Clearing division covers derivatives trading and the clearing houses of Deutsche Börse Group. The electronic foreign exchange trading platform 360T[®], the EEX Group and the cash market with its trading venues Xetra, Frankfurt Stock Exchange and the certificates and warrants business also report to this Executive Board function. The division is also responsible for building up a pre-IPO market and establishing tools for growth financing. The Pre- and Post-Trading division includes the settlement and custody business and Clearstream's collateral management, as well as the reporting segments IFS (Investment Fund Services) and the index and analytics business (Qontigo). The Executive Board division for HR & Compliance is responsible for the Group's human resources and compliance division. The Chief Information Officer/Chief Operating Officer (CIO/COO) function combines Deutsche Börse Group's IT activities and market operations. Technological transformation and digitalisation are the key areas of focus for this division.

Objectives and strategies

Deutsche Börse Group's objectives and strategies

Deutsche Börse Group is one of the largest market infrastructure providers worldwide. The Group's business model contributes to the stability, efficiency and integrity of capital markets. This benefits issuers in the form of low costs of raising capital and investors in the form of high liquidity and low transaction costs. At the same time, Deutsche Börse stands for transparent, secure capital markets in which organised trading is based on free price formation.

Deutsche Börse Group's business model is geared towards a diversified product and service offer that covers the entire value chain of financial market transactions. The Group's diversified business model is based on the following key elements:

- Integrating different financial market services such as trading, clearing, settlement, securities custody, market data services, liquidity and collateral management, as well as index and analytics solutions
- Providing these services for various asset classes such as equities, bonds, funds, commodities, foreign exchange, interest rates, and derivatives products based on these underlyings
- Developing and operating proprietary electronic systems for all processes along the value creation chain
- Organising an impartial marketplace to ensure orderly, supervised trading with fair price formation, plus providing risk management services

In order to maintain and expand its leading position among exchange organisations, Deutsche Börse Group pursued "Roadmap 2020" growth strategy from 2018 onwards. Deutsche Börse focused on generating secular, organic growth, while accelerating M&A growth through acquisitions in five defined business areas. In this period Deutsche Börse Group expected average growth in net income based on these secular drivers of at least 5 per cent p.a. With regard to adjusted net profit for the period attributable to Deutsche Börse AG shareholders, the Group targeted an average annual growth rate of 10 to 15 per cent over the same period. By the close of financial year 2020 the Group had achieved all the targets set in its Roadmap 2020. Net revenue rose by around 9 per cent p.a. on average and adjusted net profit by an average of 12 per cent. In this period the Group also successfully completed several M&A transactions, such as the acquisition of Axioma Inc. or Fondcenter AG from UBS, as well as reporting significant progress on its investment in new technologies, such as cloud computing and digital ledger technology.

On 18 November 2020 Deutsche Börse published its new medium-term growth strategy Compass 2023, which defines the strategic direction and targets for the years ahead. Among the most important organic growth drivers are the trend from over-the-counter (OTC) to on-exchange trading, ESG, the increasing importance of the buy-side, passive investments and the digitisation of the financial sector. Growth by M&A is also set to accelerate. Deutsche Börse is aiming for overall growth in net revenue of 10 per cent p.a. on average. Organic initiatives and M&A are each intended to contribute growth of around 5 per cent. Earnings before interest, tax, depreciation and amortisation (EBITDA) and earnings per share (EPS) should also rise by an average of 10 per cent p.a.

Compass 2023 targets

	Based on 2019 €m	Objectives and strategies Compass 2023
Net revenue	2,936.0	~10% p. a.
Earnings before interest, tax, depreciation and amortisation (EBITDA) (reported)	1,678.3	~10% p. a.
Earnings per share (reported)	€5.47	~10% p. a.

As part of an ongoing process, the Group is reviewing its organic growth initiatives, focusing in particular on expansion into markets and asset classes characterised by structural growth, while attaching great importance to ensuring that the initiatives launched are implemented in a consistent, successful manner. Key initiatives and growth drivers are described in the [opportunities report](#). Moreover, the remuneration system for the Executive Board and executive staff has created a number of incentives for growth in the individual business divisions. Please refer to the [remuneration report](#) for a detailed description of all targets. As far as external growth opportunities are concerned, the focus is on strengthening existing high-growth areas, and on exploring new asset classes and services.

Among the factors that have a significant impact on Deutsche Börse Group's organic growth are:

- Regulatory requirements of all market participants: if regulatory initiatives (such as EMIR, MiFIR and CRR/CRD) strengthen the role of exchanges, this will also benefit Deutsche Börse Group.
- Structural changes in the financial markets: e.g. trading activity increases if investment funds make greater use of derivatives to implement their trading strategies.
- Innovative strength: if Deutsche Börse Group succeeds in continuously introducing new products and services for which there is market demand, the Group will be in a position to further expand its business.
- The cyclical nature of financial markets: For example, increased stock market volatility typically leads to higher levels of trading in the cash and derivatives markets, and rising interest rates tend to drive up net interest income and trading volumes in interest rate derivatives.

Deutsche Börse Group is committed to maintaining transparent, reliable and liquid financial markets, although it cannot control the volume drivers for these markets, i.e. cyclical factors. The Group can influence the other factors either wholly or partially; for instance, it can lobby for a favourable legal framework for the financial markets, or it can develop products and services that support clients' business. This also enables it to reduce dependence on those cyclical factors beyond its control.

Management approach for a Group-wide commitment to sustainability

One of Deutsche Börse Group's objectives and strategies is to take a holistic approach to corporate responsibility. Its management approach is therefore guided by two action-led principles that aim to sustainably strengthen and preserve the value that Deutsche Börse Group adds to the economy and society:

- Building trust. Deutsche Börse Group aims to organise the capital markets in a way that ensures their integrity, transparency and security. The availability of high-quality information is a key aspect in this process and something that the Group is working on constantly to enhance. In this context, providing sustainability information is as significant as engaging in a constructive dialogue on the future viability of the international capital markets with our customers but also with the general public.
- Leading by example. As a listed service provider, Deutsche Börse Group aims to ensure that its own corporate activities are conducted responsibly and with a view to the future. In addition, the Group pursues a sustainable human resources policy and is committed to the environment and hence to conserving resources. It enhances its commitment to sustainability and related reporting on an ongoing basis in order to establish itself as a long-term role model on the market.
- Increasing public awareness. The Group is part of civil society and as such has a responsibility towards it. It is committed to fulfilling this role both in Germany and in its international locations. It systematically bases its actions on local requirements and, as a good corporate citizen, takes part in long-term cooperative initiatives aimed at strengthening structures in the non-profit sector.

In 2016, Deutsche Börse established a Group Sustainability Board to continuously develop the Group-wide sustainability strategy along the entire value chain and advise the Executive Board on sustainability issues. The Board convenes twice a year and in 2020 its members comprised twelve representatives of the Executive Board divisions, plus the Head of Group Sustainability and one Executive Board member.

Internal management

Management systems

Deutsche Börse Group's internal management system is generally based on key performance indicators taken from the consolidated income statement (net revenue, operating costs excluding depreciation, amortisation and impairment losses; EBITDA; Group net profit for the period attributable to Deutsche Börse AG shareholders), as well as on various parameters derived from the consolidated statement of financial position and the consolidated statement of cash flows (cash flows from operating activities, liquidity, equity less intangible assets). In addition, the system includes key performance indicators derived from the income statement and balance sheet (net debt/EBITDA ratio and return on shareholders' equity). Details on the components of the income statement are shown in the table "[Consolidated income statement](#)". As of financial year 2021 the company no longer adjusts the performance indicators in the consolidated income statement for exceptional items, and so will only use the reported figures, including all influencing factors for management purposes in future.

The most important performance indicators for managing the Group's results of operations are secular net revenue growth, EBITDA and earnings per share. The main performance indicators derived from the statement of financial position and the statement of cash flows include cash flows from operating activities and equity less intangible assets. In addition, Deutsche Börse Group aims to hold sufficient liquidity to be able to meet all of the Group's payment obligations when due. There is no set target for the Group's management KPI of equity less intangible assets; rather, the objective is to maintain a positive figure.

At Group level, a net debt/EBITDA ratio not exceeding 1.75 and free funds from operations (FFO) relative to net debt greater than or equal to 50 per cent is also targeted in order to achieve the "minimum financial risk profile" consistent with the current AA rating in accordance with S&P Global Ratings methodology. In addition, an interest coverage ratio of at least 14 is targeted for Deutsche Börse Group using this methodology.

Group projects are prioritised and steered using strategic and financial criteria, taking project-specific risks into account. The main criterion used to assess the strategic attractiveness of projects is their

(expected) contribution to the strategic objectives for Deutsche Börse Group and its business areas. The main financial criteria are key performance indicators such as net present value (NPV), the payback period and the return after tax, which are calculated on the basis of the project or business plans. Risks are monitored at all levels of project work, i.e. both when prioritising and steering projects and during ongoing project management.

Details concerning the non-financial performance indicators used by Deutsche Börse Group are outlined in the [“Combined non-financial statement”](#) section.

Internal control system as part of the financial reporting process

Deutsche Börse has established a Group-wide internal control system (ICS). The ICS comprises rules to manage the company’s activities as well as guidelines defining how compliance with these rules is monitored. The principles of the Group-wide ICS are also applied in partially decentralized units of Deutsche Börse Group. Monitoring tasks are implemented through process-integrated measures (such as organisational safeguards and controls) as well as through process-independent measures. All business divisions are responsible for ensuring that Group-wide ICS requirements are met in their respective areas of responsibility.

The purpose of the accounting-related ICS is to ensure orderly accounting practices. The central Financial Accounting and Controlling (FA&C) division, together with decentralised units acting on the requirements set out by FA&C, are responsible for preparing the accounts at Deutsche Börse AG and its consolidated subsidiaries. Group Tax is responsible for determining tax items for accounting purposes. The relevant department heads are responsible for the related processes, including effective security and control measures. The aim is to ensure that risks relating to the accounting process are identified early on, so that remedial action can be taken in good time.

In order to assure uniform and consistent accounting, FA&C provides regularly updated accounting manuals and guidelines and work instructions for the material accounting processes – as part of the preparation of the annual and consolidated financial statements of Deutsche Börse AG. All employees in the FA&C area, as well as in decentral units, have access to these documents and the accounting and account assignment guidelines, allowing them to see for themselves the scope of managerial discretion and accounting options Deutsche Börse Group exercises.

Moreover, Deutsche Börse Group continuously monitors and analyses changes in the accounting environment and adjusts its processes in line with them. This applies in particular to national and international accounting standards.

Another key component of the ICS is the principle of segregation of duties: tasks and authorities are clearly assigned and separated from each other in organisational terms. Incompatible tasks – such as modifying master data on the one hand and issuing payment instructions on the other – are strictly segregated at a functional level. An independent control unit grants individual employees access rights to the accounting system and continuously monitors these permissions using a so-called incompatibility matrix. Transactions are initially recorded in the general ledger or the appropriate sub ledgers on the basis of the chart of accounts and the account allocation guidelines.

Major Deutsche Börse Group subsidiaries maintain and consolidate their general ledgers in the same system. Accounting data from other companies is uploaded for inclusion in the consolidated financial statements. Liabilities, expenses and income for individual transactions are recorded in separate accounts under the name of the counterparty concerned. Any consolidation differences are reviewed centrally and sent to the accounting departments of the companies concerned for clarification.

The processes, systems and controls described above aim to provide reasonable assurance that the accounting system complies with the applicable principles and laws. In addition, Compliance and Internal Audit act as a further line of defence, performing risk-based, process-independent controls on whether the ICS is appropriate and effective. The Executive Board and the Audit Committee established by the Supervisory Board receive regular reports on the effectiveness of the ICS with respect to the financial reporting process.

Takeover-related disclosures

Disclosures in accordance with sections 289a (1) and 315a (1) of the German Commercial Code (HGB, prior version) and explanatory notes

In accordance with sections 289a (1) and 315a (1) of the German Commercial Code (HGB, Handelsgesetzbuch, prior version), in conjunction with section 83 (1) sentence 2 of the Introductory Act to the German Commercial Code (EGHGB, Einführungsgesetz zum Handelsgesetzbuch), Deutsche Börse AG hereby makes the following disclosures as at 31 December 2020:

The share capital of Deutsche Börse AG amounted to €190.0 million on the above-mentioned reporting date and was composed of 190 million no-par value registered shares. There are no other classes of shares besides these ordinary shares.

The share capital has been contingently increased by up to €17.8 million by issuing up to 17.8 million no-par value registered shares (contingent capital 2019). The contingent capital increase will only be implemented to the extent that holders of convertible bonds or of warrants attaching to bonds with warrants issued by the Company or by a Group company in the period until 7 May 2024 on the basis of the authorisation granted to the Executive Board by resolution of the Annual General Meeting of 8 May 2019 on Item 8 (b) of the agenda exercise their conversion or option rights, that they meet their conversion or option obligations, or that shares are tendered, and no other means are used to settle such rights or obligations. More details can be found in Article 4 (7) of the Articles of Association of Deutsche Börse AG.

The Executive Board is only aware of those restrictions on voting rights that arise from the Aktiengesetz (AktG, German Stock Corporation Act). Those shares affected by section 136 AktG are therefore excluded from voting rights. Furthermore, shares held by Deutsche Börse AG as treasury shares are exempted from the exercise of any rights according to section 71b AktG.

Under the Wertpapierhandelsgesetz (WpHG, German Securities Trading Act), any investor whose shareholding reaches, exceeds or falls below specified voting right thresholds as a result of purchase, sale or any other transaction is required to notify the company and the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin, German Federal Financial Supervisory Authority). The lowest threshold for this disclosure requirement is 3 per cent. Deutsche Börse AG is not aware of any direct or indirect equity interests in its capital exceeding 10 per cent of the voting rights.

There are no shares with special provisions granting the holder control rights.

Employees holding shares in Deutsche Börse AG exercise their rights in the same way as other shareholders in accordance with the statutory provisions and the Articles of Association.

Members of the Executive Board are appointed and dismissed in accordance with sections 84 and 85 AktG and with Article 6 of the Articles of Association of Deutsche Börse AG. Amendments to the Articles of Association of Deutsche Börse AG are adopted by resolution of the Annual General Meeting in accordance with section 119 (1) No. 6 AktG. Under Article 12 (4) of the Articles of Association of Deutsche Börse AG, the Supervisory Board is authorized to make amendments to the Articles of Association that relate to the wording only. In accordance with Article 18 (1) of the Articles of Association of Deutsche Börse AG, resolutions of the Annual General Meeting are passed by a simple majority of the votes cast, unless otherwise required by the AktG. Insofar as the AktG additionally prescribes a majority of the share capital represented at the time of a resolution, a simple majority of the share capital represented is sufficient where this is legally permissible.

Subject to the approval of the Supervisory Board, the Executive Board is authorised to increase the share capital by up to a total of €13.3 million on one or more occasions in the period up to 10 May 2021 by issuing new no-par value registered shares in exchange for cash and/or non-cash contributions (authorised capital I). Shareholders must be granted pre-emptive rights. However, subject to approval by the Supervisory Board, the Executive Board may exclude shareholders' pre-emptive rights with respect to fractional amounts. However, according to the authorisation, the Executive Board may only exclude shareholders' pre-emptive rights if the total number of shares that are issued during the term of authorisation and that exclude shareholders' pre-emptive rights does not exceed 20 per cent of the share capital. Full authorisation, and particularly the conditions under which shareholders' pre-emptive rights can be excluded, is derived from Article 4 (3) of the Articles of Association of Deutsche Börse AG.

The Executive Board is also authorised to increase the share capital by up to a total of €19.0 million on one or more occasions in the period up to 18 May 2025, subject to the approval of the Supervisory Board, by issuing new no-par value registered shares against cash and/or non-cash contributions (authorised capital II). Shareholders must be granted pre-emptive rights, which the Executive Board can exclude in certain cases, subject to the approval of the Supervisory Board in each case. The Executive Board is authorised to exclude shareholders' pre-emptive rights: (1) in the case of cash capital increases, provided that the issue price of the new shares is not significantly lower than the quoted price, and the total number of shares issued under exclusion of shareholders' pre-emptive rights does not exceed 10 per cent of the share capital; (2) in the case of physical capital increases in exchange for non-cash contributions for the purpose of acquiring companies, parts of companies, interests in companies, or other assets; or (3) with respect to fractional amounts. However, according to the authorisation, the Executive Board may only exclude shareholders' pre-emptive rights if the total number of shares that are issued during the term of authorisation and that exclude shareholders' pre-emptive rights does not exceed 10 per cent of the share capital. Full authorisation, and particularly the conditions under which shareholders' pre-emptive rights can be excluded, is derived from Article 4 (4) of the Articles of Association of Deutsche Börse AG.

In addition, the Executive Board is authorised to increase the share capital by up to a total of €19.0 million on one or more occasions in the period up to 18 May 2024, subject to the approval of the Supervisory Board, by issuing new no-par value registered shares in exchange for cash contributions (authorised capital III). Shareholders must be granted pre-emptive rights, which the Executive Board can exclude, subject to the approval of the Supervisory Board, only for fractional amounts. However, according to the authorisation, the Executive Board may only exclude shareholders' pre-emptive rights if the total number of shares that are issued during the term of authorisation and that exclude shareholders' pre-emptive rights does not exceed 10 per cent of the share capital. The exact content of this authorisation is derived from Article 4 (5) of the Articles of Association of Deutsche Börse AG.

Furthermore, the Executive Board is authorised to increase the share capital by up to a total of €6.0 million on one or more occasions in the period up to 16 May 2022, subject to the approval of the Supervisory Board, by issuing new no-par value registered shares against cash and/or non-cash contributions (authorised capital IV). Shareholders must be granted pre-emptive rights unless the Executive Board makes use of the authorisation granted to it to exclude such rights, subject to the approval of the Supervisory Board. The Executive Board is authorised to exclude shareholders' pre-emptive rights for fractional amounts with the approval of the Supervisory Board. However, according to the authorisation, the Executive Board may only exclude shareholders' pre-emptive rights if the total number of shares issued during the term of the authorisation, excluding pre-emptive rights, does not exceed 20 per cent of the share capital. Full authorisation is derived from Article 4 (6) of the Articles of Association of Deutsche Börse AG.

The Executive Board is authorised to acquire treasury shares up to 10 per cent of the share capital. However, the acquired shares, together with any treasury shares acquired for other reasons that are held by the Company or attributed to it in accordance with sections 71a et seq. of the AktG, may at no time exceed 10 per cent of the Company's share capital. The authorisation to acquire treasury shares is valid until 7 May 2024 and may be exercised by the company in full or in part on one or more occasions. However, it may also be exercised by dependent companies, by companies in which Deutsche Börse AG holds a majority interest or by third parties on its or their behalf. The Executive Board may elect to acquire the shares (1) on the stock exchange, (2) via a public tender offer addressed to all shareholders or via a public request for offers of sale addressed to the company's shareholders, (3) by issuing tender rights to shareholders or (4) using derivatives (put options, call options, forward purchases or a combination of put options, call options and forward purchases). The full and exact wording of the authorisation to acquire treasury shares, and particularly the permissible uses to which the shares may be put, can be found in items 6 and 7 of the agenda for the Annual General Meeting held on 8 May 2019.

The following material agreements of the Company are subject to a change-of-control clause following a takeover bid:

- On 28 March 2017, Deutsche Börse AG and its subsidiary Clearstream Banking S.A. entered into a multicurrency revolving facility agreement with a banking syndicate for a working capital credit totalling up to €750.0 million. If there is a change of control, the credit relationship between Deutsche Börse AG and the lenders can be reviewed in negotiations within a period of no more than 60 days. In this process, each lender has the right, at its own discretion, to terminate its credit commitment and demand partial or full repayment of the amounts owing to it. A change of control occurs if Deutsche Börse AG no longer directly or indirectly holds the majority of Clearstream Banking S.A. or if a person or a group of persons acting in concert acquires more than 50 per cent of the voting shares of Deutsche Börse AG.
- Under the terms of Deutsche Börse AG's €600.0 million fixed-rate bond issue 2020/2047 (hybrid bond), Deutsche Börse AG has a termination right in the event of a change of control (as defined in the

terms of the bond), which, if exercised, entitles Deutsche Börse AG to redeem the bonds at par, plus accrued interest. If Deutsche Börse AG does not exercise this termination right, the affected bonds' coupon will increase by an additional 500 basis points per annum. A change of control occurs if a person or a group of persons acting in concert, or third parties acting on their behalf, has or have acquired more than 50 per cent of the shares of Deutsche Börse AG or the number of Deutsche Börse AG shares required to exercise more than 50 per cent of the voting rights at Annual General Meetings of Deutsche Börse AG. In addition, the relevant bond terms require that the change of control must adversely affect the long-term rating given to Deutsche Börse AG by Moody's Investors Services, Inc., S&P Global Ratings or Fitch Ratings Limited. Further details can be found in the applicable bond terms.

- The terms of the €500.0 million fixed-rate bonds 2015/2025, the €600.0 million fixed-rate bonds 2018/2028, and the €600.0 million fixed-rate bonds 2012/2022, which were all issued by Deutsche Börse AG, all give the respective bondholders a termination right in the event of a change of control (as defined in the terms of the respective bond). If these termination rights are exercised, the bonds are repayable at par plus any accrued interest. A change of control occurs if a person or a group of persons acting in concert, or third parties acting on their behalf, has or have acquired more than 50 per cent of the shares of Deutsche Börse AG or the number of Deutsche Börse AG shares required to exercise more than 50 per cent of the voting rights at Annual General Meetings of Deutsche Börse AG. In addition, the respective bond terms require that the change of control must adversely affect the rating given to one of the preferential unsecured debt instruments of Deutsche Börse AG by Moody's Investors Services, Inc., S&P Global Ratings or Fitch Ratings Limited. Further details can be found in the applicable bond terms.
- Based on the previous remuneration system for Executive Board members presented to the Annual General Meeting 2016, under certain conditions the Executive Board members of Deutsche Börse AG have a special termination right in the event of a change of control. According to the agreements made with all Executive Board members, a change of control occurs if (1) a shareholder or third party discloses possession of more than 50 per cent of the voting rights in Deutsche Börse AG in accordance with sections 33 and 34 of the German Securities Trading Act (WpHG), (2) an intercompany agreement in accordance with Section 291 of the AktG is entered into with Deutsche Börse AG as a dependent company, or Deutsche Börse AG is absorbed in accordance with section 319 of the AktG, or (3) Deutsche Börse AG is merged in accordance with Section 2 of the German Transformation Act (UmwG).

In addition, individual service contracts with Executive Board members include agreements on compensation in the event of a change of control. Such agreements are no longer provided for in the remuneration system for Executive Board members presented for approval to the Annual General Meeting 2020 or in the remuneration system to be presented to the Annual General Meeting 2021. A description of the existing agreements as well as the changes in the remuneration systems can be found in the [remuneration report](#).

Report on economic position

Macroeconomic and sector-specific environment

Macroeconomic conditions continue to have an influence on the business development of Deutsche Börse Group despite the growing importance of structural growth factors. The main factor affecting financial year 2020 was the outbreak of the Covid-19 pandemic, its global economic impact and the challenges of dealing with the virus and its containment. This had a massive impact on the macroeconomic environment. The following aspects are particularly noteworthy:

- the massive slowdown in the global economy, particularly in the first half-year 2020, due to the outbreak of the Covid-19 pandemic
- substantial restrictions on economic and social activities (lockdown)
- great uncertainty among participants in financial and capital markets due to the lack of visibility about the trajectory of the pandemic, combined with the spike in market volatility in the first half-year (as measured by the VSTOXX® index).
- higher levels of debt being taken on by many states to alleviate the consequences of the economic burdens
- concentrated monetary policy measures by central banks in response to provide liquidity, in combination with historically low interest rates around the world
- uncertainty until year-end regarding the terms of the United Kingdom's withdrawal from the EU and its impact on markets.
- regulatory projects and the resulting stricter requirements for capital market participants

In its January estimate the International Monetary Fund (IMF) predicted a global contraction of 3.5 per cent for 2020. Negative growth of 7.2 per cent is expected for the euro area and of 5.4 per cent for Germany.

Business developments

As described in the macroeconomic section of this report, it became apparent in spring 2020 that the infectious disease Covid-19 that broke out in late 2019 in China would have a significantly adverse effect on the performance of the world economy and so also an impact on business developments at Deutsche Börse Group. The rapid spread of the virus around the world caused great uncertainty among market participants and an unusual level of market activity on cash equities and derivatives markets. Governments and central banks around the world tried to contain the economic consequences of the Covid-19 pandemic with unprecedented stimulus programmes, emergency lending, cuts to prime interest rates and bond purchase programmes. The Federal Reserve, the US central bank, reduced its target range for the prime rate in the USA from 0.25 to 0.00 per cent, combined with various government policy measures, while the European Central Bank (ECB) increased the Pandemic Emergency Purchase Programme, PEPP) for sovereign and corporate bonds to €1.85 trillion and extended its minimum duration. Changes in the interest rate in particular had a negative impact on treasury result from banking business in the Clearstream segment. From the second quarter onwards, high liquidity levels and market hopes of a swift economic recovery resulted in a steep rise in leading international indices. This rather obscured the burdens from the trade conflict between the USA and China and the risk of a no-deal Brexit. Market volatility increased slightly in the fourth quarter following a breakthrough in the development of suitable vaccines against Covid-19. This in turn boosted market activity in cash equities and derivatives markets.

Comparability of figures

With effect from the first quarter of 2020, Deutsche Börse Group has adjusted the segment reporting structure, in order to further enhance transparency regarding the Group's growth areas.

- The former GSF (collateral management) segment has been fully allocated to the Clearstream (post-trading) segment.
- Business in the former Data segment is now being reported within the Xetra (cash equities) and Eurex (financial derivatives) segments.

For further information on the comparability of figures please see [note 3](#).

Results of operations

For Deutsche Börse Group the financial year 2020 was defined by the course of the Covid-19 pandemic, which in some cases had a significant impact on segment earnings. In an extraordinarily volatile market environment, the Group saw significant earnings increases in the first quarter of 2020, whereas markets became increasingly subdued over the remainder of the year and prime rates fell to new lows worldwide. It was only in the fourth quarter that market activity picked up again slightly, triggered by the hope of an economic recovery following the development of a suitable vaccine against Covid-19. Looking at the full year, all segments contributed to the Group's growth, with the exception of Clearstream. Secular net revenue rose across the Group by 5 per cent as planned, driven by product innovations, greater market share and new customer wins, particularly in the segments Eurex, EEX, 360T, IFS and Qontigo. Cyclical effects contributed a total of 2 per cent to net revenue growth. Positive factors, such as the increase in trading volumes of equity index derivatives (Eurex segment) and cash equities (Xetra segment) were offset by a significant decline in net interest income from banking business (Clearstream), particularly due to the interest rate cuts by the US central bank. The Group also reported an increase of 2 per cent in net revenue due to consolidation, primarily relating to the acquisitions of Axioma (Qontigo segment) and the UBS fund distribution platform Fondcenter AG (IFS segment). Net revenue in the reporting therefore rose to €3,213.8 million (2019: €2,936.0 million), an increase of 9 per cent.

Operating costs for Deutsche Börse Group came to €1,368.7 million in the reporting period (2019: €1,264.4 million) and were made up of staff costs and other operating expenses. Accounting for exceptional items of €155.3 million (2019: €134.9 million) in connection with expenses to cut structural costs as part of the Roadmap 2020, acquisition costs and advisory costs in the context of litigation, adjusted operating costs came to €1,213.4 million (2019: €1,129.5 million). This represents an increase of 7 per cent, which is primarily due to consolidation effects from the acquisition of Axioma and higher investment.

Adjusted staff costs increased in 2020 by 11 per cent to €786.5 million (2019: €705.7 million), largely due to higher average staff numbers as a result of acquisitions. This figure does not include exceptional items of €36.4 million (2019: €42.1 million) which mainly include costs of efficiency measures in the context of the Structural Performance Improvement Programme (SPIP) introduced in 2018.

Adjusted other operating expenses of €426.9 million (2019: €423.8 million) mainly reflect the costs of upgrading and operating Deutsche Börse Group's technological infrastructure. This includes, for example, costs for the Group's own IT and for external IT service providers. Also included are the costs of office infrastructure at all the Group's locations. This figure does not include exceptional items of €118.9 million (2019: €92.8 million) related to the cost of M&A activities.

Results from financial investments rose to €24.3 million (2019: €6.7 million) and stem primarily from a mark-up in the equity method measurement of Tradegate AG Wertpapierhandelsbank (Xetra segment) which recorded a very strong performance in the reporting year.

Deutsche Börse Group increased its earnings before interest, tax, depreciation and amortisation (EBITDA) to €1,869.4 million (2019: €1,678.3 million). Adjusted EBITDA rose to €2,024.7 million (2019: €1,813.2 million).

Depreciation, amortisation and impairment losses, which are reported separately from the operating costs, went up to €259.2 million (2019: €222.9 million) due to higher capital expenditure and consolidation effects.

The financial result totalled €-76.9 million (2019: €-53.7 million). Compared to the prior year, the increase resulted from provisions for interest on potential tax backpayments.

The Group's tax ratio of 26 per cent was on par with the previous year.

Overall, the net profit for the period attributable to Deutsche Börse Group shareholders was €1,079.9 million (2019: €1,003.9 million), an increase of 8 per cent. Adjusted for exceptional items, this increased by 9 per cent to €1,204.3 million (2019: €1,105.6 million).

Net profit for the period attributable to non-controlling interests rose to €45.2 million (2019: €31.5 million) and consisted mainly of the profits attributable to non-controlling interests in the EEX Group and Qontigo GmbH, which put in a good performance in 2020.

Undiluted earnings per share on the basis of a weighted average of 183.4 million shares was €5.89 (2019: €5.47). After adjustment this rose by 9 per cent to €6.57 (2019: €6.03).

Comparison of results of operations with the forecast for 2019

For 2020 Deutsche Börse Group forecast a secular increase in net revenue of at least 5 per cent on the basis of its various growth initiatives. In terms of the impact of macroeconomic factors on cyclical growth the Group assumed a slight improvement year on year. By the time the combined management report 2019 was published, however, it was already apparent that the viral infection Covid-19 would have a significant adverse impact on global economic performance, although the actual pandemic and its long-term effects were not foreseeable at the time. Specifically, there was no assumption of significant cuts in US interest rates in the first quarter. On the other hand the great uncertainty among market participants led to much more market activity than expected in the first half-year. Despite these setbacks, Deutsche Börse Group achieved secular growth in net revenue of 5 per cent and so met its forecast.

With an anticipated increase in secular net revenue of at least 5 per cent and operating costs ranging accordingly, Deutsche Börse Group had expected adjusted net profit attributable to Deutsche Börse AG shareholders to go up to around €1.20 billion. Although the course of business differed substantially from the original forecast due to the Covid-19 pandemic, the company was able to increase its adjusted net profit attributable to shareholders of Deutsche Börse AG to €1,204.3 million and so exactly meet the forecast. Moreover, the Group achieved a ratio of net debt to adjusted EBITDA of 1.0, which is well below the target value of 1.75 maximum. In line with projections, the operating cash flow was clearly positive. Investments in property, plant and equipment, as well as intangible assets amounted to €195.5 million, in line with the forecast of around €200 million. The dividend ratio is generally in the middle of a range of 40 to 60 per cent of adjusted net profit for the period attributable to Deutsche Börse AG shareholders. According to the proposal made to the Annual General Meeting, based on a proposed dividend of €3.00 per share, this target was also realised with a ratio of 46 per cent.

Eurex (financial derivatives) segment

Eurex (financial derivatives) segment: key indicators

	2020	2019 ¹⁾	Change
FINANCIAL KEY FIGURES	€m	€m	%
Net revenue	1,110.3	1,009.3	10
Equity index derivatives	540.5	484.0	12
Interest rate derivatives	200.1	210.9	-5
Equity derivatives	48.4	51.1	-5
OTC clearing (incl. net interest income on margins for OTC interest rate swaps)	54.9	41.2	33
Margin fees	85.4	52.3	63
Eurex Data	59.8	60.8	-2
Other (incl. connectivity and member fees)	121.2	109.0	11
Operating costs	-373.1	-333.8	13
EBITDA	738.8	678.5	8

1) Previous year adjusted

In the Eurex (financial derivatives) segment, Deutsche Börse Group reports on the financial derivatives trading and clearing business at Eurex Exchange. The clearing volume of OTC interest rate swaps, one of the secular growth factors for Deutsche Börse Group, is reported as a separate item within the segment. The performance of the Eurex segment largely depends on the trading activities of institutional investors, and proprietary trading by professional market participants. From the start of the financial year reporting also covers the marketing of licences for Eurex-specific real-time trading and market signals and the provision of historical data and analytics from the former Data segment.

In 2020 the strongly fluctuating market volatility, as measured by the volatility index VSTOXX, had a significant impact on market activity and thus also on trading volumes for financial derivatives. Accordingly, when volatility spiked in the first half of 2020, significantly more financial derivatives were traded than in the second half-year. Equity index derivatives in particular saw year-on-year volume increases. This also includes growth in new products such as MSCI, total return and dividend derivatives. The sharp decrease in volumes of equity derivatives is primarily due to high trading volumes in 2019, in addition to an unfavourable market environment in the second half of 2020. Monetary and interest rate policy decisions to alleviate the economic impact of the Covid-19 pandemic significantly reduced the likelihood of higher long-term interest rates in Europe and resulted in less market activity in interest rate derivatives. Trading volumes in the Eurex segment across all product groups reached 1,861.4 million contracts in the 2020 financial year (2019: 1,947.1 million).

The offer and trading in ESG-specific derivatives developed well in the reporting period, particularly for Euro STOXX ESG derivatives. Here the trading volume for the full year passed the 1 million contract mark for the first time. There was also much greater interest in new products featuring exchange-traded forex derivatives (FX-Futures), primarily FX-Futures on the euro/US dollar rate.

The sharp rise in volatility in the first quarter of 2020 also led to an increase in collateral deposited with Eurex Clearing. The resulting net revenue rose accordingly.

Growth in clearing of OTC derivatives continued in financial year 2020. The average outstanding notional volume again beat the previous year's figure by 43 per cent, which means that Eurex Clearing has a global market share of 17.5 per cent in euro-denominated OTC interest rate derivatives (2019: 14.5 per cent). By refining the incentive programmes for transferring interest rate derivative portfolios to Eurex Clearing, customers are now supported in an even more purposeful way when migrating their positions to the EU-27.

EEX (commodities) segment

EEX (commodities) segment: key indicators

	2020	2019	Change
FINANCIAL KEY FIGURES	€m	€m	%
Net revenue	302.2	289.3	4
Power spot	72.1	70.9	2
Power derivatives	115.8	105.1	10
Gas	43.0	42.8	0
Other (incl. connectivity, member fees and admission allowance)	71.3	70.5	1
Operating costs	-174.3	-169.6	3
EBITDA	127.0	119.4	6

In the EEX (commodities) segment, Deutsche Börse Group reports on trading activities on EEX Group's platforms in Europe, Asia and North America. The EEX Group operates marketplaces and clearing houses for energy and commodity products, connecting more than 750 participants around the world. The product portfolio comprises contracts on energy, environmental, freight and agricultural products, as well as metals. EEX Group's most important revenue drivers are the power spot and derivatives markets, and the gas markets.

The EEX Group increased its trading volume in the spot power market by 4 per cent in 2020. Volumes in the intra-day segment rose by 21 per cent year-on-year, with increases in all market areas. The day-ahead segment was stable compared to the previous year. Intra-day and day-ahead products for four Scandinavian countries were added to the spot market portfolio towards the middle of the year. The introduction of new incentive schemes for market participants in power spot markets reduced net revenue growth in the reporting year.

Volume growth on global power derivatives markets, the main net revenue driver for the EEX Group, continued with a year-on-year increase of 11 per cent. Trading in power derivatives is being expanded continuously and now offers comprehensive geographic coverage of 20 European market regions and additionally the Japanese market, which was launched in May 2020. The volume of power derivatives traded in Europe passed the mark of 4,000 TWh for the first time in 2020. Whereas the German, French and Hungarian markets made the greatest contribution to growth in absolute terms, volumes on the US market declined, which is primarily due to lower hedging requirements as a result of reduced industrial production.

Trading volume on the gas markets fell year-on-year by 5 per cent. This is partly a result of lower demand due to the impact of the Covid-19 pandemic, with a lower total market volume on the spot markets. At the same time, greater competition on the gas derivatives markets, particularly in the Netherlands, led to trading volume changes. Despite these conditions, the EEX was able to increase its market shares in the gas spot market and defend its position as Europe's leading gas spot exchange in 2020.

360T (foreign exchange) segment

360T (foreign exchange) segment: key indicator

	2020	2019	Change
FINANCIAL KEY FIGURES	€m	€m	%
Net revenue	101.5	92.1	10
Trading	81.9	76.9	7
Other (incl. connectivity and member fees)	19.6	15.2	29
Operating costs	-53.9	-57.7	-7
EBITDA	47.6	34.4	38

In the 360T (foreign exchange) segment, Deutsche Börse Group manages its foreign exchange trading business, which takes place on the platforms provided by its subsidiaries 360 Treasury Systems AG and 360TGTX Inc. Net revenue in the 360T segment is driven mainly by the trading activities of institutional investors, banks and internationally active companies, and the provision of liquidity by so-called liquidity providers. During the year under review, the segment generated 81 per cent of its revenue from foreign exchange trading and 19 per cent from the provision of other services.

In the reporting year, the market environment in the 360T segment was determined by strongly fluctuating volatility, a varying risk appetite on the part of investors, restrictions due to Covid-19 lockdowns and the resulting impact on trading volumes. After an exceptionally strong first quarter marked by the outbreak of the Covid-19 pandemic and the ensuing high market volatility with high trading volumes, the following two quarters saw less trading activity on the back of a much less volatile and more risk-averse market, which was also affected by restrictions. Over the course of the fourth quarter the market recovered significantly compared to the prior quarters, based on movements in key currency pairs.

Furthermore, 360T was able to boost growth in trading volumes by winning and connecting new customers to the platform, particularly in the USA and EMEA. This resulted in growth being recorded across all product groups, with the total average daily trading volume up by 5 per cent to around €87 billion. 360T also set new records with an average daily trading volume of €109 billion in March 2020. Drivers of net revenue growth in particular were an increase in swap transactions, the 360TGTX business and solid growth in market data and connectivity.

The Eurex FX market also expanded further, despite the global events mentioned above. Especially Open Interest and the average daily trading volume reached new highs in 2020. A total of more than 600,000 contracts were traded (2019: around 96,300), with a new daily record of 130,000 contracts in June 2020. Average monthly Open Interest rose year-on-year in the reporting period by around 1,250 per cent (from USD 320 million 2019 to USD 4.8 billion). To further support this positive trend Eurex introduced European-style FX options in the second half of the year, as well as connecting numerous new clearing members, liquidity providers and trading participants and activating them for trading and clearing.

In addition to the success of the Eurex exchange with listed FX derivatives, Eurex Clearing is seeing increasing demand for its OTC FX clearing service. Increasingly more customers are interested and are partly already in the process of being connected to the service.

Xetra (cash equities) segment

Xetra (cash equities) segment: key indicators

	2020	2019 ¹⁾	Change
FINANCIAL KEY FIGURES	€m	€m	%
Net revenue	391.7	329.3	19
Trading and clearing	203.3	151.4	34
Listing	18.9	19.9	-5
Xetra Data	125.7	111.7	13
Other (incl. connectivity and member fees)	43.8	46.3	-5
Operating costs	-158.8	-148.6	5
EBITDA	258.7	186.5	42

1) Previous year adjusted.

In the Xetra segment (cash equities), Deutsche Börse Group brings together its cash market trading venues (Xetra®, the Frankfurt Stock Exchange, and Tradegate). Besides trading and clearing services income, the segment generates revenue from the ongoing listing of companies' securities and exchange admissions, the marketing of trading data, connecting clients to trading venues, and from services provided to partner exchanges.

The significant earnings increase in the Xetra segment in the reporting year 2020 was mainly due to higher trading and clearing revenues as a result of more trading activity. The volume of the order book increased year-on-year in almost every month, rising overall by 37 per cent to €2.1 trillion. Higher revenues were particularly due to the increased volatility compared to the previous year, the recalibration of share portfolios by institutional investors and much higher turnover in exchange-traded funds (ETFs). Trading volumes in these securities rose to a new annual record of €250 billion, which was 70 per cent up year-on-year. The strong increase in activity on part of the private investors was an additional driver during the entire reporting period. Competing with other pan-European trading venues, Xetra further strengthened its position as the reference market for trading in DAX constituents, increasing its market share to 73 per cent (2019: 71 per cent).

A total of seven initial public offerings (IPOs) took place in 2020 (2019: 4) as well as two new listings. By far the largest issue volume was recorded by the IPO of Hensoldt AG at €400 million. The share price of Siemens Energy AG when it was listed corresponded to a market capitalisation of approximately €16 billion.

Undiminished interest in gold as an investment asset again led to new records for Xetra-Gold[®], a bearer bond backed by physical gold. Thus gold reserves increased to 217 tonnes as at the end of the financial year (2019: 203 tonnes) – representing some €11 billion – and an order book turnover of €6 billion was reported (2019: €3.4 billion). Xetra-Gold thus remains the leading security in Europe backed by physical gold and the best-selling security among Xetra's exchange traded commodities (ETCs). The disposal of Regulatory Services GmbH, the regulatory reporting hub of Deutsche Börse Group, to MarketAxess Holdings, Inc. was completed on 30 November 2020. Income of €19.8 million from this transaction was recognised in net revenue for Xetra Data.

The business of Tradegate AG Wertpapierhandelsbank grew very strongly in 2020 thanks to much higher activity on the part of the private investors, and its equity method measurement had a positive impact on the result from financial investments, taking it to €25.8 million in total.

Clearstream (post-trading) segment

Clearstream (post-trading) segment: key indicators

	2020	2019 ¹⁾	Change
FINANCIAL KEY FIGURES	€m	€m	%
Net revenue	827.2	842.7	-2
Custody	417.5	391.7	7
Settlement	114.8	82.2	40
Net interest income from banking business	100.5	188.2	-47
Collateral management	76.9	78.0	-1
Third-party services	23.8	24.3	-2
Other (incl. connectivity, account maintenance)	93.7	78.3	20
Operating costs	-367.3	-343.4	7
EBITDA	458.0	497.5	-8

1) Previous year adjusted

Deutsche Börse Group's settlement and custody activities are reported under the Clearstream (post-trading) segment. In providing the post-trade infrastructure for Eurobonds and other markets, Clearstream is responsible for the issuance, settlement, management and custody of securities from more than 50 markets worldwide. Net revenue in this segment is driven mainly by the volume and value of securities under custody, which determines the deposit fees. The settlement business depends primarily on the number of settlement transactions processed by Clearstream via stock exchanges as well as over the counter (OTC). This segment also contains Clearstream's net interest income from banking business.

Since the start of the financial year the performance of Clearstream services in securities financing and securities management – the former GSF (collateral management) segment – has now been fully allocated to the Clearstream segment.

Issuance activity on the bond market increased significantly driven by corporates as well as the public sector due to growing financing needs during financial year 2020. This development led to a higher average value of assets under custody in the central securities depository (CSD) and international central securities depository (ICSD). In June, said figure surpassed the €12 trillion mark for the first time. Much higher trading volumes resulting from higher average volatility also pushed the number of settlement transactions up by 27 per cent – with a record volume of 7.5 million transactions in March – which had a significantly positive impact on net revenue in the Clearstream segment.

The net interest income from banking business was influenced by falling or exceptionally low interest rates in the reporting year. The US central bank Fed cut its prime rate in the US to 0.00 to 0.25 per cent in mid-March, which in turn had a negative impact on interest income on deposits in US dollars. Even the introduction of a cash handling fee of 30 basis points on US dollar-denominated deposits could only partly offset the interest rate effects.

Average outstanding volumes in collateral management and securities lending grew significantly in the reporting year. Whilst net revenue in collateral management (Repo und Tri-Party Collateral Service) are directly related to the volumes outstanding, central banks' money market measures lead to ample liquidity in the market thus putting lending fees under pressure. Ultimately this effect more than offset the positive performance of net revenue from collateral management.

IFS (investment fund services) segment

IFS (investment fund services) segment: key indicators

	2020	2019	Change
FINANCIAL KEY FIGURES	€m	€m	%
Net revenue	232.8	183.1	27
Custody	87.4	76.7	14
Settlement	72.0	53.6	34
Fund distribution	14.4	-	-
Other (incl. connectivity, order routing and reporting fees)	59.0	52.8	12
Operating costs	-117.5	-110.3	7
EBITDA	115.2	72.8	58

In the IFS (investment fund services) segment, Deutsche Börse Group reports the order routing and settlement activity and custody volumes of mutual, exchange-traded, and alternative funds processed by Clearstream. Clients can settle and manage their entire fund portfolio via Clearstream's Vestima® fund processing platform. The new Fund Distribution unit also covers the fund platform business of Clearstream Fund Centre, a merger of the existing Clearstream Fund Desk with the recently acquired UBS Fondcenter AG business. Net revenue in the IFS segment is largely a function of the value of assets under custody and the number of orders and transactions processed.

The IFS segment can look back at a successful business year 2020. Fund settlement as well as custody activity partly gained significantly with regard to volumes, which are considered to be the main driver for net revenue growth. This results on one hand from a steadily growing client base, on the other hand from strongly active market participants due to market conditions. Establishing Vestima as a platform solution to manage this fund business efficiently from a single source is key to IFS' success.

Clearstream Fund Desk – a service for fund distribution support founded in the course of the Swisscanto Funds Centre Ltd. Integration – achieved positive growth. Clearstream Australia Limited, former Ausmaq Limited, the specialist managed funds services business which was acquired from National Australia Bank Limited in May 2019, shows the same positive development.

