

Deutsche Börse AG
Consolidated financial statements and notes
as at 31 December 2017

Consolidated income statement

for the period 1 January to 31 December 2017

	Note	2017 €m	2016 €m
Sales revenue	4	2,638.5	2,557.3
Net interest income from banking business	4	132.6	84.0
Other operating income	4	31.4	32.6
Total revenue		2,802.5	2,673.9
Volume-related costs	4	-340.2	-285.2
Net revenue (total revenue less volume-related costs)		2,462.3	2,388.7
Staff costs	5	-638.3	-585.7
Other operating expenses	6	-493.3	-600.7
Operating costs¹⁾		-1,131.6	-1,186.4
Result from equity investments	8	197.8	36.9
Earnings before interest, tax, depreciation and amortisation (EBITDA)		1,528.5	1,239.2
Depreciation, amortisation and impairment losses	11, 12	-159.9	-131.0
Earnings before interest and tax (EBIT)		1,368.6	1,108.2
Financial income	9	6.6	4.6
Financial expense	9	-86.3	-79.2
Earnings before tax (EBT)		1,288.9	1,033.6
Other tax		-1.5	-1.5
Income tax expense	10	-391.4	-284.5
Net profit for the period from continuing operations		896.0	747.6
Net profit for the period from discontinued operations	2	0	550.6
Net profit for the period		896.0	1,298.2
thereof attributable to Deutsche Börse AG shareholders		874.3	1,272.7
thereof attributable to non-controlling interests		21.7	25.5
Earnings per share (basic) (€)	34	4.68	6.81
thereof from continuing operations		4.68	3.87
thereof from discontinued operations		0	2.94
Earnings per share (diluted) (€)	34	4.68	6.81
thereof from continuing operations		4.68	3.87
thereof from discontinued operations		0	2.94

1) Since the second quarter of 2017, operating costs have included staff costs as well as other operating expenses, but have excluded depreciation, amortisation and impairment losses. Prior-year figures have been adjusted accordingly. For details, see [note 3](#).

Consolidated statement of comprehensive income

for the period 1 January to 31 December 2017

	Note	2017 €m	2016 €m
Net profit for the period reported in consolidated income statement		896.0	1,298.2
Items that will not be reclassified to profit or loss:			
Changes from defined benefit obligations		30.6	-27.3
Deferred taxes	10, 20	-8.4	7.8
		22.2	-19.5
Items that may be reclassified subsequently to profit or loss:			
Exchange rate differences from continuing operations	20	-27.8	-3.8
Other comprehensive income from investments using the equity method		0.9	-0.6
Exchange rate differences from discontinued operations	20	0	-200.7
Remeasurement of cash flow hedges		3.5	2.7
Remeasurement of other financial instruments		-89.5	105.7
Deferred taxes from continuing operations	10, 20	46.9	-40.9
Deferred taxes from discontinued operations	10, 20	0	147.2
		-66.0	9.6
Other comprehensive income after tax		-43.8	-9.9
Total comprehensive income		852.2	1,288.3
thereof attributable to Deutsche Börse AG shareholders		835.9	1,263.4
thereof attributable to non-controlling interests		16.3	24.9
Total comprehensive income attributable to the shareholders of Deutsche Börse AG			
thereof from continuing operations		835.9	766.3
thereof from discontinued operations		0	497.1

Consolidated balance sheet

as at 31 December 2017

Assets	Note	31 Dec 2017 €m	31 Dec 2016 €m
NON-CURRENT ASSETS			
Intangible assets	11		
Software		322.1	209.4
Goodwill		2,770.9	2,721.1
Payments on account and assets under development		86.8	181.6
Other intangible assets		911.2	859.9
		4,091.0	3,972.0
Property, plant and equipment	12		
Fixtures and fittings		34.8	35.9
Computer hardware, operating and office equipment		76.4	75.4
Payments on account and construction in progress		2.2	2.2
		113.4	113.5
Financial assets	13		
Investments in associates and joint ventures		38.7	34.3
Other equity investments		99.4	255.4
Receivables and securities from banking business		1,563.0	1,604.8
Other financial instruments		30.8	26.0
Other loans ¹⁾		0.4	0.4
		1,732.3	1,920.9
Financial instruments held by central counterparties	15	4,837.2	5,856.6
Other non-current assets		8.7	13.2
Deferred tax assets	10	101.1	62.5
Total non-current assets		10,883.7	11,938.7
CURRENT ASSETS			
Receivables and other current assets			
Financial instruments held by central counterparties	15	79,510.7	107,909.6
Receivables and securities from banking business	16	13,036.5	13,465.5
Trade receivables	17	329.4	669.8
Receivables from related parties		2.5	2.0
Income tax assets ²⁾		91.3	107.6
Other current assets	18	597.7	514.2
		93,568.1	122,668.7
Restricted bank balances	19	29,392.0	27,777.6
Other cash and bank balances		1,297.6	1,458.1
Total current assets		124,257.7	151,904.4
Total assets		135,141.4	163,843.1

Equity and liabilities

	Note	31 Dec 2017 €m	31 Dec 2016 €m
EQUITY	20		
Subscribed capital		193.0	193.0
Share premium		1,332.3	1,327.8
Treasury shares		-334.6	-311.4
Revaluation surplus		19.6	41.5
Accumulated profit		3,631.0	3,230.1
Shareholders' equity		4,841.3	4,481.0
Non-controlling interests		118.1	142.2
Total equity		4,959.4	4,623.2
NON-CURRENT LIABILITIES			
Provisions for pensions and other employee benefits	22	144.2	167.9
Other non-current provisions	23, 24	120.3	117.0
Deferred tax liabilities	10	226.8	235.7
Interest-bearing liabilities	25	1,688.4	2,284.7
Financial instruments held by central counterparties	15	4,837.2	5,856.6
Other non-current liabilities		6.9	7.9
Total non-current liabilities		7,023.8	8,669.8
CURRENT LIABILITIES			
Tax provisions ^{3,4)}	26	339.4	273.9
Other current provisions	23, 27	191.6	178.3
Financial instruments held by central counterparties	15	78,798.6	107,479.4
Liabilities from banking business	28	13,264.4	13,840.3
Other bank loans and overdrafts		7.3	0.1
Trade payables		148.9	471.2
Liabilities to related parties		1.5	3.6
Cash deposits by market participants	29	29,215.3	27,777.6
Other current liabilities	30	1,191.2	525.7
Total current liabilities		123,158.2	150,550.1
Total liabilities		130,182.0	159,219.9
Total equity and liabilities		135,141.4	163,843.1

1) Thereof €0.4 million (31 December 2016: €0.4 million) receivable from related parties

2) Thereof none with a remaining maturity of more than one year from corporation tax credits in accordance with section 37 (5) of the Körperschaftsteuergesetz (KStG, the German Corporation Tax Act) (31 December 2016: €2.3 million)

3) Thereof income tax expense: €299.6 million (2016: €231.5 million)

4) This item also includes non-current tax provisions; for details see [note 26](#).

Consolidated cash flow statement

for the period 1 January to 31 December 2017

	Note	2017 €m	2016 €m
Net profit for the period		896.0	1,298.2
Depreciation, amortisation and impairment losses	11, 12	159.9	135.3
Increase/(decrease) in non-current provisions		10.2	-14.7
Deferred tax income	10	-20.6	-2.9
Other non-cash income		-96.4	-52.3
Changes in working capital, net of non-cash items:		156.6	56.0
Decrease/(increase) in receivables and other assets		7.9	-223.4
Increase in current liabilities		148.2	276.9
Increase in non-current liabilities		0.5	2.5
Net loss/(gain) loss on disposal of non-current assets		1.5	-563.0
Cash flows from operating activities excluding CCP positions		1,107.2	856.6
Changes in liabilities from CCP positions		-323.2	299.5
Changes in receivables from CCP positions		272.2	465.3
Cash flows from operating activities	33	1,056.2	1,621.4
Payments to acquire intangible assets		-106.1	-115.1
Payments to acquire property, plant and equipment		-43.1	-49.8
Payments to acquire non-current financial instruments		-312.4	-178.9
Payments to acquire investments in associates and joint ventures		-10.4	-5.0
Payments to acquire subsidiaries, net of cash acquired		-157.5	-3.9
Effects of the disposal of (shares in) subsidiaries, net of cash disposed		0	917.4
Proceeds from the disposal of shares in associates and joint ventures		0	0.3
Net increase in current receivables and securities from banking business with an original term greater than three months		-47.7	-136.5
Proceeds from disposals of available-for-sale non-current financial instruments		859.1	149.9
Proceeds from disposals of other non-current assets		0	0.1
Cash flows from investing activities	33	181.9	578.5
Purchase of treasury shares		-28.2	0
Proceeds from sale of treasury shares		5.5	3.8
Payments to non-controlling interests		-39.3	-15.9
Repayment of long-term financing		0	-321.6
Repayment of short-term financing		0	-495.0
Proceeds from short-term financing		0	400.0
Dividends paid		-439.0	-420.1
Cash flows from financing activities	33	-501.0	-848.8
Net change in cash and cash equivalents		737.1	1,351.1

	Note	2017 €m	2016 €m
Net change in cash and cash equivalents (brought forward)		737.1	1,351.1
Effect of exchange rate differences		-10.0	81.4
Cash and cash equivalents at beginning of period		-146.9	-1,579.4
Cash and cash equivalents at end of period	33	580.2	-146.9
Additional information on cash inflows and outflows contained in cash flows from operating activities:			
Interest-similar income received		362.7	252.0
Dividends received		8.6	7.5
Interest paid		-295.8	-257.5
Income tax paid		-308.8	-277.8

Consolidated statement of changes in equity

for the period 1 January to 31 December 2017

	Note	2017 €m	2016 €m	thereof included in total comprehensive income	
				2017 €m	2016 €m
Subscribed capital					
Balance as at 1 January		193.0	193.0		
Balance as at 31 December		193.0	193.0		
Share premium					
Balance as at 1 January		1,327.8	1,326.0		
Sale of treasury shares		4.5	1.8		
Balance as at 31 December		1,332.3	1,327.8		
Treasury shares					
Balance as at 1 January		-311.4	-315.5		
Purchase of treasury shares		-28.2	0		
Sales under the Group Share Plan		5.0	4.1		
Balance as at 31 December		-334.6	-311.4		
Revaluation surplus					
	20				
Balance as at 1 January		41.5	-5.3		
Changes from defined benefit obligations	22	30.6	-27.3	30.6	-27.3
Remeasurement of other financial instruments		-89.5	105.7	-89.5	105.7
Remeasurement of cash flow hedges		3.5	2.7	3.5	2.7
Deferred taxes	10	33.5	-34.3	33.5	-34.3
Balance as at 31 December		19.6	41.5		
Accumulated profit					
	20				
Balance as at 1 January		3,230.1	2,357.5		
Dividends paid	21	-439.0	-420.1	0	0
Acquisition of the interest of non-controlling shareholders in European Energy Exchange AG		-6.5	0	0	0
Net profit for the period attributable to Deutsche Börse AG shareholders		874.3	1,272.7	874.3	1,272.7
Exchange rate differences and other adjustments		-32.9	-128.4	-21.5	-204.5
Deferred taxes	10	5.0	148.4	5.0	148.4
Balance as at 31 December		3,631.0	3,230.1		
Shareholders' equity as at 31 December		4,841.3	4,481.0	835.9	1,263.4

	Note	2017 €m	2016 €m	thereof included in total comprehensive income	
				2017 €m	2016 €m
Shareholders' equity (brought forward)		4,841.3	4,481.0	835.9	1,263.4
Non-controlling interests					
Balance as at 1 January		142.2	139.0		
Acquisition of the interest of non-controlling shareholders in European Energy Exchange AG		7.3	0	0	0
Changes due to capital increases/decreases		-48.3	-21.6	0	0
Non-controlling interests in net income of subsidiaries for the period		21.7	25.5	21.7	25.5
Exchange rate differences and other adjustments		-4.8	-0.7	-5.4	-0.6
Total non-controlling interests as at 31 December		118.1	142.2	16.3	24.9
Total equity as at 31 December		4,959.4	4,623.2	852.2	1,288.3

Notes to the consolidated financial statements

Basis of preparation

1. General principles

Company information

Deutsche Börse AG (the “company”) has its registered office in Frankfurt/Main, and is registered in the commercial register B of the Frankfurt/Main Local Court (Amtsgericht Frankfurt am Main) under HRB 32232. Deutsche Börse AG is the parent company of Deutsche Börse Group. 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 data distributed. For details regarding internal organisation and reporting see [note 35](#).

Basis of reporting

The 2017 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 Standards 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 Handelsgesetzbuch (HGB, German Commercial Code) section 315e (1) in conjunction with section 297 (1a) of the HGB have been presented in the notes to the consolidated financial statements and the [remuneration report of the combined management report](#). The consolidated financial statements are also based on the interpretations issued by the Rechnungslegungs Interpretations Committee (RIC, Accounting Interpretations Committee) of the Deutsches Rechnungslegungs Standards Committee e.V. (Accounting Standards Committee of Germany), to the extent that these do not contradict the standards and interpretations issued by the IFRIC or the IASB.

New accounting standards – implemented in the year under review

In the 2017 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.

Amendments to IAS 7 “Statement of Cash Flows” Disclosure Initiative (January 2016)

The amendments follow the objective that entities shall provide disclosures allowing users of financial statements to evaluate changes in liabilities arising from financing activities. The amendments must be applied for financial years beginning on or after 1 January 2017. The amendments were adopted by the EU on 6 November 2017.

Amendments to IAS 12 “Recognition of Deferred Tax Assets for Unrealised Losses” (January 2016)

The amendments to IAS 12 specifically aim to clarify the recognition of deferred tax assets for unrealised losses on assets measured at fair value. The amendments are necessary given the current diversity in accounting practice. The amendments must be applied for financial years beginning on or after 1 January 2017, and were adopted by the EU on 6 November 2017.

Amendments resulting from the “Annual Improvements Project 2014–2016” (December 2016)

Amendments affect the standards IFRS 1, IFRS 12 and IAS 28. The amendments to IFRS 12 must be applied for financial years beginning on or after 1 January 2017. The amendments were adopted by the EU on 7 February 2018.

New accounting standards – not yet implemented

The following standards and interpretations, which are relevant to Deutsche Börse Group but which have not been adopted early by Deutsche Börse Group for 2017, have been published by the IASB prior to the publication of this financial report and partially adopted by the European Commission.

Amendments to IFRS 2 “Classification and Measurement of Share-Based Payments” (June 2016)

The amendments affect the accounting for cash-settled share-based payment transactions. The most important amendment to IFRS 2 is the clarification on how to determine the fair value of liabilities for share-based payments. The amendments must be applied for financial years beginning on or after 1 January 2018. The amendments have not yet been adopted by the EU.

IFRS 9 “Financial Instruments” (July 2014) and Amendments to IFRS 9 Regarding Prepayment Features with Negative Compensation (October 2017)

IFRS 9 introduces new requirements for the recognition and measurement of financial instruments. The new standard was adopted by the EU on 22 November 2016, and must be applied for financial years beginning on or after 1 January 2018. Deutsche Börse Group will apply the standard retrospectively as from 1 January 2018, adopting the simplified approach. However, the comparative figures presented for the financial year 2017 will not be adjusted retrospectively. As from financial year 2018, Deutsche Börse Group aims to improve the transparency of its balance sheet structure with the first-time application of IFRS 9. Financial instruments will be recognised in the consolidated balance sheet according to different measurement categories; the comparative figures presented for the financial year 2017 will also be reported according to the new structure.

The amendments regarding prepayment features with negative compensation must be applied for financial years beginning on or after 1 January 2019, and have not yet been adopted by the EU.

Classification and measurement of financial instruments

Deutsche Börse Group has reviewed its financial assets and liabilities to assess the implications of IFRS 9, and mainly expects the following effects from the first-time application of the standard as from 1 January 2018:

Debt instruments held by Deutsche Börse Group have a carrying amount of €1,832.0 million, and were so far classified as “available for sale” in line with IAS 39. Debt instruments are held in order to collect contractual cash flows (“hold” business model), and fulfil the so-called cash flow criteria. Therefore, debt instruments will be measured at amortised cost as from 1 January 2018. This leads to a decrease in the carrying amount of current and non-current “receivables and securities from banking business” by

€8.2 million to €1,554.8 million, and by €0.3 million to €254.2 million, respectively. The carrying amount of the item “other financial instruments” remains largely unchanged; the adjustment effects are less than €0.1 million. The revaluation surplus – disclosed as an equity item – declines accordingly before the consideration of deferred tax assets and liabilities.

Going forward, Deutsche Börse Group will measure debt instruments that do not fulfil the criteria of the “hold” business model, or whose expected cash flows are not solely payments of principal and interest, at fair value through profit or loss. The fair values of non-listed fund units are based on the net asset values available at the time the annual financial statements were prepared. As from 1 January 2018, this results in adjustment effects in the amount of €0.9 million for the “other financial instruments” item, and of €0.9 million for the “equity” item (without deferred taxes).

Equity instruments recognised under “other equity investments” item were classified as “available for sale” until 31 December 2017, and were measured at fair value through other comprehensive income; no adjustments will be made to this measurement method. Deutsche Börse Group applied the corresponding option provided in the standard to the financial instruments disclosed as at 31 December 2017. Going forward, Deutsche Börse Group will decide for every newly acquired equity instrument whether it will be classified at fair value through profit or loss, or through other comprehensive income. As at 31 December 2017, the item “other equity investments” comprised financial instruments with a carrying amount of €59.0 million measured at historical cost less (any) impairment charges, which were not traded on an active market, and for which no alternative measurement method is applicable; using internal measurement models, these financial instruments will be measured at fair value through other comprehensive income as from 1 January 2018. Therefore, the first-time application of IFRS 9 results in an increase in the carrying amount of €2.2 million, and in equity of €2.2 million (without deferred taxes). Effective 1 January 2018, any disposal gains or losses generated or incurred in connection with equity instruments measured at fair value through other comprehensive income will be recognised in retained earnings at the date of disposal. So far, disposal gains or losses were recognised through profit or loss. In the financial year 2017, Deutsche Börse Group generated a profit of €190.6 million from the disposal of available-for-sale equity instruments, which was recognised through profit or loss in “net income from equity investments”.

Deutsche Börse Group expects no effects from the introduction of IFRS 9 upon the disclosure of financial liabilities, given that these items will be measured at amortised cost, as before.

Furthermore, no material effects are expected for the disclosure of hedging transactions. The hedging relationships disclosed as at 31 December 2017 (for further details, see [note 14](#)) will qualify as hedging items in 2018 as well.

Impairment

Effective 1 January 2018, impairment losses recognised for certain categories of financial assets were calculated according to the “expected loss model”. This model applies in particular to financial assets measured at amortised cost. The same applies to debt instruments measured at fair value through other comprehensive income, for so-called contract assets in line with IFRS 15, to leasing receivables, credit commitments and certain financial guarantees. The model requires changes to the risk analysis and the calculations of expected credit losses. The application of IFRS 9 leads mainly to the following amendments:

- Impairment losses of €0.3 million were recognised for securities measured at amortised cost. Under IAS 39, no impairment had to be recognised for these items.

- Impairment losses for trade receivables decreased by around €1.5 million, thus falling by 30 per cent compared to 31 December 2017.
- There was no material effect on other financial assets measured at amortised cost as at 1 January 2018.

Amendments to IFRS 10 and IAS 28 “Sales or Contributions of Assets Between an Investor and its Associate/Joint Venture” (September 2014)

The amendments clarify that the extent to which gain or loss is recognised for transactions with an associate or joint venture depends on whether the assets sold or contributed constitute a business operation. The application date has been postponed indefinitely.

IFRS 15 “Revenue from Contracts with Customers” (May 2014 plus clarification dated April 2016)

IFRS 15 specifies the recognition of revenue from contracts with customers. In accordance with IFRS 15, revenue has to be recognised when the customer obtains control over the contractual goods and services, and can obtain benefits from these goods and services. Revenue shall be recognised in an amount that reflects the consideration to which the company expects to be entitled. The new IFRS 15 regulations supersede the currently applicable regulations set forth in IAS 11 and IAS 18, as well as the corresponding interpretations. The standard must be applied for financial years beginning on or after 1 January 2018; it was adopted by the EU on 22 September 2016. The clarification was adopted by the EU on 31 October 2017.

Deutsche Börse Group initiated its IFRS 15 implementation project in 2015. This project comprises three phases: phase I focused on a detailed analysis of revenue from relevant contracts with customers. Phase II assessed the implications of IFRS 15 regarding potential adjustment requirements to existing accounting methods, as well as to IT processes and systems. As part of phase III, the Group is currently implementing the adjustment requirements identified during phase II. After phases I and II were completed during the financial year 2017, Deutsche Börse Group launched the implementation of the required adjustments, including those applicable to the Group’s IT landscape, taking effect from 1 January 2018.

Based on the analysis of IFRS 15, Deutsche Börse Group does not expect any material effects on the Group’s financial position or financial performance. However, Deutsche Börse Group expects adjustments as to the time at which revenue will be recognised. Furthermore, the Group expects additional line items for the recognition of contractual rights (contract assets) and contractual obligations (contract liabilities) to be added to the consolidated statement of financial position. Moreover, the extent of required disclosures will be expanded. The most significant adjustments concern the following items:

- Deferral of annual caps applicable to security inclusion fees: in accordance with IFRS 15, revenue recognition for such items is spread over the expected term of a contract, based on customer-specific expectations regarding the number of inclusions per year and on the economic benefit generated.
- Deferral of revenue generated with multi-year customer contracts comprising pricing scales and contractually agreed rebates in subsequent periods: in accordance with IFRS 15, such revenue items are recognised in line with the economic benefit generated for the customer.

Deutsche Börse Group applies IFRS 15 as from 1 January 2018; it has opted for the modified retrospective approach and will disclose the cumulative effect from the first-time application of IFRS 15 for the financial year beginning on 1 January 2018. First-time application of IFRS 15 will result in an adjustment of Deutsche Börse Group’s equity of €1.4 million as at 1 January 2018.

IFRS 16 “Leases” (January 2016)

IFRS 16 introduced new accounting policies for the recognition of leases. The new standard introduces uniform accounting principles for lessees, which generally require the recognition of all leases on the lessee’s statement of financial position, whereby the right of use is recognised as an asset, and the payment obligation as a liability. For leases with a term of up to twelve months and for those that relate to low-value assets, it includes an accounting option. For lessors, however, the standard continues to distinguish between finance leases and operating leases for accounting purposes. The standard must be applied for financial years beginning on or after 1 January 2019; earlier application is permitted only if that entity is also applying IFRS 15 at the same time. The standard was adopted by the EU on 31 October 2017.

Deutsche Börse Group will apply the standard as from 1 January 2019, and will adopt the modified retrospective approach. Deutsche Börse Group’s internal project for the assessment of the implications of IFRS 16 was initiated in the fourth quarter of 2016, and was continued throughout the reporting year. However, the quantitative effects arising from the application of the new standard cannot be assessed reliably at this time.

The minimum lease payments from operating leases provided in [note 38](#) mainly comprise property leases, which will account for the majority of adjustment effects. The application of the new standard will translate into a balance sheet extension given the presentation of the rights of use on the asset side of the balance sheet, and of the discounted future lease payments on the liabilities side. Furthermore, IFRS 16 amends the recognition rules for operating leases – resulting in lease payments being recognised following the reducing-balance approach instead of as an expense on a straight-line basis, which ultimately translates into a shift of these expenses within the consolidated income statement.

IFRS 17 “Insurance Contracts” (May 2017)

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. The standard must be applied for financial years beginning on or after 1 January 2021, and has not yet been adopted by the EU.

Amendments to IAS 19 “Plan Amendment, Curtailment or Settlement” (February 2018)

The amendments specify that if a plan amendment, curtailment or settlement occurs, it is now mandatory that the current service cost and net interest for the period after the remeasurement are determined using the assumptions used for the remeasurement. In addition, amendments have been included to clarify the effect of a plan amendment, curtailment or settlement on the requirements regarding the asset ceiling. The amendments must be applied for financial years beginning on or after 1 January 2019; earlier application is permitted. The amendments have not yet been adopted by the EU.

Amendments to IAS 40 “Transfers of Investment Property” (December 2016)

The amendments clarify the conditions for transfers to, or from, investment property classification. More specifically, the question was whether a property under construction or development that was previously classified as inventory could be transferred to investment property when there was an evident change in use. The amendments must be applied for financial years beginning on or after 1 January 2018; earlier application is permitted. The amendments have not yet been adopted by the EU.

Amendments resulting from the “Annual Improvements Project 2014–2016” (December 2016)

Amendments affect the standards IFRS 1, IFRS 12 and IAS 28. The amendments to IFRS 1 and IAS 28 must be applied for financial years beginning on or after 1 January 2018. The amendments were adopted by the EU on 7 February 2018.

Amendments resulting from the “Annual Improvements Project 2015–2017” (December 2017)

These amendments affect the standards IFRS 3, IFRS 11, IAS 12 and IAS 23. The amendments must be applied for financial years beginning on or after 1 January 2019, but have not yet been adopted by the EU.

IFRIC 22 “Foreign Currency Transactions and Advance Consideration” (December 2016)

This interpretation aims to clarify the accounting for transactions that include the receipt or payment of advance consideration in a foreign currency. IFRIC 22 must be applied for financial years beginning on or after 1 January 2018; earlier application is permitted. This interpretation has not yet been adopted by the EU.

IFRIC 23 “Uncertainty over Income Tax Treatments” (June 2017)

This interpretation is to be applied to the determination of current and deferred tax assets and liabilities, in case of uncertainty over income tax treatments. IFRIC 23 must be applied for financial years beginning on or after 1 January 2019; earlier application is permitted. This interpretation has not yet been adopted by the EU.

2. Basis of consolidation

Deutsche Börse AG's equity interests in subsidiaries, associates and joint ventures as at 31 December 2017 included in the consolidated financial statements are presented in the following tables. Unless otherwise stated, the financial information in these tables is presented in accordance with the generally accepted accounting principles in the companies' countries of domicile.

Fully consolidated subsidiaries (part 1)

Company	Domicile	Equity interest as at 31 Dec 2017 direct/(indirect) %
Assam SellerCo, Inc.	New York, USA	100.00
Assam SellerCo Service, Inc. ³⁾	New York, USA	(100.00)
Need to Know News, LLC	Chicago, USA	(100.00)
Börse Frankfurt Zertifikate AG	Frankfurt/Main, Germany	100.00
Clearstream Holding AG	Frankfurt/Main, Germany	100.00
Clearstream International S.A.	Luxembourg, Luxembourg	(100.00)
Clearstream Banking S.A.	Luxembourg, Luxembourg	(100.00)
Clearstream Banking Japan, Ltd.	Tokyo, Japan	(100.00)
REGIS-TR S.A.	Luxembourg, Luxembourg	(50.00)
Clearstream Banking AG	Frankfurt/Main, Germany	(100.00)
Clearstream Global Securities Services Limited	Cork, Ireland	(100.00)
Clearstream Operations Prague s.r.o	Prague, Czech Republic	(100.00)
Clearstream Services S.A.	Luxembourg, Luxembourg	(100.00)
DB1 Ventures GmbH	Frankfurt/Main, Germany	100.00
Deutsche Boerse Asia Holding Pte. Ltd.	Singapore, Singapore	100.00
Eurex Clearing Asia Pte. Ltd.	Singapore, Singapore	(100.00)
Eurex Exchange Asia Pte. Ltd.	Singapore, Singapore	(100.00)
Deutsche Boerse Market Data+Services Singapore Pte. Ltd.	Singapore, Singapore	100.00
Deutsche Boerse Systems Inc.	Chicago, USA	100.00
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 Clearing Security Trustee GmbH	Frankfurt/Main, Germany	(100.00)
Eurex Bonds GmbH	Frankfurt/Main, Germany	(100.00)
Eurex Repo GmbH	Frankfurt/Main, Germany	(100.00)

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

2) Includes capital reserves and retained earnings, accumulated gains or losses and net profit or loss for the year and, if necessary, further components according to the respective local GAAP

3) Assam SellerCo Service, Inc. is part of the Assam SellerCo, Inc. subgroup.

4) Before profit transfer or loss absorption

	Currency	Ordinary share capital ¹⁾ thousand	Equity ¹⁾²⁾ thousand	Total assets ¹⁾ thousand	Sales revenue 2017 ¹⁾ thousand	Net profit/loss 2017 ¹⁾ thousand	Initially consolidated
	US\$	9,911	22,657	22,710	0	-473	2009
	US\$	n.a.	n.a.	n.a.	n.a.	n.a.	2009
	US\$	0	2,098	2,098	0	0	2009
	€	140	15,671	21,338	19,644	3,903	2013
	€	101,000	2,285,314	2,374,923	0	84,707 ⁴⁾	2007
	€	25,000	1,216,871	1,247,634	92,306 ⁵⁾	202,941 ⁶⁾	2002
	€	92,000	1,226,842	14,200,315	569,387 ⁵⁾	190,616	2002
	JPY	49,000	169,849	216,172	79,935	7,923	2009
	€	3,600	8,339	10,731	11,172	2,256	2010
	€	25,000	420,994	1,768,717	298,786 ⁵⁾	111,611	2002
	€	6,211	11,825	16,870	27,074	1,960	2014
	CZK	160,200	182,695	625,297	727,421	34,676	2008
	€	30,000	118,826	194,748	258,318 ⁵⁾	8,269	2002
	€	25	61	67	0	-7	16 Mar 2016
	€	20,000	14,315	14,400	293	-1,400	2013
	€	10,000	10,378	10,705	1,036	87	2013
	€	6,000	839	1,263	0	-1,187	2013
	S\$	606	995	1,665	1,851	301	2015
	US\$	400	25,041	30,910	19,477	78,669	2000
	€	25	131	202	0	-46	2015
	CZK	200	254,099	603,324	1,319	66,462	2006
	€	6,000	1,203,772	1,360,996	39,598	3,111 ⁷⁾	1998
	€	25,000	464,813	27,272,381	19,922 ⁵⁾	1,589 ⁴⁾	1998
	€	25	79	90	24	1	2013
	€	3,600	11,044	12,949	2,902	285	2001
	€	100	7,000	16,668	10,791	3,140 ⁴⁾	2001

5) Consists of interest and commission results due to business operations

6) Thereof income from profit-pooling agreements with their subsidiaries amounting to €195,910 thousand (including €159,160 thousand for Clearstream Banking S.A. and €36,750 thousand for Clearstream Banking AG)

7) Thereof income from profit-pooling agreements with their subsidiaries amounting to €4,729 thousand (including €3,140 thousand for Eurex Repo GmbH and €1,589 thousand for Eurex Clearing AG)

Fully consolidated subsidiaries (part 2)

Company	Domicile	Equity interest as at 31 Dec 2017 direct/(indirect) %
Eurex Global Derivatives AG	Zurich, Switzerland	100.00
Eurex Zürich AG	Zurich, Switzerland	(100.00)
European Energy Exchange AG	Leipzig, Germany	75.05 ³⁾
Agricultural Commodity Exchange GmbH	Leipzig, Germany	(75.05)
Cleartrade Exchange Pte. Limited	Singapore, Singapore	(75.05)
EEX Link GmbH	Leipzig, Germany	(75.05)
EEX Power Derivatives 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)
Global Environmental Exchange GmbH	Leipzig, Germany	(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)
Powernext SAS	Paris, France	(75.05)
EPEX SPOT SE	Paris, France	(38.27) ⁵⁾
EPEX Netherlands B.V.	Amsterdam, Netherlands	(38.27)
EPEX SPOT Belgium S.A.	Brussels, Belgium	(38.27)
EPEX SPOT Schweiz AG	Bern, Switzerland	(38.27)
JV Epex-Soops B.V.	Amsterdam, Netherlands	(22.96)
Gaspoin Nordic A/S	Brøndby, Denmark	(75.05)
PEGAS CEGH Gas Exchange Services GmbH	Vienna, Austria	(38.27)
Eurex Services GmbH	Frankfurt/Main, Germany	100.00
Impendium Systems Ltd	London, United Kingdom	100.00
STOXX Ltd.	Zurich, Switzerland	100.00
STOXX Australia Pty Limited	Sydney, Australia	(100.00)
Tradegate Exchange GmbH	Berlin, Germany	80.00 ⁷⁾
360 Treasury Systems AG	Frankfurt/Main, Germany	100.00
360T Asia Pacific Pte. Ltd.	Singapore, Singapore	(100.00)
360 Trading Networks Inc.	New York, USA	(100.00)
360 Trading Networks LLC	Dubai, United Arab Emirates (UAE)	(100.00)
360 Trading Networks Sdn Bhd	Kuala Lumpur, Malaysia	(100.00)
Finbird GmbH	Frankfurt/Main, Germany	(100.00)
Finbird Limited	Jerusalem, Israel	(100.00)
ThreeSixty Trading Networks (India) Pte. Ltd.	Mumbai, India	(100.00)

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

2) Includes capital reserves and retained earnings, accumulated gains or losses and net profit or loss for the year and, if necessary, further components according to the respective local GAAP

3) Voting rights

4) Before profit transfer and loss absorption

	Currency	Ordinary share capital ¹⁾ thousand	Equity ¹⁾²⁾ thousand	Total assets ¹⁾ thousand	Sales revenue 2017 ¹⁾ thousand	Net profit/loss 2017 ¹⁾ thousand	Initially consolidated
	€	83	556,003	577,550	124,590	59,193	2012
	€	8,313	310,184	383,315	45,189	7,619	1998
	€	60,075	311,056	368,542	29,761	36,740 ⁶⁾	2014
	€	100	2,046	2,083	217	-1,084 ⁴⁾	2014
	US\$	19,800	1,867	2,132	1,527	-928	2014
	€	50	59	102	172	8	1 Jan 2016
	€	125	6,018	16,279	40,531	18,893 ⁴⁾	2014
	€	1,015	88,935	2,751,310	79,318	41,215 ⁴⁾	2014
	€	13	81	324,804	33,933	67	2014
	€	50	48	1,789	3,258	-1,970 ⁴⁾	2014
	US\$	0	153,955	669,435	13,446	-9,632	3 May 2017
	US\$	0	38,485	503,841	13,446	-27	3 May 2017
	US\$	0	31,138	495,838	6,506	1,999	3 May 2017
	CZK	30,000	41,205	53,236	48,412	6,990	31 May 2016
	€	12,584	33,456	41,863	32,542	13,580	2015
	€	6,168	62,937	82,967	76,748	20,832	2015
	€	0	0	710	1,599	0	1 Dec 2016
	€	3,000	3,900	567,202	3,460	118	2015
	CHF	100	178	214	320	21	2015
	€	18	177	180	26	-8	2015
	DKK	2,000	2,001	2,876	4,115	328	1 July 2016
	€	35	7,317	7,449	1,702	169	2 Sep 2016
	€	25	98	98	0	-2	2007
	GBP	7,804	-7,309	561	1,332	-318	2014
	CHF	1,000	164,660	201,131	147,242	90,438	2009
	AU\$	0	95	228	463	8	2015
	€	500	1,785	2,482	3,125	648	2010
	€	128	42,719	60,981	67,388	12,345	2015
	S\$	550	4,473	8,754	12,410	215	2015
	US\$	300	7,376	8,556	8,815	595	2015
	€	34	381	491	620	12	2015
	MYR	0	-94	105	0	-94	25 Aug 2017
	€	25	1,424	1,571	0	59	2015
	ILS	1	-2,967	2,800	0	-1,693	2015
	INR	300	68,827	84,397	38,974	6,948	2015

5) Thereof 8.02 per cent indirectly held via European Energy Exchange AG and 30.25 per cent indirectly held via Powernext SAS

6) Thereof income and expense from profit-pooling agreements with their subsidiaries amounting to a total of €57,055 thousand

7) Thereof 5.00 per cent indirectly held via Tradegate AG Wertpapierhandelsbank

Changes to consolidated subsidiaries

	Germany	Foreign	Total
As at 1 January 2017	20	42	62
Additions	1	5	6
Disposals	-1	-6	-7
As at 31 December 2017	20	41	61

European Energy Exchange AG, Leipzig, Germany, (EEX) founded EEX US Holdings, Inc., Wilmington, Delaware, USA, as a wholly owned subsidiary in March 2017. With effect from 3 May 2017, EEX US Holdings, Inc. acquired all shares in Nodal Exchange Holdings, LLC, Tysons Corner, Virginia, USA (Nodal Exchange). As part of the transaction, EEX US Holdings acquired all shares in Lex Holdings II, LLC, Wilmington, Delaware, USA. Nodal Exchange is a regulated derivatives exchange which currently offers over 1,000 electric power and natural gas contracts on hundreds of unique locations, allowing market participants to hedge against price risks in the United States. All of the transactions on Nodal Exchange are cleared through its clearing house, Nodal Clear, LLC, Tysons Corner, Virginia, USA, a derivatives clearing organisation under the Commodity Exchange Act that is regulated by the U.S. Commodity Futures Trading Commission (CFTC). The purchase price was US\$206.9 million (€189.6 million) paid in cash. Since the completion of the transaction on 3 May 2017, EEX US Holdings and the other entities it acquired as part of the transaction have been fully consolidated.

The preliminary purchase price allocation yielded the following results:

Goodwill resulting from the business combination with Nodal Exchange group

	Preliminary goodwill calculation 3 May 2017 €m
Consideration transferred	
Purchase price	189.6
Non-controlling interests	-47.3
Acquired bank balances	-13.8
Total consideration	128.5
Acquired assets and liabilities	
Customer relationships	55.0
Exchange and clearing licences	24.5
Trade names	4.9
Software and other intangible assets	5.7
Other non-current assets	0.2
Restricted bank balances	421.0
Other current assets	2.3
Cash deposits by market participants	-402.7
Deferred tax liabilities on temporary differences	-8.9
Other current liabilities	-1.5
Non-controlling interests	-28.5
Total assets and liabilities acquired	72.0
Goodwill	56.5

The acquired goodwill resulting from the transaction amounts to US\$61.6 million (€56.5 million), and mainly reflects expected revenue synergies to be generated by higher trading volumes, due to the fact that Nodal Exchange is now part of a larger corporate group, which increases the attractiveness of its service and product offerings. Furthermore, Deutsche Börse expects that the global gas business will profit from the shared customer base of Nodal Exchange and EEX.

The full consolidation of Nodal Exchange group generated an increase of US\$7.0 million (€6.0 million) in net revenue as well as an increase of US\$0.2 million (€0.2 million) in earnings after tax and offsetting of non-controlling interests. Full consolidation as at 1 January 2017 would have led to a US\$13.4 million (€12.0 million) increase in sales revenue and an increase of US\$1.4 million (€1.3 million) in earnings after tax and offsetting of non-controlling interests.

After the acquisition of Nodal Exchange group by EEX, it was decided to disentangle its shareholder structure. Therefore, the interim holding entity Lex Holdings II, LLC was dissolved with effect from 24 July 2017, and EEX US Holdings, Inc. was merged into Nodal Exchange Holdings, LLC.

Börse Frankfurt Zertifikate Holding S.A., Luxembourg, was liquidated as at 19 June 2017 and is thus no longer included in the basis of consolidation. The liquidation was resolved by means of a partner resolution dated 24 July 2014. Deutsche Börse AG held an interest of 100 per cent in the company.

Given the initiation of the liquidation proceedings for APX Commodities Limited in liquidation, London, United Kingdom, and APX Shipping B.V. i.L., Amsterdam, the Netherlands, these two entities were excluded from the basis of consolidation, with effect from 30 June 2017, and 31 December 2017, respectively.

Effective 25 August 2017, 360 Treasury Systems AG, Frankfurt/Main, Germany, established 360 Trading Networks Sdn Bhd, Kuala Lumpur, Malaysia, which was registered with the commercial register on the same day.

Effective 23 October 2017, Assam SellerCo, Inc., New York, USA, sold its 100 per cent share held in MNI Financial and Economic Information (Beijing) Co. Ltd., Beijing, China, to Hawking LLC, for a purchase price of US\$305 thousand.

With retrospective effect as at 1 October 2017, Finnovation S.A., a wholly owned subsidiary of Deutsche Börse AG established under Luxembourg law, was merged across borders into Finnovation Software GmbH, a wholly owned subsidiary of Deutsche Börse AG (merger 1). Immediately afterwards, Finnovation Software GmbH was merged into Deutsche Börse AG (merger 2). Both mergers took effect upon registration with the commercial register on 22 December 2017. All assets as well as equity and liabilities held by Finnovation S.A. at 30 September 2017 were transferred to Finnovation Software GmbH, and subsequently to Deutsche Börse AG.

During the year under review, EEX, in which Deutsche Börse AG holds an interest of 75.05 per cent, acquired all shares held by non-controlling shareholders in Powernext SAS, Paris, France, therefore increasing its shareholding to 100 per cent. EEX thus increased its stakes in fully consolidated subsidiaries held indirectly through Powernext SAS. Accordingly, EEX now holds 51 per cent of the shares in EPEX SPOT SE, Paris, France.

Associates and joint ventures

The following table summarises the main financial information of associates and joint ventures; data comprise the totals of each company according to the respective local GAAP and not proportional values from the view of Deutsche Börse Group.

Associates and joint ventures

Company	Domicile	Segment	Equity interest as at 31 Dec 2017 direct/(indirect) %
Associates			
BrainTrade Gesellschaft für Börsensysteme mbH	Frankfurt/Main, Germany	Xetra	(28.58) ¹⁾
China Europe International Exchange AG	Frankfurt/Main, Germany	Eurex	40.00
Deutsche Börse Commodities GmbH	Frankfurt/Main, Germany	Xetra	16.20
Digital Vega FX Ltd	London, United Kingdom	Eurex	23.85
LuxCSD S.A.	Luxembourg, Luxembourg	Clearstream	(50.00)
PHINEO gAG	Berlin, Germany	Xetra	12.00 ⁵⁾
RegTek Solutions Inc.	New York, USA	MD+S	12.50
R5FX Ltd	London, United Kingdom	Eurex	16.33
SEEPEX a.d.	Belgrade, Serbia	Eurex	(9.57)
Switex GmbH	Hamburg, Germany	Xetra	40.00
Tradegate AG Wertpapierhandelsbank ⁷⁾	Berlin, Germany	Xetra	20.00
ZDB Cloud Exchange GmbH in Liquidation	Eschborn, Germany	Eurex	49.90
Zimory GmbH in Liquidation	Berlin, Germany	Eurex	30.03 ⁹⁾

1) Thereof 14.29 per cent held directly and 14.29 per cent indirectly via Börse Frankfurt Zertifikate AG

2) Preliminary figures

3) Value of equity

4) The figures refer to the financial year from 1 December 2016 to 30 November 2017.

5) In addition, Deutsche Börse AG holds an interest in Phineo Pool GbR, Berlin, Germany, which holds a 48 per cent stake in PHINEO gAG.

The shares held in Index Marketing Solutions Limited, London, United Kingdom, classified as an associate and accounted for using the equity method, were divested on 9 March 2017.

With effect from 12 April 2017, the company name of Global Markets Exchange Group International LLP, London, United Kingdom, was changed to LDX International Group LLP. Effective 5 October 2017, Deutsche Börse AG divested its interest of 45.13 per cent held in LDX International Group LLP.

After all regulatory approvals were granted on 24 April 2017, Deutsche Börse AG increased its interest in Tradegate AG Wertpapierhandelsbank, Berlin, Germany, (Tradegate AG) by 4.96 percentage points. In addition, Deutsche Börse AG further increased its interest in Tradegate AG by 0.18 percentage points on 13 July 2017, improving its shareholding to 20 per cent. Tradegate AG continues to be classified as an associate, and is accounted for using the equity method. As described in [note 2 in the 2016 corporate report](#), Deutsche Börse AG exercised a call option on shares of Tradegate AG on 21 December 2016.