The acquisition of a majority stake in UBS's fund distribution platform Fondcenter AG is a further important milestone in the reporting year. Since 30 September 2020, the newly combined and separately reported business of Clearstream Fund Centre is the centre of excellence for global fund distribution services within Deutsche Börse Group with assets under administration of around €290 billion. It is considered to be one of the leading market providers in the world. Fund distributors now have access to contracts covering more than 70,000 funds globally. Usually resource-intensive distribution support services such as fee management and research as well as the administration of fund data and documentation can be streamlined in an efficient way by using Clearstream Fund Centre's services. Alternatively, they can also be outsourced to Clearstream entirely. Asset managers benefit from Clearstream's global client network which brings additional scope and efficiency in the distribution of investment funds.

Qontigo (index and analytics business) segment

Qontigo (index and analytics business) segment: key indicators

	2020	2019	Change
FINANCIAL KEY FIGURES	€m	€m	%
Net revenue	248.1	190.2	30
ETF licences	34.7	38.7	-10
Exchange licences	34.7	31.5	10
Other licences	105.6	94.2	12
Analytics	73.1	25.8	183
Operating costs	-123.8	-101.0	23
EBITDA	124.1	89.2	39

In the Qontigo (index and analytics business) segment, Deutsche Börse Group reports on the development of its subsidiary, Qontigo, which was formed through the merger of the index business STOXX and DAX with Axioma in September 2019. In the index business, Qontigo offers issuers an extensive range of indices, thus providing these issuers with a wealth of opportunities to create financial instruments for even the most diverse investment strategies. While the ETF licence revenues depend on the volume invested in exchange-traded index funds (ETFs) on STOXX® and DAX® indices, the exchange licence revenues are derived mainly from the volume traded in index derivatives on STOXX and DAX indices on Eurex. Licence fees from structured products are shown as part of other licence fees. In Analytics, Qontigo offers its clients risk analytics and portfolio-management software.

European stock markets and the corresponding indices were buffeted in 2020 by a strong outflow of investment capital as the Covid-19 pandemic unfolded, the hope for a rapid economic recovery and the prospect of the development of a vaccine. Average assets under management in ETFs on STOXX and DAX indices fell by 7 per cent in the reporting year, even though significant inflows were recorded in the fourth quarter of 2020. As a result, the ETF licence revenues also fell year-on-year. Exchange licences were up by 10 per cent due to a strong first quarter in index derivatives trading and a moderate performance for the remainder of the year. Other licence revenues benefitted from the growing number of licenced products and on average higher back billing effects.

After a strong start to the year in the analytics business, the restrictions imposed to contain the Covid-19 pandemic made sales and implementation activities difficult. Since net revenue in this area depends mainly on the order value and a significant part of revenue is tied to the date of the transaction (rather than distributing revenue over the course of the contract), the restrictions in connection with Covid-19 caused revenue to fluctuate or decline. Axioma's net revenue is only shown pro rata for 2019 as the takeover of Axioma was closed on 13 September 2019.

Development of profitability

Deutsche Börse Group's return on shareholders' equity expresses the ratio of net income after taxes to average equity available to the Group during the course of 2020. In the reporting year, it was at 18.1 per cent (2019: 19.3 per cent). Adjusted for the exceptional items described in [Results of operations](#), the return on equity was 20.2 per cent (2019: 21.3 per cent).

Financial position

Cash flow

	2020 €m	2019 €m
Cash flows from operating activities excluding CCP positions	1,523.0	1,030.6
Cash flows from operating activities	1,412.0	926.1
Cash flows from investing activities	- 787.7	- 722.9
Cash flows from financing activities	- 254.2	99.4
Cash and cash equivalents at end of period	2,506.7	2,145.5
Other cash and bank balances	1,467.3	888.1

Cash and cash equivalents at Deutsche Börse Group, i.e. its liquidity, comprise cash and bank balances – to the extent that these do not result from reinvesting current liabilities from cash deposits by market participants – as well as receivables and liabilities from banking business with an original maturity of three months or less. The increase in Group liquidity, which is reflected in significantly higher cash and bank balances of €2,506.7 million (31 December 2019: €1,467.3 million), mainly reflects cash inflows from operating activities, offset principally by cash outflows for acquisitions.

In the 2020 financial year, Deutsche Börse Group generated a positive cash flow of €370.0 million (2019: €302.6 million). The information value of Deutsche Börse Group's cash flow is limited since the CCP positions which are subject to significant fluctuations on the reporting date, as well as the inflows and outflows from the banking business, result in distortions. Adjusted for these effects of €111.0 million (31 December 2019: €104.5 million), the cash flow in 2019 can essentially be explained as follows:

Cash flow from operating activities was €1,523.0 million (2019: €1,030.6 million) before changes in CCP positions on the reporting date. Cash flow from operating activities stemmed mainly from the higher net profit of €1,125.1 million (2019: €1,035.4 million) and the positive year-on-year changes in working capital (2019: €82.8 million; 2019: €-273.0 million).

Cash outflows for investing activities came to €787.7 million in 2020 (2019: €722.9 million), and stemmed largely from the acquisitions of Fondcenter AG and Quantitative Brokers LLC, which resulted in cash outflows of €448.5 million, compared with a cash outflow of €666.4 million in 2019, primarily for the acquisition of Axioma. Investment in intangible assets, property, plant and equipment of €195.4 million was slightly up on the year (€184.7 million).

Cash outflow for financing activities came to €254.2 million in 2020 (2019: inflow of €99.4 million). A bond issued by Clearstream Banking AG resulted in a cash inflow of €350 million. The dividend of

€531.9 million paid in 2020 was higher than the previous year €495.0 million), which is due to the year-on-year increase in the dividend per share from €2.70 to €2.90.

The positive cash flow from operating activities, sufficient credit lines and its flexible management and planning system mean that Deutsche Börse Group was adequately supplied with liquidity in 2020.

For further details of cash flow, see [the consolidated cash flow statement](#) and [Note 20 to the consolidated financial statements](#).

Liquidity management

Deutsche Börse Group primarily meets its operating liquidity requirements from internal financing, i.e. by retaining generated funds – with a view towards maintaining sufficient liquidity in order to be able to meet all of the Group's payment obligations when due. An intra-Group cash pool is used for pooling surplus cash as far as regulatory and legal provisions allow. All of the Group's cash investments are short-term, in order to ensure rapid availability, and are largely secured by liquid bonds from prime-rated issuers. Moreover, Deutsche Börse AG has access to external sources of financing, such as bilateral and syndicated credit lines, as well as a commercial paper programme (see [note 23 to the consolidated financial statements](#) for details of financial risk management). In recent years, Deutsche Börse AG has leveraged its access to the capital markets to issue corporate bonds in order to meet its structural financing needs.

Debt instruments issued by Deutsche Börse AG (outstanding as at 31 December 2020)

Type	Issue volume	ISIN	Term to	Maturity	Coupon (p.a.)	Listing
Fixed-rate bearer bond	€600 m	DE000A1RE1W1	10 years	October 2022	2.375%	Luxembourg/Frankfurt
Fixed-rate bearer bond	€500 m	DE000A1684V3	10 years	October 2025	1.625%	Luxembourg/Frankfurt
Fixed-rate bearer bond	€600 m	DE000A2LQJ75	10 years	March 2028	1.125%	Luxembourg/Frankfurt
Fixed-rate bearer bond (hybrid bond)	€600 m	DE000A289N78	Call date 7 years/final maturity in 27 years	June 2027/ June 2047	1.250% (until call date)	Luxembourg/Frankfurt

Capital management

The Group's clients generally expect it to maintain conservative interest coverage and leverage ratios, and hence to achieve a good credit rating.

The Group is committed to achieving the minimum financial risk profile that is consistent with an AA rating in accordance with S&P Global Ratings methodology. Furthermore, the company endeavours to maintain the strong AA credit rating of its subsidiaries Clearstream Banking S.A. and Clearstream Banking AG, in order to ensure the long-term success of its Clearstream securities settlement and custody segment. The activities of the Eurex Clearing AG subsidiary also require Deutsche Börse AG to have and maintain a strong credit quality.

To this end, the Group aims for the following relevant key performance indicators:

- Net debt to EBITDA ratio: no more than 1.75
- Free funds from operations (FFO) to net debt: equal to or greater than 50 per cent
- Interest cover ratio: at least 14
- Tangible equity (for Clearstream Banking S.A.): total of at least €1.100 million

When calculating these key performance indicators, Deutsche Börse Group closely follows the methodology applied by S&P Global Ratings:

- To determine the rating relevant EBITDA, reported EBITDA is adjusted by the result from strategic investments, as well as by unfunded pension obligations. The rating relevant EBITDA for 2020 was €1,852 million.
- In order to determine the rating relevant FFO, interest and tax expenses are deducted from the rating relevant EBITDA. The rating relevant FFO in 2020 amounted to €1,420 million.
- The rating relevant Group's net debt is reconciled by first deducting 50 per cent of the hybrid bond, as well as the surplus cash as at the reporting date, from gross debt (i.e. from interest-bearing liabilities). Liabilities from operating leases and unfunded pension obligations are then added. The rating relevant net debt in 2020 amounted to €1,861 million.
- The parameters used to determine the rating relevant interest expenses include interest expenses for financing Deutsche Börse Group, less interest expenses of Group entities which are also financial institutions – including Clearstream Banking S.A., Clearstream Banking AG, and Eurex Clearing AG. Interest expenses incurred which are not related to Group financing are not included in the calculation of interest expenses. Only 50 per cent of the hybrid bond is counted towards interest expenses. The rating relevant interest expenses totalled €53 million in 2020.

Deutsche Börse AG has declared its intention not to reduce the tangible equity (equity less intangible assets) of Clearstream Banking S.A. below €1,100 million. Clearstream Banking S.A. exceeded this threshold during the year under review, with a figure of €1,461 million.

The following table "Relevant parameters" illustrates the calculation methodology and shows the values for the reporting year.

Relevant key performance indicators according to the adjusted calculation method

		Target figures	2020
Net debt / EBITDA		≤ 1.75	1.0
Free funds from operations (FFO) / net debt	%	≥ 50	76
Interest coverage ratio		≥ 14	35
Tangible equity of Clearstream Banking S.A. (as at the reporting date)	€m	≥ 1,100	1461

S&P Global Ratings bases the calculation of key performance indicators on the corresponding weighted average of the reported or expected results of the previous, the current and the following reporting period. To ensure the transparency of the key performance indicators, the Group reports them based on the respective current reporting period.

Dividends and share buy-backs

Deutsche Börse Group generally aims to distribute dividends equivalent to between 40 and 60 per cent of adjusted net profit for the period attributable to the shareholders of Deutsche Börse AG. Within this range, the Group manages the actual payout ratio mainly relative to the business performance and based on continuity considerations. In addition, the company plans to invest the remaining available funds primarily in the Group's complementary external development. Should the Group not be able to invest these funds, additional distributions, particularly in the form of share buy-backs, would be another possible use for them.

For the 2020 financial year, Deutsche Börse AG is proposing that the Annual General Meeting resolve to pay a dividend of €3.00 per no-par value share (2019: €2.90). This dividend is equivalent to a distribution ratio of 46 per cent of adjusted net profit for the period, attributable to shareholders of Deutsche Börse AG, adjusted for the non-recurring items described in the [Results of operations](#) (2019: 48 per cent, also adjusted). Based on 183.5 million no-par shares with dividend rights, this would result in a total dividend payment of €550.6 million (2019: €531.9 million). The number of shares with dividend rights is produced by deducting 6.5 million treasury shares from the ordinary share capital of 190.0 million shares.

Credit ratings

Credit ratings

	Long-term	Short-term
Deutsche Börse AG		
S&P Global Ratings	AA	A- 1+
Clearstream Banking S.A.		
Fitch Ratings	AA	F1+
S&P Global Ratings	AA	A- 1+
Clearstream Banking AG		
S&P Global Ratings	AA	A- 1+

Deutsche Börse AG regularly has its credit quality reviewed by S&P Global Ratings, while Clearstream Banking S.A. is rated by Fitch Ratings and S&P Global Ratings, and Clearstream Banking AG by S&P Global Ratings.

On 05 August 2020, Fitch Ratings affirmed the AA credit rating of Clearstream Banking S.A. with a stable outlook. The rating reflects Clearstream Banking's leading position in the post-trade business and its diligent liquidity management, as well as its impeccable capitalisation.

In 2020, S&P Global Ratings left the AA credit ratings of Deutsche Börse AG and Clearstream Banking S.A. unchanged. Deutsche Börse AG's rating reflects the assumption that the Group will continue its growth strategy. S&P Global Ratings confirmed the AA credit rating on 19 November 2020 in the course of the intended takeover of Institutional Shareholder Services, Inc. Clearstream Banking S.A.'s rating reflects its strong risk management, minimal debt levels and strong position on the international capital markets, especially through its international custody and transaction business.

On 23 November 2020 S&P Global Ratings gave Clearstream Banking AG a AA credit rating with a stable outlook. The rating reflects its strong position in post-trading and its core importance in the Clearstream Group.

As at 31 December 2020, Deutsche Börse AG was one of only two DAX-listed companies awarded an AA rating by S&P Global Ratings.

Net assets

Material changes to net assets are described below; the full consolidated balance sheet is shown in the consolidated financial statements.

Consolidated balance sheet (extract)

	31 Dec 2020 €m	31 Dec 2019 €m
ASSETS	152,767.7	137,165.3
Non-current assets	14,596.7	11,706.9
thereof intangible assets	5,723.2	5,008.4
thereof goodwill	3,957.6	3,470.5
thereof other intangible assets	1,255.4	1,040.9
thereof financial assets	8,086.0	6,027.6
thereof financial assets measured at amortised cos	997.5	698.7
davon erfolgsneutral zum beizulegenden Zeitwert bewertete Beteiligungen	111.4	66.3
thereof financial instruments held by central counterparties	6,934.7	5,234.2
Current assets	138,171.0	125,458.4
thereof financial instruments held by central counterparties	80,768.1	78,301.5
thereof restricted bank balances	38,420.1	29,988.7
thereof other cash and bank balances	1,467.3	888.1
EQUITY AND LIABILITIES	152,767.7	137,165.3
Equity	6,556.1	6,110.6
Liabilities	146,211.6	131,054.7
thereof non-current liabilities	11,031.4	8,610.4
thereof financial instruments held by central counterparties	6,934.7	5,234.2
thereof financial liabilities measured at amortised cost	2,637.1	2,627.2
thereof deferred tax liabilities	216.7	226.3
thereof current liabilities	135,180.2	122,444.3
thereof financial instruments held by central counterparties	80,673.1	77,411.5
thereof financial liabilities measured at amortised cost	15,018.6	14,432.1
thereof cash deposits by market participants	38,188.8	29,755.8

Deutsche Börse Group's total assets increased year on year by 11 per cent. The increase in intangible assets resulted primarily from the acquisitions of Fondcenter and Quantitative Broker. This particularly gave rise to significantly higher goodwill.

Much higher cash, restricted bank balances and financial instruments held by central counterparties as at the reporting date were also responsible for the rise.

Group equity rose by 7 per cent compared with the previous year. This was mainly due to the net profit for the reporting year 2020, less the dividend payment for the previous financial year.

Deutsche Börse Group invested a total of €195.4 million in the reporting year (2019: €184.7 million) in intangible assets and property plant and equipment (capital expenditure, CAPEX). The Group's largest investments were in the Clearstream and Eurex segments.

Working capital

Working capital comprises current assets less current liabilities, excluding technical closing-date items. Current assets, excluding technical closing-date items, amounted to €1,289.9 million (2019: €898.4 million). As Deutsche Börse Group collects fees for most of its services on a monthly basis, the trade receivables of €616.6 million included in current assets as at 31 December 2020 were relatively low compared with net revenue (31 December 2019: €447.3 million). The significant increase in trade receivables was particularly due to the acquisition of Fondcenter AG, which led to a similar increase in trade payables. The current liabilities of the Group, excluding technical closing-date items, amounted to €1,374.5 million (2019: €1,072.9 million, excluding technical closing-date items). The Group therefore had slightly negative working capital of €84.6 million at year-end (2019: €174.5 million).

Technical closing-date items

The “financial instruments of the central counterparties” item relates to the function performed by Eurex Clearing AG and European Commodity Clearing AG: since they act as the central counter parties for Deutsche Börse Group's various markets, their financial instruments are carried in the balance sheet at their fair value. The financial instruments of the central counterparties are described in detail in the [risk report](#) and in [notes 12 and 23 to the consolidated financial statements](#).

Market participants linked to the Group's clearing houses partly provide collateral in the form of cash deposits, which are subject to daily adjustments. The cash deposits are generally invested on a secured basis overnight by the central counterparties and reported in the balance sheet under “restricted bank balances”. The total value of cash deposits at the reporting dates relevant for the reporting period (31 March, 30 June, 30 September and 31 December) varied between €38.2 billion and €62.2 billion (2019: between €29.6 billion and €32.3 billion).

Value added: breakdown of company performance

Value added is calculated by subtracting depreciation and amortisation as well as external costs from the company performance. In 2020, the value added by Deutsche Börse Group amounted to €2,400.7 million (2019: €2,194.8 million). The breakdown shows that large portions of the generated value added flow back into the economy: 24 per cent (€577.2 million) benefit shareholders in the form of dividend payments, while 34 per cent (€822.9 million) was attributable to staff costs in the form of salaries and other remuneration components. Taxes accounted for 17 per cent (€403.1 million), while 2 per cent (€49.6 million) was attributable to external creditors. The 23 per cent value added that remained in the company (€547.9 million) is available for investments in growth initiatives, among other things.

Overall assessment of the economic position by the Executive Board

The main factor affecting financial year 2020 was the outbreak of the Covid-19 pandemic, its global economic impact and the challenges of dealing with the virus and its containment. In an extraordinarily volatile market environment the Group saw significant earnings increases in the first quarter of 2020, whereas markets became increasingly subdued over the remainder of the year and prime rates fell to new lows worldwide. Secular net revenue nevertheless rose by 5 per cent across the Group as planned. Cyclical effects and consolidation each contributed another 2 per cent to net revenue growth, increasing net revenue overall by 9 per cent. Adjusted operating costs were up by 7 per cent. Main contributing factor was the consolidation of companies acquired during the course of 2020. On an adjusted basis the Group increased net profit attributable to Deutsche Börse AG shareholders by 9 per cent to €1,204.3 million, which was also in line with the Executive Board's expectations.

Based on this, the Executive Board considers that Deutsche Börse Group's financial position remained very solid during the reporting period. The Group generated high operating cash flows as in previous years. Deutsche Börse was able to further improve the ratio of net debt to EBITDA at Group level: The figure of 1.0 was significantly below the target of 1.75.

Deutsche Börse AG has offered its shareholders increasing dividends for years – and the 2020 financial year is no exception. A proposed dividend of €3.00 (2019: €2.90) is 3 per cent higher than the distribution to shareholders in the previous year. As a result of the improvement in earnings the distribution ratio fell from 48 per cent in the previous year to 46 per cent in the year under review (adjusted in each case for exceptional items) and was thus in line with the Executive Board's target range of 40 to 60 per cent.

Deutsche Börse Group: five-year overview

		2016	2017	2018	2019	2020
Consolidated income statement						
Net revenue	€m	2,388.7	2,462.3	2,779.7	2,936.0	3,213.8
thereof treasury result from banking business	€m	84.0	132.6	204.5	247.7	196.6
Operating costs (excluding depreciation, amortisation and impairment losses)	€m	-1,186.4	-1,131.6	-1,340.2	-1,264.5	-1,368.7
Earnings before interest, tax, depreciation and amortisation (EBITDA)	€m	1,239.2	1,528.5	1,443.7	1,678.2	1,869.4
Depreciation, amortisation and impairment losses	€m	-131.0	-159.9	-210.5	-226.2	-264.3
Net profit for the period attributable to Deutsche Börse AG shareholders	€m	722.1	874.3	824.3	1,003.9	1,087.8
Earnings per share (basic)	€	3.87	4.68	4.46	5.47	5.93
Consolidated cash flow statement						
Cash flows from operating activities	€m	1,621.4	1,056.2	1,298.2	926.1	1,412.0
Consolidated balance sheet						
Non-current assets	€m	11,938.7	10,883.7	15,642.0	11,706.9	14,596.7
Equity	€m	4,623.2	4,959.4	4,963.4	6,110.6	6,564.0
Financial liabilities measured at amortised cost	€m	2,284.7	1,688.4 ¹⁾	2,283.2	2,286.2	2,637.1
Performance indicators						
Dividend per share	€	2.35	2.45	2.70	2.90	3.00 ²⁾
Dividend payout ratio	%	54 ³⁾	53 ³⁾	49 ³⁾	48 ³⁾	46 ³⁾⁴⁾
Employees (average annual FTEs)		4,731	5,183	5,397	5,835	6,522
Tax rate	%	27	27 ³⁾	27 ³⁾	26 ³⁾	26 ³⁾
Return on shareholders' equity (annual average) ⁵⁾	%	19 ³⁾	18 ⁴⁾	21 ³⁾	21 ³⁾	20
Deutsche Börse shares						
Year-end closing price	€	77.54	96.80	104.95	140.15	139.25
Average market capitalisation	€bn	14.0	17.2	21.5	24.0	27.7
Rating key figures						
Net debt / EBITDA		1.2	1.1	1.1	1.0	1.0
Free Funds from Operations (FFO) / net debt	%	58	59	69	79	76

1) Bonds that will mature in the following year are reported under "other current liabilities" (2014: €139.8 million, 2017: €599.8 million).

2) Proposal to the Annual General Meeting 2021

3) Adjusted for exceptional effects; please refer to the consolidated financial statements for the respective financial year for adjustment details.

4) Amount based on the proposal to the Annual General Meeting 2021

5) Net profit for the period attributable to Deutsche Börse AG shareholders / average shareholders' equity for the financial year based on the quarter-end balance of shareholders' equity

Report on post-balance sheet date events

Deutsche Börse AG has successfully completed the acquisition of Institutional Shareholder Services Inc., Rockville, USA (ISS) a governance, ESG data and analytics provider on 25 February 2021. The closing took place after the receipt of all necessary regulatory approvals. The transaction, announced in late 2020, is based on a valuation of US\$2,275 million for 100 percent of the business cash and debt free. For more details, see [section Acquisitions](#).

To partially finance this acquisition, Deutsche Börse AG successfully placed senior bonds in the amount of €1 billion on 15 February 2021, divided into two tranches with maturities of five and ten years. The five-year bond has a negative yield of - 0.19 percent and a coupon of 0 percent, and the ten-year bond has a yield of 0.19 percent and a coupon of 0.125 percent. In connection with the bond issues, Standard & Poor's has confirmed Deutsche Börse AG's "AA" credit rating with a stable outlook.

Combined non-financial statement

This combined non-financial statement for Deutsche Börse Group and the parent company Deutsche Börse AG is integrated into the combined management report; it fulfils the provisions of sections 289b–e and 315b–c of the Handelsgesetzbuch (HGB, German Commercial Code). It is also in accordance with the standards (“Core” option) of the Global Reporting Initiative (GRI). A detailed overview of all GRI indicators (GRI index) is available at www.deutsche-boerse.com > [Sustainability](#) > [ESG ratings & reporting](#) > [GRI](#). More detailed information that is referenced in the non-financial statement does not form part of the statement itself. Provided no explicit statements are made for the parent company, qualitative information within the meaning of the combined management report applies to Deutsche Börse Group and the parent company Deutsche Börse AG. In some cases, quantitative details concerning the parent entity are disclosed separately.

Deutsche Börse Group uses not only the financial figures outlined in the “[Group management](#)” section for Group management, but also non-financial performance indicators – specifically, the availability of its trading systems for the cash and derivatives markets and the share of women in executive positions. For details regarding the targets pursued and the results achieved in the year under review, please refer to the sections entitled “[Social matters – systems availability](#)” and “[Corporate governance statement – target figures for the proportion of female executives beneath Executive Board level](#)”.

A materiality analysis comprising continuous analyses and assessments of relevant internal and external stakeholders’ expectations and requirements is a key element of Deutsche Börse Group’s sustainability strategy. This process is aimed at identifying the issues required to understand the Group’s business performance, operating results, the situation of the company and the impact of its activities on non-financial aspects. Thus, the Group is able to identify opportunities and risks in its core business activities at an early stage and define concrete action areas on this basis. In 2020 an internal validation of the previous action areas was carried out, which confirmed the results from 2018. Only the materiality of the “Human Capital Development” area of activity was ranked higher by the internal stakeholders than in the previous survey.

The combined non-financial statement outlines the objectives, actions, due diligence processes applied, the involvement of the Group’s management and other stakeholders, as well as the concept outcomes with respect to employee matters (see the “[Employees](#)” section), compliance (including combating corruption and bribery), social matters and product matters.

As a service provider with a focus on electronic market infrastructure services, Deutsche Börse Group engages in relatively little environmentally sensitive activity from a corporate ecology perspective; hence, in this combined non-financial statement, no detailed report is provided in this respect. Nonetheless, the Group feels an obligation towards the environment and to make careful use of natural resources. Deutsche Börse Group has outlined its environmental policies in its [code of business conduct](#). Indicators for its environmental sustainability performance are available on its website: www.deutsche-boerse.com > [Sustainability](#) > [ESG rating & reporting](#) > [ESG indicators](#). Environmental topics are also becoming more important for the structuring of individual products and services. Steps taken here are described in the section “[Product matters](#)”. Deutsche Börse Group has also published a [climate strategy](#) aligned with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

The area of human and employee rights was identified as non-material for Deutsche Börse Group by its stakeholders during the materiality analysis according to HGB and GRI, and is thus not included in the non-financial statement. Nevertheless, active protection of human and employee rights is a key element of Deutsche Börse Group's corporate responsibility: the Group addresses this at various points along the value chain. In addition, complying with human and employee rights is a key pillar of the Group's human resources policy. Specific topics (e.g. diversity) are discussed in the ["Employees" section](#) and on the website www.deutsche-boerse.com > [Sustainability](#) > [Our ESG profile](#) > [Employees](#) > [Guiding principles](#). Deutsche Börse Group furthermore reports on sustainability in procurement management on its website at www.deutsche-boerse.com > [Sustainability](#) > [Our ESG profile](#) > [Procurement management](#) and is aware of its responsibility as a global company. It joined the UN Global Compact in 2009.

When the materiality analysis was carried out the stakeholders did not consider taxes to be material either. Deutsche Börse is nonetheless aware of its responsibilities in this area and so reports voluntarily on its tax strategy and handling of tax legislation in the [section "Compliance – including combat against corruption and bribery"](#).

As an international capital markets organiser, Deutsche Börse Group aims to build and grow market participants' trust in its market structures. As a responsible member of society, it also endeavours to use the expertise it deploys for the successful operation of its core business in a way that enables it to contribute to resolving social problems. In this context, Deutsche Börse Group wishes to set a good example. Please refer to the ["Fundamental information about the Group" section](#) for a detailed description of Deutsche Börse Group's business model. Its sustainability strategy "Acting with an eye to the future" defines the Group's understanding of entrepreneurial responsibility and guides its operations. Please see the [section entitled "Management approach for a Group-wide commitment to sustainability"](#).

As a member of the UN Global Compact (UNGC) and the Sustainable Stock Exchanges initiative (SSE), Deutsche Börse Group has committed itself to implementing the 17 Sustainable Development Goals (SDGs) of the "2030 Agenda for Sustainable Development" set by the UN. An overview of Deutsche Börse Group's contribution to the corresponding targets can be found in the following ["Overview: key sustainability aspects" table](#).

Overview: key sustainability aspects

Relevant contents of the non-financial statement according to section 289c HGB ¹⁾	Action areas relevant to Deutsche Börse Group	UN Sustainable Development Goals (SDGs) covered by Deutsche Börse Group
Business model		
<ul style="list-style-type: none"> ▪ Overview of Deutsche Börse Group ▪ Objectives and strategies ▪ Internal management ▪ Research and development activities 	<ul style="list-style-type: none"> ▪ Economic performance ▪ Stakeholder engagement ▪ Brand management 	<ul style="list-style-type: none"> ▪ SDG 7 “Affordable and clean energy” ▪ SDG 8 “Decent work and economic growth” ▪ SDG 9 “Industry, innovation and infrastructure” ▪ SDG 10 “Reduce inequalities” ▪ SDG 12 “Responsible consumption and production” ▪ SDG 17 “Partnerships for the goals”
Mandatory aspects		
Employee matters		
<ul style="list-style-type: none"> ▪ Staff development ▪ COVID -19 ▪ Human resources strategy ▪ Promoting diversity and inclusion ▪ Employer attractiveness 	<ul style="list-style-type: none"> ▪ Human Capital Development ▪ Human and employee rights 	<ul style="list-style-type: none"> ▪ SDG 4 “Quality education” ▪ SDG 5 “Gender equality” ▪ SDG 8 “Decent work and economic growth” ▪ SDG 10 “Reduce inequalities”
Social matters		
<ul style="list-style-type: none"> ▪ Sustainable financial market initiatives ▪ Stable, transparent and fair markets <ul style="list-style-type: none"> • Systems availability • Market transparency • Stable financial markets 	<ul style="list-style-type: none"> ▪ Economic participation and education ▪ Transparent, stable and fair markets 	<ul style="list-style-type: none"> ▪ SDG 4 “Quality education” ▪ SDG 8 “Decent work and economic growth” ▪ SDG 9 “Industry, innovation and infrastructure” ▪ SDG 10 “Reduce inequalities” ▪ SDG 12 “Responsible consumption and production” ▪ SDG 16 “Peace, justice and strong institutions” ▪ SDG 17 “Partnerships for the goals”
Anti-corruption and bribery matters		
<ul style="list-style-type: none"> ▪ Compliance – organisational structure ▪ Code of business conduct ▪ Compliance rules ▪ Compliance training ▪ Whistleblowing system ▪ Analysis of compliance risks ▪ Due dilligence/customer review ▪ Data protection ▪ Inside information ▪ Internal/external audit ▪ Taxes 	<ul style="list-style-type: none"> ▪ Good governance 	<ul style="list-style-type: none"> ▪ SDG 8 “Decent work and economic growth” ▪ SDG 10 “Reduce inequalities” ▪ SDG 16 “Peace, justice and strong institutions”
Further relevant aspects		
Product matters		
<ul style="list-style-type: none"> ▪ Customer satisfaction ▪ Sustainable index products ▪ Eurex ESG derivatives ▪ Energy and energy-related markets 	<ul style="list-style-type: none"> ▪ Sustainable product and service portfolio 	<ul style="list-style-type: none"> ▪ SDG 7 “Affordable and clean energy” ▪ SDG 8 “Decent work and economic growth” ▪ SDG 9 “Industry, innovation and infrastructure” ▪ SDG 12 “Responsible consumption and production”

1) HGB = Handelsgesetzbuch (German Commercial Code).

Employees

This chapter provides an overview of key indicators reflecting staff developments at Deutsche Börse Group; at the same time, it satisfies the requirements for reporting on employee matters as part of the non-financial statement.

Staff development

As at 31 December 2020, Deutsche Börse Group employed a total of 7,238 staff (31 December 2019: 6,775), drawn from 110 nationalities at 43 locations worldwide. The average number of employees in the reporting period was 6,996 (2019: 6,286). On Group level, this corresponds to an increase of around 11.3 percent compared to the previous year's reporting date.

The fluctuation rate was 6.3 per cent (unadjusted: 7.7 per cent; 31 December 2019: 8.7 and 10.6 per cent). At the end of the year under review, the average length of service for the company was 8 years (2019: 8.9 years).

The number of Deutsche Börse AG's employees rose by 137 during the year under review to 1,693 as at 31 December 2020 (comprising 640 women and 1,053 men; 31 December 2019: 1,556 employees). The average number of employees at Deutsche Börse AG for the 2020 financial year was 1,605 (2019: 1,505). On 31 December 2020, Deutsche Börse AG had employees at six locations around the world.

For more details, please refer to the [table entitled "Key data on Deutsche Börse Group's workforce as at 31 December 2020"](#).

COVID-19

The coronavirus pandemic affected Deutsche Börse Group across all locations in 2020 and continues to do so. In March 2020, almost the entire workforce started working from home (home office). After a social distancing strategy and a strict cleaning and disinfection concept had been introduced employees were allowed to return to the office on a voluntary basis from 27 April, but always dependent on the local rules in force at their location. A communications programme was set up for employees working from home, to keep them regularly informed about the status of the pandemic and give them tips on how to cope with the new situation. Contacts to psychological networks and counsellors were established globally to reflect the extraordinary situation and provide emotional support. Altogether, this has made it possible to deal with this difficult situation well so far. The steps taken in response to the pandemic will remain in place until the situation has normalized.

Human resources strategy

Employee commitment and highly developed skills are among the cornerstones supporting Deutsche Börse Group's business success. Its corporate culture is characterised by a sense of responsibility, commitment, flexibility and teamwork. Deutsche Börse Group aims to make sure that staff with these qualities continue to join the company in the future and that they stay for the long term, if possible. Deutsche Börse Group's Executive Board is engaged in employee matters through one of its Board members who is simultaneously Director of Labour Relations as well as through other regular reporting formats. The workforce is highly diverse and represents a broad range of different age groups, genders, physical abilities, sexual identities, ethnic origins and beliefs. The company promotes this diversity and benefits from it, creating an environment conducive to integration from which the corporate culture benefits. This is also in the interests of Deutsche Börse Group's business: its broad range of diverse products and services and the international composition of its client base pose specific requirements regarding the professional and cross-cultural expertise of employees.

Within the scope of its growth strategy, the Group promotes a high-performance culture with a distinct focus on clients' needs and innovation. In order to encourage this culture, Deutsche Börse Group has a remuneration system for executive staff in place that incorporates growth, performance and financial indicators to a greater extent than in previous years.

In July 2019, the Supervisory Board adopted the human resources strategy 2020 initiated by the Executive Board. This strategy is built on a detailed analysis of employee needs and the relevant human resources indicators (e.g. recruiting metrics, key figures on staff development) as well as on the results of an employee survey conducted in February 2019. It rests on the four pillars "attract", "develop", "retain" and "lead". According to these pillars, concepts for employer branding, recruiting, training & development, remuneration and flexible working time models have been drawn up.

In the course of implementing the strategy, Human Resources was split into an operative business partner team and a strategic concept team. Moreover, expansion of the HR Service Centre is planned over the medium term.

Promotion of diversity and inclusion

Diversity is not only apparent in the origins of employees at Deutsche Börse Group, but also in the breadth of professional backgrounds and the many other differences that make up each individual personality in the multi-faceted team. As a global organisation we stand for recognition, appreciation and integration within the working environment and encourage openness and fairness. This is why we signed the "[Diversity Charter](#)" and acknowledge our corporate social and societal responsibility as expressed in the Code of Conduct that applies throughout the Group.

Diversity and integration are the basis of our corporate culture, which is defined by open dialogue, trust and mutual acceptance. We see the wealth of different backgrounds and ideas as a key to our success. Our Diversity & Inclusion statement is an expression of our aspiration to offer our staff and all future talents a fully inclusive and inviting workplace.

Deutsche Börse Group does not tolerate any discrimination, whether on the grounds of age, gender, disability, sexual identity, ethnic origin or belief and irrespectively of whether behaviour among employees is concerned or the placement of orders with third parties. Deutsche Börse Group's Equal Opportunities Officers safeguard the equal treatment of staff members. Moreover, Human Resources has implemented processes designed to ensure equal treatment in the selection of personnel and enable the Group to take prompt action whenever discrimination is suspected. In 2020, no incidents of discrimination were reported at the Frankfurt/Eschborn, Luxembourg, Prague and Cork locations (which are covered by reporting); accordingly, no countermeasures were required.

Employer attractiveness

To remain sustainably successful, the recruiting of top talents is of the essence. The Group continued to expand its presence at universities and its social networking activities with this aim in mind. In addition, the company's career page was overhauled and a project launched to define the employer brand. An attractive entry-level format was also created for outstanding graduates by introducing a trainee programme on 1 October.

Deutsche Börse Group is among the founding partners of the ada-Fellowship, a multi-company initiative. Once again 30 people from our company took part in this 12-month development programme in 2020. It aims to give its participants the skills they need to drive digitisation as digital ambassadors. They are introduced to the main technologies of the future, their potential applications and how to transfer them to their organisation.

From initial contact to the actual meeting, mentors and mentees can connect on the "Meet your Mentor" platform. Experienced colleagues act as sponsors for other employees, making their work easier. As mentors, they assist new colleagues in networking beyond their own department, help them to get to know the company and offer a comprehensive, cross-divisional understanding.

To increase the share of women in executive positions the company ensures that women are identified as candidates. In addition, Deutsche Börse Group offers additional tools to promote female employees, such as targeted succession planning and a mentoring programme with external mentors. Exchanges among women are encouraged by means of women's networks. Our Capital Markets Academy also offers training courses for women on financial planning, investments and retirement saving.

For details regarding targets for female quotas, please refer to the [section entitled "Corporate governance statement – target figures for the proportion of female executives beneath the Executive Board"](#) and the [section entitled "Comparison with the forecast for 2020"](#).

Training and professional development have high priority at Deutsche Börse Group. Employees expand and refresh their knowledge continuously in the context of specific training courses for exchange-related subjects. These particularly include IT training, e.g. for cloud computing, and career path training, e.g. for project management and leadership. With regard to personal development, the Group also offers numerous online and live training courses that are tailored to the target group, e.g. for communication, responsibility or teamwork skills. A large proportion of the regular face-to-face courses was carried out virtually in 2020 due to the covid-19 pandemic. Deutsche Börse also supports its employees and executives in facing their individual challenges by offering a broad range of internal and external professional training and development measures (see the ["Key data on Deutsche Börse Group's workforce as at 31 December 2020"](#) table).

Key data on Deutsche Börse Group's workforce as at 31 December 2020 (part 1)

	Deutsche Börse AG		Deutsche Börse Group			
	All locations		Germany		Luxembourg	
	Male	Female	Male	Female	Male	Female
Employees (HC)	1,053	640	1,890	1,218	680	419
50 years and older	368	142	565	265	213	102
40–49 years	268	144	500	286	249	159
30–39 years	315	257	634	485	158	112
Under 30 years	103	97	191	182	60	46
Average age	43	40	42	40	44	42
Full-time employees	1,018	496	1,816	877	652	284
Part-time employees	35	144	74	341	28	135
Length of service						
Under 5 years (%)	48	48	47	47	32	28
5–15 years (%)	23	26	27	29	23	31
Over 15 years (%)	29	26	26	24	45	41
Staff turnover						
Joiners	111	98	230	183	74	30
Leavers	28	17	82	45	23	23
Training days per employee (FTE)	4.4	5.4	5.4	4.6	4.3	4.9

Key data on Deutsche Börse Group's workforce as at 31 December 2020 (part 2)

	Deutsche Börse Group						Total part 1 and 2)
	Czech Republic		Ireland		Other locations		
	Male	Female	Male	Female	Male	Female	
Employees (HC)	658	374	253	269	1,037	440	7,238
50 years and older	24	10	15	11	204	49	1,458
40–49 years	177	64	69	76	287	110	1,977
30–39 years	356	231	68	106	335	193	2,678
Under 30 years	101	69	101	76	211	88	1,125
Average age	37	35	35	36	40	38	40
Full-time employees	648	331	252	244	1,017	402	6,523
Part-time employees	10	43	1	25	20	38	715
Length of service							
Under 5 years (%)	59	56	66	41	64	56	50
5–15 years (%)	41	44	26	45	31	39	31
Over 15 years (%)	0	0	8	14	5	5	19
Staff turnover							
Joiners	74	31	56	26	138	60	901
Leavers	50	30	20	12	119	39	442
Training days per employee (FTE)	4.0	4.3	2.6	2.8	2.4	3.3	4.2

Compliance – including combat against corruption and bribery

Responsible business operations imply adherence to laws and regulations; they are also based on the principle of integrity and ethically irreproachable conduct at all times. Deutsche Börse Group has implemented a compliance management system based on regulatory requirements, with the objectives of preventing misconduct and avoiding liability and reputational risks for the Group, its legal representatives, executives and staff. Beyond business-related compliance requirements, the focus is on strengthening a uniform compliance culture throughout the Group, especially with a view to enhancing compliance awareness. The compliance management system – under the responsibility of, and promoted by, the Executive Board of Deutsche Börse AG – therefore constitutes an indispensable element of good corporate governance with respect to compliance. Such a system provides the foundation for sustainable risk transparency; specifically, it facilitates mitigating risks in the areas of money laundering/terrorism financing, data protection, corruption, as well as market manipulation and insider trading; it also monitors requirements concerning financial sanctions and embargoes.

The compliance management system applies to Deutsche Börse AG as well as to domestic and international companies in which Deutsche Börse AG holds a majority interest (whether directly or indirectly). Deutsche Börse Group pursues an enterprise-wide approach to its Compliance function, ensuring that applicable laws and regulatory requirements are followed with respect to individual legal entities.

The Chief Compliance Officers at the companies in the Group that are covered by banking regulations have functional reporting lines to the Group Chief Compliance Officer. The same applies to the Chief Compliance Officers of Qontigo and 360T. The Group Chief Compliance Officer reports in turn directly to the Executive Board of Deutsche Börse AG. Compliance reporting includes all relevant compliance risk areas within the mandate of the compliance function.

Deutsche Börse Group is continually developing its compliance management system in order to deal with rising complexity and increasing regulatory requirements. Deutsche Börse Group has taken steps to identify and mitigate compliance risks and to assume its responsibilities in the event of any compliance incidents. This applies particularly to money-laundering, financing of terrorism, financial sanctions and embargoes, market manipulation, insider trading and data protection.

For this purpose and for material areas of compliance risk, Deutsche Börse Group aligns its system with the recommendations of an internationally recognised standard (ISO 19600 “Compliance Management Systems – Guidelines”). Based on this standard, the Group’s compliance function identifies fields of action and measures to ensure compliance management continues to meet the requirements as they change.

As a member of the UN Global Compact, Deutsche Börse AG has committed to observe the related principles, notably the principle to work against corruption in all its forms, which includes extortion and bribery. In line with its code of business conduct, Deutsche Börse Group prohibits its employees from involving themselves in corruption, or from taking part in any actions which may lead to the impression that the Group promises, arranges, provides, receives, or asks for inadmissible benefits. Bribery and facilitation payments are prohibited.

It is Deutsche Börse Group’s guiding principle that the actions and decisions of all employees are taken objectively and with integrity. Management plays a particularly important role in this context. Deutsche Börse Group is fully aware of the so-called “tone from the top” for achieving a high level of awareness of the need to manage compliance risks – both within the Group and amongst market participants. In order to sustainably enshrine this guiding principle, and to prevent Deutsche Börse Group and its staff from legal sanctions and reputational damage, Group Compliance has implemented a variety of preventative measures in a risk-oriented approach.

Compliance – organisational structure

Group Compliance sets standards for the key compliance risks affecting all entities within the Deutsche Börse Group. In this context Group Compliance devises risk-oriented measures in order to contain and manage identified risks and to communicate risks, incidents, and the effectiveness of the measures taken. It ensures continuous improvement of the compliance management system by way of regular adjustments to the relevant internal policies and processes.

Key compliance topics are discussed in the Group Compliance Committee of Deutsche Börse Group. Committee members are the senior managers of the business units and the relevant control functions for the Group as a whole.

Code of business conduct

Deutsche Börse Group's code of business conduct, which is communicated to all members of staff, summarises the most important aspects with regard to corporate ethics and compliance as well as appropriate conduct. The Code focuses on principles to guide decisions – not rules or lists of dos and don'ts. Moreover, Compliance provides employees with compliance-relevant information via the corresponding intranet pages, unless specific confidentiality aspects prevent such communication. For details, see the section entitled "[Corporate governance statement](#)".

Compliance rules

Group Compliance has implemented Group-wide policies designed to ensure that the internal stakeholder groups acting on behalf of Deutsche Börse Group comply with the behavioural rules set out in such policies, with the objective of countering breaches of compliance throughout the Group in a preventive, investigative and consequential manner. Group-wide communications via the intranet are geared towards providing employees (including members of the Executive Board and Managing Directors) with the necessary guidance in their daily work, and making sure they commit to such guidance.

Compliance training

Regular compliance training is essential for the compliance culture within the Deutsche Börse Group. Employees of Deutsche Börse Group worldwide are trained in relevant compliance topics. Training focuses particularly on money laundering, financing of terrorism, data protection, corruption, market manipulation and insider trading. Managers exposed to a higher compliance risk by virtue of their work receive additional training as required. Participation in training measures covering the compliance topics mentioned above is mandatory for employees, as well as for managers.

Whistleblowing system

Deutsche Börse Group has established a whistleblowing system, where employees can relay information by phone or email about potential or actual breaches of prudential or regulatory rules and ethical standards. The anonymity of whistleblowers is guaranteed. Through its commitment to compliance awareness, Deutsche Börse Group cultivates an open approach to dealing with misconduct. For this reason, concerns are often passed on directly to the responsible line manager, or to Compliance. During 2020, 5 reports were submitted via the whistleblowing system, or directly via line managers or control functions (such as Compliance).

Analysis of compliance risks

In line with regulatory requirements, Deutsche Börse Group carries out detailed risk analyses and/or risk assessments, at least on an annual basis – specifically, it analyses the risk of being abused for the purposes of money laundering/financing of terrorism, corruption and securities law infringements. Such risk analyses and assessments comprise the Group's own business activities as well as business relationships, market participants, products and services. Risk-mitigating measures are derived from the compliance risks identified.

Due diligence review of clients, market participants, counterparties, and business partners, plus transaction monitoring

Deutsche Börse Group is constantly improving its processes for the onboarding of new clients and the review of existing clients (“Know Your Customer” processes). Depending on the assessment of client risk in each case, client relationships are subject to corresponding diligence duties concerning their establishment, update, and monitoring. Client relationships are not entered into where the risks involved are too high. Deutsche Börse Group analyses transaction data in order to identify activity which might indicate potential money laundering.

Deutsche Börse Group is exposed to the risk of sanctions being imposed upon business partners; moreover, there is a risk of bribery and corruption. In this connection, the Group examines its business partners, whereby their details are cross-checked against relevant data sources (such as embargo, sanctions, PEP, terrorist and other “blacklists”). Appropriate measures are taken in the event of any match against such lists.