	Currency	Ordinary share capital thousand	Assets thousand	Liabilities thousand	Sales revenue 2017 thousand	Net profit/loss 2017 thousand	Associate since
	€	1,400 ²⁾	4,246 ²⁾	-2,531 ²⁾	4,808 ²⁾	151 ²⁾	2013
	€	27,000 ²⁾	17,770 ²⁾	1,365 ²⁾	346 ²⁾	-5,403 ²⁾	2015
	€	1,000	6,093,292	6,087,385	13,278	3,156	2007
	GBP	2,607 ³⁾ ⁴⁾	2,016 ⁴⁾	922 ⁴⁾	970 ⁴⁾	493 ⁴⁾	2011
	€	6,000	7,294	-1,579	2,407	8	2015
	€	50	6,344	2,656	1,001	266	2010
	US\$	20,000	1,395	0	3,188	-1,537	2015
	GBP	2 ⁶⁾	569 ⁶⁾	745 ⁶⁾	19 ⁶⁾	-1,000 ⁶⁾	2014
	RSD	120,000	149,261	169,124	52,615	-30,563	2015
	€	25	527	97	250	92	4 Nov 2016
	€	24,403 ⁸⁾	133,575 ⁸⁾	90,938 ⁸⁾	53,486 ⁸⁾	12,644 ⁸⁾	2010
	€	50	219	74	0	-9	2013
	€	263	259	84	0	-6	2013

6) Figures as at 31 October 2017

7) As at the reporting date, the fair value of the stake in the listed company amounted to €104.9 million.

8) Figures as at 31 December 2016

9) Voting rights

Effective 25 July 2017, Deutsche Börse AG acquired 12.5 per cent of the voting shares in RegTek Solutions Inc., New York, USA. Since Deutsche Börse AG exercises significant influence within the meaning of IAS 28.6 (a) (representation on the board of directors), RegTek Solutions Inc. is classified as an associate, and is accounted for using the equity method.

Effective 7 September 2017, Bondcube Limited in Administration, London, United Kingdom, was liquidated and is thus no longer included in the basis of consolidation. The liquidation was resolved by means of a partner resolution dated 21 July 2015. Deutsche Börse AG held an interest of 30 per cent in the company.

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 in accordance with IAS 28.6 (a) through the Group's representation on the supervisory board or the board of directors of the following companies as well as through corresponding monitoring systems:

- Deutsche Börse Commodities GmbH, Frankfurt/Main, Germany
- PHINEO gAG, Berlin, Germany
- RegTek Solutions Inc., New York, USA
- R5FX Ltd, London, United Kingdom
- SEEPEX a.d., Belgrade, Serbia
- Tradegate AG Wertpapierhandelsbank, Berlin, Germany

3. Summary of key accounting policies

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, the amounts may differ from unrounded figures.

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.

Adjustments to the presentation of the consolidated income statement

The introduction of the key indicator “earnings before interest, tax, depreciation and amortisation (EBITDA)” in the financial year 2017 led to the following adjustments to the presentation of the consolidated income statement:

The item “depreciation, amortisation and impairment losses” was reclassified from operating costs; going forward, it will be disclosed as a separate item under “earnings before interest, tax, depreciation and amortisation (EBITDA)”. Therefore, the term “operating costs” was amended to “operating costs (excluding depreciation, amortisation and impairment losses)”. Disclosure for the financial year 2016 was amended accordingly, translating into a decline of operating costs for 2016 of €131.0 million. Earnings before interest, tax, depreciation and amortisation (EBITDA) for 2016 stood at €1,239.2 million; earnings before interest and tax (EBIT) was €1,108.2 million, as before. By disclosing the EBITDA key indicator in the consolidated income statement, Deutsche Börse Group is adjusting its external financial reporting to the changes made to the internal financial reporting system while at the same time seeking to improve comparability with its competitors.

Recognition of revenue and expenses

Trading, clearing and settlement fees are recognised at the trade date and billed on a monthly basis. Custody revenue and revenue for systems development and systems operation are generally recognised ratably and billed on a monthly basis. Sales of price information are billed on a monthly basis. Rebates are deducted from sales revenue.

The “volume-related costs” item comprises expenses that depend in particular on the number of certain trade or settlement transactions, on the custody volume, on the Global Securities Financing volume, or on the volume of market data acquired; or that result from revenue-sharing agreements or maker-taker pricing models. Volume-related costs are not incurred if the corresponding revenue is no longer generated.

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 income can be measured

reliably. Interest expense is recognised in the period in which it is incurred. Interest income and expense from banking business are set off in the consolidated income statement and disclosed separately in [note 4](#).

Dividends are recognised in net income from equity investments if the right to receive payment is based on legally assertable claims.

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

Research and development costs

Research costs are expensed in the period in which they are incurred. The development costs of an asset are only capitalised if they can be reliably estimated, if all the definition criteria for an asset are met and if the future economic benefits resulting from capitalising the development costs can be demonstrated. These development costs 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 as expenses in the consolidated income statement. Interest expense that cannot be allocated directly to one of the development projects is recognised in profit or loss in the reporting period and not included in capitalised development costs. If research and development costs cannot be separated, the expenditures are recognised as expenses in the period in which they are incurred.

All development costs (both primary costs and costs incurred subsequently) are allocated to projects. The projects are broken down into the following phases in order to decide which cost components must be capitalised and which cannot be capitalised:

Phases not eligible for capitalisation

1. Design

- Definition of product design
- Specification of the expected economic benefit
- Initial cost and revenue forecast

Phases eligible for capitalisation

2. Detailed specifications

- Compilation and review of precise specifications
- Troubleshooting process

3. Building and testing

- Software programming
- Product testing

Phases not eligible for capitalisation

4. Acceptance

- Planning and implementation of acceptance tests
- Analysis to identify weak points in a functioning and operational software
- Identification of inefficiencies

5. Simulation

- Preparation and implementation of simulation
- Compilation and testing of simulation software packages
- Compilation and review of documents

6. Roll-out

- Planning of product launch
- Compilation and dispatch of production systems
- Compilation and review of documents

In accordance with IAS 38, only expenses attributable to the “detailed specifications” and “building and testing” phases are capitalised. All other phases of software development projects are expensed.

Intangible assets

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 enhancements of these systems.

Purchased software is carried at cost and reduced by amortisation and, where necessary, impairment losses. Amortisation is charged using the straight-line method over the expected useful life or at most until the right of use has expired.

Useful life of software

Asset	Amortisation period
Standard software	3 to 10 years
Purchased custom software	3 to 6 years
Internally developed custom software	3 to 7 years

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

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.

Goodwill is recognised at cost and tested at least once a year for impairment.

The cost of the other intangible assets, which are almost only acquired in the course of business combinations, corresponds to the acquisition date fair value. Assets with a finite useful life are amortised using the straight-line method over their expected useful life. Assets with an indefinite useful life are tested for impairment at least once a year.

Useful life of other intangible assets classified by business combinations

	Exchange licences	Trade names	Member and customer relationships	Miscellaneous intangible assets
STOXX	–	indefinite	12 years	3 to 5 years
EEX	indefinite	indefinite	16 years	–
CGSS	–	–	20 years	8 years
360T	–	indefinite	23 years	–
Other	indefinite	5 years, indefinite	8 to 24 years	2 to 20 years

Since the exchange licences mentioned above have no time limit on their validity and, in addition, there is an intention to maintain the exchange licences disclosed as at 31 December 2017 as part of the general business strategy, an indefinite useful life is assumed. Moreover, it is assumed that the trade name of STOXX, certain trade names of 360T as well as certain registered trade names of EEX group have also an indefinite useful life. These umbrella brands benefit from strong brand awareness and are used in the course of operating activities, so there are no indications that their useful life is limited.

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. 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 as they could not be directly allocated to any particular development project.

Useful life of property, plant and equipment

Asset	Depreciation period
Computer hardware	3 to 5 years
Office equipment	5 to 25 years
Leasehold improvements	based on lease term

Repair and maintenance costs are expensed as incurred.

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.

Impairment losses on property, plant and equipment and intangible assets

Specific non-current non-financial assets are tested for impairment. At each reporting date, the Group assesses whether there are any indications that an asset may be impaired. If this is the case, the carrying amount is compared with the recoverable amount (the higher of 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 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. If the estimated recoverable amount is lower than the carrying amount, an impairment loss is recognised and the net carrying amount of the asset is reduced to its estimated recoverable amount.

Goodwill is allocated to identifiable groups of assets (cash-generating units) or groups of cash-generating units that create synergies from the relevant acquisition. Irrespective of any indications of impairment, these items must be tested for impairment at least annually at the lowest level at which Deutsche Börse Group monitors the respective goodwill. An impairment loss is recognised if the carrying amount of the cash-generating unit 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.

A review is conducted at every reporting date to establish whether there are any indications that an impairment loss recognised on non-current assets (excluding goodwill) in prior periods 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 prior periods. Impairment losses on goodwill are not reversed.

Fair value measurement

The fair value of a financial instrument is measured using quoted market prices, if available. If no quoted market prices are available, observable market prices, for example for interest rates or exchange rates, are used. This observable market information is then used as inputs for financial valuation techniques, e.g. option pricing models or discounted cash flow models. In isolated instances, fair value is determined exclusively on the basis of internal valuation models.

Investments in associates and joint ventures

Investments in associates and joint ventures are measured at cost on initial recognition and accounted for using the equity method upon subsequent measurement.

Financial assets

For Deutsche Börse Group, financial assets are, in particular, other equity investments, receivables and securities from banking business, other financial instruments and other loans, financial instruments held by central counterparties, receivables and other assets as well as bank balances.

Recognition of financial assets

Financial assets are recognised when a Group company becomes a party to the contractual provisions of the instrument. They are generally recognised at the trade date. Loans and receivables from banking business, available-for-sale financial assets from banking business as well as purchases and sales of equities via the central counterparties of Deutsche Börse Group are recognised at the settlement date.

Financial assets are initially measured at fair value; in the case of a financial asset that is not measured at fair value through profit or loss in subsequent periods, this includes transaction costs. If they are settled within one year, they are allocated to current assets. All other financial assets are allocated to non-current assets.

Subsequent measurement of financial assets

Subsequent measurement of financial instruments follows the categories which are described below. As in previous years, Deutsche Börse Group did not take advantage of the option to allocate financial assets to the “held-to-maturity investments” category in the reporting period. For the first time, Deutsche Börse Group applied the option to designate financial assets at fair value through profit or loss (fair value option) for a convertible bond. The financial assets are allocated to the respective categories at initial recognition.

Assets held for trading

Derivatives that are not designated as hedging instruments as well as financial instruments held by central counterparties (excluding collateral not yet collected from clearing participants) are measured at fair value through profit or loss.

If they result from banking business, realised and unrealised gains and losses are immediately recognised in the consolidated income statement as “other operating income”, “other operating expenses” and “net interest income from banking business” or, if incurred outside the banking business, as “financial income” and “financial expenses”.

Loans and receivables

Loans and receivables comprise in particular current and non-current receivables from banking business, called collateral from central counterparties, trade receivables as well as other current receivables. They are recognised at amortised cost, taking into account any impairment losses, if applicable. Premiums

and discounts are included in the amortised cost of the instrument concerned and are amortised using the effective interest method; they are contained in “net interest income from banking business” if they relate to banking business, or in “financial income” and “financial expense”.

Cash and cash equivalents

Cash and cash equivalents comprise cash on hand and demand deposits as well as financial assets that are readily convertible to cash. They are subject to only minor changes in value. Cash and cash equivalents are measured at amortised cost.

Restricted bank balances mainly include cash deposits by market participants that are invested largely overnight, mainly at central banks or in the form of reverse repurchase agreements with banks.

Available-for-sale financial assets

Non-derivative financial assets are classified as “available-for-sale financial assets” if they cannot be allocated to the “loans and receivables” or “assets held for trading” categories. These assets comprise debt and equity investments recognised as “other equity investments” and “other financial instruments”, as well as debt instruments recognised as current and non-current receivables and securities from banking business.

Available-for-sale financial assets are generally measured at the fair value observable in an active market. Unrealised gains and losses are recognised directly in equity in the revaluation surplus. Impairment losses and effects of exchange rates on monetary items are excluded from this general principle and are recognised in profit or loss.

Equity instruments for which no active market exists are measured on the basis of current comparable market transactions, if these are available. If an equity instrument is not traded in an active market and alternative valuation methods cannot be applied to that equity instrument, it is measured at cost, subject to an impairment test.

Realised gains and losses are generally recognised in “financial income” or “financial expense”. Interest income in connection with debt instruments in the banking business is recognised in the consolidated income statement in “net interest income from banking business” using the effective interest rate method. Other realised gains and losses are recognised in the consolidated income statement in “other operating income” and “other operating expenses”.

If debt instruments in the banking business are hedged items in fair value hedges, the changes in fair value resulting from the hedged risk are recognised in profit or loss.

Derecognition of financial assets

Financial assets are derecognised when the contractual rights to the cash flows expire or when substantially all the risks and rewards of ownership of the financial assets are transferred.

Clearstream Banking S.A. acts as a principal in securities borrowing and lending transactions in the context of the ASLplus securities lending system. Legally, it operates between the lender and the borrower without being an economic party to the transaction (transitory items). In these transactions, the securities borrowed and lent match each other. Consequently, these transactions are not recognised in the consolidated balance sheet.

Impairment of financial assets

Financial assets that are not measured at fair value through profit or loss are reviewed at each reporting date to establish whether there are any indications of impairment.

Deutsche Börse Group has laid down criteria for assessing whether there is evidence of impairment. These criteria primarily include significant financial difficulties on the part of the debtor and breaches of contract. In the case of equity instruments, the assessment also takes into account the duration and the amount of the impairment compared with cost. If the decline in value amounts to at least 20 per cent of cost or lasts for at least nine months, or if the decline is at least 15 per cent of cost and lasts for at least six months, Deutsche Börse Group takes this to be evidence of impairment. Impairment is assumed in the case of debt instruments if there is a significant decline in the issuer's credit quality.

The amount of an impairment loss for a financial asset measured at amortised cost is the difference between the carrying amount and the present value of the estimated future cash flows, discounted at the original effective interest rate. A subsequent reversal is recognised at a maximum at the carrying amount that would have resulted if no impairment loss had been recognised.

The amount of an impairment loss for a financial asset measured at cost (unlisted equity instruments) is the difference between the carrying amount and the present value of the estimated future cash flows, discounted at a current market interest rate. Subsequent reversal is not permitted.

In the case of available-for-sale financial assets, the impairment loss is calculated as the difference between cost and fair value. Any reduction in fair value already recognised in equity is reclassified to profit or loss upon determination of the impairment loss. An impairment loss recognised on debt instruments may only be reversed in a subsequent period if the reason for the original impairment no longer applies.

Financial liabilities

Financial liabilities relate primarily to interest-bearing liabilities, other liabilities, liabilities from banking business, financial instruments held by central counterparties, cash deposits by market participants as well as trade payables. They are recognised when a Group company becomes a party to the instrument. They are generally recognised at the trade date. Purchases and sales of equities via the central counterparty Eurex Clearing AG are recognised at the settlement date.

Offsetting financial assets and liabilities

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 set off the recognised amounts and intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

Financial liabilities not measured at fair value through profit or loss

Financial liabilities not held for trading are carried at amortised cost. These liabilities comprise issued bonds. 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.

Financial liabilities measured at fair value through profit or loss

A forward transaction with a non-controlling shareholder for the acquisition of non-controlling interests that is settled in cash or by delivering other financial assets is a financial liability recognised at fair value. It is subsequently measured at fair value through profit or loss. 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.

Derivatives and hedges

Derivatives are used to hedge interest rate risk or currency risk. All derivatives are carried at their fair values.

Hedge accounting is used for derivatives that are part of a hedging relationship determined to be highly effective and for which certain conditions are met. This relates in particular to the documentation of the hedging relationship and the risk strategy and to how reliably effectiveness can be measured.

Cash flow hedges

The portion of the gain or loss on the hedging instrument determined to be highly effective is recognised in other comprehensive income. This gain or loss ultimately adjusts the value of the hedged cash flow, i.e. the gain or loss on the hedging instrument is recognised in profit or loss when the hedged item is recognised in the balance sheet or in profit or loss. The ineffective portion of the gain or loss is recognised immediately in the consolidated income statement.

Fair value hedges

The gain or loss on the hedging instrument, together with the gain or loss on the hedged item (underlying) attributable to the hedged risk, is recognised immediately in the consolidated income statement. Any gain or loss on the hedged item adjusts its carrying amount.

Hedges of a net investment in a foreign operation

The effective portion of the gain or loss from a hedging transaction that is designated as a highly effective hedge is recognised in other comprehensive income. It is recognised in profit or loss when the foreign operation is sold. The ineffective portion of the gain or loss is recognised immediately in the consolidated income statement.

Derivatives that are not part of a hedging relationship

Gains or losses on derivative instruments that are not part of a highly effective hedging relationship are recognised immediately in the consolidated income statement.

Financial instruments held by central counterparties

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

- 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 was acquired by European Energy Exchange in 2017 as part of Nodal Exchange group. Nodal Clear, LLC is a Derivatives Clearing Organisation (DCO) registered in the United States and is the central counterparty for all transactions executed on Nodal Exchange.
- Eurex Clearing AG guarantees the settlement of all transactions involving futures and options on the Eurex exchanges (Eurex Deutschland and Eurex Zürich AG). 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 Repo, the Frankfurt Stock Exchange and the Irish Stock Exchange. In the reporting year, it also guaranteed the settlement of all transactions for Eurex Bonds (bond trading platform) including off-order-book trades entered for clearing. In addition, Eurex Clearing AG clears over-the-counter (OTC) interest rate derivatives and securities lending transactions, where these meet the specified novation criteria.

The transactions of the clearing houses are only executed between the respective clearing house and a clearing member.

In accordance with IAS 39, 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. In accordance with IAS 39, futures and OTC interest rate derivatives are therefore not reported in the consolidated balance sheet. For future-style options, the option premium is not required to be paid in full until the end of the term or upon exercise. Option premiums are carried in the consolidated balance sheet as receivables and liabilities at their fair value on the trade date.

“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. Fixed-income bond forwards are recognised as derivatives and carried at fair value until the settlement date. Receivables and liabilities from repo transactions and from cash-collateralised securities lending transactions are classified as held for trading and carried at fair value. Receivables and liabilities from variation margins and cash collateral that is determined on the reporting date and only paid on the following day are carried at their nominal amount.

“Financial instruments held by central counterparties” are reported as non-current if the remaining maturity of the underlying transactions exceeds twelve months at the reporting date.

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 (see also the [clearing conditions of the respective clearing house](#)).

Cash or securities collateral held 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 clearing 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.

Treasury shares

The treasury shares held by Deutsche Börse AG at the reporting date are deducted directly from shareholders' equity. Gains or losses on treasury shares are recognised in other comprehensive income. The transaction costs directly attributable to the acquisition of treasury shares are accounted for as a deduction from shareholders' equity (net of any related income tax benefit).

Other current assets

Receivables and other assets are carried at their nominal amount. Adequate valuation allowances take account of identifiable risks.

Non-current assets held for sale, disposal groups and discontinued operations

Non-current assets that are available for immediate sale in their present condition, and whose sale is highly probable within a reasonable period of time, are classified as “non-current assets held for sale”. A transaction is highly probable if measures for the sale have already been initiated and the relevant bodies have adopted the corresponding resolutions. Disposal groups may comprise current and non-current assets, and the corresponding liabilities, which fulfil the criteria provided above and which are to be sold and discontinued. Income and expenses from non-current assets held for sale are recognised within continuing operations, provided such items are not included in net profit from discontinued operations.

Discontinued operations exclusively comprise assets and liabilities which are to be sold, entirely or partly, as part of an individual plan, or are to be abandoned. Furthermore, discontinued operations are assets or liabilities of major lines of business or geographical areas of operations. Every line of business or geographical area of operation must be identifiable for operational and accounting purposes. Net profit from discontinued operations is recognised in the period in which it is incurred, and is disclosed separately in the consolidated income statement and the consolidated statement of comprehensive income. The corresponding cash flows are disclosed separately in the consolidated cash flow statement. Furthermore, the figures disclosed in the previous year's income statement and cash flow statement have been adjusted accordingly.

Pensions and other employee benefits

Pensions and other employee benefits relate to defined contribution and defined benefit pension plans.

Defined contribution plans

There are defined contribution plans as part of the occupational pension system using pension funds and similar pension institutions, as well as on the basis of 401(k) plans. 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, along with other financial institutions, member institutions of BVV Versicherungsverein des Bankgewerbes a.G. (BVV), a pension insurance provider with registered office in Berlin, Germany. Employees and employers make regular contributions, which are used to provide guaranteed pension plans and a potential surplus. The contributions to be made are calculated based on contribution rates applied to active employees' monthly gross salaries, taking into account specific financial thresholds. Member institutions are liable in the second degree regarding the fulfilment of BVV's agreed pension benefits. However, we consider the risk that said liability will actually be utilised as remote. Given that BVV membership is governed by a Works Council Agreement, membership termination is subject to certain conditions. Deutsche Börse Group considers BVV pension obligations as multi-employer defined benefit pension plans (leistungsorientierte Pläne). However, the Group currently lacks information regarding the allocation of BVV assets to individual member institutions and the respective beneficiaries as well as regarding Deutsche Börse Group's actual share in BVV's total obligations. Hence, Deutsche Börse Group discloses this plan as a defined contribution plan (beitragsorientierter Plan). Based on its latest publications, BVV does not suffer any deficient cover with a potential impact on Deutsche Börse Group's future contributions.

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. This pension plan was reported as a defined contribution plan, given the limited information regarding the allocation of fund assets to member institutions and beneficiaries.

Defined benefit plans

Provisions for pension obligations are measured, separately for each pension plan, using the projected unit credit method on the basis of actuarial opinions. 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, Standard & Poor's, Fitch Ratings and Dominion Bond Rating Service) 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, on principal, based on a discount rate of 1.80 per cent, which is determined according to the Towers Watson "GlobalRate:Link" methodology updated in line with the current market trend.