Key non-financial performance indicators: corruption and data protection

		2020	2019
Corruption			
Punished cases of corruption		0	0
Percentage of business units for which measures have been taken to address corruption risks	%	100	100
Number of employees who were trained in ABC measures (anti-bribery and corruption) ¹⁾		1,394	6,142
Data protection			
Number of justified customer complaints relating to data protection		0	0

1) All Deutsche Börse Group employees must repeat the web-based ABC training every two years. As the reiteration and completion of the training takes place in odd-numbered years, the number of training courses completed in the even-numbered year 2020 is significantly lower.

Data protection/protection of personal data

Deutsche Börse Group has exposure to a plethora of data during the course of its business activities. The Group takes data protection very seriously and has taken measures to ensure compliance with data protection law, in particular the appropriate and transparent processing of personal data. The Executive Board has appointed a Data Protection Officer and established a data protection organisation to ensure that the data privacy framework and the principles of the EU General Data Protection Regulation, which came into force in 2018, are adhered to. On this basis the data protection organisation informs and advises the individual legal entities with respect to data protection. The data protection organisation also serves as a contact for data protection authorities, and supports the business units in assessing risks related to the issue of data protection risks. It supports a stronger culture of data protection at Deutsche Börse Group by raising awareness and providing training on data protection in the context of the Group’s business activities.

Since 2019 the data protection organisation’s monitoring framework has been incorporated into the structure of compliance safeguards and controls, as a second line of defence on data protection. The Data Protection Officer informs senior management on an annual basis about its activities to enhance the Data Protection framework.

Inside information

In its capacity as an issuer of securities, Deutsche Börse Group has access to information which, in accordance with legal requirements, may be classified as inside information. To raise awareness amongst the employees affected, further measures were introduced on a Group-wide basis in 2020. They are designed to mitigate the risks of market manipulation and insider trading for employees' personal account transactions and are geared towards ensuring that maximum sensitivity is applied to dealing with such information.

Compliance maintains a Group-wide restricted list in which issuers or financial instruments are included if particularly sensitive, compliance-relevant information. Compliance may impose a general trading ban on such issuers or financial instruments or may prohibit certain types of transactions. A confidential watch list is used to summarise compliance-relevant information about other issuers and/or financial instruments. In particular, Compliance uses these lists to monitor personal transactions of employees and Chinese walls.

Internal/external audit

At least once a year, the internal audit function checks whether the measures and concepts of the compliance management system comply with the regulatory requirements, in a risk-based manner. Moreover, regulated entities are subject to statutory external audits.

Taxes

Its global operations mean that Deutsche Börse Group is liable for tax in many countries. The management of Deutsche Börse Group is aware of its responsibility to pay appropriate taxes in all countries depending on its local value added, since this plays an important role in international relations from an economic and social perspective. This responsibility is reflected in compliance with applicable legislation and regulations to tackle criminal tax offences and in constructive and fair cooperation with tax authorities.

Recent international developments to increase tax transparency require multinational groups to make additional notifications and disclosures to tax authorities. Country-specific reporting of revenue, profits and tax payments should be mentioned in this context, as well as the reporting procedure for cross-border tax arrangements (DAC6). Deutsche Börse Group follows these rules consistently and so contributes to supporting efforts to prevent abusive tax practices, such as the shifting of profits to low-tax countries. In view of the reporting process on cross-border arrangements introduced in Germany as of 1 July 2020, Deutsche Börse Group carried out a comprehensive DAC6 analysis with the support of an external auditing company.

The tax strategy of Deutsche Börse Group defines a uniform framework for the management of all tax matters. It is derived from the business strategy and the code of conduct of Deutsche Börse Group. Its core elements comprise compliance with applicable tax regulations in Germany and abroad and adequate management of tax risks. The tax strategy is supplemented by binding policies for the Group, which ensure a clear division of responsibilities and the involvement of the Group Tax function in all tax-relevant matters.

Deutsche Börse Group has a Tax Compliance Management System to monitor its tax compliance obligations and minimise the related tax and liability risks. It defines clear process flows with integrated controls, which are reviewed annually in the course of an adequacy and efficiency analysis.

Social matters

As a market infrastructure provider, Deutsche Börse Group considers its primary responsibility to be the transparency of capital markets. By ensuring such transparency, it fosters stability in these markets, promoting their economic success. The management is involved through its participation on the Group Sustainability Board; its approach on social and sustainability matters is described in detail in the section "[Management approach for a Group-wide commitment to sustainability](#)".

Sustainable financial market initiatives

The Green and Sustainable Finance Cluster Germany e. V. is an initiative committed to enhancing the expertise on sustainable finance in the market, putting that expertise to efficient use, and identifying (as well as taking) specific action to make national and international financial markets structures fit for the future. The Cluster has defined four fields of action: sustainable finance – status quo and innovation; data and digitalisation; metrics and standards; dialogue and knowledge development. It coordinates the activities of the participating institutions within these fields of action and brings them together with policymakers, regulators, civil society and academia. Within Germany, the Cluster collaborates closely with relevant political players in Berlin. At a European level, the Cluster is a member of the technical expert group on sustainable finance and thus actively involved in the European Commission's Action Plan on sustainable finance; the Cluster supports the Action Plan's implementation and is involved in the corresponding consultation process leading to future regulation. Deutsche Börse Group and the Cluster are also members of the Sustainable Finance Committee to advise the German government and foster dialogue between the financial industry, real economy, civil society and academia.

Stable, transparent and fair markets

Systems availability

Deutsche Börse AG operates its trading systems for the cash and derivatives markets as redundant server installations, distributed across two geographically separated, secure data centres. Should a trading system fail, it would be operated from the second data centre. Together with clients, Deutsche Börse successfully simulated this scenario – as well as the impact of local disruptions – within the scope of the FIA Test (the annual disaster recovery exercise conducted by the Futures Industry Association). Other disruptions, such as workstation malfunctions or absences of key personnel, were also tested. The ongoing covid-19 pandemic has also meant that the emergency workstations have been permanently in use since March 2020. Multiple testing of the software used, its verified roll-out and the end-to-end monitoring of servers, network and applications were not able to prevent two successive complex malfunctions in the internal high-speed network, which brought the system availability for the spot market trading system down to 99.815 per cent and the figure for the derivative market trading system down to 99.891 per cent. These levels corresponded to downtimes of around 342 minutes and 363 minutes, respectively, during the entire year. Wide-ranging steps were taken to rule out such malfunctions in future, which have largely been completed. They particularly involved accelerating the emergency procedures, in order to make the system available again quickly, even if the faults cannot be prevented. Emergency tests are now carried out more frequently, the underlying messaging software has been optimised and is still being revised.

Market transparency

Section 42 (1) of the Börsengesetz (BörsG, German Exchange Act) authorises exchanges to impose additional admission requirements and further notification duties upon equity issuers, for parts of the regulated market. Frankfurter Wertpapierbörse (FWB®, the Frankfurt Stock Exchange) used this authorisation in its [Exchange Rules \(section IV, sub-section 2\)](#) to create the “Prime Standard” in 2003. The Prime Standard segment is characterised, on the one hand, by special post-admission obligations, which are monitored by the FWB with any breaches sanctioned by the exchange’s Sanctions Committee; on the other hand, admission to the Prime Standard is a mandatory requirement for inclusion in one of Deutsche Börse AG’s selection indices.

Over and above statutory requirements under the Wertpapierhandelsgesetz (WpHG, German Securities Trading Act), Prime Standard issuers must submit their financial reports (annual and half-yearly reports), as well as their quarterly statements for the first and third quarter, to FWB, in German and/or English and within set deadlines. Moreover, Prime Standard issuers must submit their calendars of material corporate events to FWB, hold an analysts’ conference at least once a year and publish any inside information in English as well as German. All submissions to FWB must be carried out via the Exchange Reporting System (ERS®). This electronic interface allows for efficient sorting and display of data, helping to spot any impending failure to meet a deadline. This allows FWB to support issuers to fulfil their transparency duties in the best possible manner by sending out email reminders prior to each deadline. FWB included additional recommendations in its email reminders in 2020 to reflect the information published by the European Securities and Markets Authority (ESMA) on the impact of the covid-19 pandemic on deadlines for the publication of financial reporting. They will make it possible to take any special circumstances and difficulties into account when investigating breaches of obligations. All reports and data submitted to FWB are subsequently available on www.boerse-frankfurt.de/en, the exchange’s website, under the respective issuer’s name. Information is thus accessible to interested investors in a compact, easy-to-find manner, creating a particular level of market transparency within the Prime Standard segment. Submission via ERS allows for monitoring fulfilment of transparency requirements – seamlessly and without delay.

In 2020, fifteen cases were submitted to the FWB Sanctions Committee for the delayed disclosure of information. In ten of these cases, circumstances and difficulties that arose in connection with the COVID 19 pandemic were taken into account when proposing the amount of the administrative fines. In another case of an identified breach of duty, the initiation of sanction proceedings was waived. Eleven cases had been completed by the expiry of the deadline of 25 January 2021: In those cases already concluded, administrative fines totalling € 310,800 were imposed nine times.

Furthermore, Deutsche Börse Group considers it its duty to contribute to regaining lost trust in the capital market. In fulfilment of this responsibility, the exchange operator therefore decided in 2020 to subject its rules and regulations to an in-depth review and to revise them with the involvement of the various regulators.

In this context the Exchange Council of Frankfurt Stock Exchange adopted amendments to the Exchange Rules that will enable management in future to remove from the Prime Standard insolvent issuers or those that have filed for insolvency. Other activities and proposals to promote the transparency of capital markets aim to speed up penalty proceedings, increase fines for infringements and to provide investors with transparent information about the issuers concerned and the steps and sanctions that have been taken against them.

STOXX Ltd. announced a change to the DAX rules on 12 August. Under the new rules, companies in statutory insolvency proceedings will be removed from the DAX selection indices within two trading days. The rules take effect on 19 August. The new rule applies to the companies mentioned above and was agreed in the context of a market consultation between 17 July and 7 August. Specifically, the change refers to the opening of insolvency proceedings as proceedings defined by law and comprises all the relevant public announcements in this context. Because companies from other EU states can also be a member of the index, the rule does not apply solely to German insolvency law. Prior to this change, companies that were members of the Prime Standard segment and were in insolvency proceedings were removed from the index at the next chaining date.

Deutsche Börse Group launched a segment for green bonds – bonds issued to raise capital for projects with climate and environmental benefits – on the Frankfurt Stock Exchange in November 2018. This segment currently comprises 264 bonds that meet the [Green Bond Principles](#) of the International Capital Market Association. They include the use of issue proceeds, the project selection process, management and ongoing reporting. The new segment caters to the demand for sustainable financing, which is rising all over the world. Investors who care not only about the economic, but also the ecological return of their investment can find the right strategy at www.boerse-frankfurt.de > [Bonds](#) > [Green Bonds](#). The bonds included in Deutsche Börse's segment are admitted for trading at various European stock exchanges, including the Frankfurt Stock Exchange.

Bonds at Frankfurt Stock Exchange

		2020
Total issue proceeds for bonds	€ billion	41,128
Issue proceeds for green bonds	€ billion	257

Stable financial markets

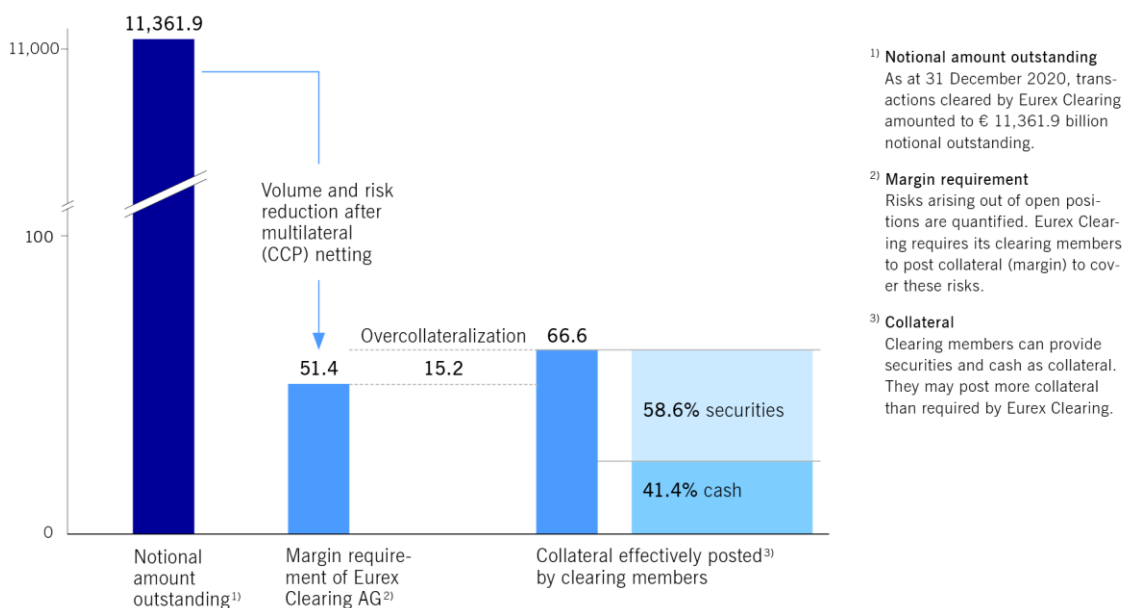
The core economic function of an exchange is to preserve economic prosperity and create the right framework conditions for growth. As a global market infrastructure provider, Deutsche Börse Group operates markets that help enterprises of all sizes to raise equity and debt – which in turn enables them to grow, create and protect jobs and contribute to a higher level of value creation.

As central counterparty (CCP), Eurex Clearing AG fulfils its responsibility of promoting sustainable global economic growth and stable financial markets. Furthermore, as a clearing house it is an independent risk manager and ensures a neutral valuation of its members' risk positions. It also protects members in the event of a market participant defaulting, thus minimising risks and enhancing both the efficiency of trading and the stability of the financial markets. The bundling of default risk also permits high netting effects, which in turn facilitate sustainable cost savings for the entire market.

The UK's decision to leave the EU has caused significant uncertainty for the entire European financial services sector since the referendum on 23 June 2016. A key issue in this context is the clearing of over-the-counter (OTC) interest rate derivatives, which at approximately €312 trillion account for the largest share (82 per cent) of outstanding OTC volumes. At the same time they are the main reason for the strong increase since 2016 [source: BIS, Semiannual OTC Derivatives Statistics, June 2020, the figure from the Bank for International Settlement (www.bis.org > Statistics > Derivatives > OTC derivatives statistics) of approximately €442 trillion was adjusted by deducting double-counting of interdealer volumes (source: www.clarusft.com); €/US\$ exchange rate as at 30 June 2020: US\$1.1198/€;ECB]. Since a final decision on many Brexit-related financial topics has been deferred, there is currently a controversial debate about access to clearing houses outside the EU-27, creating significant uncertainty amongst market participants. Eurex Clearing AG has come up with a solution designed to make the (potentially necessary) shift of euro clearing to the EU-27 as straightforward as possible for all market participants: the Eurex Clearing Partnership Programme. Through this initiative, Eurex Clearing AG is not only offering the market an attractive alternative for clearing interest rate derivatives outside London and within the EU-27 but also anticipating potential market turbulence and taking early action to counteract it.

Risk mitigation via netting and collateralisation

€ billion, as at 31 December 2020



Key non-financial performance indicators: social matters

		2020	2019
Transparency			
Proportion of companies reporting in accordance with maximum transparency standards ¹⁾	%	94.5	92.0
Security			
Availability of cash market trading system ²⁾	%	99.815	100
Availability of derivatives market trading system ²⁾	%	99.891	99.996
Average monthly cleared volumes across all products ³⁾	€ trillion	24.1	24.0

1) Ratio of the market capitalisation of companies listed in the Prime Standard for shares to the market capitalisation of all companies listed on the Frankfurter Wertpapierbörse (FWB®, the Frankfurt Stock Exchange)

2) System availability ranks amongst the most important non-financial performance indicators (as defined in DRS 20 and section 289 (3) in conjunction with section 289 (1) sentence 3 of the HGB) for which a forecast is made

3) Average monthly clearing volume, including exchange-traded and OTC derivatives, as well as securities and repo transactions. Clearing volumes are subject to double counting

Deutsche Börse Group pays wages, salaries and taxes. Its commercial activity therefore contributes to private and public income – this contribution is made transparent in the value-added statement. For details, please refer to the [“Value added: breakdown of corporate performance”](#) section.

Product matters

Customer satisfaction

Deutsche Börse Group is executing a Group-wide growth strategy with which it aims to strengthen its agility, ambition, effectiveness and clear customer focus. In improving its organisation, the Group aims to better address changing client needs and gradually tap unutilised potential by means of a Group-wide approach to marketing, sales, innovation and product development.

In 2020, surveys across the EEX, Eurex, 360T and Clearstream were aligned; they include common questions and use a standardised “Net Promoter Score (NPS)” methodology. In this context, businesses ask their clients about their readiness to recommend the service provider with the aim of notifying senior management and staff of the results shortly after the close of the survey.

One example of Deutsche Börse Group’s customer focus is Clearstream’s annual client services survey. This survey aims to identify customer needs and prioritise and address enhancement requests to further improve products and services. The results of this survey are taken up by the Clearstream management Committee, which includes senior management, where concrete actions are taken to address customer needs. The Clearstream senior management is provided with an overview of the items (customers’ needs/complaints) raised in the survey.

Sustainable index products

There is an increasing demand for considering sustainability indicators in the investment process. Qontigo's index provider STOXX is part of Deutsche Börse Group, calculating and distributing around 13,000¹ indices, whereas a growing number of which are designed after sustainability aspects. STOXX's offering of sustainability indices is diversified and includes environmental, social and governance- (ESG), climate change- and carbon emissions-related products. Indices are built based on internal research and the evaluation of market demand.

For all indices, the ultimate goal is to provide solutions to investors who consider sustainability a key element of their investment strategy. STOXX[®] and iSTOXX[®] indices focus on indicators that can be assessed quantitatively and are compiled by research providers specialised in the field. Within this approach, STOXX aims to select companies that are ranked better than their peers according to selected indicators and tilt the allocation towards those companies.

All data and service providers appointed by STOXX are subject to regular monitoring as required by the regulations of the International Organization of Securities Commissions (IOSCO) and the European Securities and Markets Authority (ESMA). STOXX indices are entirely rule-based. Consequently, there is neither a committee involved nor are customers consulted in the process of reviewing the index composition.

STOXX, as an index provider, also has the duty to represent the economic reality of the environment in which financial actors operate. In order to prepare for and help facilitate a shift in investment culture, STOXX develops and maintains its broad range of sustainability indices in response to investors' current as well as anticipated demand. The broad range of solutions may also aim at mitigating business risk should investors decide to reallocate more significant parts of their investments to sustainability-oriented solutions, which may be driven, in part, by investor-specific or external regulations.

As asset owners are steadily stepping up their fiduciary role and are implementing environmental, social and governance (ESG) investment strategies, Qontigo is addressing this development by offering two approaches for ESG-compliant versions of STOXX and DAX flagship benchmarks:

▪ STOXX ESG-X indices

STOXX ESG-X indices are ESG-screened versions of flagship STOXX global, regional, country, size and blue-chip benchmarks. They incorporate standard norm- and product-based exclusions that aim to limit market and reputational risks whilst keeping a low tracking error and a similar risk-return profile to the respective benchmark. STOXX specifically excludes companies that Sustainalytics considers to be non-compliant with their Global Standards Screening (GSS), are involved in controversial weapons, are tobacco producers (0% revenue threshold) and/or that either derive revenues from thermal coal extraction or exploration or have power generation capacity that utilises thermal coal (>25% revenue threshold).

1 In an effort to realize synergies within Deutsche Börse Group's index business, Deutsche Börse AG (DBAG) has transferred on 21 August 2019 its index administrator role (as defined under the EU Benchmarks Regulation) to STOXX Ltd. and such indices (DAX, eb.rexx, etc.) have also been included in the ESMA Benchmarks register under Art. 36 of the EU Benchmarks Regulation.

▪ STOXX & DAX ESG indices

The EURO STOXX 50 ESG index and the DAX 50 ESG index remove companies involved in activities that are undesirable or controversial from a responsible-investing perspective, similar to the approach of STOXX ESG-X indices. In addition they integrate sustainability parameters into stock selection, meaning they prioritize or overweight companies with the highest ESG scores while underweighting the laggards. The EURO STOXX 50 ESG index is based on the EURO STOXX 50®, one of Europe's flagship benchmarks. The DAX 50 ESG is designed to ensure an ESG index whose liquidity and risk-return characteristics are similar to those of Germany's DAX®.

The EURO STOXX 50® ESG index, the DAX 50 ESG index and STOXX's suite of ESG-X indices are suitable for underlying mandates, passive funds, ETFs, structured products and listed derivatives with the ambition to increase liquidity and lower the cost of trading.

Overview of STOXX, DAX ESG, Climate Change and Carbon-Emission index offerings:

- STOXX & DAX ESG Benchmark indices
- STOXX ESG-X Benchmark indices
- STOXX Sustainability indices
- STOXX Global ESG Leaders and ESG Specialized Leaders indices
- STOXX Climate indices
- STOXX Low Carbon indices
- ESG Impact indices

In addition to the above-mentioned STOXX and DAX indices, the ÖkoDAX® index focuses on German companies active in the renewable energy business.

iSTOXX ESG offering

Under the umbrella of the iSTOXX brand, STOXX also offers a broad range of customised ESG-related indices that cater to specific client requirements. These indices offer specific strategies within the broader STOXX universe of responsible investing indices that track companies that are pioneering or making the most headway in the transition to a low-carbon economy and a fairer and better world from the perspective of ESG principles.

Visit the website www.qontigo.com for a complete overview of all STOXX, DAX and iSTOXX indices.

Non-financial key indicators: sustainable index products

		31 Dec. 2020	31 Dec. 2019
ESG criteria			
Assets under management in ETFs based on ESG indices from Qontigo ¹⁾²⁾	€m	328.5	274.3
Total assets under management in ETFs based on indices from Qontigo ¹⁾	€bn	100,468.9	99,209.33
Transparency			
Number of sustainable index concepts		296	224
Number of calculated indices		12,999	12,554

1) STOXX (STOXX Indices) and Qontigo Index GmbH (DAX Indices) are part of Qontigo

2) Based on the ETFs issued in 2016: FlexShares STOXX® Global ESG Impact index and FlexShares STOXX® US ESG Impact index, based on ETFs issued in 2019: EURO iSTOXX ESG-X & Ex Nuclear Power Multi Factor, EURO STOXX ESG-X & Ex Nuclear Power Minimum Variance Unconstrained, EURO STOXX 50 ESG and STOXX Europe 600 ESG-X and based on ETFs issued in 2020: DAX 50 ESG, STOXX Europe 600 Paris-Aligned Benchmark, EURO iSTOXX Ambition Climat PAB and EURO STOXX 50 ESG

Eurex ESG derivatives offering

Eurex took over a pioneering role by introducing an ESG product suite based on European benchmarks in February 2019. The three futures on the highly liquid European STOXX benchmarks covering ESG Exclusions, Low Carbon and Climate Impact support market participants to manage sustainability-driven challenges. In October the first exchange-traded ESG options on a European benchmark was added to the product range. At the same time the offering was further complemented by STOXX Select products with futures and options that capture the performance of European companies with high dividend payments and low volatility which are selected from the STOXX ESG Global Leaders index.

With the introduction of derivatives on sustainable versions of various regional and global benchmarks in February and March 2020 Eurex has achieved a global coverage with its ESG offering. In November 2020 Eurex went one step further in terms of methodology by introducing futures and options on DAX 50 ESG and EURO STOXX 50 ESG indices combining screening out undesirable securities and considering ESG rankings as part of the selection process.

Products available for trading on Eurex:

- EURO STOXX 50[®] Low Carbon Index Futures
- STOXX[®] Europe 600 ESG-X Index Futures and Options
- STOXX[®] Europe Climate Impact Ex Global Compact Controversial Weapons & Tobacco Index Futures
- STOXX[®] Europe ESG Leaders Select 30 Index Futures and Options
- STOXX[®] USA 500 ESG-X Index Futures
- MSCI ESG Screened Index Futures covering USA, World, EM, EAFE and Japan
- DAX[®] 50 ESG Index Futures and Options
- EURO STOXX 50[®] ESG Futures and Options

In 2020, the second year after their launch, STOXX Europe 600 ESG-X Index Futures and Options, which are by far the most popular contracts, have reached ca. 1.18 million traded contracts. ESG is one of the major trends and the product interest is in line with Eurex expectations. Overall the segment covers 16 products.

Further information is available on www.eurex.com -> markets -> equity index -> ESG derivatives

Energy and energy-related markets

Deutsche Börse Group holds a majority shareholding in European Energy Exchange AG (EEX), Leipzig, Germany. The product and service offerings of EEX and its subsidiaries focus on trading platforms for energy and energy-related markets (e.g. power, gas, emission allowances). By providing liquid, secure and transparent markets, EEX group plays an important role in improving the efficient functioning of these markets that are directly linked to questions of climate change. This includes the continuous development of new products and services, providing market solutions to support the long-term transition of Germany's and Europe's energy system towards a higher share of carbon-free, renewable energy sources.

EEX is constantly developing new support within the framework of the EU climate and decarbonisation goals as expressed within the European Green Deal. This includes long-term strategies such as the EU Hydrogen Strategy.

EEX operates a regulated market for emissions allowances under the EU Emissions Trading System (EU ETS) and hosts the central auction platform for the EU-ETS. This includes organising regular auctions on behalf of the 27 EU member states. 25 EU member states are connected to an EU-wide auction platform, and separate auctions are held for Germany and Poland. This system could be expanded to take in further sectors such as heating and transportation.

Furthermore, EEX has developed hedging instruments to trade energy with an increasing power generation from renewables. EEX has introduced throughout the year a number of short term power products to support this development. In addition, an extension of maturities in the electricity derivatives market, which will allow for electricity production and procurement to be hedged in the long term is required and is thus being developed. Companies developing renewable energy, and their business partners, can already hedge against price volatility and counterparty credit risks over the long term and these maturities will be expanded from next year onwards. Such trades in long-term maturity products have already occurred throughout 2020 and are expected to grow in the future.

EEX Group further promotes the integration and marketing of renewables through its role as a provider of registries for so-called guarantees of origin, which are used by electricity and gas distributors to prove the origin of the energy they supply. Here, EEX Group also develops markets for carbon-free and low carbon hydrogen. Grexel, part of EEX Group active in operating registries for guarantees of origin, is an active consortium partner to CertifHy, which used to be the first registry for hydrogen guarantees of origin.

Comparison with the forecast for 2020

With regard to the development of the non-financial performance indicators forecast for 2020, the Group was unfortunately not quite able to achieve the system availability of the previous year. Trading system availability in the cash market was below target at 99.815 per cent (2019: 100 per cent) and for the derivatives market at 99.891 per cent (2019: 99.996 per cent), which in both cases was due to a technical infrastructure failure. Measures taken in this regard promise significantly higher operational reliability in the future. Against this background, the company expects that the availability of the trading systems for the cash and derivatives market will again be at the very high level of previous years in the forecast period.

In its endeavours to raise the share of women holding executive positions, as early as in 2010, the Executive Board had adopted a voluntary commitment to increase the share of women holding middle and upper management positions to 20 per cent by 2020, and of women holding lower management positions to 30 per cent. The Group maintains this ambition in 2021. In a deviation from the statutory obligation, the voluntary commitment has been formulated more comprehensively. On the one hand, the targets set here relate to Deutsche Börse Group worldwide, and on the other hand, the management levels (management positions) have been defined more comprehensively so that, for example, team leader positions are also included. Globally, these ratios were 16 per cent for senior and middle management at Deutsche Börse Group as at 31 December 2020 (2019: 15 per cent) and 31 per cent for lower management (2019: 27 per cent). For Germany, the ratios were 18 per cent (2019: 16 per cent) and 29 per cent (2019: 22 per cent), respectively.

Risk report

Deutsche Börse Group (hereafter also known as “the Group”) includes the following entities which are regulated as credit institutions: Clearstream Banking S.A. and Clearstream Banking AG (hereinafter referred to as “Clearstream”, including Clearstream Holding AG), as well as Eurex Clearing AG. Clearstream Banking AG is also an authorised central securities depository and subject to the Central Securities Depositories Regulation. Eurex Clearing AG and European Commodity Clearing AG continue to be authorised as central counterparties (CCPs) and are subject to the requirements of the European Market Infrastructure Regulation (EMIR). In addition, other Group companies hold different licences to provide regulated activities in the financial services sector. As such, these entities are subject to comprehensive statutory requirements, inter alia on risk management (for further information on the regulated entities, please refer to “[Regulatory capital requirements and regulatory capital ratios](#)”). Over and above the statutory requirements, including the EU directives (CRD IV and MiFID II) and their implementation into national law, other regulations worth mentioning include primarily EU regulations (CRR, CSDR and EMIR), the national requirements of the Minimum Requirements for Risk Management (MaRisk) issued by the Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin), and circular 12/552 issued by the Financial Supervisory Authority of Luxembourg (Commission de Surveillance du Secteur Financier, CSSF). In this context, significant parts of the risk management are defined in the scope of the so-called second pillar of the Basel III regime for a number of the Group’s companies. Moreover, national regulations implementing the EU Banking Recovery and Resolution Directive (BRRD) apply to Clearstream and Eurex Clearing AG regarding the establishment of recovery plans. Deutsche Börse Group follows international standards in its risk management and also applies these without or in addition to such statutory requirements.

The highest regulatory standards within the Group are applicable to Eurex Clearing AG and Clearstream, given their regulation as credit institutions. Considering this and their economic importance, this risk report focuses on these subsidiaries in particular.

Risk strategy and risk management

Deutsche Börse Group’s risk strategy is aligned with its business model and company strategy. The Group provides the infrastructure for reliable and secure capital markets, assists constructively in their regulation and strives for a leading role in all of the areas in which it does business. Deutsche Börse Group’s risk strategy is based on three core principles:

1. Risk limitation – protecting the company against liquidation and ensuring its continuing operation

“Capital exhaustion should not occur more than once in 5,000 years and an operating loss must not be generated more than once every hundred years.” This means that one goal is to ensure a minimum probability of 99.98 per cent that the total capital will not be lost within the next twelve months. By this approach an economic perspective is taken when evaluating the risks of Deutsche Börse Group. Another objective is to guarantee for a probability of 99.0 per cent or more that Deutsche Börse will at least break even, expressed in terms of its EBITDA. In other words, this principle establishes how much risk the Group must be able to withstand whilst also determining its risk appetite. Ensuring the continuing operation of Deutsche Börse Group additionally demands the fulfilment of regulatory capital requirements, which reflects a normative perspective when evaluating the risks of Deutsche Börse Group.

2. Support for growth in the various business segments

“Risk management supports the business units in developing their business”. With this principle, the Group promotes its growth strategy. As such, risks are identified, and clearly communicated. This

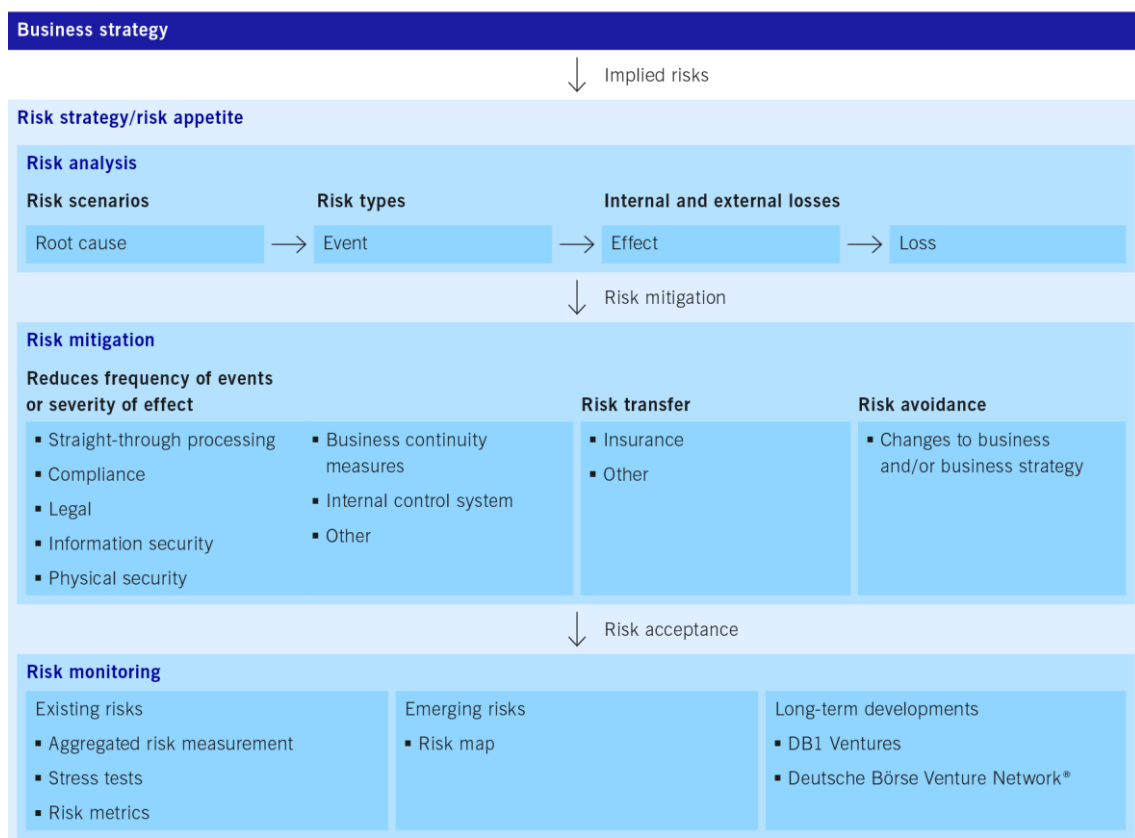
principle includes risk from organic growth, M&A activities and the use of transformational technology. The aim is to make well-founded strategic decisions within the boundaries of the defined risk appetite.

3. Appropriate risk/return ratio

“The return on equity should exceed the cost of equity.” Deutsche Börse Group has set itself the goal of ensuring that risk and return should be reasonably balanced, both for specific business areas in general and for individual regions, products and customers.

Internal risk management is based on the Group-wide detection and management of risk, which is focused on its risk appetite, see the chart “Interlocking business strategy and risk strategy”. Deutsche Börse AG’s Executive Board has overall responsibility, and defines the framework for risk management throughout the Group. Under these Group-wide risk management requirements, each business segment and each regulated company is responsible for managing its own risk.

Interlocking business strategy and risk strategy



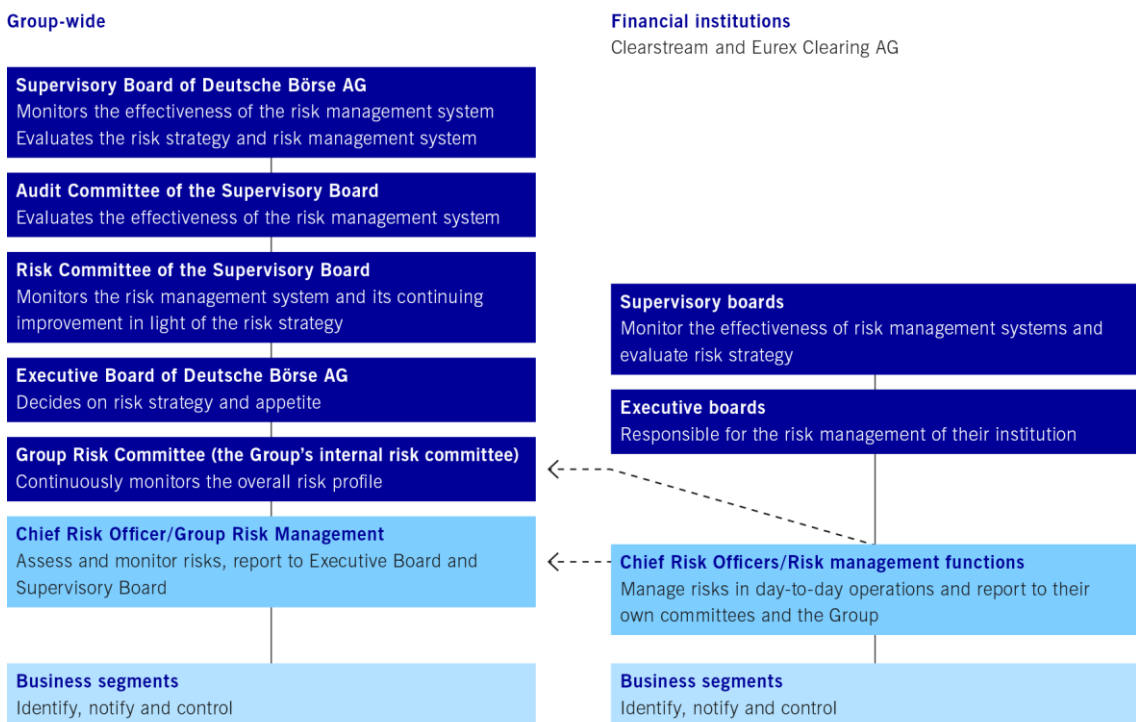
Implementation in the Group's organisational structure and workflow

The risk strategy applies to the entire Deutsche Börse Group. Risk management functions, processes and responsibilities are binding for all Group employees and organisational units. To ensure that all employees are risk-aware, risk management is firmly anchored in the Group's organisational structure and workflows. The Executive Board is responsible for risk management overall, whereas within the individual companies it is the responsibility of the respective management. The boards and committees given below receive regular information on the risk situation.

The Supervisory Board of Deutsche Börse AG assesses and monitors the effectiveness of the risk management system and its continuing development. The Supervisory Board has delegated the regular evaluation of the appropriateness and the effectiveness of the risk management system to the Audit Committee. In addition, the Risk Committee examines the risk strategy and risk appetite on an annual basis.

Deutsche Börse AG's Executive Board determines the Group-wide risk strategy and risk appetite and allocates the latter to the company's individual business segments and business units, respectively. It ensures that the Group's risk appetite is and remains compatible with its short- and long-term strategy, business and capital planning, risk-bearing capacity and remuneration systems. The Executive Board of Deutsche Börse AG also determines what parameters are used to assess risks and how risk capital is allocated. It ensures that the requirements for the risk strategy and risk appetite are met.

Risk management – organisational structure and reporting lines



The Group Risk Committee (GRC) reviews the risk position of the Group regularly and involves the Executive Board in all important matters. The GRC is a Group-internal risk committee, chaired by the Chief Financial Officer.

Group Risk Management (GRM), headed by the Chief Risk Officer (CRO), prepares the proposals for the corresponding risk strategy, risk appetite, the approaches and methods for monitoring risk, capital allocation and procedures. GRM continuously analyses and evaluates risks and produces quantitative and qualitative reports. These are submitted regularly to the GRC, once a month or as needed ad hoc to the Executive Board, once a quarter to the Risk Committee of the Supervisory Board and once a year to the Supervisory Board. Likewise, the CRO reports to the Audit Committee on the effectiveness of the risk management system on an annual basis. This system ensures that the responsible bodies can regularly check whether the defined risk limits are being adhered to consistently. In addition, GRM recommends risk management measures with which the risks can be controlled accordingly.

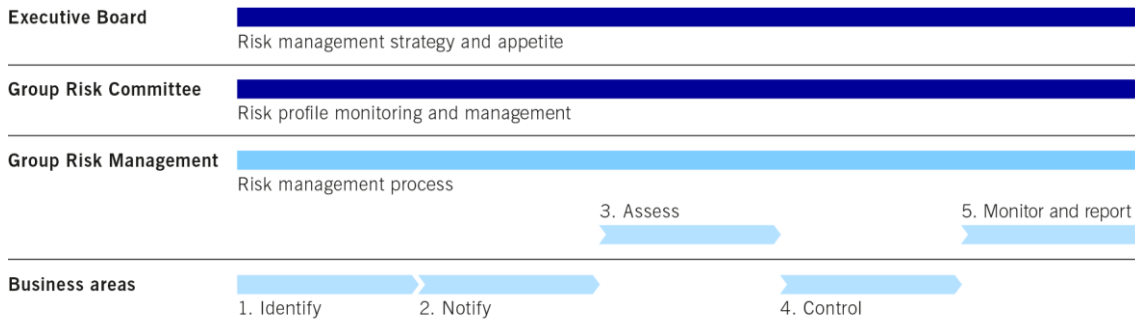
The Group's regulated subsidiaries act in the same way, always ensuring that they meet the requirements of the Group. In particular, they adhere to the risk appetite framework allocated to them by Deutsche Börse Group. The relevant supervisory boards and their committees are involved in the process, as are the executive boards and the corresponding risk management functions. Clearstream and Eurex Clearing AG implement the risk strategy with specific features drawn up for their own businesses. They therefore also use metrics and reporting formats adapted to the overarching Group structure. In general, the management of the respective subsidiary bears the responsibility for its risk management and risk appetite; the observance is monitored by the respective supervisory board.

Centrally coordinated risk management – a five-stage process

Risk management is implemented in a five-stage process. The objective is to identify all potential losses in good time, to record them centrally and to evaluate them in quantitative terms as far as possible; if necessary, management measures must then be recommended and their implementation monitored (see the chart "[The five-stage risk management system](#)"): The first stage is to identify the risks and the possible causes of losses or operational malfunctions. In the second stage, the business areas regularly – or immediately, in urgent cases – report to GRM the risks that they have identified and quantified. In the third stage, GRM assesses the risk exposure, whilst in the fourth stage, the business areas manage the risks by avoiding, mitigating or transferring them, or by actively accepting them. The fifth and final stage involves, for example, monitoring different risk metrics and, where necessary, informing the responsible Executive Board members and committees of significant risks, their assessment and possible emergency measures. In addition to its regular monthly and quarterly reports, GRM compiles ad hoc reports for members of the executive and supervisory boards. The risk management functions at Clearstream and Eurex Clearing AG submit reports to the respective executive boards and supervisory boards. As an independent unit, Internal Audit reviews the risk controlling functions.

The five-stage risk management system

Responsibility



Approaches and methods for risk monitoring

Deutsche Börse Group uses quantitative and qualitative approaches and methods for risk monitoring, with the objective of providing as complete a picture as possible of its risk situation at all times. To this end, the Group continuously reviews internal events with regard to their risk properties, whilst also considering regional as well as global developments. The Group is thus able to recognise and analyse existing risks; at the same time, it is able to swiftly and adequately respond to emerging risks, as well as to changes in the market or in the business environment.

Existing risks

Deutsche Börse Group employs a range of tools to evaluate and monitor operational, financial and business risk on a continuous basis, applying an economic perspective to quantify and aggregate risks. A normative perspective is also adopted for the credit institutions Clearstream and Eurex Clearing AG. The value at risk (VaR) model is the main tool used for quantification. The purpose of the VaR model is to determine the amount of capital – given a confidence interval defined ex ante – required to cover potential losses incurred within twelve months. Moreover, so-called stress tests are carried out in order to simulate extreme, yet plausible, events and their impact upon the Group's risk-bearing capacity. Another approach to risk monitoring, which serves as an early warning system for quantified and non-quantifiable in-house risks, is complementary risk metrics. These risk metrics are based on IT and security risks, potential losses, credit, liquidity and business risks.

1. Economic perspective: what risk can the capital bear?

The economic perspective measures risk positions arising from regular operations solely on the basis of qualitative and quantitative criteria, and so regardless of the requirements of individual accounting or regulatory models. This perspective defines the minimum amount of required economic capital (REC). Principle 1 of the risk strategy specifies that Deutsche Börse Group should not exhaust its risk-bearing capacity in more than 0.02 per cent of all years.

For Clearstream and Eurex Clearing AG, REC calculated in this manner also complies with the requirements of the second pillar of Basel III. Deutsche Börse Group determines its risk-bearing capacity on the basis of its reported equity in accordance with International Financial Reporting Standards (IFRSs). Clearstream and Eurex Clearing AG determine their risk-bearing capacity on the basis of their regulatory capital (for details, see section “Regulatory capital requirements and regulatory capital ratios”).

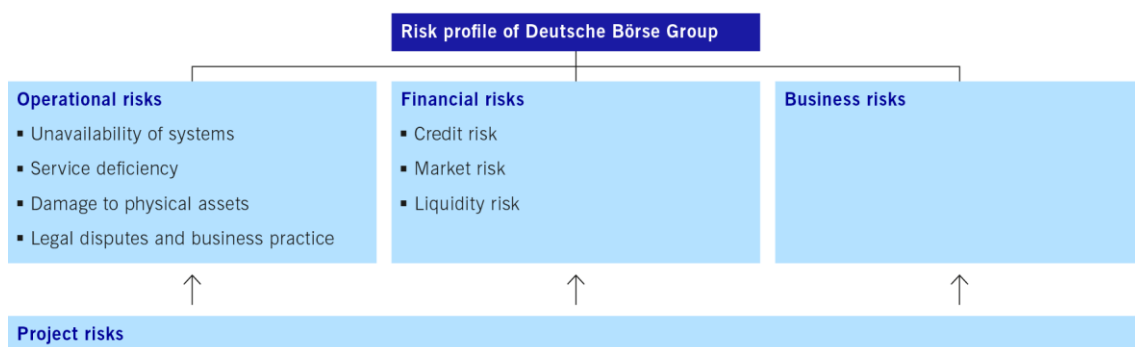
For management purposes, GRM regularly determines the ratio of the REC to the risk-bearing capacity. This indicator is known as the utilisation of risk-bearing capacity and it answers a key risk management question: how much risk can the Group afford and what risk is it currently exposed to? The ratio of REC to risk-bearing capacity remained below the defined maximum throughout the reporting period. If this were not the case, the Group would in a worst-case scenario exhaust its entire risk-bearing capacity and would become insolvent.

2. Normative perspective and other regulatory capital requirements

Clearstream and Eurex Clearing AG must also calculate their capital requirements for various risk types (see the chart “Deutsche Börse Group’s risk profile”) in line with the Pillar I requirements of Basel III. In addition, Eurex Clearing AG must fulfil EMIR capital requirements whilst Clearstream Banking AG has to comply with CSDR capital requirements as authorisation as CSD was granted by BaFin in January 2020. Clearstream Banking S.A. is currently applying for authorisation according to CSDR. Clearstream and Eurex Clearing AG use the standard approach for analysing and evaluating credit and market risk.