Actuarial gains or losses resulting from changes in expectations with regard to life expectancy, pension trends, salary trends and the discount rate as compared with the estimate at the beginning of the period or compared with the actual development during the period are recognised directly in other comprehensive income. Actuarial gains and losses recognised in other comprehensive income may not be reclassified to profit or loss in subsequent periods. Similarly, differences between the (interest) income on plan assets determined at the beginning of the period and the return on plan assets actually recorded at the end of the period are also recognised directly in other comprehensive income. The actuarial gains or losses and the difference between the expected and the actual return or loss on plan assets are recognised in the revaluation surplus.

Other long-term benefits for employees and members of executive boards (total disability pension, transitional payments and surviving dependants' pensions) 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.

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.

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 main features to those affected by it.

Contingent liabilities are not recognised, but are rather disclosed unless the possibility of an outflow of resources embodying economic benefits is remote.

Share-based payment

Deutsche Börse Group operates the Group Share Plan (GSP), the Stock Bonus Plan (SBP), the Co-Performance Investment Plan (CPIP) and the Performance Share Plan (PSP) 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.

Group Share Plan (GSP)

Under the GSP, shares are generally granted at a discount to the market price to non-executive staff of Deutsche Börse AG and of participating subsidiaries who have been employed on a non-temporary basis since at least 31 March of the previous year. The expense of this discount is recognised in the income statement at the grant date.

Stock Bonus Plan (SBP)

The SBP for senior executives of Deutsche Börse AG and of participating subsidiaries 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. Regarding the 2017 tranche, cash settlement has been agreed upon too. Under these circumstances, it is presently presumed in accordance with IFRS 2 that all SBP shares will be settled in cash. Accordingly, Deutsche Börse Group has measured the SBP shares 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. Any right to payment of a stock bonus only vests after the expiration of the service or performance period of four years on which the plan is based.

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.

Long-term Sustainable Instrument (LSI)

In order to meet regulatory requirements, the LSI for risk takers (employees whose professional activities have a material impact on the operations of institutions) was introduced in financial year 2014 (see [note 39](#)). LSI shares are generally settled in cash. Regarding the 2014 tranche, the respective companies have the option to fulfil their obligations by delivering shares of Deutsche Börse AG. The remaining tranches will be settled in cash. 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.

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.

Deferred tax assets and liabilities

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.

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.

Leases

Leases are classified as operating leases or finance leases. A lease is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership of the asset from the lessor to the lessee. All other leases are classified as operating leases.

Leased assets and the associated liabilities are recognised at the lower of the fair value and present value of the minimum lease payments if the criteria for classification as a finance lease are met. The leased asset is depreciated or amortised using the straight-line method over its useful life or the lease term, if shorter. In subsequent periods, the liability is measured using the effective interest method.

Expenses incurred in connection with operating leases are recognised as an expense on a straight-line basis over the lease term.

Consolidation

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.

Intra-Group assets and liabilities are eliminated. Income arising from intra-Group transactions is eliminated against the corresponding expenses. 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".

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. Non-monetary balance sheet items measured at fair value are translated at the exchange rate prevailing at the valuation date. Exchange rate differences are recorded as other operating income or expense in the period in which they arise unless the underlying transactions are hedged. Gains and losses from a monetary item that forms part of a net investment in a foreign operation are recognised directly in "accumulated profit".

The annual financial statements 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. 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 "accumulated profit". When the relevant subsidiary is sold, these exchange rate differences are recognised in net profit for the period attributable to shareholders of the parent company 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 2017	Average rate 2016	Closing price as at 31 Dec 2017	Closing price as at 31 Dec 2016
Swiss francs	CHF	1.1155	1.0904	1.1680	1.0732
US dollars	USD (US\$)	1.1360	1.1029	1.1969	1.0522
Czech koruna	CZK	26.2997	27.0426	25.5683	27.0198
Singapore dollar	SGD	1.5605	1.5247	1.5990	1.5222
British pound	GBP (£)	0.8750	0.8223	0.8860	0.8561

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.

Key sources of estimation uncertainty and management judgements

The application of accounting policies, the presentation of assets and liabilities, and the recognition of income and expenses requires the Executive Board to make certain judgements and estimates. Adjustments in this context are taken into account in the period the change was made as well as in subsequent periods, where necessary.

Impairment

Deutsche Börse Group tests goodwill as well as intangible assets with indefinite useful lives for impairment and intangible assets not yet available for use at least once a year. Certain assumptions have to be made to determine the recoverable amount, which is calculated regularly using discounted cash flow models. This is based on the relevant business plans with a time horizon of normally three to five years. These plans in turn contain projections of the future financial performance of the assets and cash-generating units. If their actual financial performance fails to meet these expectations, corresponding adjustments may be necessary. For further information on the effects of changes in the discount rate and further assumptions, please see [note 11](#).

Pensions and other employee benefits

Pensions and other employee benefits are measured using the projected unit credit method, which calculates the actuarial present value of the accumulated benefit obligation. 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. Any departures from these assumptions, for example because of changes in the macroeconomic environment, are recognised in other comprehensive income in the following financial year. A sensitivity analysis of the key factors is presented in [note 22](#).

Income taxes

Deutsche Börse Group is subject to the tax laws of those countries in which it operates and generates income. Considerable management judgement has to be exercised in determining the tax provisions. For a large number of transactions and calculations, no definitive tax-relevant information is available at the time these figures are determined. Deutsche Börse Group recognises corresponding provisions for risks expected from external tax audits. If the final results of these external audits differ from the estimates, the resulting effects on current and deferred taxes are recognised in the period in which they become known.

Legal risks

The companies of Deutsche Börse Group are subject to litigation. Such litigation may lead to orders to pay against the entities of 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. Management judgement includes the determination whether there is a possible obligation from past events, the evaluation of the probability that an outflow will occur and the estimation of the potential amount. As the outcome of litigation is usually uncertain, the judgement is reviewed continuously. For further information on other risks please see [note 37](#).

Share-based payment

[Note 39](#) contains disclosures on the valuation model used for the stock options. Where the estimates of the valuation parameters originally applied differ from the actual values available when the options are exercised, adjustments are necessary; such adjustments are recognised in the consolidated income statement for the period if they relate to cash-settled share-based payment transactions.

Provisions

The probability of utilisation applied when recognising provisions for expected losses from rental agreements is estimated (see [note 24](#)). When recognising personnel-related restructuring provisions, certain assumptions were made, for example with regard to the fluctuation rate, the discount rate and salary trends. If the actual values were to deviate from these assumptions, adjustments may be necessary.

Consolidated income statement disclosures

4. Net revenue

Composition of net revenue¹⁾

	Sales revenue		Net interest income from banking business	
	2017 €m	(restated) 2016 €m	2017 €m	2016 €m
Eurex				
Equity index derivatives	432.9	478.1	0	0
Interest rate derivatives	209.7	190.8	0	0
Equity derivatives	41.9	41.4	0	0
Commodities (EEX)	230.0	237.1	1.1	-0.1
Foreign exchange (360T)	61.9	64.1	0	0
Repurchase agreements	18.0	21.8	0	0
Other assets	25.1	19.5	25.2	21.5
	1,019.5	1,052.8	26.3	21.4
Xetra				
Trading	120.9	113.0	0	0
Central counterparty for equities	38.2	38.4	0	0
Listing	15.5	13.0	0	0
Partner Markets	23.2	22.4	0	0
	197.8	186.8	0	0
Clearstream				
International business (ICSD)	585.5	571.8	106.3	62.6
Domestic business (CSD)	165.8	127.9	0	0
Investment Funds Services	145.0	128.6	0	0
Global Securities Financing	133.1	113.0	0	0
	1,029.4	941.3	106.3	62.6
Market Data + Services				
Data Services	178.3	184.0	0	0
Index	141.3	127.2	0	0
Infrastructure Services	115.4	113.5	0	0
	435.0	424.7	0	0
Total	2,681.7	2,605.6	132.6	84.0
Consolidation of internal net revenue	-43.2	-48.3	0	0
Group	2,638.5	2,557.3	132.6	84.0

1) Deutsche Börse Group made adjustments to the allocation of revenue items to its different segments. See also [note 35](#).

	Other operating income		Volume-related costs		Net revenue	
	2017 €m	(restated) 2016 €m	2017 €m	(restated) 2016 €m	2017 €m	(restated) 2016 €m
	0	0.1	-41.9	-37.4	391.0	440.8
	0	0	-1.2	-1.1	208.5	189.7
	0	0	-5.2	-3.5	36.7	37.9
	0.5	2.9	-19.4	-21.1	212.2	218.8
	5.1	0.5	-0.5	-0.4	66.5	64.2
	0	0	0	0	18.0	21.8
	23.9	23.4	-5.0	-2.3	69.2	62.1
	29.5	26.9	-73.2	-65.8	1,002.1	1,035.3
	5.6	5.8	-15.9	-14.7	110.6	104.1
	0	0	-3.1	-6.6	35.1	31.8
	0.4	0.2	-0.5	0	15.4	13.2
	0.7	0.6	-8.5	-7.5	15.4	15.5
	6.7	6.6	-28.0	-28.8	176.5	164.6
	7.2	3.2	-152.9	-152.7	546.1	484.9
	0.1	0	-44.3	-12.7	121.6	115.2
	0.1	0	-7.5	-4.3	137.6	124.3
	0	0	-51.5	-40.0	81.6	73.0
	7.4	3.2	-256.2	-209.7	886.9	797.4
	1.0	6.3	-25.7	-28.1	153.6	162.2
	0.3	1.5	-13.9	-13.7	127.7	115.0
	0.1	1.2	0	-0.5	115.5	114.2
	1.4	9.0	-39.6	-42.3	396.8	391.4
	45.0	45.7	-397.0	-346.6	2,462.3	2,388.7
	-13.6	-13.1	56.8	61.4	0	0
	31.4	32.6	-340.2	-285.2	2,462.3	2,388.7

Composition of net interest income from banking business

	2017 €m	2016 €m
Interest income from positive interest rate environment	129.1	75.1
Loans and receivables	82.1	44.5
Available-for-sale financial assets	8.6	4.5
Financial assets or liabilities measured at fair value through profit or loss	38.4	26.1
Interest expenses from positive interest rate environment	-36.1	-21.4
Financial liabilities	-31.5	-19.7
Financial assets or liabilities measured at fair value through profit or loss	-4.6	-1.7
Interest income from negative interest rate environment	224.8	191.9
Loans and receivables	217.2	185.4
Available-for-sale financial assets	0	0
Financial assets or liabilities measured at fair value through profit or loss	7.6	6.5
Interest expenses from negative interest rate environment	-185.2	-161.6
Financial liabilities	-182.9	-160.2
Financial assets or liabilities measured at fair value through profit or loss	-2.3	-1.4
Total	132.6	84.0

Composition of other operating income

	2017 €m	(restated) 2016 €m
Income from exchange rate differences	2.6	6.4
Income from agency agreements	1.7	0.6
Income from impaired receivables	1.2	1.3
Rental income from subleases	0.8	0.8
Miscellaneous	25.1	23.5
Total	31.4	32.6

For details of rental income from subleases see [note 38](#).

Miscellaneous other operating income includes income from cooperation agreements and from training as well as valuation adjustments.

Volume-related costs comprise partial or advance services that Deutsche Börse Group purchases from third parties, and which it markets as part of its own value chain. They indirectly depend on the development of volume trends and sales revenue.

5. Staff costs

Composition of staff costs

	2017 €m	2016 €m
Wages and salaries	528.0	486.2
Social security contributions, retirement and other benefits	110.3	99.5
Total	638.3	585.7

Staff costs include costs of €26.4 million (2016: €12.7 million) recognised in connection with efficiency programmes as well as costs of €3.1 million (2016: nil) for Nodal Exchange Holdings, LLC, Tysons Corner, Virginia, USA (Nodal Exchange) (which has been consolidated since 3 May 2017). The remaining increase is due to a rise in the number of employees (see also [note 43](#)), changes made to the remuneration of the Executive Board and higher pay-out of bonuses in financial year 2016.

6. Other operating expenses

Composition of other operating expenses

	2017 €m	2016 €m
Costs for IT service providers and other consulting services	162.5	264.9
IT costs	108.3	102.2
Premises expenses	75.6	70.3
Non-recoverable input tax	47.1	52.2
Travel, entertainment and corporate hospitality expenses	23.4	26.5
Advertising and marketing costs	19.8	15.8
Non-wage labour costs and voluntary social benefits	16.3	14.5
Insurance premiums, contributions and fees	13.0	13.9
Cost of exchange rate differences	4.3	4.1
Supervisory Board remuneration	4.2	2.6
Cost of agency agreements	0.5	3.4
Miscellaneous	18.3	30.3
Total	493.3	600.7

Costs for IT service providers and other consulting services relate mainly to expenses in conjunction with software development. An analysis of development costs is presented in [note 7](#). These costs also contain costs of strategic and legal consulting services as well as of audit activities.

Composition of fees paid to the auditor

	2017		2016	
	Total €m	Germany €m	Total €m	Germany €m
Statutory audit services	4.0 ¹⁾	2.3	3.0	2.0
Other assurance or valuation services	0.7 ²⁾	0.6	1.8	1.8
Tax advisory services	0.9	0.2	0.9	0.3
Other services	0.1	0	0.2	0
Total	5.7	3.1	5.9	4.1

1) Thereof €0.3 million for 2016

2) Thereof €0.2 million for 2016

Fees paid for “statutory audit services” rendered by KPMG AG Wirtschaftsprüfungsgesellschaft mainly comprise the audit of the consolidated financial statements of Deutsche Börse AG 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 and IFRS. This item also includes statutory additions to the audit scope as well as key points of audit agreed with the Supervisory Board. Services rendered during the reporting year also included reviews of the interim financial statements.

“Other assurance and valuation services” comprise fees paid in connection with M&A activities and with ISAE 3402 and ISAE 3000 reports.

Fees for “tax advisory services” include support services rendered in connection with completing tax returns as well as value-added tax advice on individual matters.

The item “other services” comprises fees paid for trainings and quality-assurance services.

7. Research and development costs

Own expenses capitalised relate solely to development costs of internally developed software, involving the following systems and projects in the individual segments:

	Total expense for software development		of which capitalised	
	2017	(restated) 2016	2017	(restated) 2016
	€m	€m	€m	€m
Eurex				
T7 trading platform for derivatives	5.6	6.5	4.2	3.6
Eurex Clearing Prisma	0	7.2	0	2.1
EEX software ¹⁾	19.2	13.4	6.8	7.1
EurexOTC Clear	10.0	16.3	6.6	8.3
360T	9.7	8.8	4.9	2.5
Other Eurex software	13.0	9.9	4.0	5.4
	57.5	62.1	26.5	29.0
Xetra				
T7 trading platform for the cash market	5.1	7.2	2.6	3.9
CCP releases	1.8	1.9	0	0
Other Xetra software	6.3	9.9	1.3	4.0
	13.2	19.0	3.9	7.9
Clearstream				
Collateral management and settlement	27.7	34.0	20.2	20.5
Custody	20.8	21.7	18.6	15.1
Connectivity	3.9	15.7	2.2	8.1
Investment funds	3.3	2.8	2.7	2.1
GSF	3.1	1.6	2.6	1.0
	58.8	75.8	46.3	46.8
Market Data + Services¹⁾	23.1	13.2	10.5	4.7
Research expense	1.8	0.9	0	0
Total	154.4	171.0	87.2	88.4

1) Deutsche Börse Group made adjustments to the allocation of revenue items to its different segments. See also [note 35](#).

8. Net income from equity investments

Composition of net income from equity investments

	2017 €m	2016 €m
Equity method-accounted result of associates and joint ventures		
BrainTrade Gesellschaft für Börsensysteme mbH	0	-0.4
China Europe International Exchange AG	-2.5	-1.3
Deutsche Börse Commodities GmbH	0.7	0.3
LDX International Group LLP ¹⁾	0	-6.0
LuxCSD S.A.	0	0.2
R5FX Ltd	-1.1	-1.1
RegTek Solutions Inc.	-0.2	n.a.
Switex GmbH	0.1	n.a.
Tradegate AG Wertpapierhandelsbank	4.6	1.8
Other	0	-0.1
Total income from equity method measurement²⁾	1.6	-6.6
Net income from other equity investments	196.2	43.5
Net income from equity investments	197.8	36.9

1) Until 11 April 2017: Global Markets Exchange Group International, LLP

2) Including impairment losses

Net income from associates includes an impairment loss amounting to €1.1 million attributable to the investment in R5FX Ltd (2016: €6.7 million attributable to the investments in LDX International Group LLP and R5FX Ltd). The negative development of the investment was due in particular to unsatisfactory economic development in the 2017 financial year and the correspondingly deteriorating economic outlook expected by the Group company. The recoverable amount was determined on the basis of fair value less costs of disposal. It was calculated using a discounted cash flow model (level 3 inputs). The impairment loss was recognised in the result from associates and is allocated to the Eurex segment.

Net income from other investments includes in particular €117.0 million due to the disposal of the remaining stake in BATS Global Markets, Inc. in the first quarter of 2017 and €73.6 million due to the disposal of another equity investment in the fourth quarter of 2017.

During the year under review, the company received dividends of €2.8 million (2016: €1.7 million) from investments in associates, and €6.0 million (2016: €5.1 million) from other investments.

9. Financial result

Composition of financial income

	2017 €m	2016 €m
Interest income on tax refunds	3.1	0.5
Income from valuation of derivatives classified as "held for trading"	2.0	0.1
Other interest income on receivables classified as "loans and receivables"	0.5	0.4
Interest income on bank balances classified as "loans and receivables"	0.4	0.6
Income from available-for-sale securities	0.4	0.3
Other interest income and similar income	0.2	2.6
Interest income on non-current loans classified as "loans and receivables"	0	0.1
Total	6.6	4.6

Composition of financial expense

	2017 €m	2016 €m
Interest expense on non-current loans ¹⁾	47.5	56.3
Interest expense on taxes	21.2	11.9
Other interest expense ¹⁾	5.3	0.3
Interest expense from negative interest ¹⁾	3.6	1.6
Transaction costs of non-current liabilities ¹⁾	3.1	2.8
Interest-equivalent expenses for derivatives held as hedging instruments ¹⁾	2.8	2.8
Expenses from the unwinding of the discount on pension provisions	2.7	2.9
Interest expense on current liabilities ¹⁾	0.1	0.6
Total	86.3	79.2

1) Measured at amortised cost

10. Income tax expense

Composition of income tax expense (main components)

	2017 €m	2016 €m
Current income taxes:		
for the current year	376.2	293.2
for previous years	35.8	0.4
Deferred tax income	-20.6	-9.1
Total	391.4	284.5

Total "current income taxes" in the amount of €412.0 million include tax expenses of €376.2 million for the current year and of €35.8 million for previous years (2016: €293.2 million for the current year; €0.4 million for previous years). These include domestic tax expenses of €213.8 million and foreign tax expenses of €198.2 million (2016: domestic tax expenses €151.9 million, foreign tax expenses €141.7 million). Total "deferred tax income" in the amount of €-20.6 million includes domestic tax income of €-51.4 million and foreign tax expenses of €30.8 million (2016: domestic tax expenses €10.4 million, foreign tax income €-19.5 million).

During the year under review, current income taxes decreased by €0.1 million (2016: €1.1 million) due to the use of tax loss carryforwards for which no deferred tax assets had been recognised.

Tax rates of 27.4 to 31.9 per cent (2016: 27.4 to 31.9 per cent) were used in the reporting period to calculate taxes for the German companies. These reflect trade income tax at multipliers of 330 to 460 per cent (2016: 330 to 460 per cent) on the trade tax base amount of 3.5 per cent (2016: 3.5 per cent), corporation tax of 15 per cent (2016: 15 per cent) and the 5.5 per cent solidarity surcharge (2016: 5.5 per cent) on corporation tax.

A tax rate of 27.1 per cent (2016: 29.2 per cent) was used for the Luxembourg companies, reflecting trade income tax at a rate of 6.7 per cent (2016: 6.7 per cent) and corporation tax at 20.4 per cent (2016: 22.5 per cent).

Tax rates of 12.5 to 46.0 per cent (2016: 12.5 to 40.0 per cent) were applied to the companies in the remaining countries; see [note 2](#).

The following table shows the carrying amounts of deferred tax assets and liabilities as well as the related tax expense or tax income recognised in profit or loss and changes recognised in other comprehensive income.

Composition of deferred taxes

	Deferred tax assets		Deferred tax liabilities		Exchange rate differences	Deferred tax expense/(income)		Changes in deferred tax assets/liabilities recognised in other comprehensive income	
	2017 €m	2016 €m	2017 €m	2016 €m		2017 €m	2016 €m	2017 €m	2016 €m
Provisions for pensions and other employee benefits	61.4	60.9	-0.3	0	0	-8.6	-1.1	8.4 ¹⁾	-3.0
Other provisions	6.8	5.8	-0.7	0	0	-0.3	1.9	0	18.0
Interest-bearing liabilities	0	0	-1.4	-1.8	0	-0.4	10.9	0	0
Intangible assets	40.4	0	-33.7	-34.6	0	-41.3	1.3	0	-5.0
Intangible assets from purchase price allocation	0	0	-189.7 ²⁾	-197.8	0.4	-17.1	-4.7	0	-192.4
Non-current assets	8.6	9.7	-7.4	0	0	8.5	-2.7	0	1.8
Investment securities	0	0	-15.8	-20.8	2.6	35.1	-42.2	-42.7 ¹⁾	24.0
Other non-current assets	0.1	3.5	0	0	0	2.6	-2.5	0.8 ¹⁾	0.7
Other liabilities	0.9	1.7	0	0	0	0.8	0	0	0
Tax loss carryforwards	1.2	1.3	0	0	0	0.1	30.0	0	56.2
Exchange rate differences	3.9	0	0	-1.1	0	0	0	-5.0	-148.4
Gross amounts	123.3	82.9	-249.0	-256.1	3.0	-20.6	-9.1	-38.5	-248.1
Deferred taxes set off	-22.2	-20.4	22.2	20.4	0	0	0	0	0
Total	101.1	62.5	-226.8	-235.7	3.0	-20.6	-9.1	-38.5	-248.1

1) Disclosed separately in the consolidated statement of changes in equity under "revaluation surplus"

2) Thereof, €-9.0 million due to the initial consolidation of Nodal Exchange Holdings, LLC, Tysons Corner, Virginia, USA, (Nodal Exchange) and €0.4 million from related foreign currency translation effects recognised in other comprehensive income

Deferred tax liabilities have not been recognised in respect of the tax on future dividends that may be paid from retained earnings by subsidiaries and associated companies. In accordance with section 8b (5) of the Körperschaftsteuergesetz (KStG, the German Corporation Tax Act), 5 per cent of dividends and similar income received by German companies is treated as non-deductible expenses for tax purposes. 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 (2016: nil).