The two institutions have adopted different approaches regarding operational risk: Clearstream uses the considerably more complex advanced measurement approach (AMA) in all business units. This means that it meets the regulatory capital requirements for operational risk set out in the EU’s Capital Requirements Regulation (CRR). According to the method – which has been approved and is regularly audited by BaFin – the required capital is allocated to the regulated entities. In contrast, Eurex Clearing AG employs for operational risk the basic indicator approach in order to calculate regulatory capital requirements (for details, see section “Regulatory capital requirements and regulatory capital ratios”).

Deutsche Börse Group’s risk profile



3. Stress tests

Stress tests are carried out in order to simulate extreme, yet plausible, events for all material types of risk. Using both hypothetical and historical scenarios, they simulate the occurrence of extreme losses, or an accumulation of large losses, within a single year. Similarly, inverse stress tests are also carried out, which analyse which loss scenarios would exceed the risk-bearing capacity.

4. Risk metrics

Risk metrics are used to quantify the exposure to the most important internal risks against set limits. They are complementary to the VaR approach and serve to monitor other factors as well as non-quantifiable risks. Any breach of these limits serves as an early warning signal, which is reported to the Executive Board on a monthly basis. Furthermore, any such breach immediately triggers the requisite risk mitigation processes.

Emerging risks

With regard to risk management, Deutsche Börse Group pursues a sustainable, long-term strategy by also evaluating risks beyond a twelve-month horizon. For this purpose, the Group has developed so-called risk maps tailored specifically for expected or upcoming regulatory requirements and IT and information security risks. In addition, other operational, business and financial risks are also assessed beyond a twelve-month period. Risk maps classify risks by their probability of occurring and by their financial impact, should they materialise. A review process of Environment Social Governance (ESG) aspects is also carried out as part of the Group Risk Committee.

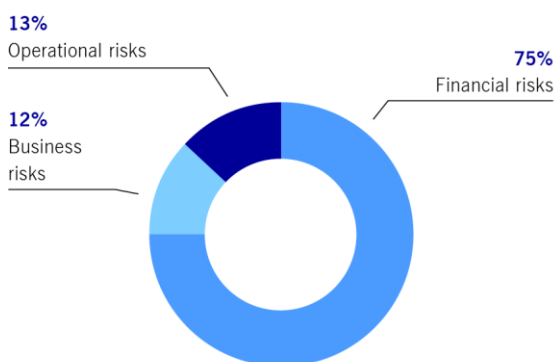
Risk description

The following section describes the types of risk that Deutsche Börse Group generally has to manage and presents the risks it actually faces. It also explains the measures that Deutsche Börse Group uses to attempt to prevent loss events, and to minimise their financial effects.

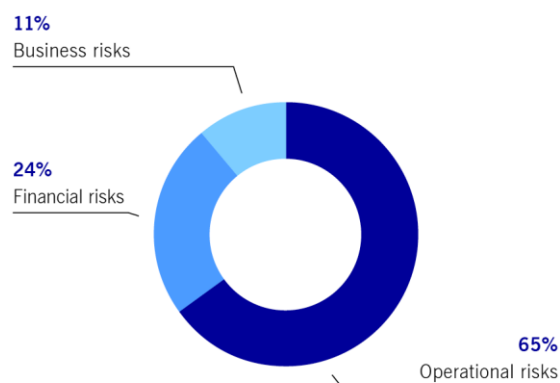
Risk profile

The risk profile of Deutsche Börse Group differs fundamentally from those of other financial services providers. Deutsche Börse Group differentiates between the three standard types of risk: operational risk, financial risk and business risk. Project risk also exists but the Group does not specifically quantify these as their impact is already reflected in the three risk types. The majority of risks are of an operational nature (see the charts below: “Required economic capital for German universal banks by risk type” and “Required economic capital for Deutsche Börse Group by risk type”).

Required economic capital for German universal banks by risk type



Required economic capital for Deutsche Börse Group by risk type



Operational risk greater than financial and business risk

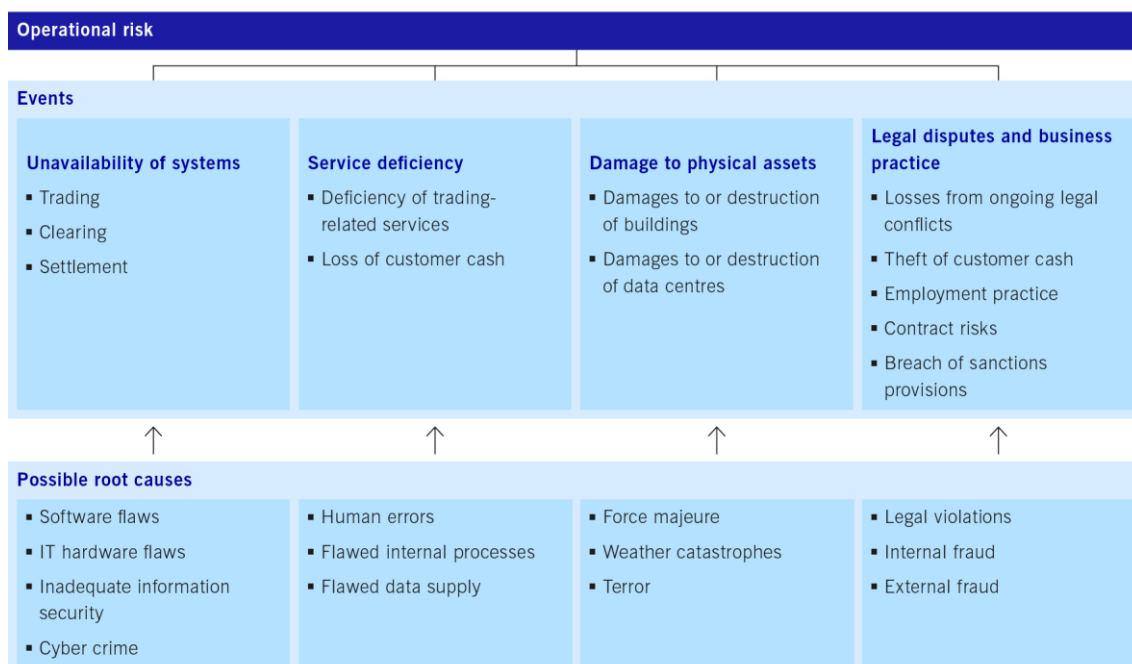
Utilisation of risk-bearing capacity from an economic perspective is used as the primary internal management indicator throughout Deutsche Börse Group (see the section “Approaches and methods for risk monitoring” for an explanation of these terms). In addition to the financial and operational risk already mentioned, business risk is also identified and assessed. This relates in particular to potential threats to revenue such as price pressure or loss in market share as well as cost risks. The economic perspective reveals that financial risk only accounts for around 24 per cent of all risks at Deutsche Börse Group. Business risk accounts for 11 per cent. This makes the third risk type all the more important for Deutsche Börse Group: at 65 per cent, operational risk accounts for two-thirds of the REC. Information on the additional capital requirements of other subsidiaries is provided in section “Regulatory capital requirements and regulatory capital ratios”.

The three risk types applicable to Deutsche Börse Group are described in detail below, in the order of their importance.

Operational risk

For Deutsche Börse Group, operational risks comprise the unavailability of systems, service deficiency, damage to physical assets as well as legal disputes and business practice (see the [chart below: “Operational risk at Deutsche Börse Group”](#)). Human resources risks are quantified just like other operational risks. The share of operational risk of the REC was 65 per cent as at 31 December 2020.

Operational risk at Deutsche Börse Group



Unavailability of systems

Operational resources such as the Xetra® and T7® trading system are essential for the services offered by Deutsche Börse Group. They should never fail in order to ensure that market participants can trade securities or derivatives at any time and without delay. The Group therefore calculates the availability of these systems as an important risk indicator. In line with the Group’s risk strategy, the business areas are responsible for monitoring the indicators.

The longer the downtime for one of these systems, the larger the potential loss. An outage could be caused by software or hardware issues, or in unlikely cases, the availability of the systems could be affected by acts of cybercrime or terrorist attack. In the past, only limited failures have occurred both with Xetra and with T7 and its predecessor system. In practice, there has never been a system failure lasting longer than one day. Deutsche Börse Group has taken a number of measures to further minimise the risk of failure lasting an entire day or longer, for example the redundancy of the network infrastructure. Despite all mitigating measures, however, failures of the IT infrastructure can never be ruled out completely. In 2020, limited instances of T7 system issues exceeding two hours were observed. Timely countermeasures were taken to address these system issues.

In general, availability risk represents the largest operational risk for Deutsche Börse Group and is therefore subject to regular tests that simulate not only what happens when its own systems fail but also when suppliers fail to deliver.

Service deficiency

Risks can also arise if a service provided to a customer is inadequate and this leads to complaints or legal disputes. One example would be errors in the settlement of securities transactions due to defective products and processes or mistakes in manual entries. A second example is handling errors in the collateral liquidation process in the event of the default of a large clearing customer. Such errors have not occurred to date in the rare case of a failure. The related processes are tested at least annually.

Other sources of error may be attributable to suppliers or to product defects; mistakes that may lead to the loss of client assets or mistakes in accounting processes must also be considered. The Group registers all complaints and formal objections as a key indicator of deficient processing risk.

Damage to physical assets

Natural disasters, accidents, terrorism or sabotage also count as operational risks that could, for example, cause the destruction of, or severe damage to, a data centre or office building. Business Continuity Management and Physical Security measures aim at averting significant financial damage (see the [chart Business Continuity Management](#)).

Legal disputes and business practice

Losses can also result from ongoing legal proceedings. These can occur if Deutsche Börse Group breaches laws or other requirements, enters into inadequate contractual agreements or fails to monitor and observe case law to a sufficient degree. Legal risk also includes losses due to fraud and labour law issues. This could entail, for example, losses resulting from insufficient anti-money laundering controls or breaches of competition law or of banking secrecy. Such operational risks can also arise if government sanctions are not observed, e.g. in case of conflicting laws of different jurisdictions, or in the event of breaches of other governmental or overarching regulations.

In its [2012 corporate report](#), Deutsche Börse Group informed about the class action Peterson vs Clearstream Banking S.A., the first Peterson proceeding, targeting turnover of certain customer positions held in Clearstream Banking S.A.'s securities omnibus account with its US depository bank, Citibank NA, and asserting direct claims against Clearstream Banking S.A. for damages of US\$250.0 million. The matter was settled between Clearstream Banking S.A. and the plaintiffs and the direct claims against Clearstream Banking S.A. were abandoned.

In July 2013, the US court ordered turnover of the customer positions to the plaintiffs, ruling that these were owned by Bank Markazi, the Iranian central bank. Bank Markazi appealed, and the decision was affirmed on 9 July 2014 by the Second Circuit Court of Appeals and later by the US Supreme Court on 20 April 2016. Once distribution of the funds to the plaintiffs is complete, a related case, Heiser vs Clearstream Banking S.A., also seeking turnover of the same assets, should also be dismissed.

On 30 December 2013, a number of US plaintiffs from the first Peterson case, as well as other plaintiffs, filed a complaint in the USA targeting restitution of certain assets that Clearstream Banking S.A. holds as a custodian in Luxembourg. In 2014, the defendants in this action, including Clearstream Banking S.A., moved to dismiss the case. On 19 February 2015, the US court issued a decision granting the defendants' motions and dismissing the lawsuit. The plaintiffs lodged an appeal against this ruling at the competent appeals court (Second Circuit Court of Appeals), which on 21 November 2017 confirmed large portions of the decision of the court of first instance. The appeals court referred the case back to the court of first instance regarding another aspect, asking the court to assess whether the assets held in Luxembourg are subject to execution in the USA. Clearstream Banking S.A. filed a petition against this ruling with the US Supreme Court on 8 May 2018. The US Supreme Court decided on 13 January 2020 to refer the second Peterson case back to the appeals court for consideration in the light of new US legislation. The appeals court referred the case back to the court of first instance and on 12 August 2020, the plaintiffs filed a motion for a summary decision with the court of first instance. Alternatively, the plaintiffs have requested a preliminary court decision ordering the transfer to the USA of the disputed assets held in custody by Clearstream Banking S.A.

On 14 October 2016, a number of plaintiffs filed a complaint in the USA naming Clearstream Banking S.A. and other entities as defendants. The complaint in this proceeding, Havlish vs Clearstream Banking S.A. is based on similar assets and allegations as in the Peterson proceedings. The complaint seeks turnover of certain assets that Clearstream Banking S.A. holds as a custodian in Luxembourg. The complaint also asserts direct claims against Clearstream Banking S.A. and other defendants and purports to seek damages of up to approximately US\$6.6 billion plus punitive damages and interest. On 12 October 2020, an amendment to the complaint was filed in this case with the aim of including additional plaintiffs in the proceedings. In connection with this, also further direct claims for damages of approximately US\$3.3 billion (plus punitive damages and interest) are asserted against Clearstream Banking S.A. and the other defendants.

On 2 April 2014, Clearstream Banking S.A. was informed that the United States Attorney for the Southern District of New York has opened a grand jury investigation against Clearstream Banking S.A. due to Clearstream Banking S.A.'s conduct with respect to Iran and other countries subject to US sanction laws. Clearstream Banking S.A. is cooperating with the US attorney.

In the context of the ongoing disputes regarding assets of Bank Markazi, Clearstream Banking S.A. was served with a complaint of Bank Markazi on 17 January 2018 naming Banca UBAE S.p.A. and Clearstream Banking S.A. as defendants. The complaint filed before the Luxembourg courts primarily seeks the restitution of assets of Bank Markazi which the complaint alleges are held on accounts of Banca UBAE S.p.A. and Bank Markazi with Clearstream Banking S.A., totalling approximately US\$4.9 billion plus interest. Alternatively, Bank Markazi seeks damages of the same amount. The assets sought include assets that were previously transferred by Clearstream Banking S.A. to Banca UBAE S.p.A. Furthermore, the complaint by Bank Markazi concerns assets of approximately US\$1.9 billion that were turned over to US plaintiffs pursuant to a 2013 binding and enforceable US court order in a proceeding to which Bank Markazi was a party. The lawsuit also concerns client assets of approximately US\$2.0 billion, which includes assets held by Clearstream Banking S.A. that are currently subject to litigation in the USA and Luxembourg brought by US plaintiffs. In view of this, Bank Markazi by way of further proceedings pending in Luxembourg is seeking the declaration that Clearstream Banking S.A. shall, subject to penalties, be prohibited from transferring relevant assets to the USA. Until a decision in these proceedings, Clearstream Banking S.A., due to a preliminary injunction obtained by Bank Markazi, is prohibited under penalty from transferring relevant assets to the USA. Clearstream Banking S.A. has filed a recourse with the Luxembourg Court of Cassation against the preliminary injunction.

On 15 June 2018, Banca UBAE S.p.A. filed a complaint against Clearstream Banking S.A. with the Luxembourg courts. This complaint is a recourse action related to the complaint filed by Bank Markazi against Clearstream Banking S.A. and Banca UBAE S.p.A. and asks that Banca UBAE S.p.A. be indemnified and held harmless by Clearstream Banking S.A. in the event that Banca UBAE S.p.A. loses the legal dispute brought by Bank Markazi and is ordered by the court to pay damages to Bank Markazi.

The plaintiffs in the above-mentioned Havlish case on 24 September 2020 made a formal intervention concerning the complaint by Bank Markazi of 17 January 2018. With this, the plaintiffs, amongst others, request that Clearstream Banking S.A. be ordered to pay an amount equivalent to US judgments obtained by the plaintiffs against Iran and Bank Markazi in the amount of approx. US\$6.6 billion (plus interest).

On 24 November 2020, the plaintiffs in the Havlish case also sued Clearstream Banking S.A. and other legal entities in Luxembourg. The lawsuit is essentially based on similar allegations to those in the Havlish case pending in the USA, and amongst other things asserts direct claims of around US\$5.5 billion (plus interest) against Clearstream Banking S.A.

On 26 December 2018, two US plaintiffs filed a complaint naming Clearstream Banking S.A. and other entities as defendants. The plaintiffs have claims against Iran and Iranian authorities and persons amounting to approximately US\$28.8 million. The complaint in this case (Levin vs. Clearstream Banking S.A.) is based on similar assets and allegations as in the second Peterson case, and the Havlish case. The complaint seeks turnover of certain assets that Clearstream Banking S.A. holds as a custodian in Luxembourg. The complaint also asserts direct claims against Clearstream Banking S.A. and other defendants and seeks damages of up to approximately US\$28.8 million, plus punitive damages and interest.

On 4 December 2019, several US plaintiffs from the aforementioned Heiser vs Clearstream Banking S.A. case filed a new complaint naming Clearstream Banking S.A. and other entities as defendants. The plaintiffs hold claims against Iran and Iranian authorities and persons in excess of US\$500.0 million, and are seeking turnover of Iranian assets.

On 26 August 2020, further judgment creditors of Iran (the “Ofisi plaintiffs”) filed a complaint in the USA in which Clearstream Banking S.A. is also named as a defendant. The Ofisi plaintiffs obtained a US judgment against Iran and others in 2014 awarding them damages of approximately US\$8.7 billion as a result of terrorist attacks attributed, amongst others, to Iran. On this basis the Ofisi plaintiffs are seeking the turnover of assets attributed to Bank Markazi which are already the subject of other actions brought against Clearstream Banking S.A. Furthermore, the Ofisi plaintiffs are claiming damages and punitive damages equivalent to the amount of their damage award directly from Clearstream Banking S.A.

Starting on 16 July 2010, the insolvency administrators of Fairfield Sentry Ltd. and Fairfield Sigma Ltd., two funds domiciled on the British Virgin Islands, filed complaints in the US Bankruptcy Court for the Southern District of New York, asserting claims against more than 300 financial institutions for restitution of amounts paid to investors in the funds for redemption of units prior to December 2008. On 14 January 2011, the funds’ insolvency administrators filed litigation against Clearstream Banking S.A. for the restitution of US\$13.5 million in payments made for redemption of fund units, which the funds made to investors via the settlement system of Clearstream Banking S.A. The proceedings, which were suspended for several years, are ongoing.

Amongst other legal disputes in connection with the bankruptcy of the Puerto Rico case under PROMESA legislation, the legal committee of the Puerto Rican government initiated legal action in 2019 to recover interest payments made from 2014 to 2017 to holders of government bonds (ERS and GO bonds) and company pension bonds. Clearstream Banking S.A. is named in this US litigation and two lawsuits have been filed against Clearstream Banking S.A. itself: one of the two lawsuits relates to payments in connection with the GO bond, the other to payments in connection with the ERS bond. The Puerto Rican government is claiming US\$3.9 million for the GO bond and less than US\$16,000 for the ERS bond. Both lawsuits (and all other similar litigation) have been suspended since July 2019.

On 24 August 2020, Clearstream Banking S.A. was summoned in legal proceedings in Indonesia between PT Kapuas Prima Coal TBK and the principal defendant Horizonte Opportunities Fund SPC. Clearstream Banking S.A. is cited as a co-defendant in the proceedings. PT Kapuas Prima Coal TBK claims a breach of contract by ZINC shareholders and is seeking the return by means of blocking and seizure of ZINC shares issued by it that are currently deposited with the co-defendant’s custodians (including Clearstream Banking S.A.). At the first hearing in November 2020, the court noted it could dismiss the claim if the plaintiff was again not present at a hearing scheduled for April 2021.

Legal disputes have arisen regarding a bond issued by MBB Clean Energy AG (MBB), which is held in custody by Clearstream Banking AG. MBB issued the first tranche of the bond in April 2013 and the second tranche of the bond in December 2013. The global certificates for the two tranches were delivered to Clearstream Banking AG by the paying agent of the issuer. The legal disputes relate to the non-payment of the bond and the purported lack of validity of the bond. Clearstream Banking AG's role in the context of the purported lack of validity of the MBB bond is primarily to safekeep the global certificate as national central securities depository. Insolvency proceedings have meanwhile been opened in respect of the issuer, MBB.

A buyer of an MBB Clean Energy AG (MBB) bond, which is held in custody by Clearstream Banking AG and was listed on the Frankfurt Stock Exchange, filed a lawsuit at a Dutch court concerning claims for damages against Clearstream Banking AG, Deutsche Börse AG and other partners. The lawsuit was dismissed at first instance in October 2020; the plaintiff filed an appeal against the judgment.

On 6 February 2020, a plaintiff filed a complaint naming Clearstream Banking AG and one other entity as defendants. The complaint, which was filed before the courts in Frankfurt, primarily seeks rights to information and the turnover of dividends in the amount of approximately €4.1 million plus interest. The alleged claim relates to dividends from securities that Clearstream Banking AG holds as a custodian.

In September 2017, Clearstream Banking AG and Clearstream Banking S.A. were made aware that the Public Prosecutor's Office in Cologne had initiated proceedings for tax evasion against an employee of Clearstream Banking AG for his alleged involvement in the settlement of transactions of market participants over the dividend date (cum/ex transactions). On 22 January 2018, the Public Prosecutor's Office in Cologne addressed to Clearstream Banking AG a notification of hearing Clearstream Banking AG and Clearstream Banking S.A. as potential secondary participants (Nebenbeteiligte). Starting on 27 August 2019, together with other supporting authorities, the Public Prosecutor's Office in Cologne conducted searches of the offices of Clearstream Banking AG, Clearstream Banking S.A., as well as other Deutsche Börse Group companies and sites. In the course of these measures, Deutsche Börse Group entities were made aware that the Public Prosecutor's Office in Cologne has extended the group of accused persons (Beschuldigte) to include current and former employees of Deutsche Börse Group companies as well as executive board members of subsidiaries of Deutsche Börse AG. In 2020, Deutsche Börse became aware of a further extension of the group of accused persons among current and former employees of Deutsche Börse AG's subsidiaries. Due to the still early stage of the proceedings, it is still not possible to predict timing, scope or consequences of a potential decision. The companies concerned are cooperating with the competent authorities. They do not expect that they could be successfully held liable.

In November 2018, a customer of a trading participant of the Frankfurt Stock Exchange filed a lawsuit at the District Court (Landgericht) of Frankfurt/Main against Deutsche Börse AG. The plaintiff is claiming damages of approximately €2.6 million from Deutsche Börse AG. The alleged damages are said to have arisen (1) on 7 July 2016, from Deutsche Börse AG's publication of an inaccurate ex-dividend date relating to a financial instrument via the Xetra system and (2) due to the fact that a client of the plaintiff relied on this inaccurate information to conclude transactions. The court dismissed the complaint in its final ruling of 6 November 2020.

On 19 December 2018, the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin) sent Deutsche Börse AG a formal hearing notification in a penalty proceeding, which refers to an allegation of a supposed lack of self-exemption or, alternatively, an allegedly omitted ad hoc announcement. Specifically, in the search for a successor for Carsten Kengeter, Deutsche Börse AG had omitted to qualify as a price-relevant intermediate step the fact that a few days before the appointment of Theodor Weimer in November 2017, two suitable and interested CEO candidates had been identified and a decision about the appointment was planned. Even after consulting with external experts, Deutsche Börse AG believes this allegation is unfounded.

Despite the ongoing proceedings described before, the Executive Board is not aware of any material changes to the Group's risk situation.

As of 31 December 2020 in the opinion of Executive Board and based on the information available, there was no provision requirement for litigation in any of the cases.

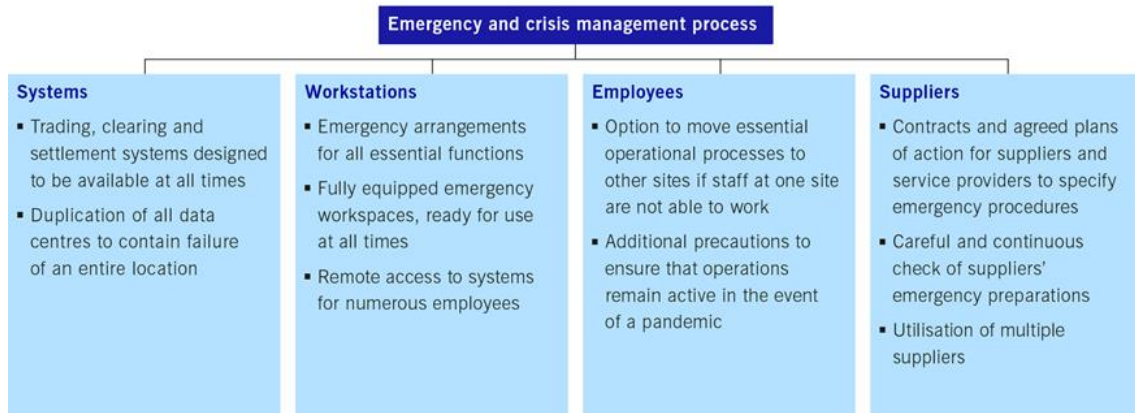
Measures to mitigate operational risk

Deutsche Börse Group takes specific measures to reduce its operational risk. Amongst them are emergency and contingency plans, measures to ensure information security and the physical safety of employees and buildings as well as compliance rules and procedures. In addition, Deutsche Börse Group has insurance policies that partly cover the potential financial consequences of operational incidents.

Emergency and contingency plans

It is essential for Deutsche Börse Group to provide its products and services as reliably as possible. The Group has to maintain its business operations and safeguard against emergencies, failures and crises. If its core processes and resources are not available, this represents not only a substantial risk for the entire Group but also even a potential systemic risk for the financial markets in general. As a result, Deutsche Börse Group has set up a system of emergency and crisis plans covering the entire Group (business continuity management, BCM). This covers all processes designed to ensure continuity of operations in the event of a crisis and significantly reduces unavailability risk. Measures include precautions relating to all important resources (systems, workstations, employees, suppliers), including the redundant design of essential IT systems and the technical infrastructure, as well as emergency measures designed to mitigate the unavailability of employees or workspaces in core functions at all important locations. This includes unavailability due to pandemic based events, like the recent coronavirus outbreak. This situation is being handled in accordance with the Deutsche Börse Group Incident and Crisis Management Process. Activities are centrally coordinated to ensure continuity of Deutsche Börse Group's critical operations as well as employees' health and safety. Back-up locations are subject to regular tests and remote access is also available. Examples of such emergency and contingency measures are listed in the "[Business continuity management](#)" chart.

Business continuity management



Preparations for emergencies and crises

The Group has introduced and tested a management process for emergencies and crises that enables it to respond quickly and in a coordinated manner. This is intended to minimise the effects on business processes and on the market and to enable a quick return to regular operations. All business segments have appointed emergency managers to act as central contacts and take responsibility during emergencies and crises. The emergency managers inform the Executive Board or raise the alarm with them in the case of severe incidents. In the event of a crisis, the Executive Board member responsible for the affected business area acts as the crisis manager or delegates this role. The emergency and contingency plans are tested regularly by realistically simulating critical situations. Such tests are generally carried out unannounced. The test results are evaluated based on the following criteria:

- Functionally effective: the measures must be technically successful.
- Executable: the employees must be familiar with the emergency procedure and be able to execute it.
- Timely: emergency measures must ensure that operations restart within the intended time period, namely the recovery time objective (RTO).

Information security

Attacks on information technology systems and their data – especially due to cybercrime – represent operational risks for Deutsche Börse Group, which is continuously confronted with rising threats in this respect, as are other financial services providers and the entire sector. Unauthorised access, change and loss of information, as well as non-availability of information and services, may all arise as a result of such attacks (such as phishing, DDoS and ransomware attacks). There was no successful attack on Deutsche Börse Group's core systems in 2020.

In order to maintain the Group's integrity as a transaction services provider, and in order to reduce and control the risks, Deutsche Börse is continuously implementing measures to increase information security. The aim is to proactively boost the robustness of procedures, applications and technologies against cybercrime in such a way that they are adjusted to the threatening situation and regulatory requirements at an early stage. The foundation for this is formed by a set of core processes together with specific control measures based on the international information security standard ISO/IEC 27001.

The information security function checks that the information security and information security risk management requirements are adhered to; it also monitors the systemic integration of (and adherence to) security standards, within the scope of product and application development.

The Group operates a situation centre (Computer Emergency Response Team, CERT), which detects and assesses threats from cybercrime at an early stage, and coordinates risk mitigation measures in cooperation with the business units.

The Information Security function operates a Group-wide programme designed to raise staff awareness for the responsible handling of information, and to improve staff conduct in this aspect. All in all, Deutsche Börse Group's security approach includes overall measures in accordance with ISO/IEC 27001 covering both the development phase and the operational phase.

Furthermore, Deutsche Börse Group has been a full member of national associations (Cyber Security Sharing and Analytics, CSSA), trade associations (World Federation of Exchanges) and international networks (Financial Services Information Sharing and Analysis Center, FS-ISAC) which contribute significantly towards a forward-looking stance vis-à-vis cyber threats, and the development of strategies to fend off such threats.

Physical security

Deutsche Börse Group places great importance on physical security issues due to the constantly changing global security risks and threats. Corporate Security has developed an integral security concept to protect the company, its employees and values from internal and external attacks and threats – in a proactive as well as reactive manner. Analysts are continuously assessing the security situation at Deutsche Börse Group's locations and are in close contact with authorities (Federal Criminal Police Office – BKA, Federal Office for the Protection of the Constitution – BfV, etc.), security services providers, and security departments of other companies. Multi-level security processes and controls ensure physical safety at the Group's locations. Physical access to buildings and values is monitored permanently; it is based on the access principle of 'least privilege' (need-to-have basis). Penetration tests, inter alia, are carried out on a regular basis to verify the efficiency and effectiveness as well as the quality of the security processes at the locations.

In an increasingly competitive global market environment, access to know-how and confidential company information bears the potential of a major financial advantage to outsiders or competitors. Deutsche Börse applies state-of-the-art technology to prevent its knowledge from being obtained illegally, e.g. through wiretapping.

Furthermore, Corporate Security is tasked with providing support to employees whilst they are travelling or on foreign assignment, i.e. protecting them from risks in the areas of crime, civil unrest, terrorism and natural disasters. In this context, a worldwide travel security programme was established which guarantees a risk assessment before, during and after travelling, supported by a travel-tracking system and a central 24/7 emergency telephone number.

Insurance contracts

Operational risks that Deutsche Börse Group cannot or does not wish to bear itself are transferred to insurance companies, if this is possible at a reasonable price. The insurance policies are checked individually and are approved by Deutsche Börse AG's Chief Financial Officer.

Financial risk

Deutsche Börse Group divides its financial risk into credit, market and liquidity risk (see the “Financial risk at Deutsche Börse Group” chart below). At Group level, these risks account for about 24 per cent of the REC (this information only includes credit and market risk; liquidity risk is not quantified as part of the REC; see [note 23 to the consolidated financial statements](#)). They apply primarily to the Group’s credit institutions. As a result, the following comments focus on Clearstream and Eurex Clearing AG.

Financial risk at Deutsche Börse Group



Credit risk

Credit risk or counterparty credit risk describes the danger that a counterparty might not meet its contractual obligations, or not meet them in full. Measurement criteria include the credit rating of the counterparty, the degree to which a credit line has been utilised, the collateral deposited and concentration risk. Although Clearstream and Eurex Clearing AG often have short-term exposures against counterparties totalling several billion euros overall, these are generally secured by collateral deposited by the market participants. However, Clearstream may have short-term unsecured exposures with correspondence banks in the course of settling securities transactions. Moreover, the Group regularly evaluates the reliability of its recovery plans at Clearstream and Eurex Clearing AG in various scenarios (including client defaults), and the resulting credit risk.

Clearstream grants loans to its clients in order to make the securities settlement more efficient. This type of credit business is, however, fundamentally different from the classic lending business. On the one hand, credit is extended solely for less than a day, and it is generally collateralised and granted to clients with a high credit rating on the other. Furthermore, the credit lines granted can be revoked at any time.

Furthermore, Clearstream Banking S.A. is exposed to credit risk arising from its strategic securities lending transactions (ASLplus). Only selected banks act as borrowers. All borrowing transactions are fully collateralised and only selected bonds with a high credit rating are permitted for use as collateral.

Under its terms and conditions, Eurex Clearing AG only enters into transactions with its clearing members. Clearing mainly relates to defined securities, subscription rights and derivatives that are traded on specific stock exchanges. Eurex Clearing AG also offers this service for over-the-counter (OTC) products such as interest rate swaps and forward rate agreements. As a central counterparty, it intervenes between the parties to a transaction. By offsetting reciprocal claims and requiring clearing members to post collateral, Eurex Clearing AG mitigates the credit risk exposure.

To date, no default by a client with a secured credit line has resulted in financial losses. Deutsche Börse Group therefore considers the risk of client default resulting in material losses for the Group to be low. Credit risk can also arise from cash investments. The Treasury department is responsible here, and has Group-wide authority. Treasury largely makes collateralised investments of funds belonging to Group companies as well as cash provided by Clearstream and Eurex Clearing AG customers. The Group has not incurred any losses from such investment activity to date.

Clearstream and Eurex Clearing AG run stress tests to analyse scenarios, such as the default of their largest client. The figures determined in this way are compared with the limits defined as part of the companies' risk-bearing capacity. In addition, the impact of several clearing members defaulting at the same time is calculated for Eurex Clearing AG. Moreover, inverse stress tests are run to determine the number of counterparties that would have to default for losses to exceed the risk cover amount. Extended stress scenarios were drawn up in 2020, especially in view of the coronavirus pandemic and the potential future defaults at banks. The results are analysed continuously and included in the calculation of risk-bearing capacity.

Deutsche Börse Group generally tracks a variety of risk indicators in addition to its risk measures (REC, regulatory capital requirements and the stress tests performed for credit risk). These include the extent to which individual clients utilise their credit lines and where credit is concentrated.

Reducing credit risk

Clearstream and Eurex Clearing AG assess the creditworthiness of potential customers or counterparties to an investment before entering into a business relationship with them. The companies do this in the same way: they determine the size of individual customers' credit lines based on requirements and regular creditworthiness checks, which they supplement with ad hoc analyses if necessary. They define safety margins for the collateral depending on the risk involved and review them continuously.

Deutsche Börse Group reduces its risk when investing funds belonging to Group companies and client funds by distributing investments across multiple counterparties, all with a high credit quality, by defining investment limits for each counterparty and by investing funds primarily in the short term and in collateralised form if possible. Investment limits are established for each counterparty on the basis of at least annual credit checks and using ad hoc analyses, as necessary. Since extending its licence as an investment and credit institution under Kreditwesengesetz (German Banking Act), Eurex Clearing AG can also use the permanent facilities at Deutsche Bundesbank and the Swiss National Bank; it is thus in a position to manage the majority of client funds in a central bank environment.

Investment losses on currencies for which Eurex Clearing AG has no access to the respective central banks will be borne, on a pro-rata basis, by Eurex Clearing AG and by those clearing members active in the currency where losses were incurred. The maximum amount which each clearing member will have to contribute in this manner is the total amount such clearing member has pledged with Eurex Clearing AG as cash collateral in this currency. The maximum amount to be borne by Eurex Clearing AG is €50 million.

Given the size and volatility of its clients' liabilities, Eurex Clearing AG has developed a leading-edge margining system, which is described in detail in the following section.

Safety for participants and the clearing house

Each clearing member must prove that it has liable capital (or, in the case of investment funds, assets under management) equal to at least the amounts that Eurex Clearing AG has defined for the different markets. The amount of liable capital (or assets under management) for which evidence must be provided depends on the risk. To mitigate Eurex Clearing AG's risk that clearing members might default before settling open transactions, members are obliged to deposit collateral in the form of cash or securities (margins) on a daily basis and, if required, to meet additional intraday margin calls.

Eurex Clearing AG only permits securities with a high credit quality and liquidity to be used as collateral to cover margin requirements. Internal evaluations and external ratings are used to determine the credit quality. On the basis of these consolidated ratings, only collateral that is classified at least as investment grade is permitted. The limits for bank bonds are raised to at least "A–" due to the potential wrong-way risks. The admission criteria are reviewed continually and market risk is covered by haircuts with a confidence level of at least 99.9 per cent. Hence, securities of issuers with lesser credit quality are subject to higher haircuts than those applied to securities with higher credit quality. Eligible collateral that no longer meets the high credit rating requirements at a later point in time (e.g. due to a new consolidated rating) is excluded. Risk inputs are checked monthly and the haircuts are recalculated daily for each security. In addition, a minimum haircut applies to all securities.

Margins are calculated separately for clearing member accounts and client accounts. Gains and losses resulting from intraday changes to the value of financial instruments are either settled in cash by the counterparties (variation margin) or deposited with Eurex Clearing AG as collateral by the seller due to the change in the equivalent value of the item (premium margin). In the case of bond, repo or equity transactions, the margin is collected from either the buyer or the seller (current liquidating margin), depending on how the transaction price performs compared to the current value of the financial instruments. The purpose of these margins is to offset accumulated gains and losses.

In addition, Eurex Clearing AG uses additional collateral to protect itself in the case of default by a clearing member against any risk that the value of the positions in the member's account will deteriorate in the period before the contained positions are closed and the account is settled. This additional collateral is known as the initial margin. The target confidence level here is at least 99.0 per cent (with a minimum two-day holding period) for exchange-traded transactions, or 99.5 per cent (with a minimum five-day holding period) for OTC transactions. Eurex Clearing AG checks daily whether the margins match the requested confidence level: the initial margin is currently calculated using both the standard risk-based margining method and the Eurex Clearing Prisma method.

The Eurex Clearing Prisma method is available for all traded derivatives contracts and takes the clearing member's entire portfolio – as well as historical and stress scenarios – into account when calculating margin requirements. The objective is to cover market fluctuations for the entire liquidation period until the account is settled. At present, the risk-based margining method is still used for cash market products and physical deliveries, as well as for securities lending and repo transactions.

In addition to the margins for current transactions, each clearing member contributes to a default fund, with the contributions based on its individual risk profile. This fund is jointly liable for the financial consequences of a default by a clearing member to the extent that this cannot be covered by the member's individual margin, and its own and Eurex Clearing AG's contributions to the default fund. Eurex Clearing AG uses daily stress tests to check whether its default fund is adequate enough to absorb a default of its two largest clearing members. This involves subjecting all current transactions and their collateral to market price fluctuations at a confidence level of at least 99.9 per cent. In order to be able to determine potential losses in excess of a clearing member's individual margins, the impact on the default fund of a potential default is simulated. Eurex Clearing AG has defined limits which, when exceeded, trigger an immediate adjustment to the size of the default fund if necessary. The following lines of defence are available in case a clearing member is unable to meet its obligations to Eurex Clearing AG due to a delay in performance or a default:

- First, Eurex Clearing AG may net the relevant clearing member's outstanding positions and transactions and/or close them – in terms of the risk involved – by entering into appropriate back-to-back transactions, or settle them in cash. Clients' segregation models are taken into account accordingly.
- Any potential shortfall that might be incurred in connection with such a closing or cash settlement, as well as the associated costs, would be covered in the first instance by the collateral provided by the clearing member concerned. As at 31 December 2020, collateral amounting to €66,598 million had been provided for the benefit of Eurex Clearing AG (after haircuts).
- After this, the relevant clearing member's contribution to the default fund would be used to cover the open amount. Contributions ranged from €1 million to €487.3million as of 31 December 2020.
- Any remaining shortfall would initially be covered by a contribution to the default fund by Eurex Clearing AG. Eurex Clearing AG's contribution amounted to €200.0 million as of 31 December 2020.
- Only then would the other clearing members' contributions to the default fund be used proportionately. As at 31 December 2020, aggregate default fund contribution requirements for all clearing members of Eurex Clearing AG amounted to €4,536 million. After the contributions have been used in full, Eurex Clearing AG can request additional contributions from each clearing member, which can be at most twice as high as their original default fund contributions. In parallel to these additional contributions, Eurex Clearing AG provides additional funds of up to €300.0 million, provided via a letter of comfort from Deutsche Börse AG (see below). These additional funds will be used together with the additional clearing member contributions, on a pro-rata basis.
- Next, the portion of Eurex Clearing AG's equity which exceeds the minimum regulatory capital requirements would be realised.
- Finally, the remaining equity of Eurex Clearing AG would be drawn upon.

- Deutsche Börse AG has issued a letter of comfort in favour of Eurex Clearing AG. With this letter of comfort, Deutsche Börse AG commits to provide Eurex Clearing AG with the funds required to meet its obligations – including the obligation to provide additional funds of up to €300.0 million, as mentioned before. The maximum amount to be provided under the comfort letter amounts to €600.0 million, including payments already made. Third parties are not entitled to any rights under the comfort letter.

In the event of default by a clearing member, Eurex Clearing AG carries out a Default Management Process (DMP), with the objective of closing out all positions assumed as a result of the default. Within the scope of the DMP, any costs incurred in connection with such close-out are covered using collateral from Eurex Clearing AG's lines of defence. Essentially, within the DMP framework, products which share similar risk characteristics are assigned to liquidation groups that are liquidated using the same process. Within a liquidation group, Eurex Clearing AG will balance its position by transferring defaulted positions to other clearing members, either via an auction or by way of bilateral independent sales. Potential claims against Eurex Clearing AG, arising from the settlement of positions assumed from the defaulted clearing members, are covered by the collateral from the multiple lines of defence. Whenever necessary, these collateral items are disposed of in the market by way of bilateral independent sales, in order to cover the outstanding claims from settling the open positions. The DMP will therefore not only contribute to the security and integrity of capital markets, but will also protect non-defaulted clearing members from any negative effects resulting from the default.

In the past, the DMP of Eurex Clearing AG has been used four times, involving the defaults of Gontard & MetallBank (2002), Lehman Brothers (2008), MF Global (2011) and Maple Bank (2016). In all of the cases mentioned before, the funds pledged as collateral by the defaulted clearing member were sufficient to cover losses incurred upon closing out positions – in fact, a significant portion of resources was returned to the defaulted clearing member.

Market risk

Market risk include risks of an adverse development of interest rates, exchange rates or other market prices. Deutsche Börse Group measures these risks using Monte Carlo simulations based on historical price data, as well as corresponding stress tests.

Clearstream and Eurex Clearing AG invest parts of their equity in securities with the highest credit quality. The majority of these securities have a variable interest rate, interest rate risk is low. The Group avoids open currency positions whenever possible. Furthermore, market risk could result from Deutsche Börse Group's ring-fenced pension plan assets (Contractual Trust Arrangement (CTA), Clearstream's pension fund in Luxembourg). The Group reduced its risk of extreme losses by deciding to invest the bulk of the CTA on the basis of a value preservation mechanism.

Liquidity risk

Liquidity risk arises if a Deutsche Börse Group company is unable to meet its daily payment obligations or if it can only do so at a higher refinancing cost. Operational liquidity requirements are met primarily internally by retaining funds generated with a view towards maintaining sufficient liquidity in order to be able to meet all of the Group's payment obligations when due.

An intra-Group cash pool is used to pool surplus cash from subsidiaries on a Deutsche Börse AG level, as far as regulatory and legal provisions allow. Liquid funds are invested in the short term in order to ensure that they are available. Short-term investments are also largely secured by liquid bonds from first-class issuers. Deutsche Börse AG has access to short-term external sources of financing, such as agreed credit lines with individual banks or consortia, and a commercial paper programme. In recent years, Deutsche Börse Group has leveraged its access to the capital markets to issue corporate bonds in order to meet its structural financing needs.

Since Clearstream's investment strategy aims to be able to repay customer deposits at all times, maturity limits are set carefully. In addition, extensive sources of financing are available at all times, such as ongoing access to the liquidity facilities at Deutsche Bundesbank and Banque centrale du Luxembourg.

Due to its role as a central counterparty, Eurex Clearing AG has strict liquidity guidelines and its investment policy is correspondingly conservative. Regular analyses ensure the appropriateness of the liquidity guidelines. In addition, Eurex Clearing AG can use Deutsche Bundesbank's permanent facilities.

Deutsche Börse Group can also be exposed to liquidity risk in case of a customer default. If a clearing member of Eurex Clearing AG defaults, its member position is liquidated. If a Clearstream customer defaults, the – generally collateralised and intraday – credit line granted to increase settlement efficiency would be called, and the collateral provided by the client could then be liquidated. A decline in market liquidity, following a market disruption, would increase Deutsche Börse Group's liquidity risk exposure. By means of stress tests, Clearstream and Eurex Clearing AG calculate for each day of the month – and report on a monthly basis – the liquidity needs that would result if the two largest counterparties were to default, and maintain sufficient liquidity in order to cover this liquidity requirement. Potential risks that are identified in the course of stress tests are analysed and corresponding risk-reduction measures initiated. During the 2020 reporting year, Eurex Clearing AG and Clearstream continuously held sufficient liquidity to fulfil both regulatory requirements as well as the liquidity needs determined through stress tests.

Business risk

Business risk reflects the fact that the Group depends on macroeconomic and geopolitical developments and is influenced by other external events, such as changes in the competitive environment or regulatory initiatives. It therefore expresses the risks associated with the Group's business environment and sector. It also includes business strategy risk, i.e. the impact of risks on the business strategy and possible adjustments to it. These business risks are represented as variance analyses of planned and actual EBITDA, and are monitored constantly by the divisions. They account for about 11 per cent of the Group's REC. Business risk may result in revenues lagging budget projections or in costs being higher.

Business risk includes the risk that competitors, such as the exchanges Euronext, Singapore Exchange (SGX), ICE Futures Europe and Mercado Español de Futuros Financieros (MEFF), as operators of derivatives markets, might increase their market shares on the European trading markets (both on- and off-exchange).

Additional business risk may arise from regulatory requirements, or from the geopolitical or economic environment – for example, in the event of an inner-European crisis affecting the monetary union, the impact of negative interest rates or a tariff conflict, having adverse effects on trading activity.

In recent years Deutsche Börse Group has taken steps to reduce the direct risks associated with “Brexit” – the departure of the United Kingdom (UK) from the European Union (EU). They focus on customer access to the Group’s systems, on market access to the UK for the Group’s business units and on establishing an alternative pool of liquidity within the EU 27 for clearing interest rate swaps denominated in euros. Despite this, it will be necessary to keep a close eye on how the relationship evolves in the future. These relations are expected to have an impact on issues of general market access and on the development of the regulatory frameworks in the respective markets. In the medium to long term, the latter could diverge and so jeopardise market access or result in higher operating costs. It could also result in different competition rules, which may lead to uncertainty, additional costs and lost revenue for the Group and for market participants.

In terms of political tax discussions, the financial transaction tax (FTT) to which some European states still aspire represents a variable which could have an adverse effect on the Group’s business. Steps to introduce a digital tax or a Union-wide taxation of financial services could also have a negative impact on the Group, depending on how the scope of application is defined.

Other regulatory risks exist in connection with the forthcoming review of the directive and regulation on markets in financial instruments (MiFID II/MiFIR). In terms of trading, the main risks for volumes at the Eurex Exchange and the Group’s spot market would be if any competitive disadvantages caused trading activities to move to alternative venues. Furthermore, rules on non-discriminatory access to clearing and trading in financial instruments could have an adverse impact on trading volumes and revenue. Finally, it should be noted that ideas and initiatives concerning a consolidated data storage system, particularly in combination with stricter regulation of pricing for market data, could result in business risks for the Group’s market data business.

In connection with the review of the Central Securities Depository Regulation (CDSR) there are also risks for the business of Eurex Securities Transaction Services if the conditions for mandatory buy-in transactions, which are linked to the rules on settlement discipline, are changed. In addition, there are a number of risks for the securities depositories in the Group, which may also entail changes to their organisational structure. A review of the framework could also lead to restrictive practices and so represent a risk to revenue. Finally, the Group’s securities depositories could also be exposed to revenue risk as a result of the work carried out by the contact group for the primary market at the European Central Bank.

In its clearing business there are some risks for the Group concerning the final structure of the framework for the recovery and resolution of central counterparties, as well as from the ongoing development of global standards. The former relate particularly to the liability and capital requirements of operators of central counterparties in relation to market participants and so could represent a revenue and cost risk for the Group. In addition, further implementation of the European Market Infrastructure Regulation 2.2 (EMIR 2.2) on the work of the Supervisory Committee for Central Counterparties could affect the ongoing development of the Eurex Clearing Partnership Programme in the field of interest rate derivatives.

The ongoing review of the European Market Infrastructure 2.1 (EMIR 2.1) could also distort competition due to changes affecting risk-mitigation services in post-trading and so cause a loss of revenue.

Other business risks exist in the medium term from legislative initiatives from the European Commission on the Digital Finance Package. To encourage the use of distributed ledger technology (DLT) in financial markets the European Commission is proposing limited and experimental DLT pilot regimes to introduce DLT multilateral trading facilities (MTF) as novel DLT market infrastructures. They would be admitted for trading securities that are transferred via DLT, which are not recorded with a central depository but rather in a distributed ledger of the same DLT MTF. This potentially poses risks to existing business models in the Group, to the extent that the proposed exceptions are established within the existing regulatory framework. Another proposal by the European Commission, the Digital Operational Resilience Act (DORA), provides for the EU-wide harmonisation of the requirements for the digital operational resilience of all financial market participants in terms of information and communications technologies (ICT). The proposal also includes a new prudential regime for third-party ICT providers and critical ICT services, including cloud services. DORA creates a risk of higher costs and increasing complexity and inflexibility for the operation of the Group's IT infrastructure. Furthermore, the proposal could have an adverse impact on the Group's multi-cloud strategy by making it more difficult to use cloud services in the financial industry.

Similar risks could also arise from the implementation in Germany of the EU Directive on the Security of Network and Information Systems (NIS Directive). The provisions of the current draft of the Second Act to Increase the Security of Information Systems (IT-SiG 2.0) must be considered to be significant for the companies concerned. Alongside new standards and specifications, new responsibilities, technical access rights and powers are defined for the German Federal Office for IT Security (BSI), and the German Federal Ministry of the Interior, Building and Community (BMI) is given the right to issue orders. The current situation is that the Group would be classified in the legislation as an entity of "particular public interest", which could potentially result in new liability risks, duties and additional costs.

In the field of ongoing environmental, social and governance (ESG) regulation there are also a number of risks for the Group's market data and index business. A strict and prescriptive regulatory approach to environmental standards in the finance sector could also cause disruption in the Group's traditional business areas and so raise questions in terms of market quality, market depth, pricing and risk management. These business risks could be supported by further regulatory initiatives in the field of sustainable corporate governance and so represent revenue risks.

BaFin is assessing on a regular basis whether Deutsche Börse AG could potentially be classified as a financial holding company. Currently, Deutsche Börse AG is not classified as a financial holding company. On the basis of the business portfolio and the criteria which are, to the knowledge of Deutsche Börse AG, applied by BaFin when classifying a company as a financial holding company, the Executive Board of Deutsche Börse AG is not of the opinion that Deutsche Börse AG qualifies as a financial holding company. Such qualification could, inter alia, have an impact on the capital base of Deutsche Börse AG.

Regulatory capital requirements and regulatory capital ratios

As in the past, Clearstream Banking S.A., Clearstream Banking AG and Eurex Clearing AG, in their capacity as credit institutions, are subject to solvency supervision by the German or Luxembourg banking supervisory authorities (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin, and Commission de Surveillance du Secteur Financier, CSSF, respectively). The same applies to the Clearstream Holding at a regulatory group level. Eurex Repo GmbH and 360 Treasury Systems AG are also subject to specific provisions applicable to certain investment firms under BaFin prudential supervision.

Since the authorisation of both Eurex Clearing AG and European Commodity Clearing AG as central counterparties in 2014, these companies have been subject to the capital requirements defined in Article 16 EMIR. These requirements apply to Eurex Clearing AG as an authorised central counterparty in parallel to the prudential supervision requirements; the higher requirement applies. Irrespective of its status as an other credit institution according to German law, European Commodity Clearing AG is only subject to EMIR capital requirements.

Since Clearstream Banking AG was authorised as a central securities depository on 21 January 2020, it has been subject to the capital requirements defined in Article 47 CSDR. These requirements apply to Clearstream Banking AG at the same time as the prudential supervision requirements; the higher requirement applies.

The applications filed for Clearstream Banking AG (pursuant to Article 54 CSDR) and Clearstream Banking S.A. are currently being reviewed by the respective supervisory authorities. In addition to the above mentioned capital requirements, Clearstream Banking AG and Clearstream Banking S.A. will also be subject to a capital surcharge for the provision of intra-day credit risk pursuant to Article 54 (3) d) CSDR.

Nodal Clear, LLC is a Derivatives Clearing Organisation (DCO) subject to regulation by the US Commodity Futures Trading Commission (CFTC).

REGIS-TR S.A., as a trade repository according to EMIR, is subject to supervision exercised by the European Securities and Markets Authority (ESMA).

None of the Deutsche Börse Group entities are trading book institutions. Market risk exposures consist only of relatively small open foreign currency positions. The companies concerned uniformly apply the standardised approach for credit risk. As a result of the specific business of the central securities depositories and central counterparties belonging to Deutsche Börse Group, their recognised assets are subject to wide fluctuations. This leads to correspondingly volatile total capital ratios especially at the Clearstream companies. The volatility of the ratio is subject to major fluctuations on a day-to-day basis in the course of the year. Due to a high degree of secured or zero-weighted cash investments, the own funds requirements for credit exposures of Eurex Clearing AG and European Commodity Clearing AG are relatively stable despite volatile total assets in the course of the year.

To calculate operational risk, Eurex Clearing AG and European Commodity Clearing AG use the basic indicator approach, whilst the Clearstream companies apply the advanced measurement approach.

Due to the specific arrangements for the investment firms Eurex Repo GmbH, 360 Treasury Systems AG and Eurex Securities Transactions Services GmbH, no explicit own funds requirements for operational risk are determined in accordance with Article 95 CRR. Instead, the total own funds requirement is determined either as the own funds requirement amount for credit and market risk or as 25 per cent of fixed overhead costs, depending on which is higher. Since credit and market risks are low, the relevant criterion for these companies is the own funds requirement on the basis of overhead costs.

None of the Group companies subject to prudential supervision has either Additional Tier 1 or Tier 2 capital.

A minimum total capital ratio of 8 per cent generally applies to institutions subject to the CRR. In addition, CRD IV introduced various capital buffers, which the supervised (credit) institutions generally have to meet on top of the minimum total capital ratio of 8 per cent, although they may temporarily fall below these levels. The current capital conservation buffer is 2.5 per cent.

As at 31 December 2020, the bank-specific countercyclical buffer requirement amounted to 0.04 per cent of risk-weighted assets for Clearstream Banking S.A, to 0.045 per cent for Clearstream Banking AG and to 0.09 per cent for Clearstream Holding Group whereas Eurex Clearing AG has to hold 0.25 per cent. As at 31 December 2020, the systemic risk buffer was not required by the authorities in Luxembourg or Germany. None of the Group companies has been defined as of global systemically important institution. Clearstream Banking S.A. has been defined by CSSF No 20-07 as an “other systemically important institution” (O-SII) since 1 January 2018 and requires an additional buffer of 0.5 per cent.

The individual companies’ capital resources sufficiently reflect the fluctuation in risk-weighted assets. In addition, buffers are taken into account for the calculation of the recovery indicators specified in the recovery plans. The objective of these indicators is to prevent triggering recovery events. The capital requirements determined in this way will be used for the mid-term capital planning.

The own funds requirements of Clearstream Group increased slightly in the reporting period. The capital requirements for Clearstream Banking AG increased, whilst for Clearstream Banking S.A. they decreased. Changes occurred regarding own funds requirements for operational risks as well as credit and market risks, both at the single-entity and Group levels.

In the medium to long term, the Clearstream Group expects increasing own funds requirements at a regulatory group level for the following reasons:

- The future applicability of own funds requirements based on CSDR (already applicable to CBF)
- The establishment of own funds requirements resulting from the introduction of minimum requirements for equity and eligible liabilities (MREL) as a result of Directive 2014/59/EU
- The implementation of the so-called CRR II package and other amendments under Basel III

Eurex Clearing AG’s own funds requirements increased compared with the previous year. Given the increase in revenues in the past years, own funds requirements for operational risk rose according to the model, whilst own funds requirements for credit and market remained stable.

The own funds requirements for operational risk calculated with Eurex Clearing AG's internal risk model are higher than the own funds requirements derived from the basic indicator approach, which is based on the profit and loss statement as prescribed by CRR. Hence, Eurex Clearing AG always applies additional capital buffers for such risks, surpassing regulatory minimum requirements. Against this background, banking supervisors requested in 2011 that Eurex Clearing AG increase the basis for the calculation of regulatory own funds requirements by considering an appropriate share of clearing-related fees received for the account of operating entities. The own funds requirements for operational risk are calculated once a year based on a three-year average of historical income, including the assumed clearing fees, and are therefore not subject to daily fluctuations.

Compliance with the minimum regulatory ratio is maintained at all times due to the sufficient capital buffer for uncollateralised cash investments.

Composition of own funds requirements

	Own funds requirements for operational risk		Own funds requirements for credit and market risk		Total capital requirements	
	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 €m	31 Dec 2019 €m
Clearstream Holding Group	452.6	450.6	83.5	63.2	536.1	513.8
Clearstream Banking S.A.	307.4	324.5	56.5	53.2	363.9	377.7
Clearstream Banking AG	145.2	126.2	5.1	6.5	150.3	132.7
Eurex Clearing AG	88.0	80.6	16.2	16.2	104.2	96.8

In 2020, the parent company Clearstream Holding AG made a contribution of €50.0 million to the capital reserve of Clearstream Banking AG. Eurex Clearing AG received contributions to its capital reserve of €135.0 million in 2020 from the parent company Eurex Frankfurt AG. Further contributions are scheduled for the coming years, in order to strengthen their capital base.

Regulatory capital ratios according to CRR

	Own funds requirements		Regulatory equity		Total capital ratio	
	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 %	31 Dec 2019 %
Clearstream Holding Group	536.1	513.8	1,677.7	1,559.5	25.0	24.3
Clearstream Banking S.A.	363.9	377.7	1,209.9	1,149.2	26.6	24.4
Clearstream Banking AG	150.3	132.7	419.9	369.7	22.4	22.3
Eurex Clearing AG	104.2	96.8	749.8	614.8	57.6	50.8

Clearstream Banking AG's capital requirements according to CSDR are currently significantly above CRR and CRD IV capital requirements. The capital requirements under Article 47 CSDR do not stipulate a specific ratio. Instead, the regulatory capital are compared with the capital requirements and has to be at least the same.

Capital adequacy requirements under CSDR

	Clearstream Banking AG	
	31 Dec 2020 €m	31 Dec 2019 €m
Own funds requirement for operational, credit and market risk	150.3	n/a
Other CSDR capital requirements	161.1	n/a
Total CSDR capital requirements under Article 47 CSDR	311.4	n/a
CSDR capital	419.9	n/a

Eurex Clearing AG's capital requirements according to EMIR are currently significantly above CRR and CRD IV capital requirements. As with the CSDR, the capital requirements under Article 16 EMIR do not stipulate a specific ratio. For both Eurex Clearing AG and European Commodity Clearing AG, this means that EMIR capital coverage of at least 100 per cent is required. A reporting requirement to the competent authority – in this case BaFin – is triggered when this ratio falls below 110 per cent.

The capital resources of Eurex Clearing AG and European Commodity Clearing AG are currently well above the regulatory requirements. As at the reporting date, total equity for both entities as disclosed in the financial statements was fully available to cover the risks according to Article 16 of EMIR as this equity fulfils the liquidity requirement. Eurex Clearing AG's own contribution to the default fund is €200.0 million. The own contribution to the default fund of European Commodity Clearing AG was also constant at €15.0 million and so also above the regulatory minimum.

Capital adequacy requirements under EMIR

	Eurex Clearing AG		European Commodity Clearing AG	
	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 €m	31 Dec 2019 €m
Own funds requirement for operational, credit and market risk	104.2	96.8	28.8	25.2
Other EMIR capital requirements	86.6	76.2	56.1	41.9
Total EMIR capital requirements under Article 16 EMIR	190.8	173.0	84.9	67.1
Equity	749.8	614.8	131.9	118.9
EMIR deductions	0	0	0	0
Own contribution to default fund	- 200.0	- 200.0	- 15.0	- 15.0
EMIR capital	549.8	414.8	116.9	103.9

According to Article 95 CRR, Eurex Repo GmbH and 360 Treasury Systems AG must hold equity of at least 25.0 per cent of the fixed overhead costs of the previous year.

Composition of own funds/capital requirements

	Own funds requirements for credit and market risk		Own funds requirements on the basis of fixed overheads		Own funds requirements to be met	
	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 €m	31 Dec 2019 €m
Eurex Repo GmbH	0.7	0.6	1.6	1.8	2.3	2.4
360 Treasury Systems AG	6.3	5.2	3.9	4.3	10.2	9.5

Compliance with own funds requirements

	Own funds requirements		Regulatory equity		total capital ratio	
	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 %	31 Dec 2019 %
Eurex Repo GmbH	2.3	2.4	27.6	21.9	94.9	72.5
360 Treasury Systems AG	10.2	9.5	39.9	32.8	31.2	27.5

According to Article 21 (b) of the Delegated Regulation (EU) No 150/2013, REGIS-TR S.A. is required to maintain equity in the amount of at least 50 per cent of annual operating costs.

According to the MAS, EEX Asia Pte. Limited is required to maintain own funds at the rate of either 18 per cent of annual operating revenue or 50 per cent of annual operating costs, depending on which is higher. Regulatory requirements were met throughout the year. Regarding the anticipated upswing in the business development of EEX Asia Pte. Limited, we expect slightly increasing own funds requirements. Its capital base will be adjusted, if required.

Pursuant to Section 39.11 of the Code for Federal Regulation (CFR), Nodal Clear, LLC is obliged to maintain sufficient financial resources to cover all current costs for a minimum period of twelve months, whereby highly liquid assets must cover all current costs for at least six months. Regulatory minimum requirements were met throughout the year.

Compliance with own funds requirements

	Own funds requirements		Regulatory equity		Equity ratio	
	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 €m	31 Dec 2019 €m	31 Dec 2020 %	31 Dec 2019 %
REGIS-TR S.A.	6.5	5,7	10.7	9,3	164.6%	163.2%
EEX Asia Pte. Limited	0.5	0.6	1.8	1.5	360.0%	250.0%
Nodal Clear LLC	24.5	24.5	31.9	31.1	130.2%	126.9%

The regulatory minimum requirements were complied with at all times by all companies during the reporting period and in the period up to the preparation of the consolidated financial statements.

Overall assessment of the risk situation by the Executive Board

Deutsche Börse AG's Executive Board is responsible for risk management throughout the Group and regularly reviews the entire Group's risk situation. The Executive Board of Deutsche Börse AG confirms the effectiveness of the risk management system.

Summary

The risk profile of Deutsche Börse Group did not change significantly in the 2020 financial year. Deutsche Börse Group's aggregated risks across all risk types (operational, financial and business risks) were covered by sufficient risk-bearing capacity on a Group level at all times.

As at 31 December 2020, the Group's REC amounted to €3,157 million, an almost 17 per cent increase year-on-year (31 December 2019: €2,696 million).

Outlook

Deutsche Börse Group continually assesses its risk situation. Based on the calculated REC in stress tests and based on the risk management system, Deutsche Börse AG's Executive Board concludes that the available risk cover amount is sufficient. Furthermore, it cannot identify any risk that would endanger the Group's existence as a going concern.

In 2021, the Group intends to continue strengthening and expanding its risk management and internal control system. This includes, for example, further expansion of information security management, methodological improvements in risk management and the ICS, as well as a closer coordination between control functions, also by means of a Group-wide governance, risk and compliance tool.

Report on opportunities

Organisation of opportunities management

Deutsche Börse Group's opportunities management aims to identify, evaluate and assess opportunities as early as possible and to take appropriate measures in order to transform opportunities into business success.

Deutsche Börse Group evaluates organic growth opportunities in the individual business areas both on an ongoing basis throughout the year and systematically at the Group level as part of its annual budget planning process. The process begins with a careful analysis of the market environment, which considers both what the customer wants, as well as market developments, competitors and regulatory changes. Ideas for growth initiatives are developed further using uniform, Group-wide templates and subjected to a profitability analysis. On this basis, the Executive Board of Deutsche Börse AG makes the final decision as to which initiatives are to be implemented.

Organic growth opportunities

Deutsche Börse Group has a very broad portfolio of products and services with which it covers all areas of a market infrastructure provider's value creation chain. This makes the Group one of the most broadly based stock exchange organisations in the world. In order to maintain and expand this position the company is pursuing a new medium-term growth strategy called Compass 2023. Among other things Deutsche Börse Group is focusing on organic growth opportunities in order to achieve its strategic goals. The Group makes a basic distinction between secular and cyclical opportunities: secular opportunities arise for example as a result of regulatory changes, new client requirements (such as the growing demand for exchange-traded solutions to over-the-counter (OTC) transactions) or from the trend whereby an increasing portion of assets are allocated in passive investment strategies (e.g. index funds). The company can actively exploit these opportunities. Cyclical opportunities on the other hand cannot be influenced directly by the Group and are driven by macroeconomic changes. In addition Deutsche Börse Group intends to seize long-term opportunities arising as a result of the technological transformation. Growth from M&A is another aspect of the new strategy which is becoming more important.

Secular growth opportunities

When exploiting secular growth opportunities Deutsche Börse Group focuses on product innovations, increasing market share and winning new customers. The Group expects to see its highest revenue growth in trading and clearing in the coming years, due in part to the clearing of new financial derivatives, OTC derivatives and further growth in the trading of energy and gas products. Foreign exchange trading via 360T is also expected to provide a contribution to net revenue growth. Post-trading will focus on the further development of investment fund business. The growth focus in pre-trading lies in expanding the index, analytics and ESG business. The commercial potential of the initiatives mentioned here is described in more detail below.

New financial derivatives

Deutsche Börse Group operates Eurex, one of the leading global derivative exchanges. In addition to a broad range of established international benchmark products, a large number of new products have been introduced in recent years, such as MSCI, total return, dividend and ESG derivatives. These new products reflect changes in customer preferences and regulatory requirements. The company anticipates further strong growth in these and other new products still to be launched in the years ahead.

Clearing of OTC derivatives

The liquidity problems experienced by major market participants during the financial crisis were triggered by the failure to settle bilateral OTC transactions that were mainly entered into on an unsecured basis. In light of this, the leading industrialised nations (G20) agreed to create an effective regulatory environment to make off-exchange derivatives transactions more transparent and more secure. Consequently, the European Union has created the European Market Infrastructure Regulation (EMIR). EMIR involves the obligation to clear standardised OTC derivative transactions using a central counterparty. Eurex Clearing AG and its market partners created an alternative for clearing interest rates swaps in the EU in 2017, which since then has seen continuous growth in notional outstanding volumes and market share.

Trading and clearing of power and gas products on EEX

Leipzig-based European Energy Exchange AG (EEX) allows Deutsche Börse Group to offer a broad product range for trading and clearing of spot and derivatives contracts on power and gas as well as emission certificates. EEX has become the central market for energy in Continental Europe and its product range includes the markets Germany, France, the Netherlands, Belgium, Italy and Spain. It has also been active in the US market through its acquisition of Nodal Exchange in 2017. EEX's growth is mainly based on the growing importance of renewable energies for generating energy. Owing to the high degree of fragmentation, as well as the inefficiency of OTC markets, the demand for on-exchange trading and clearing solutions has also increased over recent years. EEX believes it is well positioned in this changing competitive environment to achieve structural growth and gain additional market share.

Growth in foreign-exchange trading (360T)

360T[®] is a leading global platform for currency trading, whose broad customer base includes companies, buy-side customers and banks. By combining 360T's knowledge and experience in the foreign exchange market with Deutsche Börse Group's IT expertise, the Group will be able to tap the additional revenue potential. 360T has made progress with various measures for achieving synergies, including the launch of its FX futures and clearing services. Thanks to its leading position, Deutsche Börse also benefits from a structural trend: even though, at present, the vast majority of daily foreign-exchange trading volumes is still executed off-exchange, demand for transparent, electronic multi-bank trading platforms such as is rising.

Cross-border settlement of investment funds

Clients of Deutsche Börse Group can use Clearstream's settlement and custody services for their entire fund portfolio – covering traditional investment funds, exchange-traded funds (ETFs) as well as hedge funds. Given that supervisory authorities are also calling for more efficient settlement and custody solutions in order to guarantee maximum security for client assets under custody, the Group expects to acquire additional client portfolios in the future. The Group is also continuously expanding its range of products and services. Clearstream, for example, is extending its range of fund services to include management of distribution agreements, as well as data compilation through acquisitions. Extending the product and service range, Clearstream expects to generate additional net revenue by realising revenue synergies.

Expansion of the index and analytics business

Deutsche Börse Group's objective in its index business is to give the already established European index provider STOXX an even more global profile, in order to develop and market other indices worldwide (in addition to its DAX® and STOXX® index families). In addition, Deutsche Börse's index business will continue to take advantage of the structural trend towards passive investment products (ETFs). An increasing number of private clients and asset managers now follow this trend; not only are the costs lower, but many active investment strategies have been returning under-average performance. In order to support these trends more effectively, in 2019 Deutsche Börse AG acquired Axioma, a leading provider of portfolio and risk management solutions. The combination created Qontigo; a fully integrated leading information provider for institutional investors, serving the growing market demand for products and analysis in this area.

ESG

The trend toward sustainable investing constitutes another structural growth opportunity for Deutsche Börse Group, which has been given extra momentum by the Covid-19 pandemic. The Group aims to support market participants with high-quality ESG data, specialised ESG indices and the corresponding trading and hedging options. A first step in this direction was taken in November 2020 when the acquisition of Institutional Shareholder Services (ISS) was announced. Furthermore, the company expects additional structural growth from developing new products and winning new customers.

Cyclical opportunities

In addition to its secular growth opportunities, Deutsche Börse Group has cyclical opportunities, for instance as a result of positive macroeconomic developments. Although the Group cannot influence these cyclical opportunities directly, they could lift Deutsche Börse Group's net revenue and net profit for the period attributable to Deutsche Börse AG shareholders significantly in the medium term:

- The volumes of interest rate derivatives traded on the Group's derivatives markets could rise if speculation on trends in long-term yields on German and other European government bonds grows, and if the spread between the various European government bonds continues to narrow.
- In the cash equities and financial derivatives market segment – Xetra (cash equities) and Eurex (financial derivatives) – an economic recovery after the Covid-19 pandemic and a lasting increase in investor confidence in capital markets could stimulate trading activity by market participants and increase trading volumes.

Technological opportunities

New developments such as cloud services, in the context of artificial intelligence (AI), big data, robotics, blockchain technology, combined with the potential for innovation offered by fintech companies, are driving change in the financial sector. This new wave of technology might help overcome barriers to market harmonisation, while creating additional efficiency and mitigating risks. This development has been reinforced by the new environment resulting from the Covid-19 pandemic and is expected to continue in the years to come. The challenge for incumbent providers is in finding the right way to open up new business models and innovative technologies.

The Group has optimised its internal processes particularly with regard to cloud services. HR processes, purchasing and settlement of travel expenses, among others, are now processed in the cloud. This has led to a significant streamlining of processes, and also has a positive effect on the Group's costs. The Group is also working on transferring services and processes with clients to the cloud. For instance, the introduction of new trading platforms and updating of existing infrastructure might be tested beforehand by clients, via the cloud. This would lead to significantly more agile processes within the Group, as new processes would be introduced at more frequent intervals, allowing the Group to respond more effectively to clients' requirements. Deutsche Börse has signed agreements with a number of key cloud service providers, positioning itself at the forefront of cloud use in the European financial services sector.

Blockchain technology constitutes another aspect of technological opportunities. It is considered a disruptive technology at times – but at present, the financial services sector is increasingly exploring its opportunities. Thanks to its decentralised nature, it facilitates direct interaction between participants, thus offering the potential for simplifying complex processes. Established market infrastructure providers such as Deutsche Börse Group, which covers the entire value creation chain from a single source, play an important role when it comes to tapping this potential – meeting existing industry standards at the same time. Besides legal and regulatory requirements, this also involves adhering to security standards, as well as limiting risks and ensuring cost efficiency.

M&A growth opportunities

Growth from M&A is another aspect of the new Compass 2023 strategy which is becoming more important. Deutsche Börse Group focuses on transactions that are closely related to its strategic growth areas, which include its index and analytics business, ESG, commodities, foreign exchange trading, fixed income trading and investment fund services. It aims to accelerate growth in these areas by means of acquisitions and make the businesses even more scalable.

Report on expected developments

The forecast describes Deutsche Börse Group's expected performance for the 2021 financial year. It contains statements and information on events in the future, and is based on the company's expectations and assumptions at the time of publication of this corporate report. In turn, these are subject to known and unknown opportunities, risks and uncertainties. Numerous factors, many of which are outside the company's control, influence the Group's success, its business strategy and its financial results. Should opportunities, risks or uncertainties materialise or should one of the assumptions made turn out to be incorrect, the Group's actual performance could deviate either positively or negatively from the expectations and assumptions contained in the forward-looking statements and information contained in this report on expected developments.

Developments in the operating environment

Macroeconomic environment

The Covid-19 pandemic unexpectedly pushed the global economy into an unprecedented recession in 2020, but Deutsche Börse Group expects a significant economic recovery over the forecast period. It will be boosted by government stimulus programmes, ultra-loose monetary policy by central banks worldwide and an increasing number of Covid-19 vaccinations.

Future development of results of operations

Given its diversified business model and multiple sources of revenue and despite the extraordinary macroeconomic environment, Deutsche Börse Group believes it is very well positioned to further improve its results of operations in the medium and long term. This expectation is based on, among other things, the structural growth opportunities that the Group intends to exploit (for details, see the Opportunities report), as well as on additional contributions from acquisitions.

As in previous years, Deutsche Börse Group expects net revenue from secular growth opportunities to increase by at least 5 per cent in the forecast period. The Group is driving this growth through investments. In doing so, it aims to shift further market share from over-the-counter trading and clearing to the on-exchange segment and to further expand its positions in existing asset classes by introducing new products and functionalities and acquiring new customers. In contrast, the development of business divisions relying on cyclical factors continues to depend mainly on the degree of speculation regarding the future interest rate development and the level of volatility on equities markets. Given the exceptionally high market volatility and US interest rate cuts in the first quarter of 2020, it is very likely that the Group's cyclical net revenue will go down over the forecast period. Acquisitions, particularly the acquisition of Fondcenter AG from UBS on 30 September 2020 and the acquisition of ISS as at 25 February 2021, are expected to deliver additional net revenue. In total the company anticipates net revenue of around €3.5 billion for the forecast period.

Within the scope of its growth strategy, Deutsche Börse Group pursues clearly defined principles for managing operating costs. Essentially, the Group achieves the necessary flexibility in managing operating costs by a continuous process of improving operating routines. The company expects earnings before interest, tax, depreciation and amortisation (EBITDA) to go up to around €2.0 billion in the forecast period. The Group would then be fully in line with its medium-term growth targets of 10 per cent per year on average for net revenue and EBITDA over the period from 2019 to 2023.

Forecast for results of operations 2021

	Based on 2020 €m	Forecast for 2021 €bn
Net revenue	3,213.9	~3.5
Earnings before interest, tax, depreciation and amortisation (EBITDA)	1,877.7	~2.0

Trends in non-financial performance indicators

Initiatives to promote the transparency and security of the markets will continue to be a key focus during the forecast period, ensuring that Deutsche Börse Group adds value to society. With regard to the development of the non-financial performance indicators forecast for 2020, the Group was unfortunately unable to maintain system availability compared with the previous year, which was due to a technical infrastructure failure. Measures taken in this regard promise significantly higher operational reliability in the future. Against this background, the company expects that the availability of the trading systems for the cash and derivatives market will again be at the very high level of previous years in the forecast period.

Responsible management that focuses on long-term value creation is of considerable importance for Deutsche Börse Group as a service provider. Given demographic change and the resulting shortage of specialist staff, the company aims to continue to position itself adequately and – amongst other things – to increase the number of women in management positions.

Deutsche Börse AG's Executive Board has defined target quotas for women on the two management levels beneath the Executive Board, in accordance with section 76 (4) AktG, in each case referring to Deutsche Börse AG. By 31 December 2021, the proportion of women holding positions in the first and second management levels beneath the Executive Board is planned to reach 15 per cent and 20 per cent, respectively.

Moreover, as early as in 2010, the Executive Board had adopted a voluntary commitment to increase the share of women holding middle and upper management positions to 20 per cent by 2020, and of women holding lower management positions to 30 per cent during the same period. The Group maintains this ambition, and has extended the scope of its voluntary commitment, over and above legal requirements. Firstly, the target figures determined in this context relate to Deutsche Börse Group (including subsidiaries) worldwide. Secondly, the definition of management levels/positions was extended to also include heads of teams, for example.

Future development of the Group's financial position

The company expects operating cash flow, which is Deutsche Börse Group's primary funding instrument, to remain clearly positive in the future. The Group expects that two significant factors will influence changes in liquidity. Firstly, the company plans to invest around €200 million in intangible assets and property, plant and equipment at Group level. These investments will serve primarily to develop new products and services in the Eurex (financial derivatives) and Clearstream (post-trading) segments, and to enhance existing ones. Secondly, the Executive Board and Supervisory Board of Deutsche Börse AG will propose a dividend of €3.00 per share to the Annual General Meeting to be held in May 2021. This would represent a cash outflow of about €551 million. Apart from the above, no other material factors were expected to impact the Group's liquidity at the time the combined management report was prepared. As in previous years, the Group assumes that it will have a sound liquidity base in the forecast period due to its positive cash flow from operating activities, adequate credit lines (for details see [note 23](#) to the consolidated financial statements), and flexible management and planning systems.

Deutsche Börse Group generally aims to distribute dividends equivalent to between 40 and 60 per cent of net profit for the period attributable to the shareholders of Deutsche Börse AG. Within this range, the Group manages the actual payout ratio mainly relative to the business performance and based on continuity considerations. In addition, the company plans to invest the remaining available funds primarily into the Group's inorganic growth. Should the Group be unable to invest these funds, additional distributions, particularly share buy-backs, represent another opportunity for the use of funds. To maintain its strong credit ratings at Group level, the company aims at a ratio of net debt to EBITDA of no more than 1.75, and a ratio of free funds from operations to net debt of at least 50 per cent.

Overall assessment by the Executive Board

The Executive Board of Deutsche Börse AG believes that the Group continues to be very well positioned in terms of international competition, thanks to its comprehensive offering along the securities trading value chain and its innovative strength. This being the case, the Executive Board expects to see a positive trend in the Group's results of operations over the long term. The purpose of the measures as part of the growth strategy is to further accelerate the Group's growth. In this context, the Group aims to become more agile and effective and sharpen its client focus, in order to turn Deutsche Börse into the global market infrastructure provider of choice, with a top ranking in all its business areas. Deutsche Börse Group will endeavour to further expand its secular growth areas, and to increase their contribution to net revenue again by at least 5 per cent. Taking other cyclical and consolidation effects into account, the Executive Board expects net revenue to rise to around €3.5 billion in the forecast period. The Executive Board expects EBITDA to go up to around €2.0 billion in the forecast period. Overall, the Executive Board assumes on this basis that cash flow from operating activities will be clearly positive and that, as in previous years, the liquidity base will be sound. The overall assessment by the Executive Board is valid as at the publication date for this combined management report.

Deutsche Börse AG (disclosures based on the HGB)

The annual financial statements of Deutsche Börse AG are prepared in accordance with the provisions of the German Commercial Code (Handelsgesetzbuch, HGB) and the supplementary provisions of the German Stock Corporation Act (Aktiengesetz, AktG) and are the underlying basis for the explanations that follow.

Business and operating environment

General position

Deutsche Börse AG is the parent company of Deutsche Börse Group. The parent company's business activities include first and foremost the cash and derivatives markets, which are reflected in the Eurex (financial derivatives) and Xetra (cash equities) segments, as well as index business. Deutsche Börse AG also operates essential parts of Deutsche Börse Group's information technology. The development of Deutsche Börse Group's Clearstream (post-trading) segment is reflected in Deutsche Börse AG's business development, primarily due to the profit and loss transfer agreement with Clearstream Holding AG. Deutsche Börse Group's IFS (investment fund services) segment, in contrast, plays a lesser role for Deutsche Börse AG. Nonetheless, Deutsche Börse AG's business and operating environment is essentially the same as that of Deutsche Börse Group; this is described in the [“Macroeconomic and sector-specific environment”](#) section.

Deutsche Börse AG's course of business in the reporting period

Deutsche Börse AG's revenues increased by 9.8 per cent in the 2020 financial year, so above the company's expectations. Total costs (staff costs, amortisation of intangible assets and depreciation of property, plant and equipment and other operating expenses) rose by 8.3 per cent. Net profit went up by 40.7 per cent compared with the previous year. Deutsche Börse AG's Executive Board considers the company's performance in the 2020 financial year to be good.

Performance figures for Deutsche Börse AG

	2020 €m	2019 €m	Change %
Sales revenue	1,563.3	1,423.5	9.8
Total costs	957.7	884.6	8.3
Net income from equity investments	765.2	542.9	40.9
EBITDA	1,470.2	1,181.2	24.5
Net profit for the period	1,161.9	825.9	40.7
Earnings per share (€)	6.33 ¹⁾	4.50 ¹⁾	40.7

1) Calculation based on weighted average of shares outstanding

Sales revenue by segment

	2020 €m	2019 €m	Change %
Eurex (financial derivatives)	1,017.7	924.4 ¹⁾	10.1
EEX (commodities)	18.2	14.8	23.0
360T (foreign exchange)	0.6	0.4	50.0
Xetra (securities trading)	387.3	352.0 ¹⁾	10.0
Clearstream (post-trading)	111.9	91.6 ¹⁾	22.2
IFS (investment fund services)	23.7	15.0	58.0
Qontigo (index and analytic business)	3.9	25.3	-84.6
Total	1,563.3	1,423.5	9.8

1) Previous year adjusted

Results of operations of Deutsche Börse AG

Deutsche Börse AG's net revenue rose by 9.8 per cent in 2020 to €1,563.3 million (2019: €1,423.5 million). At €1,017.7 million, the largest contribution to revenue came from the Eurex (financial derivatives) segment (2019: €924.4 million). The breakdown of revenue by company segment is provided in the [“Sales revenue by segment” table](#).

For more information on the development of the Eurex (financial derivatives) segment, please refer to the [“Eurex \(financial derivatives\) segment” section](#).

The revenue contributed by the EEX (commodities) and 360T (foreign exchange) segments is generated mainly by IT services. Therefore, the explanations in the [“EEX \(commodities\) segment”](#) and [“360T \(foreign exchange\) segment”](#) sections relate only indirectly to Deutsche Börse AG. The earnings situation of the Qontigo (index business) segments is shown in the section [“Qontigo \(index business\) segment”](#). It is worth noting that the business development of the STOXX Ltd. subsidiary does not directly impact upon the business performance of Deutsche Börse AG. Comments on the business development in the Xetra (cash equities) segment can largely be found in the [“Xetra \(cash equities\) segment” section](#). Revenues attributable to the Clearstream (post-trading) and IFS (investment fund services) segments result from the IT services Deutsche Börse AG provides to companies belonging to the Clearstream Holding subgroup.

Other operating income went up to €50.4 million during the year under review (2019: €36.3 million).

Out of the total revenues in 2020 €232.8 million belong intercompany revenues.

The company's total costs of €957.7 million were up 8.3 per cent year-on-year (2019: €884.6 million). For a breakdown, please refer to the table [“Overview of total costs”](#). Staff costs were down by 2.2 per cent year-on-year during the year under review, to €243.1 million (2019: €248.6 million). The decline in staff costs is mainly due to the restructuring programme and streamlining of the management structure. Staff numbers increased from an average of 1,472 in the prior year to 1,572 in the 2020 financial year.

Amortisation of intangible assets and depreciation of property, plant and equipment increased to a total of €63.2 million in the year under review (2019: €59.1 million).

Other operating expenses were up 12.9 per cent year-on-year, to €651.4 million (2019: €576.9 million).

The intercompany expenses for 2020 result to €333.7 million.

Deutsche Börse Group's result from equity investments for the 2020 financial year totalled €765.2 million (2019: €542.9 million). It consisted of dividend income of €348.2 million (2019: €305.7 million), and income from the transfer of profits of €401.4 million (2019: €228.1 million).

Earnings before interest, tax, depreciation and amortisation (EBITDA) increased to €1,470.2 million (2019: €1,181.2 million). Net profit for the period amounted to €1,161.9 million, representing an increase of 40.7 per cent (2019: €825.9 million).

Development of profitability

Deutsche Börse AG's return on equity expresses the ratio of net income after taxes to average equity available to the company during the course of 2020. Return on equity increased from 29.9 per cent in 2019 to 37.5 per cent in the year under review.

Financial position of Deutsche Börse AG

As at the reporting date, cash and cash equivalents amounted to €518.4 million (2019: €849.3 million) and included bank deposits on current accounts as well as term deposits and other short-term deposits. This position is for the most part made up from cash.

Deutsche Börse AG has external credit lines available of €605.0 million (2019: €605.0 million), which were not yet drawn as at 31 December 2020. Moreover, the company has a commercial paper programme in place, which allows for flexible and short-term financings of up to €2.5 billion, in various currencies. At the end of the year there was no commercial paper outstanding.

Through a Group-wide cash-pooling system, Deutsche Börse AG ensures an optimum allocation of liquidity throughout Deutsche Börse Group; in this way, the parent entity makes sure that all subsidiaries are in a position to honour their payment obligations at any time.

Deutsche Börse AG has issued three corporate bonds with a nominal value of €600 million each and one corporate bond with a nominal value of €500 million. For more details concerning these bonds, please refer to the "Financial position" section.

In the 2020 financial year, Deutsche Börse AG generated cash flow from operating activities of €889.9 million (2019: €945.1 million). The reduction is particularly due to significantly higher receivables from affiliated companies.

Cash flow from investing activities amounted to €-366.9 million (2019: €495.0 million). The decline is related particularly to the investments made in the reporting year. The equity investments in Clearstream Holding AG increased by €150 million, in DBS Inc. by €98.4 million and in 360T Treasury Systems AG by €37.5 million.

Overview of total costs				Cash flow statement (condensed)		
	2020 €m	2019 €m	Change %		2020 €m	2019 €m
Staff costs	243.1	248.6	-2.2	Cash flow from operating activities	889.9	945.0
Depreciation and amortisation	63.2	59.1	6.8	Cash flow from investing activities	-366.9	495.0
Other operating expenses	651.4	576.9	12.9	Cash flow from financing activities	-521.5	-486.1
Total	957.7	884.6	8.3	Cash and cash equivalents as at 31 December	48.8	47.3

Cash flow from financing activities amounted to €-521.5 million in the year under review (2019: €-486.1 million). A dividend of €531.9 million was paid for the 2019 financial year. Cash and cash equivalents amounted to €48.8 million as of the reporting date 31 December 2020 (2019: €47.3 million). It is made up of liquid funds of €518.4 million (2019: €849.3), less cash-pooling liabilities of €469.6 million (2019: €801.9 million).

Assets of Deutsche Börse AG

As at 31 December 2020, the non-current assets of Deutsche Börse AG amounted to €5,672.4 million (2019: €5,349.8 million). At €5,309.3 million, most of the non-current assets was attributable to shares in affiliated companies (2019: €5,007.5 million), mainly from the investments in Clearstream Holding AG, 360 Treasury Systems AG, Eurex Frankfurt AG and Qontigo GmbH.

Deutsche Börse AG's investments in intangible assets and property, plant and equipment totalled €61.4 million during the year under review (2019: €60.4 million). This rise was related to payments on account for construction in progress in various locations. Depreciation and amortisation in 2020 amounted to €63.2 million (2019: €59.1 million).

Receivables from and liabilities to affiliated companies include invoices for intra-Group services and amounts invested by Deutsche Börse AG within the scope of cash-pooling arrangements. The receivables from affiliated companies relate to invoices for intra-Group services, but primarily to Clearstream Holding AG for the company's profit transfer of €401.4 million. Liabilities to affiliated companies resulted mainly from cash-pooling amounting to €469.6 million (2019: €801.9 million) and trade liabilities of €135.3 million (2019: €46.1 million).

Working capital amounted to €-249.6 million in 2020 (2019: €-903.5 million). The change stems mainly from the receivable from Clearstream Holding AG for profit transfer.

Non-current assets (condensed)

	2020 €m	2019 €m
Intangible assets	109.2	108.5
Property, plant and equipment	83.2	85.6
Financial assets	5,480.0	5,155.7
Non-current assets as at 31 December	5,672.4	5,349.8

Deutsche Börse AG employees

The number of employees at Deutsche Börse AG (according to HGB)¹ rose by 121 in the reporting year and totalled 1,636 as at 31 December 2020 (31 December 2019: 1,515). The average number of employees at Deutsche Börse AG in the 2020 financial year was 1,572 (2019: 1,472).

During the 2020 financial year, 70 employees left Deutsche Börse AG, resulting in a staff turnover rate of 4 per cent.

On 31 December 2020, Deutsche Börse AG had employees at six locations around the world. Information on the countries, regions, the employees' age structure and length of service are provided in the tables that follow.

As at 31 December 2020, 80 per cent of Deutsche Börse AG's employees were graduates. The ratio is based on the number of employees holding a degree from a university, college or vocational academy, as well as the employees who have completed degrees abroad. In 2020, the company invested an average of 3 days in training per employee.

Age structure of employees

	31 Dec 2020	%
Under 30 years	190	11.6
30–39 years	530	32.4
40–49 years	407	24.9
More than 50 years	509	31.1
Total Deutsche Börse AG	1,636	100

Employee length of service

	31 Dec 2020	%
Under 5 years	783	47.9
5–15 years	386	23.6
More than 15 years	467	28.5
Total Deutsche Börse AG	1,636	100

Employees per country/region

	31 Dec 2020	%
Germany	1,605	98.1
Great Britain	20	1.2
France	5	0.3
Other European countries	4	0.3
Asia	2	0.1
Total Deutsche Börse AG	1,636	100

¹ No employees are i.e. legal representatives of the corporation, apprentice and employees on parental leave

Remuneration report of Deutsche Börse AG

The principles governing the structure and design of the remuneration system at Deutsche Börse AG are the same as those for Deutsche Börse Group, so reference is made to the [Remuneration report](#) for Deutsche Börse Group.

Corporate governance statement in accordance with to section 289f HGB

The corporate governance statement in accordance with section 289f HGB is the same as that for Deutsche Börse Group. Reference is therefore made to the section "[Corporate governance statement](#)".

Opportunities and risks facing Deutsche Börse AG

The opportunities and risks of Deutsche Börse AG and the activities and processes to manage these risks and opportunities are largely the same as for Deutsche Börse Group, so reference is made to the [Risk report](#) and the [Opportunities report](#). As a rule, Deutsche Börse AG shares the opportunities and risks of its equity investments and subsidiaries in accordance with its equity interest. Risks that could potentially threaten the existence of the Eurex Clearing AG subsidiary would also have a direct influence on Deutsche Börse AG based on a letter of comfort issued by Deutsche Börse AG. As of the reporting date, there were no risks jeopardising the company's existence. Further information on the letter of comfort issued to Eurex Clearing AG is available in the section "[Other financial obligations and off-balance sheet transactions](#)" in the notes to the annual financial statements of Deutsche Börse AG.

The description of the internal control system (ICS), required by section 289 (4) of the HGB, is provided in the "[Group management](#)" section.

Forecast for Deutsche Börse AG

The expected developments in Deutsche Börse AG's business are largely subject to the same factors as those influencing Deutsche Börse Group. The relevant disclosures and quantitative information on Deutsche Börse AG are provided in the [Forecast](#).

Remuneration report

I Introduction

The remuneration report explains the general principles of the remuneration system for the members of the Executive Board and the Supervisory Board of Deutsche Börse AG and describes the amount and structure of the remuneration of the Board members for financial year 2020. The report complies with the requirements of the Handelsgesetzbuch (German Commercial Code – “HGB”), the International Financial Reporting Standards (IFRS) and German Accounting Standard No. 17. Furthermore, the remuneration report already largely takes into account the requirements of Section 162 of the Aktiengesetz (German Stock Corporation Act “AktG”), which will not be mandatory until the year 2021.