Reconciliation from expected to reported tax expense

	2017 €m	2016 €m
Expected income taxes derived from earnings before tax	348.0	279.1
Tax losses utilised and loss carryforwards not recognised for tax purposes	1.6	-0.7
Recognition of deferred taxes in respect of unrecognised tax loss carryforwards	0	-0.7
Change in valuation allowance for deferred tax assets	-0.5	-4.0
Tax increases due to other non-tax-deductible expenses	13.7	13.6
Effects of different tax rates	17.2	12.9
Effects from changes in tax rates	-2.7	0.1
Tax decreases due to dividends and income from the disposal of equity investments	-7.7	-15.9
Effects from intra-Group restructuring	-21.2	0
Other	6.8	-0.3
Income tax expense arising from current year	355.2	284.1
Income taxes for previous years	36.2	0.4
Income tax expense	391.4	284.5

To determine the expected tax expense, earnings before tax have been multiplied by the composite tax rate of 27 per cent assumed for 2017 (2016: 27 per cent).

As at 31 December 2017, the reported tax rate was 30.4 per cent (2016: 27.5 per cent). The impact on the tax rate resulted primarily from tax payments made for previous years, given that the tax deductibility of penalty payments will probably be refused. Furthermore, a US-based subsidiary generated income from the disposal of equity investments, subject to a tax rate of 40 per cent. Moreover, an intra-Group restructuring process also had a considerable impact on the reported tax rate.

At the end of the reporting period, accumulated unused tax losses amounted to €33.7 million (2016: €21.3 million), for which no deferred tax assets were recognised. The unused tax losses are attributable to domestic losses totalling €0.9 million and to foreign tax losses totalling €32.8 million (2016: domestic tax losses €2.6 million, foreign tax losses €18.7 million).

The losses can be carried forward indefinitely in Germany subject to the minimum taxation rules. Effective from 1 April 2017, legislative amendments in the UK introduced an additional limitation on the amount of tax loss carryforwards that can be offset against future profits. However, tax losses can still be carried forward indefinitely. 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 1 January 2018 may be carried forward indefinitely, taking into account minimum taxation rules. In all other countries, losses can be carried forward indefinitely.

Consolidated balance sheet disclosures

11. Intangible assets

Intangible assets (part 1)

	Purchased software €m	Internally developed software €m	Goodwill €m	Payments on account and construction in progress ¹⁾ €m	Other intangible assets €m	Total €m
Historical cost as at 1 Jan 2016	245.3	792.9	2,909.5	152.0	2,715.3	6,815.0
Acquisitions from business combinations ²⁾	0	0	3.3	0	4.3	7.6
Disposals from change in the basis of consolidation ³⁾	-0.2	-2.5	-16.7	0	-0.2	-19.6
Reclassification into "assets held for sale" ⁴⁾	-5.5	-46.7	-153.8	-5.8	-1,741.2	-1,953.0
Additions	14.9	11.7	0	78.2	0.1	104.9
Disposals	0	-3.6	-0.1	-1.7	0	-5.4
Reclassifications	6.2	31.9	0	-38.2	0.1	0
Exchange rate differences	-0.1	-1.3	-21.1	-0.2	-46.9	-69.6
Historical cost as at 31 Dec 2016	260.6	782.4	2,721.1	184.3	931.5	4,879.9
Acquisitions through business combinations ⁵⁾	0	3.5	56.5	2.2	84.4	146.6
Additions	17.7	37.1	0	50.1	1.2	106.1
Disposals	-2.0	0	0	-0.9	0	-2.9
Reclassifications	0.8	144.7	0	-145.5	0	0
Exchange rate differences	0.8	-1.8	-6.7	-0.2	-7.5	-15.4
Historical cost as at 31 Dec 2017	277.9	965.9	2,770.9	90.0	1,009.6	5,114.3

1) Additions to payments on account and construction in progress in the year under review relate exclusively to internally developed software.

2) This relates primarily to additions within the scope of the initial consolidation of Power Exchange Central Europe a.s., Gaspoint Nordic A/S and PEGAS CEGH Gas Exchange Services GmbH; see also [note 2 in the 2016 corporate report](#).

3) This relates to disposals made within the scope of the sale of shares held in Infobolsa S.A; see also [note 2 in the 2016 corporate report](#).

4) This relates exclusively to disposals made within the scope of the sale of shares held in U.S. Exchange Holdings, Inc., as well as an asset deal regarding the disposal of the business operations of Market News International, Inc. and its two subsidiaries; see also [note 2 in the 2016 corporate report](#).

5) This relates primarily to additions within the scope of initial consolidation of Nodal Exchange group, see [note 2](#).

Intangible assets (part 2)

	Purchased software €m	Internally developed software €m	Goodwill €m	Payments on account and construction in progress ¹⁾ €m	Other intangible assets €m	Total €m
Transfer historical cost as at 31 Dec 2017	277.9	965.9	2,770.9	90.0	1,009.6	5,114.3
Amortisation and impairment losses as at 1 Jan 2016	211.5	599.7	10.7	1.6	1,359.0	2,182.5
Amortisation	17.5	49.7	0	0.8	27.8	95.8
Impairment losses	0	3.6	0	0.3	0.3	4.2
Disposals from change in the basis of consolidation ³⁾	-0.2	-2.5	-10.7	0	-0.1	-13.5
Reclassification into "assets held for sale" ⁴⁾	-5.0	-38.3	0	0	-1,281.0	-1,324.3
Disposals	0	-1.2	0	0	0	-1.2
Reclassifications	1.4	-1.4	0	0	0	0
Exchange rate differences	-0.1	-1.1	0	0	-34.4	-35.6
Amortisation and impairment losses as at 31 Dec 2016	225.1	608.5	0	2.7	71.6	907.9
Amortisation	17.5	72.3	0	0	26.8	116.6
Impairment losses	0	0	0	1.3	0	1.3
Disposals	-1.8	0	0	-0.8	0	-2.6
Reclassifications	0	0	0	0	0	0
Exchange rate differences	0.5	-0.4	0	0	0	0.1
Amortisation and impairment losses as at 31 Dec 2017	241.3	680.4	0	3.2	98.4	1,023.3
Carrying amount as at 31 Dec 2016	35.5	173.9	2,721.1	181.6	859.9	3,972.0
Carrying amount as at 31 Dec 2017	36.6	285.5	2,770.9	86.8	911.2	4,091.0

Software, payments on account and construction in progress

Additions to and reclassifications of software largely concern the development of a pan-European securities settlement platform (TARGET2-Securities) within the Clearstream and Xetra segments as well as the development of the 1CAS Custody & Portal securities settlement platform within the Clearstream segment.

Carrying amounts of material software and construction in progress as well as remaining amortisation periods of software applications

	Carrying amount as at		Remaining amortisation period as at	
	31 Dec 2017 €m	31 Dec 2016 €m	31 Dec 2017 years	31 Dec 2016 years
Eurex				
T7 trading platform for derivatives	23.1	26.8	1.9 – 4.9	2.9 – 5.9
Eurex Clearing Prisma Release 1.0	18.4	23.2	2.3 – 3.5	4.0 – 5.0
C7 Release 3.0	13.0	14.3	5.4	6.4
360T trading platform	12.4	14.5	2.8 – 5.8	5.0 – 7.0
Eurex Clearing Prisma Release 2.0	8.2	9.9	3.4 – 3.9	5.0 – 6.0
Clearstream				
TARGET2-Securities	79.7	89.0	6.1	n.a.
1CAS Custody & Portal	39.4	24.7	n.a.	n.a.
MALMO	14.6	17.8	3.9	4.9
One CLS Settlement & Reporting (1 CSR)	10.6	11.6	6.1	n.a.
Single Network	8.8	10.1	6.1	n.a.
Market Data + Services				
Regulatory Reporting Hub	13.7	3.2	n.a.	n.a.
Xetra				
TARGET2-Securities	8.5	10.0	4.1	n.a.
T7 trading platform for the cash market	5.8	3.7	6.5	n.a.

In addition to event-driven impairment tests on all intangible assets, intangible assets not yet available for use are tested for impairment at least annually. Impairment losses of €1.3 million (2016: €3.9 million) needed to be recognised in 2017. It is disclosed in the “depreciation, amortisation and impairment losses” item and relates to the Clearstream and Eurex segments. The recoverable amount was determined based on fair value less costs of disposal, using a discounted cash flow model (level 3 inputs).

Goodwill and other intangible assets from business combinations

Changes in goodwill and other intangible assets classified by business combinations

	Clearstream €m	ISE €m	360T €m	Nodal €m	EEX €m	STOXX €m	Miscellaneous €m	Total €m
Goodwill								
Balance as at 1 Jan 2017	1.063,8	987.4	529.0	0	33.3	32.6	75.0	2,721.1
Acquisitions through business combinations	0	0	0	56.5	0	0	0	56.5
Exchange rate differences	0	0	0	-5.0	0	0	-1.7	-6.7
Balance as at 31 Dec 2017	1.063,8	987.4	529.0	51.5	33.3	32.6	73.3	2,770.9
Other intangible assets								
Balance as at 1 Jan 2017	0	0	240.0	0	62.5	435.4	122.0	859.9
Acquisitions through business combinations	0	0	0	84.4	0	0	0	84.4
Additions	0	0	0	0	0	0	1.2	1.2
Amortisation	0	0	-10.1	-1.4	-4.7	-3.1	-7.5	-26.8
Exchange rate differences	0	0	0	-7.5	0	0	0	-7.5
Balance as at 31 Dec 2017	0	0	229.9	75.5	57.8	432.3	115.7	911.2

Other intangible assets are divided into the following categories:

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 2017	0.7	453.8	400.9	4.5	859.9
Acquisitions through business combinations	24.5	4.9	55.0	0	84.4
Additions	0	0	0.4	0.8	1.2
Amortisation	0	-0.1	-25.7	-1.0	-26.8
Exchange rate differences	-2.2	-0.4	-4.9	0	-7.5
Balance as at 31 Dec 2017	23.0	458.2	425.7	4.3	911.2

An impairment test is carried out, at least annually, concerning goodwill and certain other intangible assets with an indefinite useful life. Since these assets do not generate any cash inflows that are largely independent of those from other assets, the recoverable amount is determined for the cash-generating unit (CGU), or group of CGUs, that the respective asset is allocated to. The following table outlines the allocation of assets to the respective CGU:

Allocation of goodwill and other intangible assets with indefinite useful lives to CGUs

Asset	(Group of) cash generating unit(s)			
	Clearstream Core €m	Eurex Core €m	360T €m	Nodal €m
Goodwill				
Clearstream	1,063.8	0	0	0
International Securities Exchange	0	987.4	0	0
360T group	47.3	292.5	189.2	0
Nodal Exchange group	0	0	0	0
European Energy Exchange	0	0	0	0
STOXX	0	0	0	0
Powernext/EPEX SPOT group	0	0	0	0
Clearstream Global Securities Services	0	0	0	0
Impendium	0	0	0	0
Market News International	0	0	0	0
APX Holding group	0	0	0	0
Börse Frankfurt Zertifikate	0	0	0	0
Clearstream Fund Services	0	0	0	0
Need to Know News	0	0	0	0
Power Exchange Central Europe	0	0	0	0
PEGAS CEGH Gas Exchange Services	0	0	0	0
Kingsbury	0	0	0	0
Indexium	0	0	0	0
Gaspoint Nordic	0	0	0	0
Exchange licences				
Nodal Exchange group	0	0	0	22.3
European Energy Exchange	0	0	0	0
Börse Frankfurt Zertifikate	0	0	0	0
Powernext/EPEX SPOT group	0	0	0	0
APX Holding group	0	0	0	0
Trade names				
STOXX	0	0	0	0
360T group	0	0	19.9	0
Powernext/EPEX SPOT group	0	0	0	0
European Energy Exchange	0	0	0	0
Nodal Exchange group	0	0	0	4.5
Power Exchange Central Europe	0	0	0	0
PEGAS CEGH Gas Exchange Services	0	0	0	0

The recoverable amounts of the CGUs with allocated goodwill are based either on their values in use or on their fair value less costs of disposal, depending on the respective unit. The other value is calculated only in cases in which one of these values (value in use or fair value less costs of disposal) does not exceed the carrying amount. Since there is no active market for the CGUs, the discounted cash flow method is used to calculate both value in use and fair value less costs of disposal. The inputs used are level 3 inputs in all cases.

(Group) of cash generating unit(s)						
EEX €m	MD+S segment €m	Fund Services €m	Börse Frankfurt Zertifikate €m	STOXX €m	Total €m	
0	0	0	0	0	1,063.8	
0	0	0	0	0	987.4	
0	0	0	0	0	529.0	
51.5	0	0	0	0	51.5	
33.3	0	0	0	0	33.3	
0	32.6	0	0	0	32.6	
18.4	0	0	0	0	18.4	
0	0	15.6	0	0	15.6	
0	9.0	0	0	0	9.0	
0	7.9	0	0	0	7.9	
6.6	0	0	0	0	6.6	
0	0	0	4.6	0	4.6	
0	0	4.0	0	0	4.0	
0	3.2	0	0	0	3.2	
1.7	0	0	0	0	1.7	
1.5	0	0	0	0	1.5	
0	0.5	0	0	0	0.5	
0	0.2	0	0	0	0.2	
0.1	0	0	0	0	0.1	
0	0	0	0	0	22.3	
0.3	0	0	0	0	0.3	
0	0	0	0.2	0	0.2	
0.1	0	0	0	0	0.1	
0.1	0	0	0	0	0.1	
0	0	0	0	420.0	420.0	
0	0	0	0	0	19.9	
7.2	0	0	0	0	7.2	
5.8	0	0	0	0	5.8	
0	0	0	0	0	4.5	
0.3	0	0	0	0	0.3	
0.1	0	0	0	0	0.1	

Key assumptions used to determine the recoverable amount depend upon the respective CGU, or group of CGUs. Individual costs of capital are determined for each CGU, or group of CGUs, 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 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 cash outflows to enhance the asset's performance investments, if appropriate.

The following tables indicate material assumptions used for impairment tests for the years 2017 and 2016:

Key assumptions used for impairment tests in 2017

(Group of) cash-generating unit(s)	Recoverable amount	Risk-free interest rate %	Market risk premium %	Discount rate %	Perpetuity growth rate %	CAGR ¹⁾	
						Net revenue %	Operating costs ²⁾ %
Clearstream Core	value in use	0.9	6.5	11.6 ³⁾	1.0	8.6	2.7
Eurex Core	fair value less costs of disposal	0.9	6.5	8.6 ⁴⁾	1.0	7.1	2.9
360T	fair value less costs of disposal	0.9	6.5	8.2 ⁴⁾	2.5	16.4	11.9
Nodal	fair value less costs of disposal	2.6	6.5	8.8	2.0	15.5	8.7
EEX	fair value less costs of disposal	0.9	6.5	9.1 ⁴⁾	1.5	1.7	4.7
MD+S segment	fair value less costs of disposal	1.0	6.5	8.5 ⁴⁾	2.0	6.1	4.1
Fund Services	fair value less costs of disposal	0.9	6.5	13.1 ⁴⁾	2.0	1.4	1.4
Börse Frankfurt Zertifikate	fair value less costs of disposal	1.0	6.5	12.2 ⁴⁾	2.0	1.4	1.6
STOXX	fair value less costs of disposal	0.9	6.5	9.8 ⁴⁾	2.0	7.5	6.4

1) CAGR = compound annual growth rate

2) Without depreciation, amortisation and impairment losses

3) Before tax

4) After tax

Key assumptions used for impairment tests in 2016

(Group of) cash-generating unit(s)	Recoverable amount	Risk-free interest rate %	Market risk premium %	Discount rate %	Perpetuity growth rate %	CAGR ¹⁾	
						Net revenue %	Operating costs ²⁾ %
Clearstream Core	value in use	0.7	6.5	10.4 ³⁾	1.0	3.5	3.2
Eurex Core	fair value less costs of disposal	0.7	6.5	8.5 ⁴⁾	1.0	7.2	6.6
360T	fair value less costs of disposal	0.7	6.5	8.3 ⁴⁾	2.5	10.3	1.6
EEX	fair value less costs of disposal	0.7	6.5	9.0 ⁴⁾	1.0	1.3	4.3
MD+S segment	fair value less costs of disposal	0.2	6.5	7.7 ⁴⁾	2.0	2.9	0.4
Fund Services	fair value less costs of disposal	0.7	6.5	12.3 ⁴⁾	2.0	6.3	5.7
Börse Frankfurt Zertifikate	fair value less costs of disposal	0.2	6.5	11.5 ⁴⁾	2.0	3.0	2.2
STOXX	fair value less costs of disposal	0.2	6.5	8.9 ⁴⁾	2.0	6.8	5.5

1) CAGR = compound annual growth rate

2) Without depreciation, amortisation and impairment losses

3) Before tax

4) After tax

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

12. Property, plant and equipment

Property, plant and equipment

	Fixtures and fittings €m	Computer hardware, operating and office equipment €m	Payments on account and construction in progress €m	Total €m
Historical costs as at 1 Jan 2016	90.6	350.0	0.7	441.3
Disposals from change in the basis of consolidation	0	-2.0	0	-2.0
Reclassification into "assets held for sale" ¹⁾	-11.5	-25.2	0	-36.7
Additions	4.6	40.9	4.2	49.7
Disposals	-5.0	-5.6	-0.7	-11.3
Reclassifications	1.7	0.4	-2.0	0.1
Exchange rate differences	-0.8	-0.7	0	-1.5
Historical costs as at 31 Dec 2016	79.6	357.8	2.2	439.6
Acquisitions through business combinations	0	0.1	0	0.1
Additions	6.4	35.6	1.1	43.1
Disposals	-1.3	-3.4	-1.1	-5.8
Reclassifications	0	0.1	-0.1	0
Exchange rate differences	-0.4	0.5	0.1	0.2
Historical costs as at 31 Dec 2017	84.3	390.7	2.2	477.2
Depreciation and impairment losses as at 1 Jan 2016	50.3	281.3	0	331.6
Depreciation	6.6	29.4	0	36.0
Impairment losses	0.4	0	0	0.4
Disposals from change in the basis of consolidation	0	-1.8	0	-1.8
Reclassification into "assets held for sale" ¹⁾	-8.4	-20.6	0	-29.0
Disposals	-4.6	-5.4	0	-10.0
Reclassifications	-0.1	0	0	-0.1
Exchange rate differences	-0.5	-0.5	0	-1.0
Depreciation and impairment losses as at 31 Dec 2016	43.7	282.4	0	326.1
Depreciation	7.2	34.8	0	42.0
Disposals	-1.3	-3.3	0	-4.6
Exchange rate differences	-0.1	0.4	0	0.3
Depreciation and impairment losses as at 31 Dec 2017	49.5	314.3	0	363.8
Carrying amount as at 31 Dec 2016	35.9	75.4	2.2	113.5
Carrying amount as at 31 Dec 2017	34.8	76.4	2.2	113.4

1) This relates exclusively to the disposals in connection with the disposal of the interest in the International Securities Exchange (ISE) subgroup and with the asset deal regarding the sale of the business operations of Assam SellerCo, Inc. and its two subsidiaries.

13. Financial investments

Financial assets

	Investments in associates and joint ventures €m	Other equity investments €m	Receivables and securities from banking business €m	Other financial instruments and loans €m
Historical cost as at 1 Jan 2016	55.1	229.4	2,016.3	34.0
Acquisition through business combinations	-0.6	0	0	0
Reclassification into "assets held for sale"	0	-32.3	0	-8.1
Additions	5.1	5.4	155.6	12.8
Disposals	-0.4	-40.2	0	-6.1
Addition/(reversal) premium/discount	0	0	-2.2	-0.1
Reclassifications	-1.0	0	-586.8 ¹⁾	1.0
Exchange rate differences	-0.2	3.4	14.7	-0.9
Historical cost as at 31 Dec 2016	58.0	165.7	1,597.6	32.6
Additions	10.4	127.9	292.9	5.0
Disposals	-8.4	-197.0	0	-3.0
Addition/(reversal) premium/discount	0	0	-1.7	-0.1
Reclassifications	-5.0	5.0	-257.3 ¹⁾	0
Exchange rate differences	0	-2.4	-76.7	-0.3
Historical cost as at 31 Dec 2017	55.0	99.2	1,554.8	34.2
Revaluation as at 1 Jan 2016	-16.6	-10.0	2.3	-1.5
Reclassification into "assets held for sale"	0	-0.8	0	0.2
Disposals of impairment losses	0	0	0	-5.0
Dividends	-1.8	0	0	0
Net income from equity method measurement	0.4	0	0	0
Currency translation differences recognised in equity	-0.4	5.3	0	0
Currency translation differences recognised in profit or loss	0.3	0	-0.1	0.5
Other fair value changes recognised in equity	1.1	1.0	0	0
Other fair value changes recognised in profit or loss	0	-40.9	0	0
Market price changes recognised in other comprehensive income	0	135.1	6.2	0
Market price changes recognised in profit or loss	-6.7	0	0	-0.4
Reclassifications	0	0	-1.2 ¹⁾	0
Revaluation as at 31 Dec 2016	-23.7	89.7	7.2	-6.2
Disposals of impairment losses	8.4	0	0	2.5
Dividends	-2.9	0	0	0
Net income from equity method measurement	2.8	0	0	0
Currency translation differences recognised in profit or loss	0.1	0.5	0.2	0.2
Other fair value changes recognised in equity	0	73.2	0	0
Other fair value changes recognised in profit or loss	-1.0	-191.9	0	0
Market price changes recognised in other comprehensive income	0	28.7	1.7	0.5
Reclassifications	0	0	-0.9	0
Revaluation as at 31 Dec 2017	-16.3	0.2	8.2	-3.0
Carrying amount as at 31 Dec 2016	34.3	255.4	1,604.8	26.4
Carrying amount as at 31 Dec 2017	38.7	99.4	1,563.0	31.2

1) Reclassified as current "receivables and securities from banking business"

The “investments in associates and joint ventures” item includes interests in associates with a carrying amount of €38.7 million (2016: €34.3 million). As in the previous year, Deutsche Börse Group did not hold any interests in joint ventures. In financial year 2017, there were once again no proportionate losses for associates accounted for using the equity method that were not recognised.

The item “other financial instruments and loans” includes securities with a fair value of €5.0 million (2016: €5.0 million) pledged to the Industrie- und Handelskammer (IHK, Chamber of Commerce) Frankfurt/Main. Furthermore, additional securities may be pledged to hedge an interim financing in the amount of CHF 1.0 million used for the timely settlement of transactions. This credit line was not used as at 31 December 2017.

For details on revaluations and market price changes recognised in other comprehensive income, see also [note 20](#). The “other equity investments” item includes equity instruments available for sale.

In the reporting period, impairment losses amounting to €1.0 million (2016: €6.7 million) were recognised for associates in the consolidated income statement. These impairment losses related to unlisted equity instruments. See [note 8](#) for further details.

Composition of securities classified as debt instruments

	31 Dec 2017 €m	31 Dec 2016 €m
Securities		
issued by regional or local public bodies	571.8	523.9
issued by other public bodies	452.3	665.1
issued by multilateral banks	534.5	352.9
issued by supranational issuers	18.9	77.5
issued by others	16.3	11.4
Total	1,593.8	1,630.8

“Securities from banking business” and “other financial instruments and loans” include financial instruments listed on a stock exchange amounting to €1,563.0 million (2016: €1,604.8 million), and to €24.5 million (2016: €24.1 million), respectively.

14. Derivatives and hedges

Deutsche Börse Group generally uses derivative financial instruments to hedge existing or highly probable forecast transactions. The derivatives are included in the items “receivables from banking business”, “other non-current assets”, “liabilities from banking business” and “other current liabilities”.

Derivatives (fair value)

	Note	Assets		Note	Liabilities	
		31 Dec 2017 €m	31 Dec 2016 €m		31 Dec 2017 €m	31 Dec 2016 €m
Cash flow hedges						
long-term		0	0		0	0
short-term	16	0.7	0	30	0	-6.0
Derivatives held for trading						
long-term		0.1	0.1		0	-1.5
short-term	16	4.5	65.7	28, 30	-32.0	-9.1
Total		5.3	65.8		-32.0	-16.6

Fair value hedges

No financial instruments designated as fair value hedges were outstanding as at 31 December 2017 or as at 31 December 2016.

Cash flow hedges

In 2017, European Energy Exchange AG entered into a cash flow hedge amounting to US\$205.0 million to eliminate the foreign-exchange risk associated with the purchase price to be paid in order to acquire shares in Nodal Exchange Holdings, LLC (Nodal Exchange). The forward transaction was designated to hedge fluctuating exchange rates after having successfully negotiated the main terms of the share purchase agreement. The forward transaction was settled on 2 May 2017 with an amount of €-5.5 million; the acquisition of Nodal Exchange was closed the following day upon receipt of payment by the sellers.

In 2016, Deutsche Börse AG entered into a cash flow hedge to (partially) eliminate the foreign-exchange risk associated with a US dollar-based loan amounting to a nominal value of US\$170.0 million granted to a subsidiary with the functional currency US dollar. On 31 December 2016, the fair value of the forward contract amounted to €-6.0 million. The forward transaction was settled on 28 March 2017. The changes in fair value have been recognised in revaluation surplus and released through profit or loss upon recognition of the foreign-exchange gain of the hedged instrument.

In 2017, Clearstream Banking S.A. entered into a cash flow hedge to eliminate the foreign-exchange risk arising from the acquisition of an interim dividend amounting to US\$58.0 million by concluding a foreign-exchange hedging contract covering the full interim dividend with a settlement date corresponding to the interim dividend payment date, i.e. 18 December 2017. The hedge entered into on 17 November 2017 is considered 100 per cent effective as the hedging foreign-exchange transaction can be set directly against the US dollar-based interim dividend acquired by Clearstream Banking S.A. In a scenario in which the US dollar's value declines against the euro, the euro amount equivalent to the interim dividend will decrease. The hedge transaction was settled on 18 December 2017 with an amount of €49.1 million.

In 2017, Clearstream Banking S.A. also entered into a cash flow hedge to reduce the impact of fluctuations of the euro/US dollar exchange rate on its US dollar-based net interest income (NII) for the 2018 financial year. The US dollar-related NII is derived from US dollar placements from customer cash balances less the corresponding compensation for customers. Twelve forward foreign-exchange contracts for the ends of the twelve months of 2018 were concluded on 16 November 2017. The hedge is considered 100 per cent effective as the hedging foreign-exchange transactions can be set directly against the US dollar-based NII. At the end of each month, the change in the fair value of the forward foreign-exchange contracts will be recognised in equity and the realised profit or loss impact of the maturing foreign-exchange contract will be classified as interest income. As of 31 December 2017, the fair value of the hedging instruments amounted to €0.7 million and was recognised in “current receivables and securities from banking business”.

Changes in cash flow hedges

	2017 €m	2016 €m
Cash flow hedges as at 1 January	0	0
Amount recognised in other comprehensive income during the year	-3.4	-6.0
Amount recognised in profit or loss during the year	0	6.0
Closed-out	4.1	0
Cash flow hedges as at 31 December	0.7	0

Hedges of a net investment

In connection with the acquisition of Nodal Exchange, a shareholder loan with the principal amount of US\$50 million was designated as a hedge against foreign-exchange risk arising from the translation of this item from the functional currency US dollar into euros to hedge the net investment in Nodal Exchange. Effective exchange rate differences from the loan were reported in the balance sheet item “accumulated profit”, as are exchange rate differences from the translation of the functional currency of foreign subsidiaries. There was no ineffectiveness in the net investment hedge in 2017. A cumulative amount of €-4.0 million was recognised in other retained earnings (€-3.0 million) and within non-controlling interests (€-1.0 million).

Until 30 June 2016, US dollar private placements were designated as hedges against foreign-exchange risk arising from the translation of the functional currency US dollar into euros in order to hedge the net investment in the ISE subgroup until the disposal of the subgroup on 30 June 2016.

A cumulative amount of €116.3 million originally recognised in other comprehensive income was reclassified through profit or loss upon the disposal of the net investment in the ISE subgroup.

Derivatives held for trading

Currency swaps as at 31 December 2017 expiring in less than six months had a notional value of €2,494.6 million (2016: €3,073.8 million) as well as a negative fair value of €29.0 million and a positive fair value amounting to €4.5 million (2016: negative fair value of €2.4 million and positive

fair value amounting to €65.4 million). These swaps were entered into to convert foreign currencies resulting from the commercial paper programme into euros, and to economically hedge short-term foreign currency receivables and liabilities in euros. These are reported under “current receivables and securities from banking business” and “liabilities from banking business” in the balance sheet (see also [notes 16 and 28](#)).

European Energy Exchange AG has entered into forward transactions in order to hedge the foreign-exchange risk associated with forecast net cash outflows in British pounds for 2018. These derivatives have a notional value of £4.0 million, expire in less than twelve months and are classified as “held for trading”. As at 31 December 2017, the forward contracts had a negative fair value of €0.1 million. A US dollar swap with a notional value of €0.8 million classified as “held for trading” had a fair value of €0.0 million as of 31 December 2017.

Eurex Clearing AG and Eurex Frankfurt AG have made prepayments to some customers. The repayment of these amounts depends on the fulfilment of certain criteria. Eurex Clearing AG and Eurex Frankfurt AG recognise embedded derivatives separately from the host contract as they are not closely related to that contract: they amount to €2.9 million (2016: €4.9 million), are classified as “held for trading” and are shown under “other non-current liabilities” (2017: nil; 2016: €1.5 million) and “other current liabilities” (2017: €2.9 million; 2016: €3.4 million).

With regards to earn-out components, please refer to [note 32](#).

15. Financial instruments held by central counterparties

Composition of financial instruments held by central counterparties

	31 Dec 2017 €m	31 Dec 2016 €m
Repo transactions	62,914.9	87,508.7
Options	20,140.0	24,385.1
Others	1,293.0	1,872.4
Total	84,347.9	113,766.2
thereof non-current	4,837.2	5,856.6
thereof current	79,510.7	107,909.6

The aggregate financial instruments held by central counterparties are classified into current and non-current in the balance sheet. Receivables and liabilities that may be offset against a clearing member are reported on a net basis. Financial liabilities of €712.1 million (2016: €430.2 million) were eliminated because of intra-Group GC Pooling transactions.

The following table gives an overview of the effects of offsetting the financial instruments held by central counterparties:

Gross presentation of offset financial instruments held by central counterparties¹⁾

	Gross amount of financial instruments		Gross amount of offset financial instruments		Net amount of financial instruments	
	31 Dec 2017 €m	31 Dec 2016 €m	31 Dec 2017 €m	31 Dec 2016 €m	31 Dec 2017 €m	31 Dec 2016 €m
Financial assets from repo transactions	83,297.8	103,440.6	-20,382.9	-15,931.9	62,914.9	87,508.7
Financial liabilities from repo transactions	-82,585.7	-103,010.4	-20,382.9	15,931.9	-62,202.8	-87,078.5
Financial assets from options	65,735.2	74,873.1	-45,595.2	-50,488.0	20,140.0	24,385.1
Financial liabilities from options	-65,735.2	-74,873.1	45,595.2	50,488.0	-20,140.0	-24,385.1

1) The collateral deposited by clearing members cannot be attributed directly to the individual transactions. For information on the composition of collateral, see [note 36](#).

16. Current receivables and securities from banking business

In addition to non-current receivables and securities from banking business that are classified as non-current financial assets (see [note 13](#)), the following receivables and securities from banking business, attributable solely to the Clearstream subgroup, were classified as current assets as at 31 December 2017.

Composition of current receivables and securities from banking business

	31 Dec 2017 €m	31 Dec 2016 €m
Loans to banks and customers		
Reverse repurchase agreements	4,843.5	4,050.4
Balances on nostro accounts	1,287.2	1,128.0
Money market lendings	5,859.9	7,320.0
Margin calls	14.8	0.4
Overdrafts from settlement business	754.7	293.8
	12,760.1	12,792.6
Available-for-sale debt instruments	254.5	592.2
Interest receivables	16.7	15.3
Forward foreign exchange transactions ¹⁾	4.5	65.4
Cash flow hedges ¹⁾	0.7	0
Total	13,036.5	13,465.5

1) See [note 14](#).

Overdrafts from settlement business represent short-term loans of up to two days' duration that are usually secured by collateral. Potential concentrations of credit risk are monitored using counterparty credit limits (see [note 36](#)).

All of the securities held as at 31 December 2017 and 31 December 2016 were listed and issued by sovereign or sovereign-guaranteed issuers.

17. Changes in valuation allowance on trade receivables

As in the previous year, there were no trade receivables due after more than one year as at 31 December 2017.

Allowance account		€m
Balance as at 1 Jan 2016		6.3
Additions		1.6
Utilisation		-0.1
Reversal		-1.8
Balance as at 31 Dec 2016		6.0
Additions		1.8
Utilisation		-1.4
Reversal		-1.2
Balance as at 31 Dec 2017		5.2

Uncollectible receivables of €0.6 million (2016: €0.5 million) for which no valuation allowances had been recognised in prior periods were written off in the reporting period.

18. Other current assets

Composition of other current assets		
	31 Dec 2017 €m	31 Dec 2016 €m
Other receivables from CCP transactions	476.8	404.7
Tax receivables (excluding income taxes)	49.8	43.2
Prepaid expenses	32.0	32.9
Interest receivable	24.6	21.7
Incentive programme	4.1	3.5
Guarantees and deposits	2.9	3.4
Creditors with debit balances	1.4	0.7
Derivatives	0	0.3
Miscellaneous	6.1	3.8
Total	597.7	514.2

19. Restricted bank balances

Amounts reported separately under liabilities as cash deposits by market participants are restricted. Such amounts are mainly invested via bilateral or triparty reverse repurchase agreements and in the form of overnight deposits at banks (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. Reported restricted bank balances total €29,392.0 million (2016: €27,777.6 million).

20. Equity

Changes in equity are presented in the consolidated statement of changes in equity. As at 31 December 2017, the number of no-par value registered shares of Deutsche Börse AG in issue was 193,000,000 (31 December 2016: 193,000,000).

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

	Amount in €	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 ¹⁾	19,300,000	13 May 2015	12 May 2020	<ul style="list-style-type: none"> ■ 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 ¹⁾	38,600,000	13 May 2015	12 May 2020	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.

Contingent capital

In accordance with the resolution by the Annual General Meeting on 15 May 2014, the Executive Board was authorised, subject to the approval of the Supervisory Board, to issue on one or more occasions in the period up to 14 May 2019 convertible bonds and/or bonds with warrants or a combination of such instruments in a total nominal amount of up to €2,500,000,000 with or without maturity restrictions, and to grant the holders or creditors of these bonds conversion or option rights to new no-par value registered shares of Deutsche Börse AG with a proportionate interest in the share capital totalling up to €19,300,000, as specified in more detail in the terms and conditions of the convertible bonds or in the terms and conditions of the warrants attaching to the bonds with warrants.

The Executive Board is authorised, subject to the approval of the Supervisory Board, to disapply shareholders' pre-emptive rights to bonds with conversion or option rights to shares of Deutsche Börse AG in the following cases: (i) to eliminate fractions, (ii) if the issue price of a bond does not fall materially short of 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 options as compensation for 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 15ff. of the Aktiengesetz (AktG, German Stock Corporation Act). Accordingly, the share capital was contingently increased by up to €19,300,000 (contingent capital 2014). To date, the authorisation to issue convertible bonds and/or bonds with warrants has not been exercised.

There were no further rights to subscribe for shares as at 31 December 2017 or 31 December 2016.

Revaluation surplus

The revaluation surplus results from the revaluation of securities and other current and non-current financial instruments at their fair value net of deferred taxes. This item also includes reserves from an existing investment in an associated company; these reserves were recognised in connection with the acquisition of further shares, as the company was consolidated at that date. Actuarial gains and losses for defined benefit obligations are also directly recognised in revaluation surplus.

Revaluation surplus

	Recognition of hidden reserves from fair value measurement €m	Other equity investments (financial assets) €m	Securities from banking business (financial assets) €m
Balance as at 1 Jan 2016 (gross)	103.7	10.8	2.4
Changes from defined benefit obligations	0	0	0
Fair value measurement	0	141.4	6.2
Reclassifications	0	0	-1.2
Reversal to profit or loss	0	-40.8	-0.1
Balance as at 31 Dec 2016 (gross)	103.7	111.4	7.3
Changes from defined benefit obligations	0	0	0
Fair value measurement	0	101.6	0.6
Reclassifications	0	0	0
Reversal to profit or loss	0	-192.5	0.3
Balance as at 31 Dec 2017 (gross)	103.7	20.5	8.2
Deferred taxes			
Balance as at 1 Jan 2016	0	-4.2	-0.7
Additions	0	16.2	0
Reversals	0	-56.2	-1.3
Balance as at 31 Dec 2016	0	-44.2	-2.0
Additions	0	77.4	0
Reversals	0	-34.3	-0.1
Balance as at 31 Dec 2017	0	-1.1	-2.1
Balance as at 1 Jan 2016 (net)	103.7	6.6	1.7
Balance as at 31 Dec 2016 (net)	103.7	67.2	5.3
Balance as at 31 Dec 2017 (net)	103.7	19.4	6.1

Accumulated profit

The “accumulated profit” item includes exchange rate differences amounting to €-16.4 million (2016: €5.1 million). €14.4 million (2016: €412.3 million) was withdrawn due to currency translation for foreign subsidiaries in the reporting period and €7.1 million (2016: €-207.8 million) was withdrawn relating to transactions used to hedge against currency risk.

	Other financial instruments (financial assets) €m	Current securities from banking business €m	Cash flow hedges €m	Defined benefit obligations €m	Total €m
	1.5	0.1	-6.2	-156.5	-44.2
	0	0	0	-27.3	-27.3
	0	-1.1	-6.0	0	140.5
	0	1.2	0	0	0
	0	0.1	8.7	0	-32.1
	1.5	0.3	-3.5	-183.8	36.9
	0	0	0	30.6	30.6
	0.5	0.1	0.7	0	103.5
	0	-0.1	0	0	-0.1
	0	0	2.8	0	-189.4
	2.0	0.3	0	-153.2	-18.5
	-0.4	0	1.7	42.5	38.9
	0	0	0	7.8	24.0
	0	-0.1	-0.7	0	-58.3
	-0.4	-0.1	1.0	50.3	4.6
	0	0	0	0	77.4
	-0.1	0	-1.0	-8.4	-43.9
	-0.5	-0.1	0	41.9	38.1
	1.1	0.1	-4.5	-114.0	-5.3
	1.1	0.2	-2.5	-133.5	41.5
	1.5	0.2	0	-111.3	19.6

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 group at regulatory group level.

Eurex Bonds GmbH, Eurex Repo GmbH – and, from 2017 onwards, 360 Treasury Systems AG – are subject to specific provisions applicable to certain investment firms under BaFin solvency supervision.

With the admission as an “Approved Clearing House” (ACH) by the Monetary Authority of Singapore (MAS) on 8 July 2015, Eurex Clearing Asia Pte. Ltd. has become subject to own funds requirements according to the Securities and Futures Act (Singapore) and other specific MAS requirements. However, Eurex Clearing Asia Pte. Ltd. is presently being liquidated.

Since the authorisation of both Eurex Clearing AG and European Commodity Clearing AG as central counterparties under the provisions of Regulation (EU) No 648/2012 (European Market Infrastructure Regulation, EMIR) in 2014, these companies have been subject to the capital requirements under Article 16 of EMIR. These requirements apply to Eurex Clearing AG in parallel to the solvency supervision requirements applicable to credit institutions, and the higher requirement has to be met in each case. Irrespective of its status as a specialist credit institution according to German law, European Commodity Clearing AG is only subject to EMIR capital requirements.

Nodal Clear, LLC is a Derivatives Clearing Organisation (DCO) subject to regulation by the US Commodity Futures Trading Commission (CFTC). Given its DCO status, Nodal Clear, LLC is obliged to maintain sufficient financial resources to cover all current costs for a minimum period of twelve months; moreover, Nodal Clear, LLC must provide sufficient highly liquid assets to cover all current costs for at least six months.

REGIS-TR S.A., as trade repository according to EMIR, is subject to supervision exercised by the European Securities and Markets Authority (ESMA) pursuant to Article 21 (b) of Delegated Regulation (EU) No 150/2013.

Powernext SAS is a regulated market in France, and is hence subject to supervision exercised by the Autorité des marchés financiers (AMF); furthermore, Powernext SAS is obliged to fulfil the regulatory capital requirements set forth in the “Arrêté du 2 juillet 2007 relatif au capital minimum, aux fonds propres et au contrôle interne des entreprises de marché”.

The EMIR capital requirements for central counterparties are in large part based on the EU own funds requirements for credit institutions (see below), but the detail differs both in relation to the capital components as well as the capital requirement components and capital deduction items. Moreover, EMIR does not specify any capital buffers such as those introduced by the Directive (EU) No 36/2013 (Capital Requirements Directive, CRD IV) and the Regulation (EU) No 575/2013 (Capital Requirements Regulation, CRR) for banks.

Since 1 January 2014, the own funds requirements for credit institutions have been primarily subject to the EU-wide requirements of the CRR as well as the supplementary national regulations implementing CRD IV, which transposed the “Basel III” rules into European law.

All companies that are directly or indirectly (i.e. by means of EMIR requirements) subject to the CRR own funds requirements, are exempted from compliance with trading book requirements. 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 credit institutions and central counterparties belonging to Deutsche Börse Group, their recognised assets are subject to sharp fluctuations. This leads to correspondingly volatile total capital ratios 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 collateralised or zero-weighted cash investments, the own funds requirements for credit and market risk 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, while the Clearstream companies apply the advanced measurement approach (AMA).

Due to the specific arrangements for the three investment firms, Eurex Repo GmbH, Eurex Bonds GmbH and 360 Treasury Systems AG, no explicit own funds requirements for operational risk are determined in accordance with Article 95 of the 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 the credit and market risks are low, the relevant criterion for both companies is the own funds requirement on the basis of overhead costs.

None of the Group companies subject to solvency supervision has Tier 2 regulatory capital.

A minimum total capital ratio of 8 per cent generally applies to credit institutions subject to the CRR. None of the credit institutions or groups currently subject to CRR regulations (Clearstream Banking S.A., Clearstream Banking AG, Clearstream Holding group and Eurex Clearing AG) is currently designated as systemically important. CRD IV introduced various capital buffers, which the supervised (credit) institutions generally have to meet over and above the minimum total capital ratio of 8 per cent, although they may temporarily fall below these levels. The capital buffers are introduced in stages, depending on the economic environment and systemic risk components: since 2014, CSSF has imposed a standard capital conservation buffer of 2.5 per cent of Tier 1 capital on all Luxembourg credit institutions; this arrangement represents a departure from the general transitional provisions of CRD IV. This means that the minimum total capital ratio is 10.5 per cent. Besides the capital buffers imposed by CSSF for all Luxembourg credit institutions, an additional capital conservation buffer of 1.25 per cent was applied in 2017 to all other regulated Group companies subject to CRR regulations. Taking these effects into account, the minimum total capital ratio was 9.25 per cent.