In March 2020, the German Corporate Governance Code (GCGC) as amended on December 16, 2019, also came into force. The Supervisory Board of Deutsche Börse focuses on good corporate governance and transparency – also with regard to the remuneration of its Board members. Both the remuneration system for the Executive Board and the remuneration system for the Supervisory Board as well as the remuneration report comply with the principles, recommendations and suggestions of the GCGC.

The present remuneration report describes the remuneration of the Executive Board under the remuneration systems 2020 and 2016 in accordance with the applicable regulatory requirements. The Supervisory Board intends to submit a new remuneration system for the Executive Board to the Annual General Meeting in May 2021 for approval. The remuneration under this new system will then be reported in 2022. The corresponding remuneration report will be submitted to the Annual General Meeting 2022 for approval.

II Review of financial year 2020

The previous remuneration system for the Executive Board members was partially modified by a resolution of the Supervisory Board with effect from 1 January 2020, and submitted to the Annual General Meeting on 19 May 2020, for approval. The Annual General Meeting approved this system by 65.45% of votes cast. In addition, the adjusted remuneration system for members of the Supervisory Board was submitted to the Annual General Meeting 2020 for approval and was approved by 99.25%.

A clear link between the remuneration of the members of the Executive Board and their performance (pay for performance) is of crucial importance for the Supervisory Board. In addition to a strong financial performance of Deutsche Börse Group and the achievement of central strategic goals, this also includes responsibility for employees, the environment and society.

Despite the global economic impact of the COVID-19 pandemic, Deutsche Börse Group was able to continue its growth path and achieve a good financial performance in 2020. Based on the whole financial year 2020, Deutsche Börse Group was not affected by the impact of COVID-19 to such an extent that would have required a change in targets. There was no need to resort to short-time working or other government aid in this context. Likewise, the dividend paid to the shareholders was increased once again.

Adjusted net income growth as the key financial performance criterion in the performance bonus and the resulting target achievement in financial year 2020 are as follows:

Adjusted net income growth

Adjusted net income growth compared to 2019	Target achievement adjusted net income growth
8.9%	119.1%

A detailed presentation of the target achievement of the financial target and the individual targets in the performance bonus 2020 is provided in the [section „Target achievement in the performance bonus in financial year 2020“](#).

The 2016 tranche of the performance share plan (PSP) ended at the end of financial year 2020. The total target achievement of the tranche 2016 of 210.9 per cent reflects the strong growth of Deutsche Börse Group over the past five years. Targets were clearly exceeded in both performance criteria “adjusted net income growth” and “total shareholder return (TSR) performance”. The high target achievement in the relative TSR reflects not only the strong absolute performance of the Deutsche Börse share on the capital market, but also the above-average relative performance compared to the relevant peer group.

Target achievement PSP Tranche 2016

Ø Target achievement adjusted net income growth	Target achievement TSR Performance	Total target achievement PSP Tranche 2016
171.8%	250.0%	210.9%

A detailed presentation of the target achievement of the 2016 tranche of the PSP is provided in the [section „ Payout of the PSP tranche 2016“](#).

III Executive Board remuneration in financial year 2020

1. General principles of the remuneration system for the Executive Board

Within the framework of its corporate strategy, Deutsche Börse’s goal is to strengthen – and further expand – its position as a leading European provider of financial market infrastructure with global growth ambitions over the long term. Hence, the company’s primary strategic focus is on growth. Deutsche Börse Group aligns its actions with long-term and sustainable company success, assuming its corporate responsibility holistically. In line with these targets, the remuneration system for the Executive Board is based on three pillars:

- Firstly, a clear performance orientation and a highly detailed assessment based on ambitious internal and external targets ensure the focus is on the company’s goal of above-average growth.
- Secondly, multi-year bases for assessment, long-term elements, and the use of deferred payouts discourage excessive risk-taking.
- Thirdly, the remuneration system promotes a strong equity culture, and in this way helps to align the interests of shareholders, management and other stakeholders. Particularly the individual targets set incentives for sustainable action.

1.1 Procedure for determining, implementing and reviewing the remuneration system

The Supervisory Board, advised by its Nomination Committee, determines the remuneration system for the members of the Executive Board. The remuneration system adopted by the Supervisory Board is submitted to the Annual General Meeting. The Supervisory Board reviews the remuneration system on a regular basis, supported by its Nomination Committee, and submits the remuneration system to the Annual General Meeting for approval in the event of any material changes – in any case, every four years. The Supervisory Board may retain the support of independent external experts when necessary.

1.2 Determination and appropriateness of the remuneration of the Executive Board

Executive Board remuneration is set by the Supervisory Board on the basis of the remuneration system in force; the Nomination Committee is responsible for preparing the Supervisory Board's decision. In doing so, the Supervisory Board shall ensure that remuneration is appropriate to the corresponding Executive Board member's tasks and performance, as well as to the company's financial situation, and that it does not exceed the prevailing market level of remuneration without specific reasons. For this purpose, the Supervisory Board shall conduct a horizontal and vertical peer-group comparison on a regular basis (at least every two years).

For this purpose, the Supervisory Board may seek the advice of an external expert who is independent of the Executive Board and the company. The horizontal comparison is conducted on the basis of relevant national and international peer groups. The Supervisory Board selects the peer groups on the basis of country, size and industry as defined by the AktG. Due to their comparable size and taking into account the country criterion, DAX companies were most recently used as a suitable peer group for conducting a horizontal comparison. In addition, European financial institutions as customers and competitors of Deutsche Börse were used as a further peer group. In order to reflect the industry criterion, stock exchange operators served as an additional peer group.

In accordance with the recommendations of the GCGC, the Supervisory Board also takes into account the relationship between the remuneration levels of the Executive Board and that of senior management and the entire workforce, as well as the development over time of the various salary levels over a two-year period in order to assess the customary practice within the company. In this context, senior management comprises two management levels below the Executive Board. The Supervisory Board considers the remuneration levels compared to employees of Deutsche Börse AG as well as to the overall workforce of Deutsche Börse Group.

The Supervisory Board takes the results of this examination into account when setting target remuneration for members of the Executive Board, and thus also ascertains that Executive Board remuneration is appropriate.

A target remuneration in line with prevailing market levels is assigned to each Executive Board member. This target remuneration is predominantly based on the skills and experience required for that member's tasks, as well as on the target remuneration for the other Executive Board members. The remuneration for the Chairman of the Executive Board (Chief Executive Officer) is roughly twice the target remuneration for the other Executive Board members.

The target remuneration for the Executive Board members was not adjusted in financial year 2020. The respective service contracts with Dr Theodor Weimer, Dr Christoph Böhm, Dr Thomas Book and Dr Stephan Leithner were also renewed without changing the target remuneration. Ms Heike Eckert was appointed for the first time with a corresponding target remuneration.

In accordance with GCGC recommendation G.8, targets and reference parameters set by the Supervisory Board for variable remuneration components for each new financial year may not be changed retrospectively.

1.3 Measures to avoid conflicts of interest

Deutsche Börse Group's rules for avoiding and dealing with conflicts of interest are also applicable to the procedures for determining, implementing and reviewing the remuneration system. Where conflicts of interest occur in exceptional cases, they must be disclosed. The Board members concerned may be excluded from discussion and decision-making processes, amongst other consequences. No conflicts of interest occurred in financial year 2020.

1.4 Applicable remuneration systems in financial year 2020

Executive Board members are remunerated in accordance with the remuneration system applicable to them. The previous remuneration system for the Executive Board members was adopted by the Supervisory Board, effective 1 January 2016, and was approved by the Annual General Meeting with 84.19% on 11 May 2016 in accordance with Section 120 (4) AktG (old wording) (hereinafter "remuneration system 2016"). This remuneration system was adjusted to some extent, effective 1 January 2020, by a Supervisory Board resolution. The adjusted remuneration system was submitted to the Annual General Meeting on 19 May 2020 for approval in accordance with Section 120a (1) AktG and was approved by 65.45% (hereafter "remuneration system 2020"). Thereby, the adjusted remuneration system for the Executive Board applies to all service contracts with Executive Board members entered into or extended on or after 1 January 2020. Due to the appointment of Ms Heike Eckert as member of the Executive Board as of 1 July 2020, the remuneration system 2020 has been applied to her. In accordance with the GCGC 2020 and Section 26j of the Einführungsgesetz zum Aktiengesetz (Introductory Law to the German Stock Corporation Act, EGAktG), the existing remuneration system 2016 shall continue to apply to all existing service contracts with members of the Executive Board. Accordingly, the remuneration system 2016 is applied to Dr Theodor Weimer, Dr Christoph Böhm, Dr Thomas Book, Dr Stephan Leithner, Mr Gregor Pottmeyer and Ms Hauke Stars.

2. Overview of the remuneration system for members of the Executive Board

2.1 Target remuneration and structure

In designing the remuneration structure, the Supervisory Board strives to ensure that the overall structure of the remuneration of the Executive Board is as uniform as possible. The remuneration system for Executive Board members consists of non-performance-related and performance-related remuneration components.

The non-performance-related remuneration components consist of the base salary, contractual ancillary benefits and pension contributions. The performance-related component consists of the performance bonus as well as the performance shares.

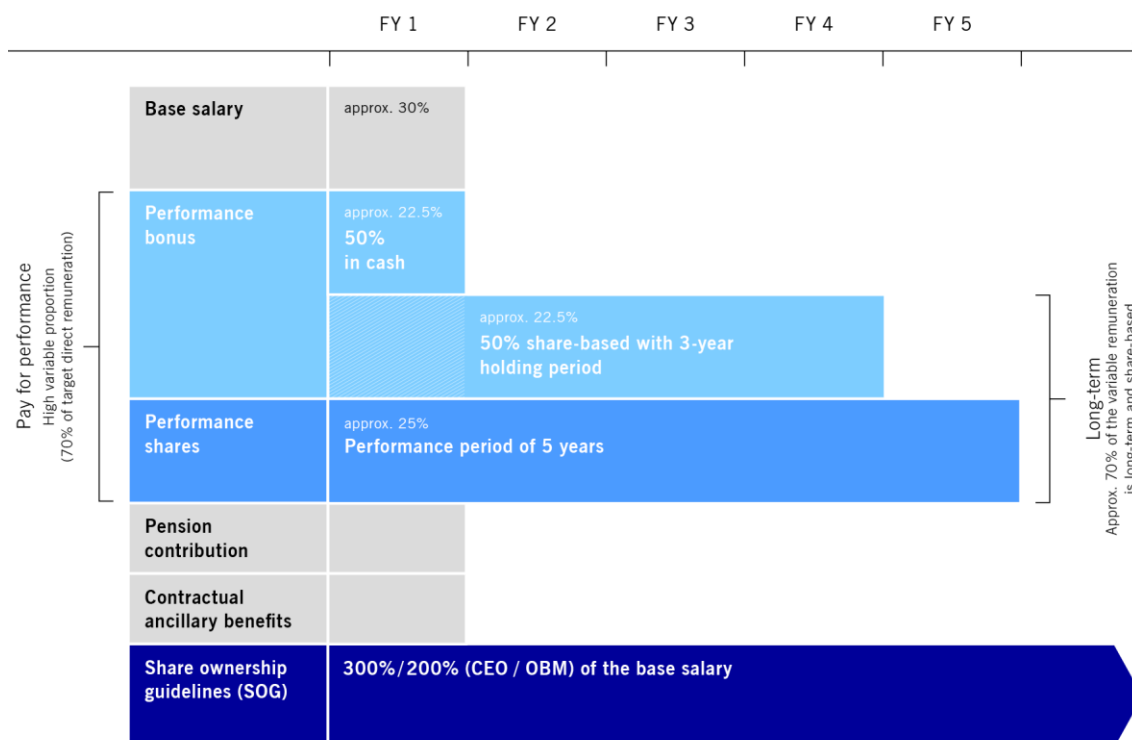
On aggregate, base salary, contractual ancillary benefits, pension contributions, the target value of the performance bonus and the target value of the performance shares make up the target total remuneration.

To ensure that the remuneration of the Executive Board follows the principle of pay for performance, the target direct remuneration (base salary, performance bonus and performance shares) is made up of around 70 per cent performance-related remuneration components. In addition, around 70 per cent of the performance-related remuneration has a multi-year assessment basis and is also share-based. This ensures that the remuneration structure is geared to the sustainable and long-term development of the company and that the variable remuneration, which is based on the achievement of long-term goals, exceeds the short-term goals and aligns the interests of the Executive Board with those of the shareholders.

Base salary accounts for around 30 per cent of the target direct remuneration. The performance bonus, which is paid out after the respective financial year, accounts for around 22.5 per cent of the target direct remuneration. The performance bonus, which the members of the Executive Board will not receive until after three further financial years, also accounts for around 22.5 per cent of the target direct remuneration. The performance shares account for around 25 per cent of the target direct remuneration.

In addition, the company's share ownership guidelines require Executive Board members to invest a substantial amount of money in Deutsche Börse AG shares during their term of office.

Overview of the remuneration structure with its short-term and long-term remuneration components



2.2 Maximum remuneration

The maximum annual remuneration – comprising base salary, variable remuneration components, ancillary benefits and pension expenses – is capped at an aggregate gross amount of €9.5 million (total cap) for each Executive Board member. In the remuneration system 2016, ancillary benefits are not included in the maximum remuneration, whereas they are included in the remuneration system 2020.

In the interest of shareholders, the company will continue to provide competitive incentives for outstanding personal performance and the company's long-term sustainable success to Executive Board members, whilst preventing any unintended excesses which might otherwise be possible.

3. The remuneration components in detail

3.1 Non-performance-related remuneration components

3.1.1 Base salary

The members of the Executive Board receive a fixed base salary, which is payable in twelve equal monthly instalments. When determining the amount of the base salary, the Supervisory Board is guided by the knowledge and experience of the respective member of the Executive Board relevant for the tasks.

3.1.2 Contractual ancillary benefits

Contractual ancillary benefits are granted to members of the Executive Board, such as the provision of an appropriate company car for business and personal use. They also receive taxable contributions towards private pensions. In addition, the company may take out insurance cover for them (within reason). Currently this includes personal accident insurance and directors & officers (D&O) insurance for Executive Board members. Other ancillary benefits may include a temporary or permanent reimbursement of expenses for a second household, journeys home, moving costs, cost coverage for security measures, the use of car pool vehicles or transport services.

3.1.3 Provisions for retirement and risk protection

As a further non-performance-related component of the remuneration system, the members of the Executive Board receive coverage for old-age as well as in the event of their incapacity to work and death.

The members of the Executive Board are generally entitled to receive retirement benefits upon reaching the age of 60, provided that they are no longer in the service of Deutsche Börse AG at that time – for Dr Thomas Book, this applies on reaching the age of 63. The Supervisory Board reviews and determines the pensionable income that is used as the basis for retirement benefits. Executive Board members normally receive a defined contribution pension. An exception to this rule applies to members of the Executive Board who continue being subject to an existing agreement from prior appointments within Deutsche Börse Group and may therefore receive a defined benefit pension instead. Among the active members of the Executive Board, the defined benefit pension system only applies to Dr Thomas Book.

Defined contribution pension system

The defined contribution pension system applies to Dr Theodor Weimer, Dr Christoph Böhm, Ms Heike Eckert, Dr Stephan Leithner and Mr Gregor Pottmeyer.

Within the framework of the defined contribution pension system, the company makes an annual capital contribution to the scheme for each calendar year that a member serves on the Executive Board. This contribution is determined by applying an individual contribution rate to the pensionable income. The pensionable income is determined and regularly reviewed by the Supervisory Board. The annual capital contributions calculated in this way bear interest of 3 per cent per annum. Benefits are generally paid in the form of a monthly pension; however, Executive Board members have the option of choosing a one-off capital payment or five instalments.

Pension entitlements are vested in accordance with the Betriebsrentengesetz (German Company Pensions Act).

Defined benefit pension system

Among the active members of the Executive Board, the defined benefit pension system only applies to Dr Thomas Book.

After reaching the contractually agreed retirement age, members of the Executive Board covered by the defined benefit pension system receive the replacement rate of their individual pensionable income as a pension. A precondition for this is that the Executive Board member in question served on the Executive Board for at least three years and was reappointed at least once. As with the defined contribution pension system, the pensionable income is determined and regularly reviewed by the Supervisory Board. The replacement rate depends on the Executive Board member's term of office and the number of reappointments and amounts to a maximum of 50 per cent. Payout terms and vesting rules are in line with those applicable for the defined contribution pension system.

Members of the Executive Board who have a defined benefit pension are entitled to an early retirement pension if the company does not renew their contract, unless the reasons for this are attributable to the Executive Board member or would justify termination without notice of the Executive Board member's contract. The amount of the early retirement pension is calculated in the same way as the retirement benefits – by applying the applicable replacement rate to the pensionable income. Once again, a precondition is that the Executive Board member served on the Executive Board for at least three years and was reappointed at least once. Members of the Executive Board who have a defined contribution pension are not eligible for an early retirement pension.

Benefits in case of permanent incapacity to work and death

A significant component of the pension commitments relates to risk coverage for Executive Board members in the event of permanent incapacity to work or death.

In the event that a member of the Executive Board becomes permanently incapable of working, the company is entitled to retire him or her. Executive Board members are deemed to be permanently incapable of working if they are unable to perform their professional activities for more than six months, and if they are not expected to regain their capacity to work within a further six months. In such cases, those Executive Board members who have a defined benefit pension plan receive the amount calculated by applying the applicable replacement rate to the pensionable income.

Executive Board members with a defined contribution pension plan receive the plan assets that have accrued at the time when the benefits fall due, plus a supplement corresponding to the full annual pension contribution that would have been due in the year in which the Executive Board member left the company's service, multiplied by the number of years between the time at which the benefits fell due and the Executive Board member reaching the age of 60.

If an Executive Board member dies, his or her spouse receives 60 per cent and each dependent child receives 10 per cent of the above amount (25 per cent for full orphans), up to a maximum of 100 per cent of the pension contribution.

Transitional payments

In the event that an Executive Board member becomes permanently incapable of working, the defined benefit pension agreements for Executive Board members provide for a transitional payment. The amount of this payment corresponds to the target variable remuneration (performance bonus and performance shares) in the year in which the event triggering the benefits occurs. It is paid out in two tranches in the two following years. If an Executive Board member dies, his or her spouse receives 60 per cent of the transitional payment.

The pensionable income and the present value of the pension commitments existing as of 31 December 2020, are shown per member of the Executive Board on a consolidated basis in the following tables:

Retirement benefits (part 1)

	Pensionable income	Replacement rate		Present value/defined benefit obligation		Pension expense	
		as at 31 Dec 2020	as at 31 Dec 2019	as at 31 Dec 2020	as at 31 Dec 2019	2020	2019
		€ thous.	%	%	€ thous.	€ thous.	€ thous.
Defined contribution system							
Theodor Weimer	1,200.0	50.0	40.0	2,026.2	957.3	1,126.8	466.2
Christoph Böhm	500.0	48.0	48.0	856.0	513.3	386.7	419.6
Heike Eckert	500.0	40.0	–	208.2	–	218.3	–
Stephan Leithner	500.0	48.0	48.0	976.2	643.7	378.3	406.1
Gregor Pottmeyer	500.0	48.0	48.0	4,610.9	4,162.4	317.3	297.3
Hauke Stars	500.0	40.0	40.0	2,376.7	2,312.6	280.6	274.4
Total	3,700.0	–	–	11,054.2	8,589.3	2,708.0	1,863.6

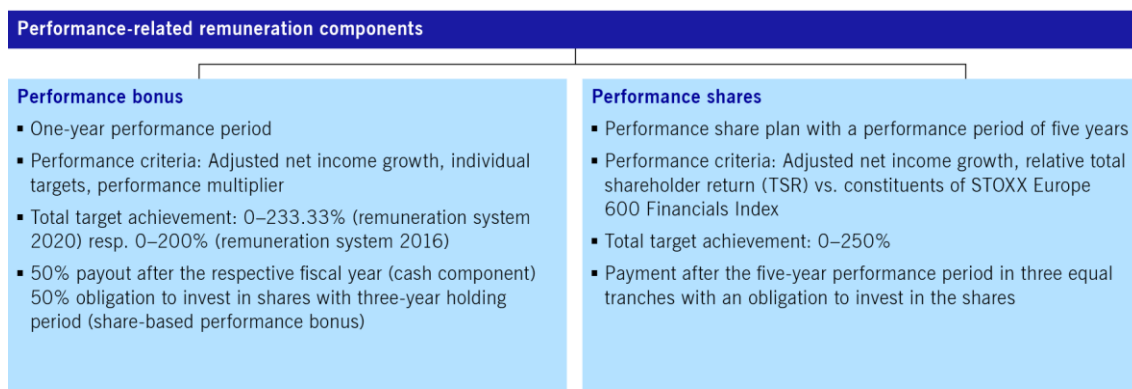
Retirement benefits (part 2)

	Pensionable income	Replacement rate		Present value/defined benefit obligation		Pension expense	
		as at 31 Dec 2020	as at 31 Dec 2019	as at 31 Dec 2020	as at 31 Dec 2019	2020	2019
		€ thous.	%	%	€ thous.	€ thous.	€ thous.
Defined benefit system							
Thomas Book	500.0	50.0	50.0	7,354.1	6,992.8	514.8	384.9
Total	500.0	50.0	50.0	7,354.1	6,992.8	514.8	384.9

3.2 Performance-related remuneration components

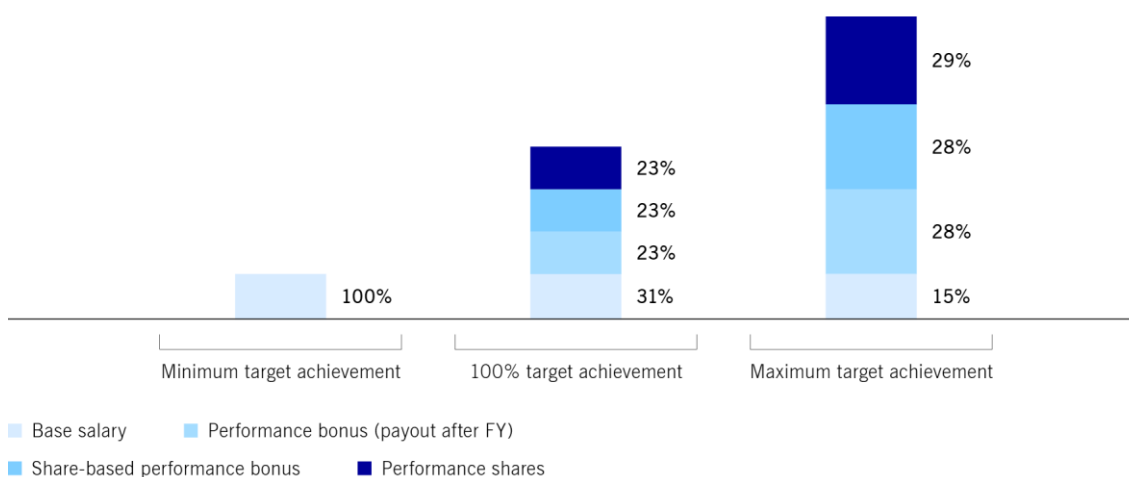
The performance-related remuneration components account for the majority of the remuneration of Executive Board members. The performance-related remuneration is divided into a performance bonus and performance shares. In order to ensure the sustainable and long-term development of Deutsche Börse and to align the interests of the Executive Board and shareholders, the performance-related remuneration components are mainly designed to be multi-year and share-based. Performance-related remuneration is largely calculated on a long-term basis, with various performance criteria being assessed over a period of five years (performance shares) or four years (share-based performance bonus: one-year performance period and three-year holding period for shares to be invested). The cash component of the performance bonus (annual payout) is the only short-term variable remuneration component.

Principles of the performance-related remuneration components



The following overview illustrates the pay-for-performance aspect as the central idea behind the Executive Board remuneration of Deutsche Börse based on the minimum target achievement, a target achievement of 100 per cent and the maximum target achievement using the example of an Ordinary Board Member (remuneration system 2020, not taking into account the share price performance):

Pay for Performance



3.2.1 Performance bonus

Principles of the performance bonus

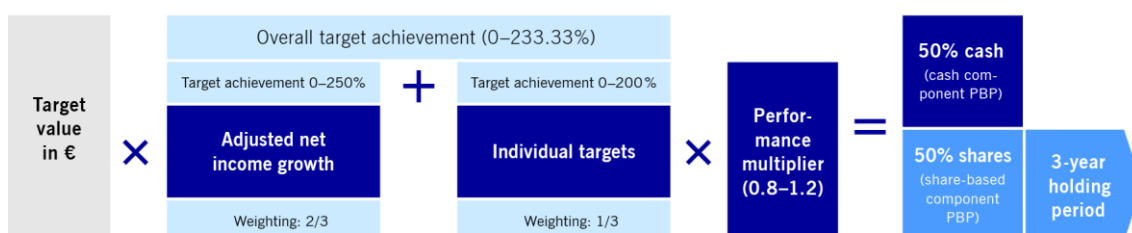
The performance bonus is split 50:50 between a share-based component (share-based performance bonus) and a cash component.

Based on the PBP, a performance bonus with a certain target value is indicated to the Executive Board members for each year. The extent to which Executive Board members have met their targets for the performance bonus is determined for each financial year on the basis of the PBP. The basic assessment procedure is based on two components:

Two-thirds of the bonus reflect the increase in adjusted net profit attributable to Deutsche Börse AG shareholders for the remuneration year concerned (hereinafter referred to as net income) and thus reflect the strategic growth orientation of Deutsche Börse.

One-third reflects the Executive Board members' individual performance, which is assessed particularly with a view to whether strategic and operating targets with strategic relevance were achieved. This way, the performance bonus recognizes the implementation of Group Deutsche Börse's business strategy, thus contributing to the company's long-term development. Once the Supervisory Board has determined the overall extent to which Board members have met their targets using these two components, it may then review this figure and adjust it using a performance multiplier in exceptional situations if so required; this can be done either for individual Executive Board members or for the Executive Board as a whole. The total performance bonus is paid out in cash, at the latest together with the regular salary payment for the calendar month following the approval of Deutsche Börse AG's consolidated financial statements for the year. To strengthen the long-term incentive effect, the Executive Board members are obliged to invest 50 per cent of the total payout after tax in Deutsche Börse AG shares, which they have to hold for at least three years.

Breakdown of the performance bonus



Adjusted net income growth

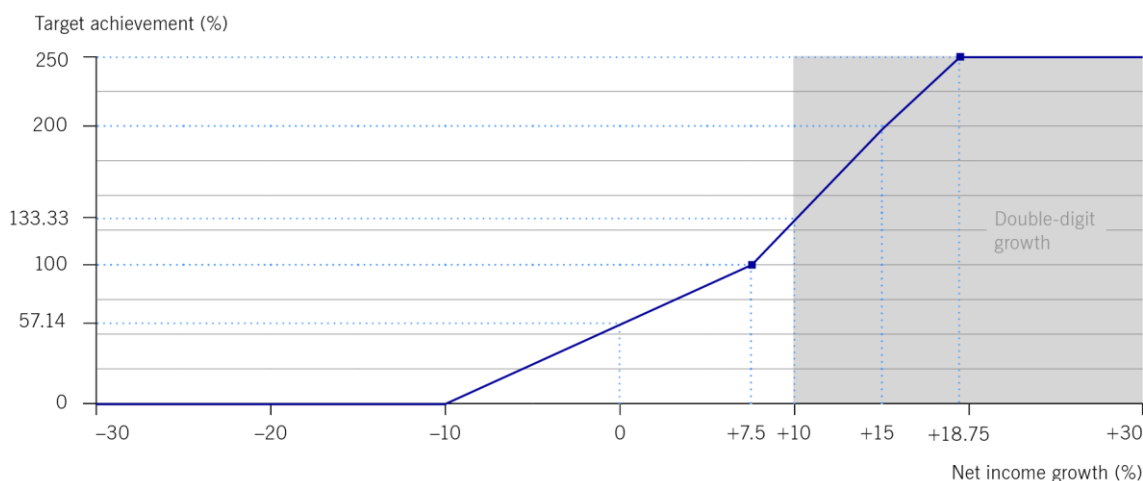
Net income growth is calculated independently of the financial planning by comparing the adjusted net income for the remuneration year with the prior-year figure. The target achievement rate in the remuneration system 2020 may range between 0 per cent and 250 per cent: a decrease in net income of 10 per cent or more corresponds to a 0 per cent target achievement rate (floor). From the Supervisory

Board's point of view, the resulting linear target achievement curve between the floor and the target value reflects to a high degree the desired performance culture of Deutsche Börse. At the same time, if net income declines slightly the Supervisory Board considers the floor to be appropriate for the one-year performance period in the remuneration system 2020.

Such net income fluctuations are often also based on external factors and should not lead to a total loss of the performance bonus.

Where net income remains stable (i.e. unchanged year-on-year), this is deemed to represent a target achievement rate of 57.14 per cent, while a 7.5 per cent increase is equivalent to a target achievement rate of 100 per cent (target value). Net income growth of 18.75 per cent or more corresponds to a 250 per cent target achievement rate (cap) to reward above-average net income growth even more. This means that there is a stronger incentive to achieve net income growth of between 7.5 per cent and 18.75 per cent.

Target achievement curve of the adjusted net income of the performance bonus in the remuneration system 2020



In the remuneration system 2016, the target achievement of adjusted net income growth is determined as follows:

The adjusted net income growth is also determined independently of the budget by comparing the adjusted net income growth for the remuneration year with that of the previous year. Target achievement may range between 0 per cent and 200 per cent: a net income decrease of 20 per cent or more corresponds to a target achievement of 0 per cent (floor). Stable net income, i.e. unchanged from the previous year, leads to a target achievement of 75 per cent. A net income increase of 7.5 per cent corresponds to a target achievement of 100 per cent (target value). An increase in net income of 15 per cent or more corresponds to a target achievement of 200 per cent (cap).

Adjusted net income growth

The Supervisory Board defines the Executive Board members' individual targets and their weighting for the upcoming financial year (or as of the appointment date in the event that a member is elected during the year). Individual targets can also be determined for the entire Executive Board or several Board members collectively. Individual targets should contribute to an implementation of the corporate strategy as well as to a long-term, sustainable development at Deutsche Börse Group and can be financial as

well as non-financial. In addition, sustainability targets according to environmental, social and governance (ESG) criteria are part of the individual targets. The Supervisory Board must select at least one performance criterion from the catalogue of sustainability topics each year, unless it waives this in individual cases due to extraordinary circumstances. By setting financial and non-financial targets and assessing their achievement, the Supervisory Board ensures that the implementation of the corporate strategy is pursued and sustained and that Deutsche Börse Group's corporate success is taken into account in a holistic manner.

The individual targets must be demanding and ambitious. Furthermore, they must be specific enough to allow for target achievement to be measured, i.e., specific figures or expectations for target achievement are determined. To avoid dilution, not more than four targets per year are set for each Executive Board member.

The targets are derived from the Group or corporate strategy or its respective parts and include their implementation. Strategic projects and initiatives can directly serve to implement the corporate strategy, as can operating measures. The latter can also be agreed as targets if they indirectly contribute to strategy implementation, for example by creating an essential foundation for the company's structure, organization, function, and long-term development.

Catalogue of performance criterions

Corporate strategy implementation	Sustainability
Objectives of the corporate strategy	Customer satisfaction
Business development	Employee satisfaction
Product development and innovation	Diversity
Gaining market share	Risk management
Exploring new markets	Compliance
Strategic projects	Corporate governance
M&A	Corporate Social Responsibility
Company structure, organisation, and function	Carbon emission reduction/considerate use of resources
Efficiency enhancement	Reporting and communication
Liquidity planning	Succession planning

Advised by the Nomination Committee, the Supervisory Board assesses the extent to which each member of the Executive Board has achieved his or her targets after the end of the remuneration year in question. A floor of 0 per cent and a cap of 200 per cent have been defined for the target achievement rate of individual targets.

Determining the performance multiplier

The performance multiplier for the performance bonus can be used by the Supervisory Board in special situations when considering additional success and performance aspects not taken into account sufficiently in the previously determined targets. As such, the performance multiplier can be used e.g. in the event of mergers, acquisitions or divestments to allow the Supervisory Board to account for any dilution of equity or to reflect the achievement of qualitative or quantitative targets (especially integration parameters) when finally assessing the extent to which an Executive Board member has achieved his or her overall targets. The performance multiplier has a minimum value of 0.8 and a maximum value of 1.2; it is multiplied by the performance assessment for the performance bonus, taking the 233.33 per cent cap (remuneration system 2016: 200 per cent) into account.

Target achievement in the performance bonus in financial year 2020

Two thirds of the performance bonus are based on year-to-year growth in adjusted net income.

Deutsche Börse AG's adjusted net income increased from €1,105.6 million in financial year 2019 to €1,204.3 million in financial year 2020. It differs from the unadjusted net income (€1,087.8 million) due to the adjustment for special effects resulting from organisational restructuring measures, among others from the implementation of the corporate strategy "Roadmap 2020" and M&A activities. In addition, costs for legal disputes were adjusted.

Adjusted net income growth

	2020 €m	2019 €m	Adjusted net income growth
Net income	1,087.8	1,003.9	-
Adjustments	116.5	101.7	-
Adjusted net income	1,204.3	1,105.6	8.9%

The adjusted net income achieved corresponds to a growth of 8.9 per cent. This results in a target achievement of 119.1 per cent in the remuneration system 2020 as well as in the remuneration system 2016:

Adjusted net income growth in the remuneration system 2020

	Adjusted net income 2020 €m	Adjusted net income growth compared to 2019	Target achievement
Lower limit	884.5	-20.0%	0.0%
100% value	1,188.5	7.5%	100.0%
Upper limit	1,271.4	15.0%	200.0%
Actual value	1,204.3	8.9%	119.1%

Adjusted net income growth in the remuneration system 2016

	Adjusted net income 2020 €m	Adjusted net income growth compared to 2019	Target achievement
Lower limit	995.0	-10.0%	0.0%
100% value	1,188.5	7.5%	100.0%
Upper limit	1,312.9	18.75%	250.0%
Actual value	1,204.3	8.9%	119.1%

In addition, one third of the performance bonus is based on individual targets. These include both collective and individual targets. At the beginning of financial year 2020, four individual targets were set for each Executive Board member.

The targets to be met collectively by the Executive Board included the implementation of the corporate strategy "Roadmap 2020", steering business activities in particular with regard to regulation applicable throughout the Group, and sustainability targets.

In order to implement the corporate strategy "Roadmap 2020", one requirement was for the Executive Board to achieve a structural growth target. At the same time, inorganic growth opportunities were to be encouraged in the context of the defined roadmap.

Business activities were to be managed by the Executive Board in such a way that, in particular, professional handling of the extensive and diverse regulatory standards of Deutsche Börse Group was assured and, if necessary, improvement measures were implemented.

The focus of the targets to be met collectively by the Executive Board was on sustainability. On the one hand, the Executive Board was responsible for increasing employee satisfaction and implementing the multi-year people strategy. On the other hand, it had to set up a monitoring system for measuring and improving sustainability performance in the environmental, social and governance (ESG factors) matters within Deutsche Börse Group.

In the area of individual targets, CEO Dr Theodor Weimer was measured against the development and acceptance of the new, multi-year corporate strategy “Compass 2023”.

The performance of the Executive Board members Dr Thomas Book and Dr Stephan Leithner was assessed in particular on the basis of their business results within the budget targets.

As CFO, Mr Gregor Pottmeyer was responsible for organising the CFO function smoothly and efficiently and planning its future strategic direction.

Ms Heike Eckert took over responsibility for “HR and Compliance” and the function of Labour Director on 1 July 2020. Her individual target for 2020 was to familiarize herself quickly and effectively with these central areas.

In the CIO/COO department, led by Dr Christoph Böhm, the primary responsibility was to ensure operational stability.

The Nomination Committee of the Supervisory Board and the Supervisory Board discussed the individual targets in detail. A decision on their achievement was made on the basis of a detailed presentation and assessment of the performance of the Executive Board members collectively and individually.

The performance multiplier was determined on the basis of the general target achievement with respect to the collective targets and the respective contribution of each Executive Board member.

The following table summarizes the target achievement resulting from the adjusted net income growth and the individual targets, as well as the individual performance multiplier and the resulting total target achievement for each member of the Executive Board:

Target achievement Performance Bonus 2020

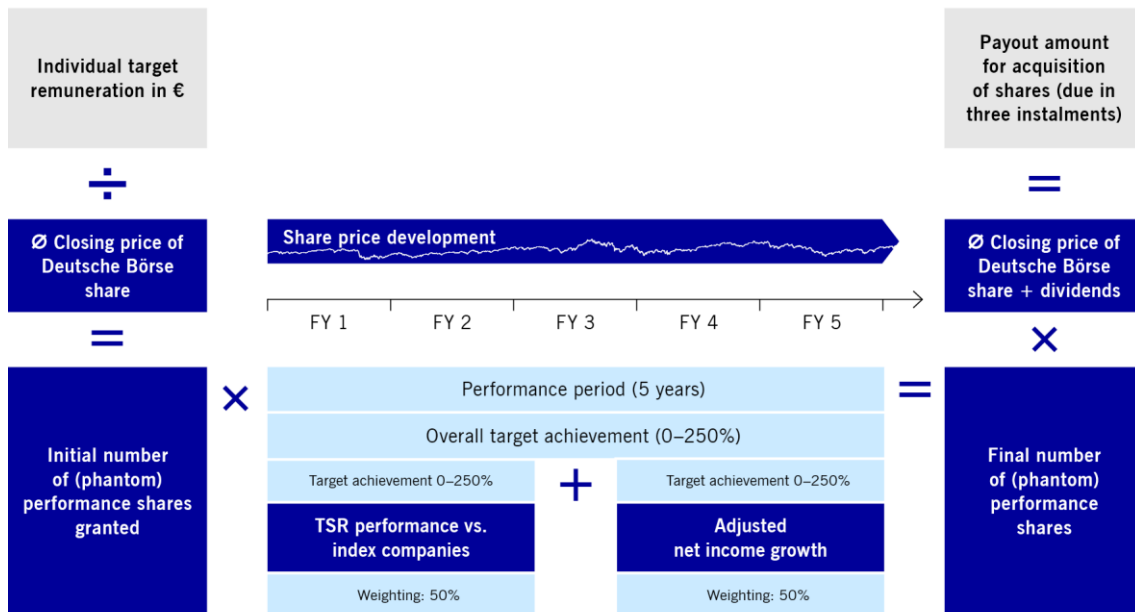
Executive Board member	Target achievement adjusted net income growth	Individual target achievement	Total target achievement	Performance multiplier
Theodor Weimer	119.1%	130.0%	122.7%	1.2
Christoph Böhm	119.1%	100.0%	112.7%	1.0
Thomas Book	119.1%	120.0%	119.4%	1.1
Heike Eckert	119.1%	110.0%	116.1%	1.0
Stephan Leithner	119.1%	120.0%	119.4%	1.1
Gregor Pottmeyer	119.1%	120.0%	119.4%	1.1
Hauke Stars	119.1%	100.0%	112.7%	1.0

3.2.2 Performance shares

At the beginning of each financial year, the performance share plan (PSP) allots a potential number of so-called performance shares to each member of the Executive Board. The number of initial (phantom) performance shares thus allotted is determined by dividing the amount of the individual target remuneration (in euros) by the average Xetra[®] closing price of Deutsche Börse shares in the calendar month preceding the start of the performance period. Target achievement regarding performance shares is determined after the end of a five-year performance period. The respective target achievements are assessed on the basis of two components: firstly, the adjusted net income growth over the five-year period, and, secondly, the relative total shareholder return (TSR) for Deutsche Börse shares compared to the TSR for the STOXX[®] Europe 600 Financials index (the industry benchmark) during the same period. The PSP thus supports the implementation of the growth-oriented corporate strategy on the one hand and especially Deutsche Börse AG's long-term development via the long-term performance period on the other. The final number of phantom performance shares is determined from the total target achievement rate for net income growth and TSR performance during the performance period, multiplied by the number of phantom performance shares granted at the outset. The final number of phantom performance shares determined in this manner is multiplied by the average Xetra[®] closing price for Deutsche Börse shares in the calendar month preceding the end of the performance period. Thus, the performance of the Deutsche Börse share over the five-year performance period is also taken into account. This results in the amount to be paid out to purchase the shares (adjusted for the dividends per share paid out during the performance period).

Each payout amount is generally due in three equal instalments: the first instalment is due at the latest together with the regular salary payment for the calendar month following the approval of Deutsche Börse AG's consolidated financial statements for the year after the end of the performance period in question; the second and third instalments are due at the corresponding dates in the two years subsequent to the payment of the first instalment. The members of the Executive Board are obliged to invest the amount paid out after tax in Deutsche Börse AG shares.

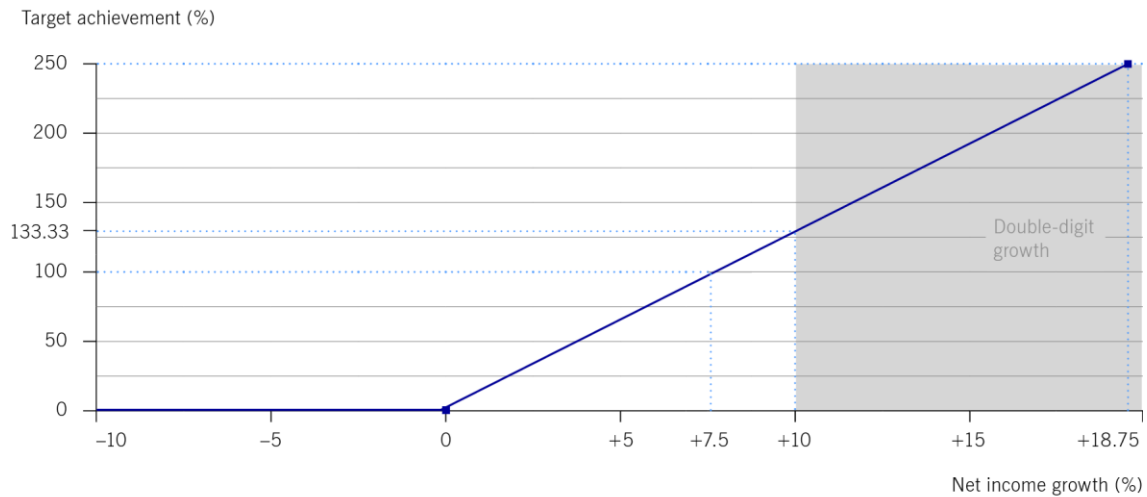
Breakdown of the Performance Shares



Adjusted net income growth for the performance shares

The Supervisory Board determines and sets the target achievement rate for adjusted net income growth at the end of each financial year during the five-year performance period. The target achievement rate at the end of the performance period in question is the average of the annual target achievement rates for each of the five years. Target achievement rates may range between 0 and 250 per cent. If net income declines or remains unchanged year-on-year, this is deemed to represent a target achievement rate of 0 per cent (floor), while a 7.5 per cent increase corresponds to a target achievement rate of 100 per cent. Net income growth of 18.75 per cent (remuneration system 2020) or more corresponds to a 250 per cent target achievement rate (cap). The target achievement curve is completely linear between floor and cap.

Target achievement curve of the adjusted net income growth of the performance shares in the remuneration system 2020

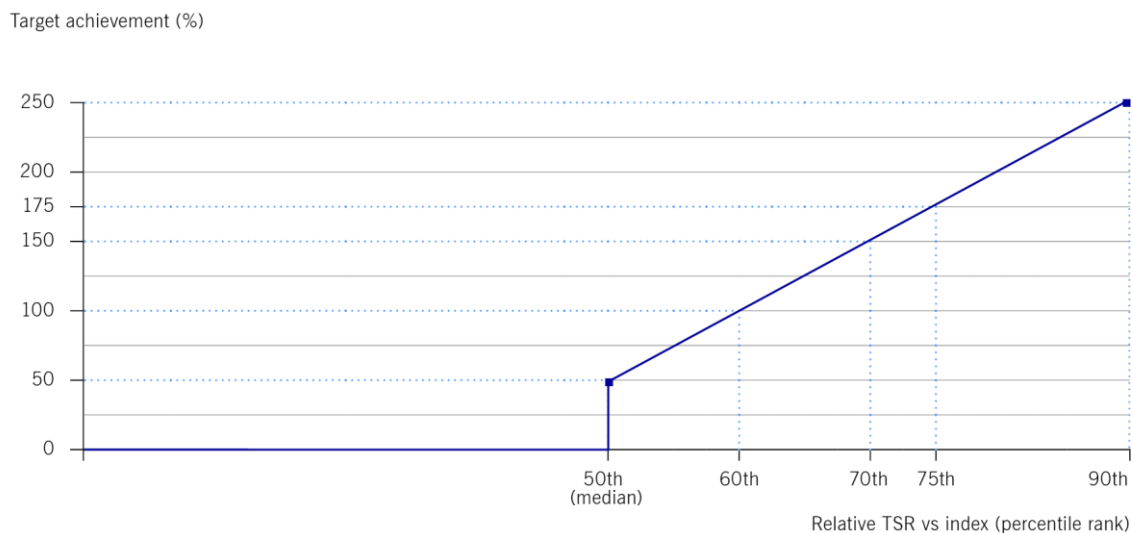


Notwithstanding this target achievement curve, net income growth of 15 per cent or more corresponds to a target achievement of 250 per cent (cap) in the remuneration system 2016.

TSR performance

The total shareholder return (TSR) performance for Deutsche Börse shares is derived from Deutsche Börse AG's ranking relative to the companies included in the STOXX® Europe 600 Financials index. The target achievement rates for Executive Board members can range from 0 per cent (floor) to 250 per cent (cap): A 0 per cent target achievement rate is assumed where Deutsche Börse AG's five-year relative TSR does not exceed the median, i.e. where it is lower than that for at least half of the index constituents. Where Deutsche Börse AG's TSR has performed in line with 60 per cent of index constituents, this represents a target achievement rate of 100 per cent. The cap of 250 per cent target achievement is reached when the TSR for Deutsche Börse shares equals or exceeds the TSR of 90 per cent (remuneration system 2020) of the companies included in the benchmark index. The target achievement curve for TSR performance is thus completely linear. The ambitious target achievement curve, with payouts only starting once half of the index companies have been outperformed, the Supervisory Board also emphasizes the pay-for-performance aspect of Executive Board remuneration in terms of total shareholder return.