The individual companies' capital resources sufficiently reflect the fluctuation in risk-weighted assets. Stress considerations are used to determine the capital required for expected peaks and additional reserves for unexpected events are added. In addition, buffers are taken into account that cover the recovery indicators specified in the recovery plans and thus prevent recovery scenarios from being triggered even for peak own funds and capital requirements. The own funds and capital requirements determined in this way will be met on the basis of medium-term capital planning. As the actual own funds and capital requirements are below the expected peaks – significantly so under normal circumstances – this may lead to a very high total capital ratio or EMIR capital cover, especially at the closing date.

The own funds requirements of the Clearstream companies remained almost stable in the reporting period. However, changes occurred regarding own funds requirements for operational risks as well as credit and market risks, both at single entity and Group level. As of September 2016, the Clearstream Holding group has applied a different method, the AMA, for the calculation of operational risk own funds requirements. Since then, the calculation has been made using the so-called Direct VaR.

The Clearstream Holding group already responded to the (expected) increased own funds requirements in the past by launching a programme to strengthen its capital base; this programme continued in 2017. Further measures are planned for the coming years in the context of medium-term capital planning. In the year under review, the Clearstream Holding group's capital base was boosted by retaining profits at different companies.

In the medium to long term, the Clearstream Holding group expects a moderate increase in own funds requirements to arise at regulatory group level for the following reasons:

- CRD IV capital buffers, which are being increased in stages
- The future applicability of own funds requirements based on the Central Securities Depositories Regulation (CSDR)
- Establishment of own funds requirements resulting from the introduction of minimum requirements for equity and eligible liabilities (MREL) as a result of Directive (EU) No 59/2014
- Implementation of the so-called CRR II package and other amendments under Basel III (presumably applicable not before 2019)

Eurex Clearing AG's own funds requirements declined compared with the previous year. Given the increase in revenue, own funds requirements for operational risk rose according to our model, while own funds requirements for credit and market risk declined markedly.

The own funds requirements calculated with Eurex Clearing AG's internal risk model are higher than the own funds requirements derived from the basic indicator approach, which follows regulatory stipulations and is based on the balance sheet. 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 increased 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 on the basis of three-year average 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.

Eurex Clearing AG's capital requirements according to EMIR are currently significantly above CRD IV capital buffer requirements. For this reason, Eurex Clearing AG does not currently expect the CRD IV capital buffers to have any material impact on its capital requirements. Independently of this, the capital resources of Eurex Clearing AG are reviewed on an ongoing basis and monitored as part of medium-term capital planning. In 2017, Eurex Clearing AG received a €100.0 million contribution to its capital reserve from parent company Eurex Frankfurt AG. Further contributions are scheduled for the coming years, in order to continuously strengthen Eurex Clearing AG's capital base.

Composition of own funds requirements

	Own funds requirements for operational risk		Own funds requirements for credit and market risk		Total capital requirements	
	31 Dec 2017 €m	31 Dec 2016 €m	31 Dec 2017 €m	31 Dec 2016 €m	31 Dec 2017 €m	31 Dec 2016 €m
Clearstream Holding group	420.1	387.1	67.7	76.4	487.8	463.5
Clearstream Banking S.A.	306.2	283.3	49.9	88.1	356.1	371.4
Clearstream Banking AG	113.8	103.8	3.6	7.2	117.4	111.0
Eurex Clearing AG	70.9	66.7	3.9	14.5	74.8	81.2
European Commodity Clearing AG	8.1	6.0	1.6	1.3	9.7	7.3

Regulatory capital ratios

	Own funds requirements		Regulatory equity		Total capital ratio	
	31 Dec 2017 €m	31 Dec 2016 €m	31 Dec 2017 €m	31 Dec 2016 €m	31 Dec 2017 %	31 Dec 2016 %
Clearstream Holding group	487.8	463.5	1,289.7	1,260.3	21.2	21.8
Clearstream Banking S.A.	356.1	371.4	1,061.3	1,042.4	23.8	22.5
Clearstream Banking AG	117.4	111.0	308.9	297.9	21.0	21.5
Eurex Clearing AG	74.8	81.2	464.8	364.8	49.7	36.0

The capital requirements under Article 16 of EMIR do not stipulate a specific ratio. Instead, the total amount of share capital, retained earnings and reserves, less certain items (including the central counterparty's own contribution to the default fund), is compared with the capital requirements. This total has to be at least equal to these requirements. In other words, EMIR requires a capital cover of at least 100 per cent. A reporting requirement to the competent authority – in this case BaFin – is triggered when this ratio falls below 110 per cent. €50.0 million of the €100.0 million contribution made to the capital reserve of Eurex Clearing AG was added to Eurex Clearing AG's own contribution to the default fund in 2017.

The capital resources of European Commodity Clearing AG are currently well above the regulatory requirements. As at the reporting date, total equity as disclosed in the consolidated statement of financial position was not fully available to cover the risks according to Article 16 of EMIR, given that parts of this equity do not fulfil the required liquidity standards. The capital base of other entities is consistently monitored. Given the increase in the regulatory minimum requirements for contributions to the clearing fund, European Commodity Clearing AG's default fund contribution was increased. As at 31 December 2017, European Commodity Clearing AG's total default fund contribution amounted to €10.0 million, and thus exceeded regulatory minimum requirements. A further increase to the contribution is planned for 2018. Similar to the other companies, its capital resources are reviewed on an ongoing basis. Depending on future business performance, and in particular on changes in the regulatory framework, the capital resources will be adjusted as needed; however, this is not expected at present.

Capital adequacy requirements under EMIR

	Eurex Clearing AG		European Commodity Clearing AG	
	31 Dec 2017 €m	31 Dec 2016 €m	31 Dec 2017 €m	31 Dec 2016 €m
Own funds requirement for operational, credit and market risk	74.8	81.2	9.7	7.3
Other EMIR capital requirements	78.7	74.6	27.2	19.6
Total EMIR capital requirements under Article 16 of EMIR	153.5	155.8	36.9	26.9
Equity	464.8	364.8	88.9	73.9
EMIR deductions	0	0	-8.3	-13.0
Own contribution to default fund	-150.0	-100.0	-10.0	-7.5
EMIR capital adequacy ratio	314.8	264.8	70.6	53.4

The capitalisation of Eurex Bonds GmbH significantly exceeded the CRR requirements. The company ceased its business operations, effective 31 December 2017.

Eurex Repo GmbH transfers its earnings to Eurex Frankfurt AG based on a profit or loss transfer agreement. Due to the company's decelerating business activities – resulting from current market conditions (low interest rates, ECB policies) – Eurex Repo GmbH's earnings declined, with negative effects on the profits to be transferred. Hence, the own funds requirements declined compared with the previous year. Depending on the future business performance as well as changes to the regulatory requirements, further contributions to capital may be necessary to a limited extent; however, they are currently not expected for the medium term.

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 2017 €m	31 Dec 2016 €m	31 Dec 2017 €m	31 Dec 2016 €m	31 Dec 2017 €m	31 Dec 2016 €m
Eurex Bonds GmbH	0.2	0.2	0.7	0.8	0.9	0.8
Eurex Repo GmbH	0.3	0.4	3.5	4.6	3.8	4.6
360 Treasury Systems AG	4.6	–	3.8	–	8.4	–

Compliance with own funds requirements

	Own funds requirements		Regulatory equity		Equity ratio	
	31 Dec 2017 €m	31 Dec 2016 €m	31 Dec 2017 €m	31 Dec 2016 €m	31 Dec 2017 %	31 Dec 2016 %
Eurex Bonds GmbH	0.9	0.8	10.4	10.4	1,200.0	1,300.0
Eurex Repo GmbH	3.8	4.6	7.0	7.0	184.2	152.2
360 Treasury Systems AG	8.4	–	28.5	–	339.3	–

According to 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, Eurex Clearing Asia Pte. Ltd. is required to provide own funds to fulfil “operational risk requirements”, “investment risk requirements” as well as “general counterparty risk requirements”. Given the current business activities, own funds requirements are based exclusively on “operational risk requirements”. Furthermore, Eurex Clearing Asia Pte. Ltd. is required to notify MAS without undue delay if the capital cover falls below 120 per cent of own funds requirements. Eurex Clearing Asia Pte. Ltd. is presently being liquidated.

According to the MAS, Cleartrade Exchange 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. Powernext SAS is obliged to maintain own funds in the amount of operating costs for the next six months. Regarding the anticipated upswing in the business development of Powernext SAS and Cleartrade Exchange Pte. Limited, own funds requirements for both entities are expected to increase slightly going forward. While the capital base of Powernext SAS is considered appropriate for the anticipated upswing, Cleartrade Exchange Pte. Limited’s capital base will be adjusted, if required.

Compliance with own funds requirements

	Own funds requirements		Regulatory equity	
	31 Dec 2017 €m	31 Dec 2016 €m	31 Dec 2017 €m	31 Dec 2016 €m
REGIS-TR S.A.	3.9	3.9	6.4	6.4
Eurex Clearing Asia Pte. Ltd.	0	0.6	0	10.2
Cleartrade Exchange Pte. Limited	0.7	1.4	1.2	2.1
Powernext SAS	9.7	10.8	33.5	39.9
Nodal Clear, LLC	3.6	3.4	26.0	27.5

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.

21. 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 2017 in accordance with the provisions of the Handelsgesetzbuch (HGB, the German Commercial Code), report net profit for the period of €615.7 million (2016: €553.2 million) and shareholders’ equity of €2,800.9 million (2016: €2,643.0 million). In 2017, Deutsche Börse AG distributed €439.0 million (€2.35 per eligible share) from the unappropriated surplus of the previous year.

Net profit for the period 2017 is higher than last year.

Proposal on the appropriation of the unappropriated surplus

	31 Dec 2017 €m
Net profit for the period	615.7
Appropriation to other retained earnings in the annual financial statements	-145.7
Unappropriated surplus	470.0
Proposal by the Executive Board:	
Distribution of a regular dividend to the shareholders of €2.45 per share for 186,278,047 no-par value shares carrying dividend rights	456.4
Appropriation to retained earnings	13.6

No-par value shares carrying dividend rights

	Number
Number of shares issued as at 31 December 2017	193,000,000
Number of treasury shares as at the reporting date	-6,389,842
Number of shares outstanding as at 31 December 2017	186,610,158
Number of shares acquired under the share buy-back programme up to the preparation of the annual financial statements	-332,111
Total	186,278,047

The proposal on the appropriation of the unappropriated surplus 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 €2.45 per eligible share, an amended resolution for the appropriation of the unappropriated surplus will be proposed to the Annual General Meeting.

22. Provisions for pensions and other employee benefits

Defined benefit pension plans

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. In Switzerland, there are guaranteed defined contribution plans. 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 2017 €m	Total 31 Dec 2016 €m
Present value of defined benefit obligations that are at least partially funded	418.2	66.6	18.5	503.3	488.7
Fair value of plan assets	-300.0	-48.5	-14.9	-363.4	-324.7
Funded status	118.2	18.1	3.6	139.9	164.0
Present value of unfunded obligations	3.5	0.7	0.1	4.3	3.9
Net liability of defined benefit obligations	121.7	18.8	3.7	144.2	167.9
Impact of minimum funding requirement/asset ceiling	0	0	0	0	0
Amount recognised in the balance sheet	121.7	18.8	3.7	144.2	167.9

The defined benefit plans comprise a total of 2,798 beneficiaries (2016: 2,713). The present value of defined benefit obligations can be allocated to the beneficiaries as follows:

Breakdown of beneficiaries

	Germany €m	Luxembourg €m	Other €m	Total 31 Dec 2017 €m	Total 31 Dec 2016 €m
Eligible current employees	187.5	65.9	18.3	271.7	262.5
Former employees with vested entitlements	140.2	0.7	0.3	141.2	131.6
Pensioners or surviving dependants	94.0	0.7	0	94.7	98.5
	421.7	67.3	18.6	507.6	492.6

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 next but one paragraph, 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 on 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 five percentage 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 has been an employee-funded deferred compensation plan for employees of certain Deutsche Börse Group companies in Germany since 1 July 1999. This plan gives employees the opportunity to convert parts of their future remuneration entitlements into benefit assets of equal value. The benefits consist of a capital payment on reaching the age of 65 or earlier, if applicable, in the case of disability or death; when due, the payment is made in equal annual payments over a period of three years. The benefit assets earn interest at a rate of 6 per cent p.a. As a rule, new commitments are entered into on the basis of this deferred compensation plan; employees with pension commitments under retirement

benefit arrangements in force before 1 July 1999 were given an option to participate in the deferred compensation plan by converting their existing pension rights.

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. Every year, participating Group companies provide for an amount that corresponds to a certain percentage of the pensionable income. 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 in 2017 as well as in prior years. For senior executives affected, whose contracts only provided for the inclusion of income received and variable remuneration over and above the upper limit of the contribution assessment (Beitragsbemessungsgrenze) of the statutory pension insurance provisions as pensionable income to date, pensionable income was fixed on the basis of annual income received in 2016. This income is adjusted on an annual basis, to reflect the increase in the cost of living, based on the consumer price index for Germany published by the German 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 fixed which will be reviewed annually, and adjusted if necessary, by the Supervisory Board, taking changed circumstances in terms of income and purchasing power in account.

Luxembourg

The Clearstream subgroup, based in Luxembourg, operates separate defined benefit plans. The only defined benefit pension plan still in operation in favour of Luxembourg employees of Clearstream International S.A., Clearstream Banking S.A. and Clearstream Services S.A. 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 on reaching the age of 65. The benefit plan does not cover disability or death in service. Contributions to the ASSEP are funded in full by the participating companies. The contributions are determined annually on the basis of actuarial opinions and the amount of the obligation is calculated in accordance with Luxembourg law.

For further employees, a group plan has been entered into with Swiss Life (Luxembourg) S.A.; it covers pensions as well as disability and death. The contributions are paid annually by the employer. Benefits depend on the length of employment at the Group company and consist of quarterly payments starting upon the employee reaching the age of 65. In the case of disability or death, differing provisions apply. The contributions are determined annually on the basis of actuarial opinions.

Switzerland

A separate pension plan (basic pension plan) and a supplementary benefits plan (bonus plan) exist for employees in Switzerland; both plans are based on insurance policies and, in addition to retirement benefits, comprise disability benefits and dependants' pensions. The contributions to the basic pension plan are paid by the employee and the employer, based on progressive percentages of the insured wage

(annual wage less coordination deduction). For the bonus plan, the contributions are determined as a percentage of the bonus; it is also funded by contributions from employees and the employer. The retirement age is 65. The beneficiaries can choose between pension payments and a one-off payment.

The present value of defined benefit obligations can be reconciled as follows with the provisions reported in the consolidated balance sheet:

Changes in net defined benefit obligations

	Present value of obligations €m	Fair value of plan assets €m	Total €m
Balance as at 1 Jan 2016	442.7	-302.0	140.7
Acquisitions from business combinations	-0.3	0.3	0
Current service cost	24.0	–	24.0
Interest expense/(income)	9.3	-6.4	2.9
Past service cost and gains and losses on settlements	0	–	0
	33.3	-6.4	26.9
Remeasurements			
Return on plan assets, excluding amounts already recognised in interest income	–	-2.9	-2.9
Losses from changes in demographic assumptions	-0.8	–	-0.8
Losses from changes in financial assumptions	31.5	–	31.5
Experience gains	-0.4	–	-0.4
	30.3	-2.9	27.4¹⁾
Effect of exchange rate differences	0.2	-0.2	0
Contributions:			
Employers	–	-29.2	-29.2
Plan participants	0.9	-0.9	0
Benefit payments	-13.7	13.7	0
Tax and administration costs	-0.8	2.9	2.1
Balance as at 31 Dec 2016	492.6	-324.7	167.9
Current service cost	26.9	–	26.9
Interest expense/(income)	8.3	-5.5	2.8
	35.2	-5.5	29.7
Remeasurements			
Return on plan assets, excluding amounts already recognised in interest income	–	-24.3	-24.3
Losses from changes in financial assumptions	-1.0	–	-1.0
Experience gains	-5.1	–	-5.1
Effect of exchange rate differences	-0.1	-0.1	-0.2
	-6.2	-24.4	-30.6¹⁾
Effect of exchange rate differences	-1.4	1.3	-0.1
Contributions:			
Employers	–	-23.4	-23.4
Plan participants	0.8	-0.8	0
Benefit payments	-13.2	13.2	0
Settlements	0.6	-0.5	0.1
Tax and administration costs	-0.8	1.4	0.6
Balance as at 31 Dec 2017	507.6	-363.4	144.2

1) Thereof nil (2016: €0.1 million) in the offsetting item for non-controlling interests

In financial year 2017, employees converted a total of €6.4 million (2016: €5.3 million) of their variable remuneration into deferred compensation benefits.

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 shown in the following table:

Actuarial assumptions

	31 Dec 2017			31 Dec 2016		
	Germany %	Luxembourg %	Switzerland %	Germany %	Luxembourg %	Switzerland %
Discount rate	1.80	1.80	0.70	1.75	1.75	0.60
Salary growth	3.50	3.30	1.00	3.50	3.00	1.00
Pension growth	2.00	1.80	0	2.00	1.50	0
Staff turnover rate	2.00 ¹⁾	2.00 ¹⁾	n.a. ²⁾	2.00 ¹⁾	2.00 ¹⁾	n.a. ²⁾

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

2) Staff turnover rate in accordance with the Bundesgesetz über die berufliche Alters-, Hinterlassenen- und Invalidenvorsorge (BVG, Swiss Federal Occupational Retirement, Survivors' and Disability Pension Plans Act)

In Germany, the “2005 G” mortality tables (generation tables) developed by Prof Klaus Heubeck are used in a modified version. For Luxembourg, generation tables of the Institut national de la statistique et des études économiques du Grand-Duché du Luxembourg are used. For Switzerland, the BVG 2015 generation tables are used.

Sensitivity analysis

The sensitivity analysis presented in the following considers the change in one assumption 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		Effect on defined benefit obligation	
		2017 defined benefit obligation €m	Change %	2016 defined benefit obligation €m	Change %
Present value of the obligation ¹⁾		507.6	–	492.6	–
Discount rate	Increase by 1.0 percentage point	433.3	-14.6	418.8	-15.0
	Increase by 0.5 percentage points	468.6	-7.7	453.8	-7.9
	Reduction by 0.5 percentage points	552.4	8.8	537.4	9.1
	Reduction by 1.0 percentage point	602.3	18.7	587.5	19.3
Salary growth	Increase by 0.5 percentage points	520.2	2.5	505.0	2.5
	Reduction by 0.5 percentage points	497.3	-2.0	482.6	-2.0
Pension growth	Increase by 0.5 percentage points	520.0	2.4	504.9	2.5
	Increase by 0.25 percentage points	513.6	1.2	498.6	1.2
	Reduction by 0.25 percentage points	502.1	-1.1	486.8	-1.2
	Reduction by 0.5 percentage points	496.2	-2.2	481.4	-2.3
Life expectancy	Increase by one year	521.1	2.7	505.4	2.6
	Reduction by one year	494.0	-2.7	479.7	-2.6

1) Present value of the obligations using assumptions in accordance with the ["Actuarial assumptions" table](#)

Composition of plan assets

Germany

In Germany, the plan assets are held by a trustee in safekeeping for individual companies of Deutsche Börse Group and for the beneficiaries: at the company's instruction, the trustee uses the funds transferred to acquire securities, without any consulting on the part of 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. 75 per cent of this benchmark is 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, and it may hold cash, including in the form of money market funds.

Switzerland

The assets of the pension funds of the affected companies have been invested with AXA Stiftung Berufliche Vorsorge and are therefore reported under "qualifying insurance policies".

Composition of plan assets

	31 Dec 2017		31 Dec 2016	
	€m	%	€m	%
Bonds	258.2	71.1	270.7	83.4
Government bonds	197.3		229.8	
Multilateral development banks	0		2.6	
Corporate bonds	60.9		38.3	
Derivatives	1.7	0.5	0.8	0.2
Equity index futures	-0.3		0.6	
Interest rate futures	2.0		0.2	
Investment funds	19.5	5.4	13.9	4.3
Total listed	279.4	76.9	285.4	87.9
Qualifying insurance policies	14.9	4.1	16.7	5.1
Cash	69.1	19.0	22.6	7.0
Total not listed	84.0	23.1	39.3	12.1
Total plan assets	363.4	100.0	324.7	100.0

As at 31 December 2017, plan assets did not include any financial instruments held by the Group (2016: nil), nor did they include any property occupied or other assets used by the 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.

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.

Moreover, 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. A continued decline in returns on corporate bonds will lead to a further increase in defined benefit obligations, which can be only partially offset by the positive development of the fair values of the assets included in the plan assets.

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.

In Switzerland, the benefit plan at AXA Stiftung Berufliche Vorsorge includes the provision that the board of this foundation decides annually whether the retirement pensions will be adjusted to reflect price trends. The decision takes into account in particular the financial capability of the foundation. There are no arrangements for automatic adjustments to price increases over and above the legal requirements that apply to certain surviving dependants' and disability pensions.

Duration and expected maturities of the pension obligations

The weighted duration of the pension obligations was 16.6 years (2016: 17.3 years) as at 31 December 2017.

Expected maturities of undiscounted pension payments

	Expected pension payments ¹⁾ 31 Dec 2017 €m	Expected pension payments ¹⁾ 31 Dec 2016 €m
Less than 1 year	17.7	12.4
Between 1 and 2 years	15.1	12.6
Between 2 and 5 years	40.7	39.4
More than 5 years up to 10 years	99.8	83.7
Total	173.3	148.1

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 amount to approximately €16.5 million for the 2018 financial year, including net interest expense.

Defined contribution pension plans and multi-employer plans

During the reporting period, the costs associated with defined contribution plans, and designated multi-employer plans, amounted to €36.7 million (2016: €35.3 million).