Target achievement curve TSR performance in the remuneration system 2020



Notwithstanding this target achievement curve, the maximum possible target achievement of 250 per cent is reached in the remuneration system 2016 as soon as Deutsche Börse AG's TSR ranks in the top 20 per cent of companies in the index – in other words, if it is in the 80th percentile of the index or higher.

Grant of the PSP tranche 2020

The PSP tranche 2020 was granted at the beginning of the financial year 2020. The relevant allocation price for the PSP tranche 2020 was €138.48. The performance period of the PSP tranche 2020 ends on 31 December 2024. The individual target value, the allocation price, the number of phantom performance shares granted and the possible maximum number of performance shares at the end of the performance period can be summarized as follows for the individual Executive Board members:

Grant of the PSP tranche 2020

Executive Board member	Target value € thous.	Share price at grant €	Number of performance shares granted	Maximum number of performance shares possible (250% target achievement)
Theodor Weimer	1,300.0	138.48	9,388	23,470
Christoph Böhm	560.0	138.48	4,044	10,110
Thomas Book	516.7	138.48	3,731	9,328
Heike Eckert	258.3	138.48	1,866	4,665
Stephan Leithner	560.0	138.48	4,044	10,110
Gregor Pottmeyer	560.0	138.48	4,044	10,110
Hauke Stars	473.6	138.48	3,421	8,553

Payout of the PSP tranche 2016

The five-year performance period of the 2016 PSP tranche ended at the end of financial year 2020.

For the performance criterion “adjusted net income growth”, an average target achievement of 171.8 per cent was determined for financial years 2016 to 2020. For the performance criterion “TSR performance”, the target achievement was 250.0 per cent for the five-year performance period (1 January 2016 until 31 December 2020). Consequently, a total target achievement of 210.9 per cent was achieved in the PSP tranche 2016.

Payout of the PSP tranche 2020

Adjusted net income growth	Target achievement						Total target achievement PSP tranche 2016	
	2016	2017	2018	2019	2020	Ø		
	250.0%	111.3%	250.0%	139.4%	108.6%	171.8%		
TSR performance	Percentile rank						Target achievement	210.9%
	16						250.0%	

The following table provides a summarized overview of the key elements of the PSP tranche 2016:

PSP tranche 2016

Executive Board members in office in financial year 2020	Target value € thous.	Share price at grant €	Number of performance shares granted	Total target achievement	Final number of performance shares	Share price at the end of performance period € ¹⁾	Payout amount € thous.
Gregor Pottmeyer	560.0	78.35	7,148	210.9%	15,077	138.22	2,274.7
Hauke Stars	516.7	78.35	6,595	210.9%	13,911	138.22	2,098.8

1) Plus dividends paid per share of €12.65 during the performance period.

The payout of the PSP tranche 2016 will be made in three equal tranches.

Additional information

2020 total expense for share-based payments

	2020		2019	
	Expense recognised (total) € thous.	Carrying amount as at the balance sheet date (total) € thous.	Expense recognised (total) € thous.	Carrying amount as at the balance sheet date (total) € thous.
Theodor Weimer	1,554.7	3,696.5	1,553.6	2,141.8
Christoph Böhm	429.6	759.8	287.9	330.2
Thomas Book	494.5	1,008.4	396.9	513.9
Stephan Leithner	535.7	1,092.7	430.3	557.0
Gregor Pottmeyer	1,567.6	5,623.4	2,191.4	4,055.8
Hauke Stars	1,434.1	5,176.2	2,021.8	3,742.1
Heike Eckert	30.7	30.7	0.0	0.0
Summe	6,046.9	17,387.7	6,881.9	11,340.8

Number of phantom shares

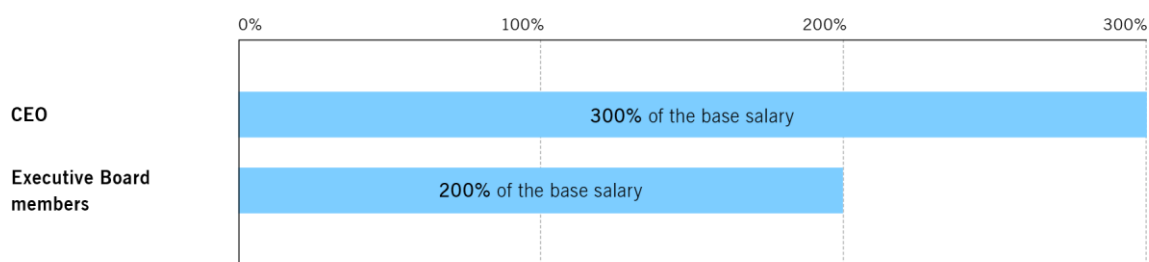
		Number of phantom shares on the grant date	Adjustments of number of phantom shares since the grant date	Number of phantom shares as at 31 Dec 2020
Theodor Weimer	Tranche 2020	9,388	3,647	13,035
	Tranche 2019	11,997	5,344	17,341
	Tranche 2018	13,353	12,847	26,200
	Total 2018 to 2020 tranches			56,576
Christoph Böhm	Tranche 2020	4,044	1,571	5,615
	Tranche 2019	5,168	2,282	7,450
	Tranche 2018	959	923	1,882
	Total 2018 to 2020 tranches			14,947
Thomas Book	Tranche 2020	3,731	1,449	5,180
	Tranche 2019	4,769	2,123	6,892
	Tranche 2018	2,655	2,554	5,209
	Total 2018 to 2020 tranches			17,281
Stephan Leithner	Tranche 2020	4,044	1,571	5,615
	Tranche 2019	5,168	2,302	7,470
	Tranche 2018	2,876	2,767	5,643
	Total 2018 to 2020 tranches			18,728
Gregor Pottmeyer	Tranche 2020	4,044	1,571	5,615
	Tranche 2019	5,168	2,302	7,470
	Tranche 2018	5,752	5,534	11,286
	Tranche 2017	7,464	7,017	14,481
	Tranche 2016	7,148	7,929	15,077
	Total 2016 to 2020 tranches			53,929
Hauke Stars	Tranche 2020	3,421	1,329	4,750
	Tranche 2019	4,768	2,124	6,892
	Tranche 2018	5,307	5,106	10,413
	Tranche 2017	6,887	6,474	13,361
	Tranche 2016	6,595	7,316	13,911
	Total 2016 to 2020 tranches			49,327
Heike Eckert	Tranche 2020	1,866	725	2,591
	Total 2020 tranche			2,591
	Total 2016 to 2020 tranches			213,379

4. Share ownership guidelines

In addition, the company's share ownership guidelines, being part of the remuneration system, require Executive Board members to invest a substantial amount of money in Deutsche Börse AG shares during their term of office.

Deutsche Börse's share ownership guidelines are a key element in order to ensure that remuneration for the Executive Board is further aligned with the shareholders' interest as well as the long-term corporate performance of Deutsche Börse AG, as provided for by the strategy. Under these guidelines, members of the Executive Board are obliged to continuously hold a multiple of their average gross base salary in Deutsche Börse AG shares during their term of office. A multiple of three applies to the CEO, and a multiple of two to the other Executive Board members.

Share Ownership Guidelines



Shares belonging to the following three categories are used to assess compliance with the share ownership guidelines: shares purchased from the performance bonus; shares received under the allocation of performance shares; and shares held in private ownership.

For members of the Executive Board, the share purchase agreed upon under the performance bonus plan and the performance share plan, as well as any share purchase from private funds, must be settled by a service provider appointed by Deutsche Börse AG and assigned by the beneficiary; the service provider invests the investment amounts in Deutsche Börse AG shares on behalf of the beneficiary independently, i.e. without any influence from the beneficiary or the company. The share purchase takes place during the first four trading days (consecutive calendar days) in June every year.

In each case, such shareholdings must be built up over a three-year period. The shareholdings of Mr Gregor Pottmeyer and Dr Theodor Weimer were evaluated as of 31 December 2018 and 31 December 2020 respectively and were found to comply with the share ownership guidelines. Compliance with regard to the shareholdings of Dr Christoph Böhm, Dr Thomas Book and Dr Stephan Leithner will be evaluated on 31 December 2021 at the latest. In case of Ms Heike Eckert, the build-up period ends on 31 December 2023.

Share Ownership Guidelines

Executive Board member	Required		Status quo		End of build-up period
	Percentage of base salary	Amount € thous.	Percentage of base salary		
Theodor Weimer	300.0%	4,500.0	327.0%		31 December 2020
Christoph Böhm	200.0%	1,440.0	145.0%		31 December 2021
Thomas Book	200.0%	1,300.0	166.0%		31 December 2021
Heike Eckert	200.0%	1,300.0	0.0%		31 December 2023
Stephan Leithner	200.0%	1,440.0	165.0%		31 December 2021
Gregor Pottmeyer	200.0%	1,440.0	317.0%		31 December 2018

5. Recovery (clawback) or reduction (malus) of variable remuneration

On the basis of the service contract for Executive Board members and the remuneration system 2020 the Supervisory Board is entitled in events of serious misconduct by Executive Board members to demand repayment of all or part of the variable remuneration under the performance bonus plan or the performance share plan (compliance clawback), or to reduce variable remuneration not yet disbursed accordingly (compliance malus). Any such clawback is limited to the calendar year in which the reason for the claim arose. The Supervisory Board is entitled to assert a clawback claim even after an Executive Board member has left the company, for a period of up to two years following termination of the service contract. Any claims for damages remain unaffected by the clawback of variable remuneration.

In financial year 2020 Deutsche Börse AG did not recover or reduce any variable remuneration components.

6. Termination of the service contract

6.1 Severance payments

In the event that an Executive Board member's contract of service is terminated early for a reason other than good cause, any payments made to the Executive Board member may not exceed the remuneration for the residual term of his or her contract of service, and may also not exceed the value of two total annual remuneration payments (severance cap). The payment is calculated on the basis of the total remuneration for the past financial year and, where appropriate, the expected total remuneration for the current financial year.

Performance bonus claims and performance shares that have been granted will lapse if the company has good cause for an extraordinary termination of the Executive Board member's employment or if an Executive Board member terminates his or her contract before the end of the performance period without good cause and without reaching a mutual agreement.

6.2 Change of Control

According to the remuneration system 2020, there is no provision for a change of control.

According to the remuneration system 2016, in the event of a change of control, the following rules apply: If an Executive Board member is asked to stand down within six months of a change of control, he or she is entitled to a severance payment equal to two total annual remuneration payments or the value of the residual term of his or her contract of service, where this is less than two years. This entitlement may be increased to 150 per cent of the severance payment. If an Executive Board member resigns within six months of the change of control taking effect because his or her position as a member of the Executive Board is negatively impacted to a significant degree as a result of the change of control, the Supervisory Board may decide at its discretion whether to grant a severance payment in the above-mentioned amount. In the case of a change of control, all current performance periods shall end on the day on which the contract of service is terminated. The corresponding performance shares will be settled early.

6.3 Post-contractual non-compete clause

A post-contractual non-compete clause applies to members of Deutsche Börse AG's Executive Board. This means that the Executive Board members in question are contractually prohibited from acting for a competing company, or from undertaking competing activities, for one year following the end of their service.

Compensation of 75 per cent of the member's final fixed remuneration and 75 per cent of his or her final cash bonus is payable during the non-compete period. Pension agreement benefits are offset against the compensation. In addition, 50 per cent of other earnings are deducted if these – together with the compensation – exceed the Executive Board member's final remuneration.

The company may waive the post-contractual non-compete clause before the Executive Board member's contract of service ends.

According to remuneration system 2020, any severance payments will also be offset against compensation, in addition to pension agreement benefits.

7. Further contractual terms

7.1 Loans to Executive Board members

The company did not grant any loans or advances to members of the Executive Board during financial year 2020, and there are no loans or advances from previous years to members of the Executive Board.

7.2 Remuneration from group companies

In financial year 2020, Dr Thomas Book received a part of his remuneration from Eurex Frankfurt AG from 1 January 2020 to 30 June 2020.

8. Individual disclosure of the Executive Board remuneration

The following tables contain the figures for the individual Executive Board remuneration components mentioned above for financial years 2020 and 2019. The information disclosed in accordance with Section 314 HGB is shown in the "[Benefits received](#)" tables.

As in previous years, the remuneration amounts are reported individually on the basis of the [sample tables "benefits granted"](#) and "[benefits received](#)" in the version of the GCGC dated 7 February 2017, in

order to ensure a transparent presentation of the respective grants and inflows for the financial years 2020 and 2019.

Benefits granted (part 1)

	Theodor Weimer (CEO)				Christoph Böhm (CIO/COO)			
	2020	2020 (min)	2020 (max)	2019	2020	2020 (min)	2020 (max)	2019
	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.
Fixed remuneration	1,500.0	1,500.0	1,500.0	1,500.0	720.0	720.0	720.0	720.0
Ancillary benefits	61.4	61.4	61.4	26.8	55.3	55.3	55.3	67.1
Total	1,561.4	1,561.4	1,561.4	1,526.8	775.3	775.3	775.3	787.1
One-year variable remuneration Cash component performance bonus (50%)	1,100.0	0.0	2,200.0	1,100.0	560.0	0.0	1,120.0	560.0
Multi-year variable remuneration	2,400.0	0.0	no max.	2,400.0	1,120.0	0.0	no max.	1,120.0
Share component performance bonus (50%, 3-year holding period) ¹⁾	1,100.0	0.0	no max.	1,100.0	560.0	0.0	no max.	560.0
Performance shares (5-year term) ²⁾	1,300.0	0.0	no max.	1,300.0	560.0	0.0	no max.	560.0
Total	5,061.4	1,561.4	no max.	5,026.8	2,455.3	775.3	no max.	2,467.1
Pension expense	1,126.8	1,126.8	1,126.8	466.2	386.7	386.7	386.7	419.6
Total remuneration	6,188.2	2,688.2	9,500.0³⁾	5,493.0	2,842.0	1,162.0	9,500.0³⁾	2,886.7

Benefits granted (part 2)

	Stephan Leithner				Gregor Pottmeyer (CFO)			
	2020	2020 (min)	2020 (max)	2019	2020	2020 (min)	2020 (max)	2019
	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.
Fixed remuneration	720.0	720.0	720.0	720.0	720.0	720.0	720.0	720.0
Ancillary benefits	17.3	17.3	17.3	19.3	35.2	35.2	35.2	34.5
Total	737.3	737.3	737.3	739.3	755.2	755.2	755.2	754.5
One-year variable remuneration Cash component performance bonus (50%)	560.0	0.0	1,120.0	560.0	560.0	0.0	1,120.0	560.0
Multi-year variable remuneration	1,120.0	0.0	no max.	1,120.0	1,120.0	0.0	no max.	1,120.0
Share component performance bonus (50%, 3-year holding period) ¹⁾	560.0	0.0	no max.	560.0	560.0	0.0	no max.	560.0
Performance shares (5-year term) ²⁾	560.0	0.0	no max.	560.0	560.0	0.0	no max.	560.0
Total	2,417.3	737.3	no max.	2,419.3	2,435.2	755.2	no max.	2,434.5
Pension expense	378.3	378.3	378.3	406.1	317.3	317.3	317.3	297.3
Total remuneration	2,795.6	1,115.6	9,500.0³⁾	2,825.4	2,752.5	1,072.5	9,500.0³⁾	2,731.8

Benefits granted (part 3)

	Thomas Book				Heike Eckert (Director of Labour Relations, since 1 July 2020)			
	2020	2020	2020	2019	2020	2020	2020	2019
	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.
Fixed remuneration	650.0	650.0	650.0	650.0	325.0	325.0	325.0	–
Ancillary benefits	32.2	32.2	32.2	31.6	12.5	12.5	12.5	–
Total	682.2	682.2	682.2	681.6	337.5	337.5	337.5	–
One-year variable remuneration								
Cash component performance bonus (50%)	516.7	0.0	1,033.3	516.7	258.3	0.0	516.7	–
Multi-year variable remuneration	1,033.4	0.0	no max.	1,033.4	516.6	0.0	no max.	–
Share component performance bonus (50%, 3-year holding period) ¹⁾	516.7	0.0	no max.	516.7	258.3	0.0	no max.	–
Performance shares (5-year term) ²⁾	516.7	0.0	no max.	516.7	258.3	0.0	no max.	–
Total	2,232.3	682.2	no max.	2,231.7	1,112.4	337.5	no max.	–
Pension expense	514.8	514.8	514.8	384.9	218.3	218.3	218.3	–
Total remuneration	2,747.1	1,197.0	9,500.0³⁾	2,616.6	1,330.7	555.8	9,500.0³⁾	–

Benefits granted (part 4)

	Hauke Stars (until 30 June 2020)			
	2020	2020	2020	2019
	€ thous.	€ thous.	€ thous.	€ thous.
Fixed remuneration	325.0	325.0	325.0	650.0
Ancillary benefits	14.8	14.8	14.8	30.1
Total	339.8	339.8	339.8	680.1
One-year variable remuneration				
Cash component performance bonus (50%)	258.3	0.0	516.7	516.7
Multi-year variable remuneration	516.6	0.0	no max.	1,033.4
Share component performance bonus (50%, 3-year holding period) ¹⁾	258.3	0.0	no max.	516.7
Performance shares (5-year term) ²⁾	258.3	0.0	no max.	516.7
Total	1,114.7	339.8	no max.	2,230.2
Pension expense	140.3	140.3	140.3	274.4
Total remuneration	1,255.0	480.1	9,500.0³⁾	2,504.6

1) The level of target achievement is capped at 200 per cent in the remuneration system 2016. The level of target achievement is capped at 233.3 per cent in the remuneration system 2020. No cap on the share price performance – therefore, no maximum can be stated (no max.).

For more information, please refer to the "Corporate governance statement" section.

2) The target achievement rates for net income and total shareholder return, and for the maximum number of performance shares are all capped at 250 per cent. No cap on the share price performance – therefore, no maximum can be stated for the individual remuneration components (no max.).

For more information, please refer to the "Corporate governance statement" section.

3) The total remuneration (excluding ancillary benefits) is capped at €9.5 million.

In financial year 2020, the maximum remuneration paid to an Executive Board member amounts to €5.9 million, i.e. the maximum remuneration was not reached.

Benefits received (part 1)

	Theodor Weimer (CEO)		Christoph Böhm (CIO/COO)		Thomas Book		Heike Eckert (Director of Labour Relations, since 1 July 2020)	
	2020 € thous.	2019 € thous.	2020 € thous.	2019 € thous.	2020 € thous.	2019 € thous.	2020 € thous.	2019 € thous.
Fixed remuneration	1,500.0	1,500.0	720.0	720.0	650.0	650.0	325.0	–
Ancillary benefits ¹⁾	61.4	26.8	55.3	67.1	32.2	31.6	12.5	–
Total	1,561.4	1,526.8	775.3	787.1	682.2	681.6	337.5	–
One-year variable remuneration Cash component performance bonus (50%)	1,619.8	1,515.4	631.2	823.5	678.5	693.7	299.8	–
Multi-year variable remuneration	1,619.8	1,515.4	631.2	823.5	678.5	693.7	299.8	–
Share component performance bonus (50%, 3-year holding period)	1,619.8	1,515.4	631.2	823.5	678.5	693.7	299.8	–
Performance shares 2016 (5-year term) ²⁾	–	–	–	–	–	–	–	–
Total	4,801.0	4,557.6	2,037.7	2,434.1	2,039.2	2,069.0	937.1	–
Pension expense	1,126.8	466.2	386.7	419.6	514.8	384.9	218.3	–
Total remuneration (German Corporate Governance Code)³⁾	5,927.8	5,023.8	2,424.4	2,853.7	2,554.0	2,453.9	1,155.4	–
plus performance shares	1,300.0	1,300.0	560.0	560.0	516.7	516.7	258.3	–
less variable share component	–	–	–	–	–	–	–	–
less pension expense	-1,126.8	-466.2	-386.7	-419.6	-514.8	-384.9	-218.3	–
Total remuneration (section 314 of the HGB)	6,101.0	5,857.6	2,597.7	2,994.1	2,555.9	2,585.7	1,195.4	–
Number of phantom shares ⁴⁾	9,388	11,998	4,044	5,168	3,731	4,769	1,866	–

Benefits received (part 2)

	Stephan Leithner		Gregor Pottmeyer (CFO)		Hauke Stars (until 30 June 2020)		Total ⁴⁾	
	2020 € thous.	2019 € thous.	2020 € thous.	2019 € thous.	2020 € thous.	2019 € thous.	2020 € thous.	2019 € thous.
Fixed remuneration	720.0	720.0	720.0	720.0	325.0	650.0	4,960.0	4,960.0
Ancillary benefits ¹⁾	17.3	19.3	35.2	34.5	14.8	30.1	228.7	209.4
Total	737.3	739.3	755.2	754.5	339.8	680.1	5,188.7	5,169.4
One-year variable remuneration Cash component performance bonus (50%)	735.4	771.5	735.4	732.2	291.2	643.4	4,991.3	5,179.7
Multi-year variable remuneration Share component performance bonus (50%, 3-year holding period)	735.4	771.5	1,493.6	732.2	641.0	643.4	6,099.3	5,179.7
Performance shares 2016 (5-year term) ²⁾	–	–	758.2	–	349.8	–	1,108.0	0.0
Total	2,208.1	2,282.3	2,984.2	2,218.9	1,272.0	1,966.9	16,279.3	15,528.8
Pension expense	378.3	406.1	317.3	297.3	140.3	274.4	3,082.5	2,248.5
Total remuneration (German Corporate Governance Code)³⁾	2,586.4	2,688.4	3,301.5	2,516.2	1,412.3	2,241.3	19,361.8	17,777.3
plus performance shares	560.0	560.0	560.0	560.0	516.7	516.7	4,271.7	4,013.4
less variable share component	–	–	758.2	–	349.8	–	-1,108.0	0.0
less pension expense	-378.3	-406.1	-317.3	-297.3	-140.3	-274.4	-3,082.5	-2,248.5
Total remuneration (section 314 of the HGB)	2,768.1	2,842.3	2,786.0	2,778.9	1,438.9	2,483.6	19,443.0	19,542.2
Number of phantom shares ⁴⁾	4,044	5,168	4,044	5,168	1,866	4,769	28,983.0	37,040.0

1) Ancillary benefits (other benefits) comprise salary components such as taxable contributions towards private pensions, company car arrangements, travel arrangements, and expenses for tax and legal advice.

2) Payout is made in three equal installments in the three financial years following the end of the performance period.

3) The total remuneration (excluding ancillary benefits) is capped at €9.5 million.

4) The number of prospective performance shares for the performance period determined at the 2020 grant date is calculated by dividing the target amount by the average share price (Xetra® closing price) for Deutsche Börse shares in December 2019 (€138.48).

9. Remuneration of former members of the Executive Board for financial year 2020

Former members of the Executive Board or their surviving dependants received payments of €8.3 million in financial year 2020 (2019: €9.7 million). The actuarial present value of the pension obligations in financial year 2020 as at the reporting date was €86.0 million (31 December 2019: €84.8 million).

The former Labour Director, Ms Stars, has resigned from her appointment as at 30 June 2020. Her service contract ended on 30 November 2020. For the remaining term of her service contract in 2020 (1 July until 30 November 2020), she received the following remuneration:

- Fixed remuneration: T€270.8
- Performance bonus: T€485.3
- Performance shares: 1,555
- Ancillary benefits: T€12.4

With regard to Ms Stars, the company has decided to waive the post-contractual non-compete clause.

In addition, former Executive Board members are entitled to payouts from the PSP tranche 2016. The PSP tranche 2016 will be paid out in three equal tranches or, in the case of Mr Kengeter, in one tranche.

The following table provides a summary overview of the key elements of the PSP tranche 2016:

PSP-Tranche 2016

Former Executive Board members	Target value € thous.	Share price at grant €	Number of performance shares granted	Total target achievement	Final number of performance shares	Share price at the end of performance period € ¹⁾	Payout amount € thous.
Carsten Kengeter	1,300.0	78.35	16,593	210.9%	34,998	138.22	5,280.1
Andreas Preuss	701.4	78.35	8,952	210.9%	18,882	138.22	2,848.7
Jeffrey Tessler	556.7	78.35	7,105	210.9%	14,986	138.22	2,260.9

1) Plus dividends paid per share of €12.65 during the performance period.

Further information on the performance criteria as well as the target achievements of the PSP tranche 2016 can be found in the [section "Payout of the PSP tranche 2016"](#).

The former Chief Executive Officer, Mr Carsten Kengeter, who stepped down with effect from 31 December 2017, participated in the Co-Performance Investment Plan (CPIP) that was adopted by the Supervisory Board in 2015. In December 2015, during the investment period provided for in the CPIP, he used private funds to invest €4,500,000 in Deutsche Börse AG shares (investment shares). In return for his acquisition of the investment shares, Mr Kengeter was granted 68,987 co-performance shares in the company. The performance period for the co-performance shares commenced on 1 January 2015 and ended on 31 December 2019. Given that Mr Kengeter only worked for Deutsche Börse AG for three years of the relevant five-year performance period in accordance with the CPIP, the initial number of co-performance shares was reduced to 41,392. Co-performance shares are basically subject to the same financial performance criteria as performance shares, which are explained in the [section "Performance shares"](#).

Thus the performance of the co-performance shares is measured on the basis of (i) Deutsche Börse AG's net income growth and (ii) the ratio of the change in TSR for Deutsche Börse shares to that for the companies included in the STOXX® Europe 600 Financials index. The equivalent of performance shares is due for disbursement in three stages: Mr Kengeter received a prepayment as of 31 March 2019 amounting to €2.1 million and another one as of 31 March 2020 amounting to €5.5 million. Final payout of the outstanding amount of €5.5 million takes place as of 31 March 2021. As shown in the table above, the performance period of the PSP tranche 2016 ended on 31 December 2020. At the beginning of that performance period Mr Kengeter was allocated the number of 16,593 performance shares. Based on the targets achieved, this results in the final number of 16,593 performance shares for Mr Kengeter and thus a payout amount of €5.3 million. Prior to Mr Kengeter's resignation in 2017, no agreement had been concluded with him for the implementation of the overall cap of an aggregate gross remuneration, as outlined in the [section "Maximum remuneration"](#).

IV Remuneration of the Supervisory Board in financial year 2020

1. Remuneration system of the Supervisory Board

The partially adjusted remuneration system of the Supervisory Board of Deutsche Börse AG was submitted to the Annual General Meeting 2020 for resolution in accordance with Section 113 (3) AktG and was approved at the Annual General Meeting by a majority of 99.25 per cent. The amended remuneration system of the Supervisory Board entered into force retroactively as of 1 May 2020. The previous Supervisory Board remuneration system applied until 30 April 2020.

Remuneration for the Supervisory Board is a fixed remuneration only, plus an attendance fee for meetings, in accordance with suggestion G.18 sentence 1 of the GCGC 2020 as amended on 16 December 2020. The Supervisory Board's remuneration, providing for fixed remuneration only, strengthens the Supervisory Board's independence and provides a counterbalance to the structure of Executive Board remuneration, which is mainly variable and aligned with Deutsche Börse Group's growth strategy. Supervisory Board's remuneration therefore contributes to the implementation of the business strategy, and thus promotes Deutsche Börse Group's long-term development.

The members of the Supervisory Board receive fixed annual remuneration of €85,000 (until 30 April 2020: €70,000). In accordance with recommendation G.17 of the GCGC 2020 as amended on 16 December 2019, remuneration is increased for the Chair of the Supervisory Board and for his or her deputy, as well as for chairs and members of committees. The remuneration for the Chairman of the Supervisory Board amounts to €220,000 (until 30 April 2020: €170,000); the remuneration for the Deputy Chair to €125,000 (until 30 April 2020: €105,000). Members of Supervisory Board committees receive additional fixed annual remuneration of €30,000 for each committee position they hold. The relevant amount for members of the Audit Committee is €35,000. The remuneration paid to committee chairs is €40,000, or €75,000 (until 30 April 2020: €60,000) in the case of the Chair of the Audit Committee. If a Supervisory Board member belongs to several Supervisory Board committees, only their work on a maximum of two committees (the two most highly remunerated ones) is remunerated. Supervisory Board members who only hold office for part of the financial year receive one-twelfth of the fixed annual remuneration and, if applicable, of the pro-rata remuneration payable for their membership of committees, for each month or part-month in which they are members. The remuneration for any financial year is due and payable as a one-off payment after the Annual General Meeting that accepts the consolidated financial statements for the relevant financial year or decides on their approval.

Members of the Supervisory Board or a Supervisory Board committee receive an attendance fee of €1,000 for each Board or committee meeting that they attend in person, either as a member or as a

guest. Where two or more meetings are held on the same day or on consecutive days, the attendance fee is only paid once.

After preparation by the nomination committee, the Supervisory Board examines, on a regular basis, whether its members' remuneration is appropriate, given their tasks and the situation of the company. For this purpose, the Supervisory Board shall conduct a horizontal market comparison, and may seek the advice of an independent external expert. In view of the special nature of the work of the Supervisory Board, when reviewing the remuneration of the Supervisory Board, usually no vertical comparison with the remuneration of employees of Deutsche Börse AG or Deutsche Börse Group is conducted.

Depending upon the result of the comparative analysis and the Supervisory Board's assessment of this result, the Supervisory Board and the Executive Board may submit a joint proposal to the Annual General Meeting for adjustments to Supervisory Board remuneration. Irrespective of such a proposal the Annual General Meeting passes a resolution on the remuneration of Supervisory Board members (including the underlying remuneration system) every four years at the latest according to Section 113 (3) AktG; the relevant resolution may also confirm the current remuneration.

2. Remuneration of the Supervisory Board members for financial year 2020

Supervisory Board remuneration¹⁾

	2020	2019	2020 ²⁾ T€	2019 ²⁾ T€
Martin Jetter (Chairman)	full year	full year	259.0	143.7
Joachim Faber (former Chairman ³⁾)	1 Jan–19 May	full year	109.2	257.0
Nadine Absenger	full year	full year	120.0	114.0
Ann-Kristin Achleitner	–	1 Jan–8 May	–	43.7
Markus Beck	full year	full year	156.0	147.0
Richard Berliand	–	1 Jan–8 May	–	62.3
Karl-Heinz Flöther	full year	full year	136.3	146.0
Andreas Gottschling ⁴⁾	1 July–31 Dec	–	82.0	–
Susann Just-Marx	full year	full year	144.0	139.0
Achim Karle	full year	full year	147.0	138.0
Cornelis Johannes Nicolaas Kruijssen	full year	full year	147.0	139.0
Barbara Lambert	full year	full year	185.0	171.0
Joachim Nagel ⁵⁾	1 Jan–30 June	full year	79.0	156.0
Michael Rüdiger ⁶⁾	19 May–31 Dec	–	105.0	–
Carsten Schäfer	full year	full year	144.0	138.0
Charles G. T. Stonehill	full year	8 May–31 Dec	132.0	69.7
Clara-Christina Streit	full year	8 May–31 Dec	113.0	68.7
Jutta Stuhlfauth (Deputy Chairperson)	full year	full year	195.3	181.0
Gerd Tausendfreund	full year	full year	116.0	107.0
Amy Yip	full year	full year	140.0	129.5
Total			2,509.8	2,350.6

1) The recipient of the remuneration is determined individually by the members of the Supervisory Board.

2) Remuneration including individual attendance fee.

3) Left the Supervisory Board on 19 May 2020.

4) Appointed to the Supervisory Board by court order on 1 July 2020.

5) Left the Supervisory Board on 30 June 2020.

6) Elected to the Supervisory Board on 19 May 2020.

No agreements for advisory and agency services had been entered into in the reporting period with members of the Supervisory Board, or with companies that employ members of the Supervisory Board of Deutsche Börse AG or in which Supervisory Board members hold an interest.

V Comparative presentation of the remuneration development of the Executive Board members, the Supervisory Board members as well as the workforce and the earnings development of the company

In order to comply with the requirements of Section 162 (1) sentence 2 no. 2 AktG for financial year 2020, the following table shows the development of the remuneration of the Executive Board members, the Supervisory Board members and the workforce as well as the earnings development of the company.

Comperative presentation

	2020 € thous.	2019 € thous.	Change %
Executive Board members			
Theodor Weimer	6,101.0	5,857.6	4.2
Christoph Böhm	2,597.7	2,994.1	- 13.2
Thomas Book	2,555.9	2,585.7	- 1.2
Heike Eckert ¹⁾	1,195.4	-	-
Stephan Leithner	2,768.1	2,842.3	- 2.6
Gregor Pottmeyer	2,786.0	2,778.9	0.3
Average	3,361.7	3,411.7	- 1.5
Supervisory Board members			
Martin Jetter ²⁾	259.0	143.7	80.2
Nadine Absenger	120.0	114.0	5.3
Markus Beck	156.0	147.0	6.1
Karl-Heinz Flöther	136.3	146.0	- 6.6
Andreas Gottschling ¹⁾	82.0	-	-
Susann Just-Marx	144.0	139.0	3.6
Achim Karle	147.0	138.0	6.5
Cornelis Johannes Nicolaas Kruijssen	147.0	139.0	5.8
Barbara Lambert	185.0	171.0	8.2
Michael Rüdiger ¹⁾	105.0	-	-
Carsten Schäfer	144.0	138.0	4.3
Charles G. T. Stonehill ³⁾	132.0	69.7	89.4
Clara-Christina Streit ³⁾	113.0	68.7	64.5
Jutta Stuhlfauth	195.3	181.0	7.9
Gerd Tausendfreund	116.0	107.0	8.4
Amy Yip	140.0	129.5	8.1
Average	157.5	141.1	11.6
Employees			
Entire workforce	112.8	112.3	0.4
Development of earnings			
Adjusted net income Mio. €	1,204.3	1,105.6	8.9

1) Joined the board in the course of 2020. Average values only take into account full-year board memberships.

2) Ordinary member of the Supervisory Board in 2019, Chairman of the Supervisory Board since 19 May 2020.

3) Joined the board in the course of 2019. Average values only take into account full-year board memberships.

The presentation of the average employee remuneration and its changes includes all employees of the joint operation in Frankfurt. Aside from Deutsche Börse AG, the following legal entities are part of the

joint operation in Frankfurt: Eurex Frankfurt AG, Eurex Clearing AG, Eurex Repo GmbH, Eurex Securities Transactions Services GmbH, Clearstream Holding AG, Clearstream Banking AG, Regulatory Services GmbH. In line with the remuneration of the Executive Board and the Supervisory Board, the presentation of average remuneration for the entire workforce relates to their total remuneration (including any bonus payments, pension contributions, and other ancillary benefits).

VI Planned resolution on the remuneration system of the Executive Board at the Annual General Meeting in financial year 2021

Against the background of the review of the strategic orientation of the Executive Board's remuneration system and its alignment with Deutsche Börse Group's current strategy "Compass 2023", the Supervisory Board, with the advice of the Nomination Committee, is undertaking a comprehensive revision and further development of the current remuneration system. The revised remuneration system shall be more closely aligned with Deutsche Börse AG's current strategy. In doing so, the Supervisory Board also takes into account the feedback from investors provided in the context of the Say on Pay 2020 and corresponding recommendations of some proxy advisors.

The Supervisory Board intends to submit the revised and further developed remuneration system to the Annual General Meeting in May 2021 for approval. Detailed information on the main adjustments to the remuneration system will be presented and explained upfront the Annual General Meeting 2021.

Corporate governance statement

Deutsche Börse Group attaches great importance to the principles of good corporate governance and control. In this statement, we report on corporate governance at Deutsche Börse AG in accordance with principle 22 of the Deutscher Corporate Governance Kodex (the "Code", German Corporate Governance Code). The statement contains the corporate governance statement pursuant to sections 289f and 315d Handelsgesetzbuch (HGB, German Commercial Code).

Declaration of Conformity pursuant to section 161 Aktiengesetz (AktG, German Stock Corporation Act)

On 3 December 2020, the Executive Board and Supervisory Board of Deutsche Börse AG issued the following Declaration of Conformity:

"Declaration by the Executive Board and the Supervisory Board of Deutsche Börse AG regarding the German Corporate Governance Code in accordance with section 161 of the German Stock Corporation Act

For the period since the last regular declaration of conformity dated 10 December 2019 until 19 March 2020, the following declaration of conformity refers to the version of the German Corporate Governance Code of 7 February 2017 (GCGC 2017). Since 20 March 2020, it refers to the new version of the GCGC as amended on 16 December 2019 and published in the Federal Gazette on 20 March 2020 (GCGC 2019).

The Executive Board and the Supervisory Board of Deutsche Börse AG declare that the recommendations of the GCGC in its respective version have been and are being complied with almost in full since the last declaration of conformity dated 10 December 2019. Also, it is intended to fully comply with the recommendations of the GCGC in the future. For details, please see below:

1. Agreement of severance payment caps when concluding Executive Board contracts (no. 4.2.3 (4) GCGC 2017, recommendation G.13 GCGC 2019)

Severance payment caps agreed upon in all contracts with the members of the Executive Board complied and will continue to comply with recommendation no. 4.2.3 (4) GCGC 2017/recommendation G. 13 GCGC 2019. In the past, however, the Supervisory Board reserved the right to deviate from no. 4.2.3 (4) GCGC 2017, as it was of the opinion that a deviation may become necessary in extraordinary cases. In connection with the introduction of an adjusted remuneration system for the Executive Board from 1 January 2020, the Supervisory Board generally abandoned this reservation. The recommendation – also in its new version – has therefore been complied with in full since then.

2. Caps on total amount of remuneration (no. 4.2.3 (2) (sentence 6) GCGC 2017, recommendation G. 1, first indent GCGC 2019) and disclosure in the remuneration report (no. 4.2.5 (3) GCGC 2017)

No. 4.2.3 (2) (sentence 6) GCGC 2017 recommended that the amount of management compensation shall be capped, both as regards variable components and in the aggregate. This recommendation has not been fully complied with in the past. The annual remuneration, comprising fixed and variable remuneration components and pension benefits, was capped at EUR 9.5 million (total cap) for each member of the Executive Board. However, ancillary benefits were not included in the overall cap. In addition, the share-based long-term variable remuneration components were capped regarding the number of shares granted, but no dedicated cap on the maximum achievable bonus amount was provided for. With regard to the share-based variable remuneration components, the maximum achievable remuneration therefore could not be reported either – as recommended in no. 4.2.5 (3) (first sub-item) GCGC 2017.

With the introduction of the adjusted remuneration system for the Executive Board on 1 January 2020, the annual remuneration of a fixed salary, variable remuneration components, pension expenses and ancillary benefits for each Executive Board member is now capped at a maximum amount of EUR 9.5 million (total cap). Regarding the Executive Board service contracts that have been newly concluded or extended since 1 January 2020, no. 4.2.3 (2) sentence 6 GCGC 2017 and recommendation G.1, first indent GCGC 2019 – according to which, inter alia, in the remuneration system it should be determined what amount the total remuneration may not exceed (maximum remuneration) – is therefore complied with. With the intended corresponding adjustment of the remaining Executive Board service contracts with regard to the provision on maximum remuneration, recommendation G.1 GCGC 2019 will be complied with in the future in full.

3. Composition of the Nomination Committee (no. 5.3.3 GCGC 2017, recommendation D. 5 GCGC 2019)

According to no. 5.3.3 GCGC 2017, recommendation D. 5 GCGC 2019, the Supervisory Board shall form a Nomination Committee composed exclusively of shareholder representatives. In accordance with Section 4 b of the German Stock Exchange Act, the Nomination Committee, however, also assists the Supervisory Board of Deutsche Börse AG in selecting candidates for the Executive Board. As in particular this task shall not exclusively be performed by the shareholder representatives on the Supervisory Board, the Nomination Committee also includes employee representatives.

Since the new version of the GCGC, this recommendation is no longer applicable for Deutsche Börse AG in the view of the priority provision of the German Stock Exchange Act (recommendation F.4 GCGC 2019). Regardless of this, it is ensured that the nominees proposed to the Annual General Meeting for the election as members of the Supervisory Board are determined solely by the shareholder representatives on the Committee.”

The annual Declaration of Conformity pursuant to section 161 AktG, as well as the Declarations of Conformity for the past five years, are available on our website www.deutsche-boerse.com/declcompliance/.

Disclosures on overriding statutory provisions

The Executive Board and Supervisory Board of Deutsche Börse AG declare in accordance with recommendation F.4 of the Code that recommendation D.5 of the Code was not applicable to the company in 2020 because of the overriding statutory requirement of section 4 b of the Stock Exchange Act. Recommendation D.5 of the Code states that the Supervisory Board shall form a Nomination Committee composed exclusively of shareholder representatives. In accordance with Section 4 b of the German Stock Exchange Act, however, the Nomination Committee also assists the Supervisory Board of Deutsche Börse AG in selecting candidates for the Executive Board. As this task shall not be performed exclusively by shareholder representatives of the Supervisory Board, and in line with the practice to date, the Nomination Committee also includes employee representatives – as described above.

Disclosures on suggestions of the Code

The Code comprises recommendations (denoted in the text by the use of the word “shall”), which are disclosed in the Declaration of Conformity in accordance with section 161 AktG, and suggestions (denoted in the text by the use of the word “should”). Deutsche Börse AG fully complies with them.

Publicly available information in accordance with section 289f (2) no. 1a HGB

The current version of the remuneration report, the underlying remuneration system in accordance with section 87a (1) and (2) sentence 1 AktG as well as the latest resolution in accordance with section 113 (3) AktG are available on the website www.deutsche-boerse.com > [Investor relations](#) > [Annual General Meeting](#) > [Remuneration Executive Board](#).

Information on corporate governance practices

Conduct policies

Deutsche Börse Group’s global orientation means that binding policies and standards of conduct must apply at all of the Group’s locations around the world. Specifically, the main objectives of these principles for collaboration are to ensure responsibility, respect and mutual esteem. The Group also adheres to these principles when implementing its business model. Communications with clients, investors, employees and the general public are based on timely information and transparency. In addition to focusing on generating profit, Deutsche Börse Group’s business is managed sustainably in accordance with recognised standards of social responsibility.

Code of business conduct for employees

Acting responsibly means having values that are shared by all employees throughout the Group. In 2017, Deutsche Börse AG's Executive Board adopted an extended code of business conduct. This document, which is applicable throughout the Group, defines the foundations of key ethical and legal standards, including – but not limited to – the following topics:

- Confidentiality and the handling of sensitive information
- Conflicts of interest
- Personal account dealing, as well as the prevention of insider dealing and market manipulation
- Company resources and assets
- Combat of bribery and corruption
- Risk management
- Whistle-blowers
- Environmental awareness
- Equal opportunities and protection against undesirable behaviour

The code of business conduct applies to members of the Executive Board, all other executives and all employees of Deutsche Börse Group. In addition to specifying concrete rules, the code of business conduct provides general guidance as to how employees can contribute to implementing the defined values in their everyday working life. The goal of the code of business conduct is to provide guidance on working together in the company on a day-to-day basis, to help resolve any conflicts and to resolve ethical and legal challenges. All newly hired employees receive the code of business conduct as part of their employment contract documentation. The code of business conduct is an integral part of the relationship between employer and employees at Deutsche Börse Group. Breaches may lead to disciplinary action. The document is available on www.deutsche-boerse.com > Sustainability > Our ESG profile > Employees > Guiding principles.

Code of conduct for suppliers and service providers

Deutsche Börse Group not only requires its management and staff to adhere to high standards – it demands the same from its suppliers and service providers. The code of conduct for suppliers and service providers requires them to respect human rights and employee rights and comply with minimum standards. Implementing a resolution of the Executive Board, the code of conduct for suppliers was amended in 2016 to include the requirements set out in the UK Modern Slavery Act, applicable to all corporations conducting business in the United Kingdom. Most suppliers have signed up to these conditions; all other key suppliers have made voluntary commitments, which correspond to, or in fact, exceed Deutsche Börse Group's standards. Service providers and suppliers must sign this code or enter into an equivalent voluntary commitment before they can do business with Deutsche Börse Group. The code of conduct for suppliers is reviewed regularly in the light of current developments and amended if necessary. It is available on Deutsche Börse Group's website www.deutsche-boerse.com > Sustainability > Our ESG profile > Procurement management.

Values

Deutsche Börse Group's business activities are based on the legal frameworks and ethical standards of the different countries in which it operates. A key way in which the Group underscores the values it considers important is by joining initiatives and organisations that advocate generally accepted ethical standards. Relevant memberships are as follows:

United Nations Global Compact www.unglobalcompact.org: this voluntary business initiative established by the United Nations aims to achieve a more sustainable and more equitable global economy. At the heart of the compact are ten principles covering the areas of human rights, labour, environment protection and anti-corruption. Deutsche Börse Group has submitted annual communications on progress (COPs) on its implementation of the UN Global Compact since 2009.

Diversity Charter www.diversity-charter.com: as a signatory to the Diversity Charter, the company has committed to acknowledging, respecting and promoting the diversity of its workforce, customers and business associates – irrespective of their age, gender, disability, race, religion, nationality, ethnic background, sexual orientation or identity.

International Labour Organization www.ilo.org: this UN agency is the international organisation responsible for drawing up and overseeing international labour standards; it brings together representatives of governments, employees and employers to promote the joint development of policies and programmes. Deutsche Börse Group has signed up to the ILO's labour standards and hence has agreed to abide by them.

Frankfurt Declaration www.deutsche-boerse.com/frankfurt-declaration: the Frankfurt Declaration demonstrates the signatories' intention to define the framework conditions for sustainable finance and to put concrete initiatives in place in the Frankfurt financial centre. These are directed towards the identification of innovative business areas and the responsible handling of risks, amongst other things. The potential of sustainable finance infrastructures must therefore be fully encouraged in order to support positive economic and social development founded on the unconditional protection of the natural basis of life.

For further information on sustainability at Deutsche Börse Group, please see [the chapter "Combined non-financial statement"](#) or go to www.deutsche-boerse.com > Sustainability.

Sector-specific policies

Deutsche Börse Group's pivotal role in the financial sector requires that it handles information – and especially sensitive data and facts – responsibly. A number of rules are in force throughout the Group to ensure that employees comply with this. These cover both legal requirements and special policies applicable to the relevant industry segments, such as the whistle-blowing system and risk and control management policies.

Whistle-blowing system

Deutsche Börse Group's whistle-blowing system provides a channel to report non-compliant behaviour. It is aimed primarily at employees and external service providers. The Group had previously engaged the auditing and consulting company Deloitte to act as an external ombudsman and receive any such information submitted by phone or email. This engagement was transferred to Business Keeper AG in December. Whistle-blowers' identities are still not revealed to Deutsche Börse Group.

Risk and control management policies

Functioning control systems are an important part of stable business processes. Deutsche Börse Group's enterprise-wide control systems are embedded in an overarching framework. This comprises, amongst other things, the legal requirements, the recommendations of the German Corporate Governance Code, international regulations and recommendations and other company-specific policies. The executives responsible for the different elements of the control system are in close contact with each other and with the Executive Board, and report regularly to the Supervisory Board or its committees. Equally, the Group has an enterprise-wide risk management system that covers and provides mandatory rules for functions, processes and responsibilities. Details of the internal control system and risk management at Deutsche Börse Group can be found in the "[Internal management](#)" and "[Risk report](#)" sections.

Working practices of the Executive Board and the Supervisory Board

An important fundamental principle of the German Stock Corporation Act is the dual board system – which assigns separate, independent responsibilities to the Executive Board and the Supervisory Board. These responsibilities and their implementation at Deutsche Börse AG are set out in detail in the following paragraphs.

Both boards perform their duties in the interests of the company and with the aim of achieving a sustainable, long-term increase in value. Their actions are based on the principle of responsible corporate governance. Therefore, Deutsche Börse AG's Executive Board and Supervisory Board work closely together in a spirit of mutual trust, with the Executive Board providing the Supervisory Board with comprehensive information on the company's and the Group's position and the course of business in a regular and timely manner. In addition, the Executive Board regularly informs the Supervisory Board concerning issues relating to corporate planning, the risk situation and risk management, compliance and the company's control systems. The strategic orientation of the company is examined in detail and agreed upon with the Supervisory Board. Implementation of the relevant measures is discussed at regular intervals. The Chief Executive Officer reports to the Supervisory Board without undue delay, orally or in writing, on matters that are of special importance to the company.

In addition, the CEO keeps the Chair of the Supervisory Board continuously and regularly informed of the current developments affecting the company's business, significant transactions, upcoming decisions and the long-term outlook and discusses these issues with them. The Supervisory Board may also request reports from the Executive Board at any time, especially on matters and business transactions at Deutsche Börse AG and subsidiaries that have a significant impact on Deutsche Börse AG's position. The bylaws for the Executive Board and Supervisory Board govern the corresponding information rights and obligations of the Executive Board and Supervisory Board in detail.

Deutsche Börse AG's Executive Board

The Executive Board manages Deutsche Börse AG and Deutsche Börse Group; it had six members during the reporting period. The main duties of the Executive Board include defining the Group's corporate goals and strategic orientation, managing and monitoring the operating units, as well as establishing and monitoring an efficient risk management system. The Executive Board is responsible for preparing the annual and consolidated financial statements of Deutsche Börse AG, as well as for producing financial information during the course of the year. In addition, it must ensure the company's compliance with legal requirements and official regulations.

The members of the Executive Board are jointly responsible for all aspects of management. Irrespective of this collective responsibility, the individual members manage the company's business areas assigned to them in the Executive Board's schedule of responsibilities independently and are personally responsible for them. In addition to the business areas, the functional areas of responsibility are that of the Chief Executive Officer (CEO), the Chief Financial Officer (CFO), the Chief Information Officer/ Chief Operating Officer (CIO/COO) and HR & Compliance. The business areas cover the operating business units, such as the company's cash market activities, the derivatives business, securities settlement and custody and the market data and financial information business. Details can be found in the "[Overview of Deutsche Börse Group – Organisational structure](#)" section.

Further details of the Executive Board's work are set out in the bylaws that the Supervisory Board has adopted for the Executive Board. Amongst other things, these list issues that are reserved for the entire Executive Board, special measures requiring the approval of the Supervisory Board, other procedural details and the arrangements for passing resolutions. The Executive Board holds regular meetings; these are convened by the CEO, who coordinates the Executive Board's work. Any Executive Board member can require a meeting to be convened. In accordance with its bylaws, the entire Executive Board normally takes decisions on the basis of resolutions passed by a simple majority of the members voting on them in each case. If a vote is tied, the CEO has the casting vote.

More information on the Executive Board, its composition, members' individual appointments and biographies can be found at www.deutsche-boerse.com/execboard.

Deutsche Börse AG's Supervisory Board

The Supervisory Board supervises and advises the Executive Board in its management of the company. It supports the Executive Board in significant business decisions and provides assistance on strategically important issues. The Supervisory Board has specified measures requiring its approval in the bylaws for the Executive Board. In addition, the Supervisory Board is responsible for appointing the members of the Executive Board, deciding on their total remuneration, examining Deutsche Börse AG's annual and consolidated financial statements and the combined management report including the combined non-financial statement. Details of the Supervisory Board's work during the 2020 financial year can be found in the [report of the Supervisory Board](#).

The Supervisory Board consists of 16 members, made up of an equal number of shareholder representatives and employee representatives in line with the German Mitbestimmungsgesetz (MitbestG, German Co-determination Act). The term of office of the shareholder representatives on the current Supervisory Board ends at the Annual General Meeting in 2021. As a rule, the same applies to the employee representatives. However, the COVID-19 pandemic meant that the elections for employee representatives, which had already begun, had to be interrupted. The plan is therefore to have the employee representatives appointed by court order until the election process can be completed.

The Supervisory Board holds at least six regular meetings every year. In addition, extraordinary meetings are held as required. The committees also hold regular meetings. Unless mandatory statutory provisions or the Articles of Associations call for a different procedure, the Supervisory Board passes its resolutions by a simple majority. If a vote is tied, the Chairman has the casting vote. In addition, the Supervisory Board regularly reviews the structure, size, composition and performance of the work of the Executive and Supervisory Boards as well as the effectiveness of its own work, and discusses potential areas for improvement and adopts suitable measures, where necessary.

The Supervisory Board Chair is in regular contact with the representatives of shareholders and employees on the Supervisory Board, in addition to the scheduled meetings.

Supervisory Board committees

The Supervisory Board's goal in establishing committees is to improve the efficiency of its work by examining complex matters in smaller groups that prepare them for the plenary meeting of the Supervisory Board. Additionally, the Supervisory Board has delegated individual decision-making powers to the committees, to the extent that this is legally permissible. At the start of the reporting period the Supervisory Board had eight committees, whereby the Chairman Selection Committee was established solely to prepare the election of the new Supervisory Board Chair after the Annual General Meeting 2020. The committee was dissolved automatically after the election of Martin Jetter as the new Supervisory Board Chair on 19 May 2020, bringing the number of committees back to seven. For details of the committees, please refer to the tables "[Supervisory Board committees during 2020: composition and responsibilities](#)". Their individual responsibilities are governed by the Supervisory Board's bylaws. The committees' rules of procedure correspond to those for the plenary meeting of the Supervisory Board. Details of the current duties and members of the individual committees can be found online, at www.deutsche-boerse.com/supervboard > [Committees](#).

The chairs of the individual committees report to the plenary meeting about the subjects addressed and resolutions passed in the committee meetings. Information on the Supervisory Board's concrete work and meetings during the reporting period can be found in the [report of the Supervisory Board](#).

More information on the Supervisory Board and its committees, the individual members and their appointments and biographies, can be found at: www.deutsche-boerse.com/supervboard.

Supervisory Board committees during 2020: composition and responsibilities

Audit Committee

Members	Composition
<ul style="list-style-type: none"> ▪ Barbara Lambert (Chair) ▪ Nadine Absenger¹⁾ ▪ Markus Beck¹⁾ ▪ Karl-Heinz Flöther (until 19 May 2020) ▪ Andreas Gottschling (since 1 Jul 2020) ▪ Joachim Nagel (until 30 Jun 2020) ▪ Michael Rüdiger (since 19 May 2020) ▪ Jutta Stuhlfauth¹⁾ 	<ul style="list-style-type: none"> ▪ At least four members who are elected by the Supervisory Board ▪ Prerequisites for the chair of the committee: the person concerned must be independent, and must have specialist knowledge and experience of applying accounting principles as well as internal control and risk management processes (financial expert) ▪ Persons who cannot chair the committee: the Chair of the Supervisory Board; former members of the company's Executive Board whose appointment ended less than two years ago
	Responsibilities
	<ul style="list-style-type: none"> ▪ Deals with issues relating to the preparation of the annual budget and financial topics, particularly capital management ▪ Deals with issues relating to the adequacy and effectiveness of the company's control systems – in particular, to risk management, compliance and internal audit ▪ Deals with audit reports as well as accounting issues, including oversight of the accounting and reporting process ▪ Half-yearly financial reports, plus any quarterly financial reports, discusses the results of the reviews with the auditors ▪ Examines the annual financial statements, the consolidated financial statements and the combined management report including the combined non-financial statement, discusses the audit report with the external auditors and prepares the Supervisory Board's resolutions adopting the annual financial statements and approving the consolidated financial statements, as well as the resolution on the Executive Board's proposal on the appropriation of the distributable profit ▪ Prepares the Supervisory Board's recommendation to the Annual General Meeting on the election of the external auditors of the annual financial statements, the consolidated financial statements and the half-yearly financial report to the extent that the latter is audited or reviewed by external auditors and makes corresponding recommendations to the Supervisory Board ▪ Reviews the non-financial reporting (sections 289b, 315b HGB) ▪ Monitors the audit, particularly the independence and quality of the auditors and the non-audit services provided by the auditors ▪ Issues the engagement letter to the external auditor of the annual financial statements and the consolidated financial statements – including, in particular, the review or audit of half-yearly financial reports, and determines focal areas of the audit and the audit fee ▪ Prepares the Supervisory Board's resolution approving the statement on the German Corporate Governance Code pursuant to section 161 AktG and the corporate governance statement in accordance with section 289f HGB ▪ Control procedures on related-party transactions pursuant to section 111a (2) sentence 2 AktG

1) Employee representative

Nomination Committee

Members	Composition
<ul style="list-style-type: none"> ▪ Martin Jetter (Chair since 19 May 2020) ▪ Joachim Faber (Member and Chair until 19 May 2020) ▪ Markus Beck¹⁾ ▪ Michael Rüdiger (since 19 May 2020) ▪ Jutta Stuhlfauth¹⁾ ▪ Gerd Tausendfreund¹⁾ ▪ Amy Yip 	<ul style="list-style-type: none"> ▪ Chaired by the Chair of the Supervisory Board ▪ At least five other members who are elected by the Supervisory Board ▪ <p>Responsibilities</p> <ul style="list-style-type: none"> ▪ Addresses succession planning for the Executive Board and identifies candidates to fill vacancies in the Executive Board ▪ Develops a diversity concept for the Supervisory Board ▪ Deals with the annual assessment of the structure, size, composition and performance of the Executive Board and Supervisory Board, as well as possible improvements ▪ Deals with the annual assessment of the qualification requirements of individual members of the Executive Board and Supervisory Board, and the Executive Board and Supervisory Board as a whole ▪ Reviews the policy for selection and appointment of members of the Executive Board and makes recommendations to the Supervisory Board in this regard ▪ Proposes suitable candidates to the Supervisory Board for inclusion in the Supervisory Board's election proposal to the Annual General Meeting (by shareholder representatives) ▪ Enters into, amends or terminates service agreements within the framework defined by the Supervisory Board ▪ Deals with aggregate remuneration and retirement benefits of individual Executive Board members and determines payments to surviving dependants and any other similar payments; regularly reviews the reasonableness of Executive Board remuneration and develops proposals for any adjustments where required ▪ Consents to the assumption of mandates by members of Deutsche Börse AG's Executive Board as member of an executive board, supervisory board, advisory board and similar mandates, as well as secondary activities and honorary offices, or grants relief from the consent requirement ▪ Consents to the granting or revocation of general powers of attorney ▪ Approves cases in which the Executive Board grants employees retirement benefits or other personal pension benefits, or proposes works agreements establishing pension plans ▪ Decides on delaying the publication of insider information and on drafting ad hoc announcements on information for which the Supervisory Board is responsible ▪ Other tasks and duties set forth in section 4b (5) BörsG

1) Employee representative

Risk Committee

Members	Composition
<ul style="list-style-type: none"> ▪ Andreas Gottschling (Member and Chair since 1 Jul 2020) ▪ Joachim Nagel (Member and Chair until 30 Jun 2020) ▪ Susann Just-Marx¹⁾ ▪ Cornelis Kruijssen¹⁾ ▪ Barbara Lambert ▪ 	<ul style="list-style-type: none"> ▪ At least four members who are elected by the Supervisory Board <p>Responsibilities</p> <ul style="list-style-type: none"> ▪ Reviews the risk management framework, including the overall risk strategy, risk appetite and the risk management roadmap ▪ Takes note of and reviews the periodic risk management and compliance reports ▪ Oversees monitoring of the Group's operational, financial and business risks ▪ Takes note of and discusses the annual reports on significant risks and the risk management systems at regulated Group entities, to the extent legally permissible

1) Employee representative

Strategy Committee

Members	Composition
<ul style="list-style-type: none">▪ Martin Jetter (member and Chair since 19 May 2020)▪ Joachim Faber (Member and Chair until 19 May 2020)▪ Susann Just-Marx¹⁾▪ Achim Karle¹⁾▪ Carsten Schäfer¹⁾▪ Charles Stonehill▪ Clara-Christina Streit	<ul style="list-style-type: none">▪ Chaired by the Chair of the Supervisory Board▪ At least five other members who are elected by the Supervisory Board
	Responsibilities
	<ul style="list-style-type: none">▪ Advises the Executive Board on matters of strategic importance to the company and its affiliates▪ Addresses issues concerning the Company's orientation in terms of fundamental corporate policy and entrepreneurship, as well as projects important to Deutsche Börse Group

1) Employee representative

Technology Committee

Members	Composition
<ul style="list-style-type: none">▪ Karl-Heinz Flöther (Chair since 19 May 2020)▪ Martin Jetter (Member and Chair until 19 May 2020)▪ Achim Karle¹⁾▪ Cornelis Kruijssen¹⁾▪ Carsten Schäfer¹⁾▪ Charles Stonehill (since 19 May 2020)▪ Amy Yip	<ul style="list-style-type: none">▪ At least four members who are elected by the Supervisory Board
	Responsibilities
	<ul style="list-style-type: none">▪ Supports the Supervisory Board in meeting its supervisory duties with respect to the information technology used to execute the Group's business strategy and with respect to information security▪ Advises on IT strategy and architecture▪ Oversees monitoring of technological innovations, the provision of IT services, the technical performance and stability of IT systems, operational IT risks, and information security services and -risks

1) Employee representative

Chairman's Committee

Members	Composition
<ul style="list-style-type: none">▪ Martin Jetter (Chair since 19 May 2020)▪ Joachim Faber (Member and Chair until 19 May 2020)▪ Nadine Absenger¹⁾▪ Jutta Stuhlfauth¹⁾▪ Clara-Christina Streit (since 19 May 2020)	<ul style="list-style-type: none">▪ Chaired by the Chair of the Supervisory Board▪ Deputy Chair of the Supervisory Board as well as one shareholder representative and one employee representative who are elected by the Supervisory Board
	Responsibilities
	<ul style="list-style-type: none">▪ Time-sensitive affairs

1) Employee representative

Mediation Committee

Members	Composition
	<ul style="list-style-type: none">▪ Chaired by the Chair of the Supervisory Board▪ Deputy Chair of the Supervisory Board as well as one shareholder representative and one employee representative
	Responsibilities

-
- Martin Jetter
(Chair since 19 May 2020)
 - Joachim Faber
(Member and Chair until 19 May 2020)
 - Karl-Heinz Flöther
 - Susann Just-Marx¹⁾
 - Jutta Stuhlfauth¹⁾
-
- Tasks and duties pursuant to section 27 (3) MitbestG

1) Employee representative

Chairman Selection Committee (until 19 May 2020)

Members	Composition
<ul style="list-style-type: none"> ▪ Barbara Lambert (Chair) ▪ Markus Beck¹⁾ ▪ Joachim Faber ▪ Jutta Stuhlfauth¹⁾ ▪ Gerd Tausendfreund¹⁾ ▪ Amy Yip 	<ul style="list-style-type: none"> ▪ As determined by the Supervisory Board
	Responsibilities
	<ul style="list-style-type: none"> ▪ Prepares the new election of the Supervisory Board Chair, in particular recommends candidates to be elected by the Supervisory Board

1) Employee representative

Targets for composition and qualification requirements of the Supervisory Board

In accordance with recommendation C.1 of the Code, the Supervisory Board has adopted a catalogue of specific targets concerning its composition that, above all, should serve as a basis for the future nomination of its members. This catalogue comprises qualification requirements as well as diversity targets. Furthermore, members shall have sufficient time, as well as the personal integrity and suitability of character, to exercise their office. In addition, more than half the shareholder representatives on the Supervisory Board shall be independent.

Qualification requirements

Given their knowledge, skills and professional experience, members of the Supervisory Board shall have the ability to perform the duties of a supervisory board member in a company with international business activities. The Supervisory Board has determined individual (basic) as well as general qualification requirements. Basic requirements are derived from the business model, the concrete targets, as well as from specific regulations applicable to Deutsche Börse Group.

Individual (basic) qualification requirements

Ideally, each Supervisory Board member holds the following basic qualifications:

- Understanding of commercial issues
- Analytical and strategic skills
- Understanding of the corporate governance system
- Knowledge of the financial services sector
- Understanding of Deutsche Börse AG's activities
- Understanding of Deutsche Börse Group's structure
- Understanding of the member's own position and responsibilities

General qualification requirements

The general qualifications refer to the Supervisory Board in its entirety. At least two of its members should have sound knowledge, especially concerning the following topics:

- Business models of exchanges and the capital markets
- Accounting, finance, audit
- Risk management and compliance
- Information technology and security, digitalisation
- Clearing, settlement and custody business
- Regulatory requirements

The current composition of the Supervisory Board fulfils these criteria concerning the qualification of its members.

Supervisory Board members' general qualification requirements

	Business models of exchanges and the capital markets	Accounting, finance, audit	Risk management and compliance	Information technology and security, digitalisation	Clearing, settlement and custody business	Regulatory requirements
Martin Jetter (Chair)	+		+	+		+
Karl-Heinz Flöther	+	+		+		
Andreas Gottschling		+	+			+
Barbara Lambert		+	+	+		+
Michael Rüdiger	+	+			+	+
Charles Stonehill	+		+	+	+	+
Clara-Christina Streit	+	+			+	+
Amy Yip	+	+			+	

Independence of Supervisory Board members

In accordance with recommendation C.6 of the Code, the Supervisory Board shall be comprised of what it considers to be an appropriate number of independent members. Therefore, the Supervisory Board decided that at least half the shareholder representatives on the Supervisory Board shall be independent. Supervisory Board members are considered to be independent within the meaning of recommendation C.6 of the Code if they are independent of the company and its Executive Board and independent of any controlling shareholder. In particular, Supervisory Board members are no longer to be considered independent if they have a personal or business relationship with the company or its Executive Board that may cause a substantial (and not merely temporary) conflict of interest. According to recommendation C.7 of the Code, more than half the shareholder representatives shall be independent of the company and the Executive Board.

The Supervisory Board regards all of its shareholder representatives as being independent.

Diversity concept for the Executive Board and the Supervisory Board

The diversity concept for the Executive Board and the Supervisory Board, as adopted by the Supervisory Board in accordance with section 289f (2) no. 6 HGB, has the objective of ensuring a wide range of perspectives and experience through the composition of both bodies. The concept is implemented within the scope of selecting and appointing new Executive Board members or regarding proposals for election of new Supervisory Board members.

Flexible age limit and term of office

The Supervisory Board considers the flexible age limit stipulated in the bylaws (generally 70 years) when nominating candidates for election by the Annual General Meeting. Furthermore, the Supervisory Board's bylaws provide for a general limitation to members' maximum term of office to twelve years, which the Supervisory Board shall also consider in its nominations of candidates to the Annual General Meeting.

The flexible age limit for members of the Executive Board provides for the term of office to expire at the end of the month during which a member reaches the age of 60 years. From the month during which an Executive Board member has reached the age of 60, re-appointment is permitted for a period of one year in each case, provided that the last term of office shall expire at the end of the month during which the Executive Board member reaches the age of 65. When appointing members of the Executive Board, the Supervisory Board pursues the objective of achieving an optimal composition of the Executive Board from the company's perspective. In this context, experience and industry knowledge, as well as professional and personal qualifications, play a major role. Depending on the Executive Board position to be filled, it is not just the scope and depth of skills that is decisive, but also whether the specific skills are up to date. The flexible age limit has been deliberately worded to preserve the Supervisory Board's flexibility in taking decisions on appointments.

At present, no Executive Board member has passed the age limit of 65 years. Theodor Weimer's term of office as Chairman of Deutsche Börse AG's Executive Board runs until 31 December 2024. Theodor Weimer will reach the age of 65 in 2024. In view of his long-standing experience and knowledge of the sector and his professional and personal qualifications the Supervisory Board decided, whilst maintaining the general rule on a flexible age limit, against only renewing Theodor Weimer's term of office on an annual basis once he reached the age of 60.

Share of women holding management positions

With regard to the Supervisory Board, the legally prescribed gender quota of 30 per cent in accordance with section 96 (2) of the AktG applies. In order to prevent the possible discrimination of either

shareholder representatives or employee representatives, and in order to increase the planning security in the relevant election procedures, the shareholder representatives on the Supervisory Board have opposed the overall compliance of the quota in accordance with section 96 (2) (sentence 2) AktG. Thus, the minimum proportion of 30 per cent is to be complied with for each gender with regard to the shareholder representatives and the employee representatives. This means that at least two women and two men from each the shareholder representatives and from the employee representatives must be on the Supervisory Board. Currently, there are three women each from the shareholder representatives and from the employee representatives. The legally prescribed gender quota is thus complied with.

Deutsche Börse AG's Supervisory Board has defined a target quota for women on the Executive Board in accordance with section 111 (5) AktG. The first minimum target – 20 per cent of the Executive Board members were to be women – was complied with by the end of the implementation period on 30 June 2017. The quota of women on the Executive Board was 20 per cent at this time. Effective 1 July 2017, the Supervisory Board decided to extend the 20 per cent target quota of women on the Executive Board until 31 December 2021. This quota, however, declined due to the increase of the Executive Board to six members as of 1 July 2018, despite the fact that the actual number of women on the Executive Board did not change. The quota of women on the Executive Board is currently 16.7 per cent.

The Supervisory Board intends to comply with the 20 per cent target quota for women on the Executive Board and also intends to further increase the quota for women on the Supervisory Board. This will be taken into account in future personnel decisions.

International profile

The composition of the Executive Board and the Supervisory Board shall reflect the company's international activities. With Barbara Lambert, Charles Stonehill, Clara-Christina Streit and Amy Yip, there are four shareholder representatives on the Supervisory Board holding non- (or non-exclusive) German citizenship. Cornelis Kruijssen, employee representative on the Supervisory Board, has the Dutch nationality. In addition, many of the members of the Supervisory Board have long-term professional experience in the international field or are working abroad on a permanent basis. The Supervisory Board will therefore continue to meet the objectives concerning its international composition.

The same applies to the Executive Board, where Stephan Leithner holds non-German citizenship, and whose members have gained long-standing international working experience as well.

Educational and professional background

The Supervisory Board has set itself the objective of considering an appropriate range of educational and professional backgrounds regarding its own composition, as well as regarding the composition of the Executive Board. The composition of both the Supervisory Board and the Executive Board reflect these objectives. In addition to possessing professional experience in the financial services industry, members of the Executive Board and the Supervisory Board also have a professional background in consultancy, the IT sector, auditing, administration and regulation. In terms of academic education, most members have economics or legal degrees, in addition to backgrounds in IT, engineering and other areas. Education and professional experience thus also contribute to fulfilling the previously mentioned qualification requirements for Supervisory Board members.

The composition of both Deutsche Börse AG's Supervisory Board and Executive Board is in line with the objectives stated above. Please refer to www.deutsche-boerse.com/supervboard for further information concerning the members of the Supervisory Board and its committees. For further information concerning the members of the Executive Board, please see www.deutsche-boerse.com/execboard.

Preparing the election of shareholder representatives to the Supervisory Board

The Supervisory Board's Nomination Committee – whose task it is to propose suitable candidates to the Supervisory Board for its proposal to the Annual General Meeting – has concerned itself with preparing the election of shareholder representatives to the Supervisory Board at the Annual General Meeting in 2021. Amy Yip has decided not to stand again for the Supervisory Board. The shareholder representatives in the Nomination Committee decided on 18 February 2021 to propose eight candidates for the election of shareholder representatives by the Annual General Meeting to the Supervisory Board. Seven of the eight proposed candidates were already members of the Supervisory Board, one candidate has not previously been a member. The committee members ensured that the selected candidates met all the criteria mentioned above. To this end the shareholder representatives in the Nomination Committee first drew up a long list of suitable candidates. After interviewing the candidates on the list the shareholder representatives in the committee agreed on the new candidate for the Supervisory Board elections in 2021. Information on all candidates including their CV will be available in the agenda for the Annual General Meeting on 19 May 2021 and can be accessed in advance of the Annual General Meeting at www.deutsche-boerse.com/hv.

Training and professional development measures for members of the Supervisory Board

As a matter of principle, Supervisory Board members are responsible for their continuing professional development. Deutsche Börse AG follows recommendation D.12 of the Code and the guidelines of the European Securities and Markets Authority (ESMA) on management bodies of market operators and data reporting services providers, and supports Supervisory Board members in this endeavour. For example, it organises targeted introductory events for new Supervisory Board members and workshops on selected strategy issues as well as on professional topics (if required). Thus, in addition to one strategy and two technology workshops, the Supervisory Board held a workshop on legal and compliance matters in the reporting period. In individual cases, Deutsche Börse AG assumes the costs incurred for third-party training, as part of its own training programme “Qualified Supervisory Board” for Supervisory Board members, for instance.

Examination of the effectiveness of Supervisory Board work

Deutsche Börse AG regards regular reviews of the effectiveness of Supervisory Board work – in accordance with recommendation D.13 of the Code – as a key component of good corporate governance. The annual self-assessment is supported by an external service provider every third year, most recently in 2019. The 2020 effectiveness examination was completed in the third quarter by means of a structured questionnaire and focusing on the tasks and composition of the Supervisory Board, co-operation between Supervisory Board members and between the Executive Board and the Supervisory Board, Supervisory Board meetings and Supervisory Board committees. The review yielded positive results, both in terms of overall effectiveness as well as regarding the audited subject areas. Where it identifies room for improvement, optimising proposals were discussed by the Supervisory Board and measures for their execution implemented.

In the second half of 2020 the Supervisory Board discussed the efficiency of its work at the initiative of the new Supervisory Board Chair Martin Jetter. Under his leadership the members of the Chairman's Committee, the Chair of the Audit Committee and the Chair of the Risk Committee developed concrete measures to increase the time available to individual Supervisory Board members for exercising their

advisory function on business and strategy-related topics. The first organisational measures were implemented when the Supervisory Board meeting was prepared and held in December.

Long-term succession planning for the Executive Board

Together with the Executive Board, the Supervisory Board ensures that long-term succession planning takes place. For this purpose the Supervisory Board, or its Nomination Committee, regularly – at least once a year – concerns itself with potential candidates for the Executive Board. The Chair of the Executive Board is involved in these considerations, provided that the discussions do not refer to their own succession. The Supervisory Board prepares an applicant profile for vacant Executive Board positions. The Supervisory Board takes care to ensure that the knowledge, expertise and experience of all Executive Board members is diverse and well balanced, and adheres to the adopted diversity concept. Moreover, the Supervisory Board ensures it is informed regularly about the succession planning at the first level beneath the Executive Board, and provides advice to the Executive Board in this regard.

Target figures for the proportion of female executives beneath the Executive Board

Deutsche Börse AG's Executive Board has defined target quotas for women on the two management levels beneath the Executive Board, in accordance with section 76 (4) AktG, in each case referring to Deutsche Börse AG. By 31 December 2021, the proportion of women holding positions in the first and second management levels beneath the Executive Board is planned to amount to 15 per cent and 20 per cent, respectively. As per 31 December 2020, the share of women holding positions on the first and second management levels beneath the Executive Board at Deutsche Börse AG in Germany was 13 per cent and 19 per cent, respectively.

Moreover, as early as in 2010, the Executive Board had adopted a voluntary commitment to increase the share of women holding middle and upper management positions to 20 per cent by 2020 and of women holding lower management positions to 30 per cent during the same period. The Group maintains this ambition for 2021, and has extended the scope of its voluntary commitment over and above the legal requirements. Firstly, the target figures determined in this context relate to Deutsche Börse Group (including subsidiaries) worldwide. Secondly, the definition of management levels/positions was expanded to include heads of teams, for example. On a global level, as at 31 December 2020, these quotas stood at 16 per cent for upper and middle management levels and 31 per cent for lower management positions. For Germany, the quotas were 18 per cent and 29 per cent, respectively. Deutsche Börse Group will continue its existing activities to reach the target quotas and implement additional measures.

Shareholder representation, transparent reporting and communication

Shareholders exercise their rights at the Annual General Meeting (AGM). In the spirit of good corporate governance, Deutsche Börse AG aims to make it as easy as possible for shareholders to exercise their shareholder rights. For instance, Deutsche Börse AG shareholders may follow the AGM over the internet and can be represented at the AGM by proxies nominated by Deutsche Börse AG. These proxies exercise voting rights solely in accordance with shareholders' instructions. Additionally, shareholders may exercise their voting rights by post or online. Amongst other things, the AGM elects the shareholder representatives to the Supervisory Board and decides on formal approval for the actions of the Executive Board and the Supervisory Board. It also passes resolutions on the appropriation of the unappropriated surplus, resolves on capitalisation measures and approves intercompany agreements and amendments to Deutsche Börse AG's Articles of Association and appoints the external auditors. Ordinary AGMs – at which the Executive Board and the Supervisory Board give an account for the past financial year – take place once a year.

For the reporting year Deutsche Börse AG decided in view of the COVID-19 pandemic to hold the Annual General Meeting as a virtual event, without the physical presence of shareholders or their proxies, as provided for by the "Gesetz über Maßnahmen im Gesellschafts-, Genossenschafts-, Vereins-, Stiftungs- und Wohnungseigentumsrecht zur Bekämpfung der Auswirkungen der COVID-19-Pandemie" ("Act on Measures in Corporate, Cooperative, Association, Foundation and Residential Property Law to Combat the Effects of the Covid-19 pandemic as of 27 March 2020"). This was done, in particular to ensure that all resolutions, including on the appropriation of profits, could be taken at the scheduled time. Shareholders were able to follow the entire Annual General Meeting live online and exercise their voting rights by means of postal voting or appointing the company proxies. Questions could be submitted to the company electronically up to two days before the Annual General Meeting and were answered in full during the meeting. Additionally, the company published the speeches by the Chairs of the Executive Board and Supervisory Board ahead of the Annual General Meeting, enabling shareholders to submit questions about them in advance too.

To maximise transparency and ensure equal access to information, Deutsche Börse AG's corporate communications generally follow the rule that all target groups should receive all relevant information simultaneously. Deutsche Börse AG's financial calendar informs shareholders, analysts, shareholders' associations, the media and interested members of the public of key events such as the date of the AGM, or publication dates for financial performance indicators.

Ad hoc disclosures, information on directors' dealings and voting rights notifications, corporate reports and interim reports, and company news can all be found on Deutsche Börse's website: www.deutsche-boerse.com. Deutsche Börse AG provides information about its annual and consolidated financial statements as well as interim reports in conference calls for analysts and investors. Furthermore, a regular investor day is held and Deutsche Börse continuously outlines its strategy and business developments to everyone who is interested, abiding by the principle that all target groups worldwide must be informed at the same time.

Additionally, Deutsche Börse AG submitted a Communication On Progress (COP) for 2020 to the UN Global Compact. Good corporate governance is one of Deutsche Börse Group's core concerns, is why it has complied with the Global Compact's principles for many years. Public records of this have been available since the company officially joined the initiative in 2009: www.deutsche-boerse.com > Sustainability > Our ESG profile > Global initiatives > UN Global Compact.

Accounting and auditing

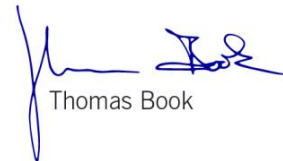
Deutsche Börse AG's annual report provides shareholders and interested members of the public with detailed information on Deutsche Börse Group's business performance during the reporting period. Additional information is published in its half-yearly financial report and two quarterly statements. The annual financial statement documents and the annual report are published within 90 days of the end of the financial year (31 December); intra-year financial information (half-yearly financial report and quarterly statements) is made available within 45 days of the end of the relevant quarter or six-month period. Following preparations by the Audit Committee, the annual and consolidated financial statements are discussed by the entire Supervisory Board and with the external auditors, examined, and then approved. The Executive Board discusses the half-yearly report and the quarterly statements for the first and third quarters with the Supervisory Board's Audit Committee prior to their publication. The half-yearly financial report is reviewed by the external auditors. In line with the proposal by the Supervisory Board, the 2020 AGM elected KPMG AG Wirtschaftsprüfungsgesellschaft, Berlin, (KPMG) to audit its 2020 annual and consolidated financial statements and to review its half-yearly financial report in the year under review. KPMG was also instructed to perform a review of the contents of the combined non-financial statement during the 2020 financial year. The lead auditor, Sven-Olaf Leitz, and the deputy lead auditor, Klaus-Ulrich Pfeiffer, have been responsible for the audit since 2018. The Supervisory Board's proposal was based on the recommendation by the Audit Committee. The Audit Committee obtained the necessary statement of independence from KPMG before the election. This states that there are no personal, business, financial or other relationships between the auditor, its governing bodies and audit managers, on the one hand, and the company and the members of its Executive and Supervisory Boards, on the other, that could give cause to doubt the auditor's independence. The Audit Committee checked that this continued to be the case during the reporting period. It also oversaw the financial reporting process in 2020. The Supervisory Board was informed in a timely manner of the Committee's work and the insights gained; there were no material findings. Information on audit services and fees is provided in [note 6 to the consolidated financial statements](#).

Based on the resolution taken on 7 November 2019, the Supervisory Board of Deutsche Börse AG will propose to the Annual General Meeting 2021 to appoint PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft with its registered office in Frankfurt am Main as auditor and Group auditor for the financial year 2021. In accordance with the procedure laid down in Article 16 (2) of the EU Auditor Regulation (regulation (EU) No 537/2014 of the European Parliament and of the European Council of 16 April 2014), the decision proposal was preceded by an extensive selection process, as a result of which the Audit Committee recommended PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft as the future external auditor.

Frankfurt/Main, 1 March 2021
Deutsche Börse AG


Theodor Weimer


Christoph Böhm


Thomas Book


Heike Eckert


Stephan Leithner


Gregor Pottmeyer

Independent Auditors' Report

To Deutsche Börse Aktiengesellschaft, Frankfurt am Main

Report on the Audit of the Consolidated Financial Statements and Combined Management Report

Opinions

We have audited the consolidated financial statements of Deutsche Börse Aktiengesellschaft, Frankfurt am Main, and its subsidiaries (the Group), which comprise the consolidated balance sheet as of 31 December 2020, the consolidated income statement, the consolidated statement of comprehensive income, the consolidated statement of changes in equity and the consolidated cash flow statement and for the financial 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 combined management report of Deutsche Börse Aktiengesellschaft including the combined non-financial statement in line with Sections 289b(1), 289c, 315b and 315c HGB [Handelsgesetzbuch: German Commercial Code] for the financial year from 1 January to 31 December 2020. In accordance with the legal requirements applicable in Germany, we did not audit the components of the combined management report which we have identified in the „Other information“ section of our audit opinion.

The combined management report comprises links to the Group's website which are not required by law. In accordance with the legal requirements applicable in Germany, we did not audit these links, nor the information referred to in the links.

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 Section 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 of 31 December 2020 and of its financial performance for the financial year from 1 January to 31 December 2020, and
- the accompanying combined management report as a whole provides an appropriate view of the Group's position. In all material respects, the combined 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 combined management report does not cover the content of the components of the combined management report which we have identified in the „Other information“ section of our audit opinion. The combined management report comprises links to the Group's website which are not required by law. Our opinion does not cover the links, nor the information referred to in the links.

Pursuant to Section 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 combined management report.

Basis for the Opinions

We conducted our audit of the consolidated financial statements and combined management report in accordance with Section 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 Combined Management Report' section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10(2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5(1) of the EU Audit Regulation. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the combined management report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements for the financial 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.

Impairment of the goodwill

For the accounting policies applied as well as the assumptions used, please refer to note 2 (Basis of consolidation) and note 10 (Intangible assets) in the notes to the consolidated financial statements.

THE FINANCIAL STATEMENT RISK

At 31 December 2020, goodwill amounted to EUR 3,958 million (previous year: EUR 3,471 million). The goodwill thus represents 2.6 per cent of the assets of the Group at 31 December 2019.

Goodwill is subjected to an impairment test by the company at least once a year and also on an ad hoc basis, if appropriate. For this purpose, the carrying amount is compared with the recoverable amount of the cash-generating unit (CGU). Deutsche Börse AG determines the recoverable amounts of the cash-generating units either on the basis of the value in use or on the basis of the fair value less costs of disposal. If the carrying amount is higher than the recoverable amount, there is a need for impairment.

The result of these valuations is highly dependent upon assumptions concerning future cash inflows, based on the corporate planning, as well as the defined parameters. As a result, the valuations are subject to discretion. Any need for impairment that may arise as a result can have a material impact on the statement of the assets, liabilities and financial performance of the Group. Therefore, the correct determination of any need for impairment is of particular significance for the financial statements.

OUR AUDIT APPROACH

With the support of our valuation experts, we have assessed the valuation models used by the company as well as the appropriateness of the significant assumptions relating to valuation parameters. We assessed the appropriateness of the assumptions used in the determination of the discount rates by comparing them with market- and industry-specific reference values; we additionally verified the calculation method used to determine the discount rates. We compared the expected cash inflows and outflows used for the calculations with the current budget plan approved by management. In order to assess the appropriateness of the assumptions used when the budget plan was drawn up, we first discussed these in meetings with management. Then we compared the assumptions used with relevant peer group companies, and evaluated analyst reports on the market segments. We furthermore appraised the reliability of the forecasts in previous years based on whether they occurred or not. Within the scope of our own sensitivity analyses, we determined whether there would be a need for impairment in the event of possible changes in the assumptions in realistic ranges.

OUR OBSERVATIONS

The calculation method used by the company is appropriate and consistent with the relevant valuation principles. The underlying assumptions about the valuation-relevant parameters have been calculated in a balanced way and are within acceptable ranges.

Impairment of the other intangible assets

For the accounting policies applied as well as the assumptions used, please refer to note 2 (Basis of consolidation) and note 10 (Intangible assets) in the notes to the consolidated financial statements.

THE FINANCIAL STATEMENT RISK

At 31 December 2020, other intangible assets amounted to EUR 1,255 million (previous year: EUR 1,041 million). Other intangible assets thus represent 0.8 per cent of the Group's assets as at 31 December 2020.

The other intangible assets with indefinite useful lives are subject to an impairment test by the company at least once a year, and also on an ad hoc basis, if appropriate. For this purpose, Deutsche Börse AG determines the recoverable amounts of the intangible asset or cash-generating units, in case no independent cash flows can be allocated to that specific intangible asset, either on the basis of the value in use or on the basis of the fair value less costs of disposal. The result of these valuations is highly dependent upon assumptions concerning future cash inflows, based on the corporate planning, as well as the defined parameters. As a result, the valuations are subject to discretion. Any need for impairment that may arise as a result can have a material impact on the statement of the assets, liabilities and financial performance of the Group. Therefore, the correct determination of any need for impairment is of particular significance for the financial statements.

OUR AUDIT APPROACH

With the support of our valuation experts, we have assessed the valuation models used by the company as well as the appropriateness of the significant assumptions relating to valuation parameters. We assessed the appropriateness of the assumptions used in the determination of the discount rates by comparing them with market- and industry-specific reference values; we additionally verified the calculation method used to determine the discount rates. We compared the expected cash inflows and outflows used for the calculations with the current budget plan approved by management. In order to assess the appropriateness of the assumptions used when the budget plan was drawn up, we first discussed these in meetings with management. Then we compared the assumptions used with relevant peer group companies, and evaluated analyst reports on the market segments. We furthermore appraised the reliability of the forecasts in previous years based on whether they occurred or not. Within the scope of our own sensitivity analyses, we determined whether there would be a need for impairment in the event of possible changes in the assumptions in realistic ranges.

OUR OBSERVATIONS

The calculation method used by the company is appropriate and consistent with the relevant valuation principles. The underlying assumptions about the valuation-relevant parameters have been calculated in a balanced way and are within acceptable ranges.

Other Information

The company's management, or the Supervisory Board, is responsible for the other information. The other information comprises the combined corporate governance statement as a component of the combined management report, whose content was not audited, and which is disclosed in the section "Corporate governance statement".

Other information also comprises the other parts of the annual report.

However, other information does not comprise the consolidated financial statements, the audited disclosures of the combined management report as well as our corresponding auditor's report.

Our opinions on the consolidated financial statements and on the combined 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 audited disclosures in the combined management report or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

Responsibilities of Management and the Supervisory Board for the Consolidated Financial Statements and Combined Management Report

Management is 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 Section 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, management is 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, management is responsible for assessing the Group's ability to continue as a going concern. Moreover, the company's management has the responsibility to disclose any matters that are relevant for the going concern assumption. 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, management is responsible for the preparation of the combined 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, management is responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of the combined management report that is in accordance with the applicable German legal requirements and to be able to provide sufficient appropriate evidence for the assertions in the combined 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 combined management report.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and the Combined 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 combined 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 combined management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Section 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 combined management report.

We exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and the combined 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 the internal control system relevant to the audit of the consolidated financial statements, and of arrangements and measures (systems) relevant to the audit of the combined 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 management and the reasonableness of estimates made by management and related disclosures.
- Conclude on the appropriateness of management's 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 combined 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 Section 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 combined management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.
- Evaluate the consistency of the combined 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 management in the combined management report. On the basis of sufficient appropriate audit evidence, we evaluate, in particular the significant assumptions used by management 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 Section 317 (3b) HGB on the Electronic Reproduction of the Consolidated Financial Statements and the Combined Management Report Prepared for Publication Purposes

We have performed assurance work in accordance with Section 317 (3b) HGB to obtain reasonable assurance about whether the reproduction of the consolidated financial statements and the combined management report (hereinafter the "ESEF documents") contained in the file that can be downloaded by the issuer from the electronic client portal with access protection, "deutschebrseag.zip" (SHA256 hash value: cba6a49cdb5e885130ac5f5c0e89a904bf761584080fa554fb73a38733c1ceda) and prepared for publication purposes complies in all material respects with the requirements of Section 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 combined management report into the ESEF format and therefore relates neither to the information contained in this reproduction nor any other information contained in the above-mentioned electronic file.

In our opinion, the reproduction of the consolidated financial statements and the combined management report contained in the above-mentioned electronic file and prepared for publication purposes complies in all material respects with the requirements of Section 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 above-mentioned file beyond this reasonable assurance opinion and our audit opinion on the accompanying consolidated financial statements and the accompanying combined management report for the financial year from 1 January to 31 December 2020 contained in the "Report on the Audit of the Consolidated Financial Statements and the Combined Management Report" above.

We conducted our assurance work on the reproduction of the consolidated financial statements and the combined management report contained in the above-mentioned electronic file in accordance with Section 317 (3b) HGB and the Exposure Draft of the IDW Assurance Standard: Assurance in accordance with Section 317 (3b) HGB on the Electronic Reproduction of Financial Statements and Management Reports Prepared for Publication Purposes (ED IDW AsS 410) and the International Standard on Assurance Engagements 3000 (Revised)]. Accordingly, our responsibilities are further described below. Our audit firm has applied the IDW Standard on Quality Management 1: Requirements for Quality Management in Audit Firms (IDW QS 1).

The company's management is responsible for the preparation of the ESEF documents including the electronic reproduction of the consolidated financial statements and the combined management report in accordance with Section 328 (1) sentence 4 item 1 HGB and for the tagging of the consolidated financial statements in accordance with Section 328 (1) sentence 4 item 2 HGB.

In addition, the company's management is responsible for the internal controls they consider necessary to enable the preparation of ESEF documents that are free from material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB for the electronic reporting format.

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

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

Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB. We exercise professional judgement and maintain professional scepticism throughout the assurance work. We also:

- Identify and assess the risks of material intentional or unintentional non-compliance with the requirements of Section 328 (1) HGB, 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 of 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 Commission Delegated Regulation (EU) 2019/815 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 the audited combined 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 Article 10 of the EU Audit Regulation

We were elected as group auditors by the annual general meeting held on 19 May 2020. We were engaged by the chair of the audit committee of the Supervisory Board on 29 July 2020. We have been engaged as auditors of the consolidated financial statements of Deutsche Börse AG without interruption since the 2001 financial year.

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

In addition to the consolidated financial statements, we audited the annual financial statements of Deutsche Börse AG and carried out various annual audits of subsidiaries. The audits included reviews of interim financial statements. Other assurance services relate to ISAE 3000 reports, and statutory or contractual audits such as audits under the WpHG as well as other contractually agreed assurance services.

Tax services include assistance in the preparation of tax returns, tax appraisals and advice on individual matters, and tax advice related to the external audit.

As part of other services, we supported Deutsche Börse AG with quality assurance measures.

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Klaus-Ulrich Pfeiffer.

Frankfurt am Main, 4 March 2021
KPMG AG
Wirtschaftsprüfungsgesellschaft
[Original German version signed by:]

Leitz
Wirtschaftsprüfer
[German Public Auditor]

Pfeiffer
Wirtschaftsprüfer
[German Public Auditor]