In 2018, Deutsche Börse Group expects to make contributions to multi-employer plans amounting to around €9.9 million.

23. Changes in other provisions

Changes in other provisions

	Bonuses €m	Interest on taxes €m	Restructuring and efficiency measures €m	Share-based payments €m
Balance as at 1 Jan 2017	101.7	47.5	78.3	25.5
Changes in the basis of consolidation	0.2	0	0	0
Reclassification ²⁾	-3.5	0	0	-0.5
Utilisation	-79.6	0	-24.5	-7.4
Reversal	-10.7	0	-3.3	-0.5
Additions	92.9	18.9	5.7	25.0
Currency translation	-0.2	0	-0.2	0
Interest	0	0	1.3	0
Balance as at 31 Dec 2017	100.8	66.4	57.3	42.1

1) IHK = Industrie- und Handelskammer Frankfurt am Main (the Frankfurt/Main Chamber of Industry and Commerce)

2) Relates primarily to reclassifications to the employee-funded deferred compensation plan (see [note 22](#)) as well as to reclassifications from liabilities.

Provisions for restructuring and efficiency measures include provisions for contractually agreed early retirement benefits and severance payments (€52.6 million), expenses directly related to restructuring measures (€0.2 million), and provisions associated with another restructuring plan, adopted at year-end 2017, designed to improve the business model's efficiency and to streamline processes (€4.5 million, implementation already started).

The "other personnel provisions" item as at 31 December 2017 includes personnel-related provisions of €5.8 million (2016: €5.7 million) for jubilees, €8.5 million (2016: €2.5 million) for other personnel costs and €0.5 million (2016: €0.5 million) for early retirement benefits.

The "miscellaneous" item includes provisions for anticipated losses of €7.3 million (2016: €7.0 million) and provisions for rent and service costs of €1.3 million (2016: €1.3 million).

For details on share-based payments, see [note 39](#).

	Pension obligations to IHK ¹⁾ €m	Operational claims €m	Recourse and litigation risks €m	Other personnel provisions €m	Miscellaneous €m	Total €m
	9.4	3.1	3.5	8.7	17.6	295.3
	0	0	0	0	0	0.2
	0	0	0.2	4.4	-6.9	-6.3
	0	-0.1	-0.1	-4.0	-0.6	-116.3
	-0.4	0	-2.8	-1.2	-0.7	-19.6
	0	2.1	2.9	6.6	3.1	157.2
	0	0	0	0	0	-0.4
	0.2	0	0	0.3	0	1.8
	9.2	5.1	3.7	14.8	12.5	311.9

24. Other non-current provisions

Other non-current provisions have more than one year to maturity.

Composition of other non-current provisions

	31 Dec 2017 €m	31 Dec 2016 €m
Restructuring and efficiency measures	52.4	68.1
Share-based payments	36.1	18.2
Bonuses	10.0	5.4
Pension obligations to IHK ¹⁾	9.2	9.4
Jubilees	5.8	5.7
Anticipated losses	5.0	6.5
Early retirement	0.4	0.5
Other	1.4	3.2
Total	120.3	117.0
thereof with remaining maturity of between 1 and 5 years	96.8	95.0
thereof with remaining maturity of more than 5 years	23.5	22.0

1) IHK = Industrie- und Handelskammer Frankfurt am Main (the Frankfurt/Main Chamber of Industry and Commerce)

25. Liabilities

The bonds issued by Deutsche Börse AG have a carrying amount of €2,288.1 million (2016: €2,284.7 million) and a fair value of €2,451.5 million (2016: €2,457.7 million). €1,688.4 million (2016: €2,284.7 million) of this amount is disclosed under “interest-bearing liabilities”; the bonds due in financial year 2018 in the amount of €599.7 million (2016: nil) are disclosed under the item “other current liabilities”. The financial liabilities recognised in the balance sheet were not secured by liens or similar rights, neither as at 31 December 2017 nor as at 31 December 2016.

26. Tax provisions

Composition of tax provisions

	Income taxes: current year €m	Income taxes: previous years €m	Other taxes €m	Total €m
Balance as at 1 Jan 2017	0	231.5	42.4	273.9
Changes in the basis of consolidation	0	0	0	0
Reclassification	0	23.6	-5.8	17.8
Utilisation	0	-79.2	-0.7	-79.9
Reversal	0	-6.9	0	-6.9
Additions	66.8	63.5	3.9	134.2
Currency translation	0	0.3	0	0.3
Interest	0	0	0	0
Balance as at 31 Dec 2017	66.8	232.8	39.8	339.4

Tax provisions of €104.6 million (2016: €173.4 million) have an estimated remaining maturity of more than one year.

27. Other current provisions

Composition of other current provisions

	31 Dec 2017 €m	31 Dec 2016 €m
Bonuses	90.8	96.3
Interest on taxes	66.4	47.5
Personnel costs	8.5	2.5
Share-based payments	6.0	7.3
Operational claims	5.1	3.1
Restructuring and efficiency measures	4.9	10.2
Recourse and litigation risks	3.7	3.5
Anticipated losses	2.2	0.5
Rent and incidental rental costs	1.3	1.3
Miscellaneous	2.7	6.1
Total	191.6	178.3

28. Liabilities from banking business

The liabilities from banking business are attributable solely to the Clearstream subgroup.

Composition of liabilities from banking business

	31 Dec 2017 €m	31 Dec 2016 €m
Customer deposits from securities settlement business	12,411.8	13,024.8
Issued commercial paper	274.7	349.5
Overdrafts on nostro accounts	24.7	321.9
Forward foreign exchange transactions – held for trading	29.0	2.4
Margin deposits	15.4	125.7
Interest liabilities	0.5	0.5
Money market lendings	508.3	15.5
Total	13,264.4	13,840.3

29. Cash deposits by market participants

Composition of cash deposits by market participants

	31 Dec 2017 €m	31 Dec 2016 €m
Liabilities from margin payments to Eurex Clearing AG by clearing members	26,555.0	24,798.2
Liabilities from margin payments to European Commodity Clearing AG by clearing members	2,268.8	2,973.8
Liabilities from margin payments to Nodal Clear, LLC by clearing members	387.2	n.a.
Liabilities from cash deposits by participants in equity trading	4.3	5.6
Total	29,215.3	27,777.6

30. Other current liabilities

Composition of other current liabilities

	31 Dec 2017 €m	31 Dec 2016 €m
Bonds issued	599.7	0
Liabilities from CCP positions	466.1	386.4
Tax liabilities (excluding income taxes)	37.7	30.5
Interest payable	28.8	28.7
Vacation entitlements, flexitime and overtime credits	21.7	20.5
Social security liabilities	7.6	7.8
Deferred income	6.5	18.1
Derivatives	3.0	12.7
Special payments and bonuses	2.8	4.9
Liabilities to supervisory bodies	2.6	2.9
Debtors with credit balances	2.2	2.7
Miscellaneous	12.5	10.5
Total	1,191.2	525.7

31. Maturity analysis of financial instruments

Underlying contractual maturities of the financial instruments at the reporting date

	Contractual maturity					
	2017 €m	Sight 2016 €m	Not more than 3 months 2017 €m	2016 €m	More than 3 months but not more than 1 year 2017 €m	2016 €m
Non-derivative financial liabilities						
Interest-bearing liabilities	0	0	0	23.3	0	22.4
Other non-current financial liabilities	0	0	0	0	0	0
Non-derivative liabilities from banking business	12,960.1	13,487.9	241.5	98.7	33.2	251.9
Trade payables, payables to related parties and other current liabilities	96.7	380.1	1,152.5	513.9	22.4	0
Cash deposits by market participants	29,215.3	27,777.6 ¹⁾	0	0 ¹⁾	0	0
Other bank loans and overdrafts	7.3	0.1	0	0	0	0
Total non-derivative financial liabilities (gross)	42,279.4	41,645.7	1,394.0	635.9	55.6	274.3
Derivatives and financial instruments held by central counterparties						
Financial liabilities and derivatives held by central counterparties	22,159.3	20,717.7	43,973.6	68,646.2	12,665.7	18,146.9
less financial assets and derivatives held by central counterparties	-22,159.2	-20,717.7	-44,685.7	-69,076.4	-12,665.8	-18,146.9
Cash inflow – derivatives and hedges						
Cash flow hedges	0	0	19.0	154.3	56.2	0
Fair value hedges	0	0	0	0	0	0
Derivatives held for trading	833.4	1,331.8	1,652.2	409.3	2.3	1,407.3
Cash outflow – derivatives and hedges						
Cash flow hedges	0	0	-18.8	-160.2	-56.4	0
Fair value hedges	0	0	0	0	0	0
Derivatives held for trading	-832.2	-1,332.3	-1,667.4	-400.4	-2.2	-1,341.7
Total derivatives and hedges	1.3	-0.5	-727.1	-427.2	-0.2	65.6
Financial guarantee contracts	0	0	0	0	0	0

1) Prior-year figures adjusted with regard to maturity

	Contractual maturity				Reconciliation to carrying amount		Carrying amount	
	More than 1 year but not more than 5 years		2017 €m	Over 5 years 2016 €m	2017 €m	2016 €m	2017 €m	2016 €m
	2017 €m	2016 €m						
	1,339.0	1,362.3	524.4	1,146.8	-175.0	-270.1	1,688.4	2,284.7
	0.8	0.2	0	0	6.1	7.7	6.9	7.9
	0	0	0	0	29.6	-0.6	13,264.4	13,837.9
	0	0	0	0	70.0	100.4	1,341.6	994.4
	0	0	0	0	0	0	29,215.3	27,777.6
	0	0	0	0	0	0	7.3	0.1
	1,339.8	1,362.5	524.4	1,146.8	-69.3	-162.6	45,523.9	44,902.6
	3,771.5	4,384.6	1,065.7	1,440.6	0	0	83,635.8	113,336.0
	-3,771.5	-4,384.6	-1,065.7	-1,440.6	0	0	-84,347.9	-113,766.2
	0	0	0	0				
	0	0	0	0				
	0	0	0	0				
	0	0	0	0				
	0	0	0	0				
	0	0	0	0				
	0	0	0	0				
	0	0	0	0				

32. Classification of financial instruments under IAS 39

The following table shows an analysis of the financial instruments in the balance sheet in accordance with their classification under IAS 39 as well as the corresponding carrying amounts:

Classification of financial instruments (part 1)					
Consolidated balance sheet item (classification)	Note	Category	Measured at	Carrying amount	
				31 Dec 2017 €m	31 Dec 2016 €m
Other equity investments	13	AFS ¹⁾	Historical cost	59.0	58.0
		AFS ¹⁾	Fair value	40.4	197.4
Non-current receivables and securities from banking business	13	AFS ¹⁾	Fair value	1,563.0	1,604.8
Other financial instruments	13	AFS ¹⁾	Historical cost	5.1	1.9 ²⁾
		AFS ¹⁾	Fair value	24.5	24.1 ²⁾
		Fair value through profit or loss (designated)	Fair value	1.2	0
Other loans	13	Loans and receivables	Amortised cost	0.4	0.4
Non-current financial instruments held by central counterparties	15	Held for trading	Fair value	4,837.2	5,856.6
Other non-current assets		Held for trading	Fair value	0.1	0.1
		Loans and receivables	Amortised cost	4.6	8.3
Current financial instruments held by central counterparties	15	Held for trading	Fair value	79,238.7	107,679.7
		Loans and receivables	Amortised cost	272.0	229.9
Current receivables and securities from banking business	14, 16	AFS ¹⁾	Fair value	254.5	592.2
		Cash flow hedges	Fair value	0.7	0
		Loans and receivables	Amortised cost	12,776.8	12,807.8
		Held for trading	Fair value	4.5	65.4
Trade receivables	17	Loans and receivables	Amortised cost	329.4	669.8
Receivables from related parties		Loans and receivables	Amortised cost	2.5	2.0
Other current assets	18	Loans and receivables	Amortised cost	510.3	441.8
		Held for trading	Fair value	0	0.3
Restricted bank balances	19	Loans and receivables	Amortised cost	29,392.0	27,777.6
Other cash and bank balances	33	Loans and receivables	Amortised cost	1,297.6	1,458.1

1) Available-for-sale (AFS) financial assets

2) Classification adjusted

Classification of financial instruments (part 2)

Consolidated balance sheet item (classification)	Note	Category	Measured at	Carrying amount	
				31 Dec 2017 €m	31 Dec 2016 €m
Interest-bearing liabilities (excluding finance leases)	14, 25	Liabilities at amortised cost	Amortised cost	1,688.4	2,284.7
Non-current financial instruments held by central counterparties	15	Held for trading	Fair value	4,837.2	5,856.6
Other non-current liabilities	14	Held for trading	Fair value	0.8	1.7
Current financial instruments held by central counterparties	15	Held for trading	Fair value	78,526.6	107,249.5
		Liabilities at amortised cost	Amortised cost	272.0	229.9
Liabilities from banking business	14, 28	Liabilities at amortised cost	Amortised cost	13,235.4	13,837.9
		Held for trading	Fair value	29.0	2.4
Other bank loans and overdrafts	33	Liabilities at amortised cost	Amortised cost	7.3	0.1
Trade payables		Liabilities at amortised cost	Amortised cost	148.9	471.2
Liabilities to related parties		Liabilities at amortised cost	Amortised cost	1.5	3.6
Cash deposits by market participants	29	Liabilities at amortised cost	Amortised cost	29,215.3	27,777.6
Other current liabilities	14, 30	Liabilities at amortised cost	Amortised cost	1,097.6	419.1
		Cash flow hedges	Fair value	0	6.0
		Derivatives held for trading	Fair value	3.0	6.7

The financial assets and liabilities that are measured at fair value are required to be allocated to the following three hierarchy levels: financial assets and liabilities are allocated to level 1 if there is a quoted price for identical assets and liabilities in an active market that can be accessed by the entity. They are allocated to level 2 if the inputs on which fair value measurement is based are observable either directly or indirectly; these inputs must be based on market expectations. Financial assets and liabilities are allocated to level 3 if fair value is determined on the basis of unobservable inputs.

As at 31 December 2017, the financial assets and liabilities measured at fair value were allocated to the following levels of the fair value hierarchy:

Fair value hierarchy

	Fair value as at 31 Dec 2017 €m	thereof attributable to:		
		Level 1 €m	Level 2 €m	Level 3 €m
Recurring fair value measurements				
ASSETS				
Financial assets held for trading				
Derivatives				
Non-current financial instruments held by central counterparties	4,837.2	0	4,837.2	0
Current financial instruments held by central counterparties	79,238.7	0	79,238.7	0
Current receivables and securities from banking business	5.2	0	5.2	0
Other non-current assets	0.1	0	0	0.1
Other securities	1.2	0	0	1.2
Total	84,082.4	0	84,081.1	1.3
Available-for-sale financial assets				
Equity instruments				
Other equity investments	40.4	33.8	0	6.6
Total	40.4	33.8	0	6.6
Debt instruments				
Other financial instruments	24.5	24.5	0	0
Non-current receivables and securities from banking business	1,563.0	1,563.0	0	0
Current receivables and securities from banking business	254.5	254.5	0	0
Total	1,842.0	1,842.0	0	0
Total assets	85,964.8	1,875.8	84,081.1	7.9
LIABILITIES				
Financial liabilities held for trading				
Derivatives				
Non-current financial instruments held by central counterparties	-4,837.2	0	-4,837.2	0
Current financial instruments held by central counterparties	-78,526.6	0	-78,526.6	0
Liabilities from banking business	-29.0	0	-29.0	0
Other current liabilities	-3.0	0	-0.1	-2.9
Contingent purchase price components				
Other non-current liabilities	-0.8	0	0	-0.8
Total liabilities	-83,396.6	0	-83,392.9	-3.7

By comparison, the financial assets and liabilities measured at fair value as at 31 December 2016 were allocated as follows to the hierarchy levels:

Fair value hierarchy

	Fair value as at 31 Dec 2016 €m	thereof attributable to:		
		Level 1 €m	Level 2 €m	Level 3 €m
Recurring fair value measurements				
ASSETS				
Financial assets held for trading				
Derivatives				
Non-current financial instruments held by central counterparties	5,856.6	0	5,856.6	0
Current financial instruments held by central counterparties	107,679.7	0	107,679.7	0
Current receivables and securities from banking business	65.4	0	65.4	0
Other non-current assets	0.1	0	0	0.1
Other current assets	0.3	0	0	0.3
Total	113,602.1	0	113,601.7	0.4
Available-for-sale financial assets				
Equity instruments				
Other equity investments	197.4	190.9	0	6.5
Total	197.4	190.9	0	6.5
Debt instruments				
Other financial instruments	24.1	24.1 ¹⁾	0	0
Non-current receivables and securities from banking business	1,604.8	1,604.8	0	0
Current receivables and securities from banking business	592.3	592.3	0	0
Total	2,221.2	2,221.2	0	0
Total assets	116,020.7	2,412.1	113,601.7	6.9
LIABILITIES				
Financial liabilities held for trading				
Derivatives				
Non-current financial instruments held by central counterparties	-5,856.6	0	-5,856.6	0
Current financial instruments held by central counterparties	-107,249.5	0	-107,249.5	0
Liabilities from banking business	-2.4	0	-2.4	0
Other non-current liabilities	-1.5	0	0	-1.5
Other current liabilities	-12.7	0	-6.0	-6.7
Contingent purchase price components				
Other non-current liabilities	-0.2	0	0	-0.2
Total liabilities	-113,122.9	0	-113,114.5	-8.4

1) Prior-year figure adjusted.

During the year under review, one investment was measured at fair value for the first time. Given the entity's IPO in March 2017, quoted prices in an active market have been available since that date. Therefore, the item was allocated to level 1. The investment in BATS Global Markets, Inc., which was allocated to level 1 in the previous year, was disposed of in the first quarter of 2017.

Financial assets and liabilities listed in levels 2 and 3 as at 31 December 2017 are measured as follows:

- The derivatives listed in level 2 comprise forward foreign-exchange transactions. The fair value of the forward foreign-exchange transactions is determined on the basis of the forward exchange rates for the remaining period to maturity as at the reporting date. They are based on observable market prices.
- The fair value of the financial instruments held by central counterparties allocated to level 2 is determined by market transactions for identical or similar assets in markets that are not active and by option pricing models based on observable market prices.

At the reporting date, the items allocated to level 3 and their measurements were as follows:

Changes in level 3 financial instruments

	Assets				Liabilities		Total €m
	Other equity investments €m	Other securities €m	Other non-current €m	Other current €m	Other non-current €m	Other current €m	
Balance as at 1 Jan 2016	6.1	0	0	0	-4.3	-6.2	-4.4
Additions	0	0	0.1	0.3	-2.5	-3.3	-5.4
Disposals	-0.7	0	0	0	0	0	-0.7
Reclassifications	0	0	0	0	4.3	-4.3	0
Realised capital gains/(losses)	0	0	0	0	0	4.3	4.3
Other operating income	0	0	0	0	0	4.3	4.3
Unrealised capital gains/(losses) recognised in profit or loss	0	0	0	0	0.8	2.8	3.6
Other operating expenses	0	0	0	0	0	-0.3	-0.3
Other operating income	0	0	0	0	0.8	3.1	3.9
Changes recognised in the revaluation surplus	1.1	0	0	0	0	0	1.1
Balance as at 1 Jan 2017	6.5	0	0.1	0.3	-1.7	-6.7	-1.5
Additions	0	1.2	0	0	-0.4	0	0.8
Disposals	-0.4	0	0	-0.3	0	1.4	0.7
Reclassification	0	0	0	0	1.5	-1.5	0
Realised capital gains/(losses)	0	0	0	0	0	3.4	3.4
Other operating income	0	0	0	0	0	3.4	3.4
Unrealised capital gains/(losses) recognised in profit or loss	0	0	0	0	-0.2	0.5	0.3
Other operating expenses	0	0	0	0	-0.2	0	-0.2
Other operating income	0	0	0	0	0	0.5	0.5
Changes recognised in the revaluation surplus	0.5	0	0	0	0	0	0.5
Balance as at 31 Dec 2017	6.6	1.2	0.1	0	-0.8	-2.9	4.2

The value of an equity investment listed in level 3 is reviewed annually by the issuer, who may initiate transactions. During the period under review, fair value measurement resulted in positive effects of €0.5 million (revaluation surplus).

Furthermore, this item includes an equity fund, the fair value of which is calculated on the basis of the net asset value determined by the issuer. Deutsche Börse Group sold its investment in the equity fund in 2017, resulting in a disposal of €0.4 million.

The “other securities” item includes a convertible bond. The fair value of the bond was €1.2 million at the acquisition date. The measurement of the convertible bond is based on an internal model, using unobservable market data.

The “other non-current assets” item includes a call option, the fair value of which was derived using the Black-Scholes model based on unobservable market data. As in the previous year, the fair value stood at €0.1 million. The item “other current assets” declined by €0.3 million in connection with the disposal of a forward purchase contract given that the underlying transaction was fulfilled.

At the beginning of the 2017 financial year, “other non-current liabilities” comprised a contingent purchase price component in the amount of €0.2 million. During the period under review, reassessment of the probability that such components would be utilised resulted in other operating expenses of €0.2 million. Another contingent purchase price component (€0.4 million) was recognised for the same item towards the end of the reporting year. These two purchase price components are measured on the basis of internal discounted cash flow models, which discount the expected future payment obligations to the measurement date using interest rates that are appropriate to the risk.

At the beginning of the reporting year, the item “other non-current liabilities” included financial instruments from an incentive programme of Eurex Frankfurt AG, with a carrying amount of €1.5 million. These instruments were reclassified to “other current liabilities” as at 31 December 2017; the carrying amount remained unchanged at €1.5 million.

Furthermore, the item “other current liabilities” included derivative financial instruments from an incentive programme of Eurex Clearing AG, with a carrying amount of €3.4 million, at the beginning of 2017. The carrying amount of these instruments was €1.4 million as at 31 December 2017. As at 31 January 2017, the first tranche of Eurex Clearing AG’s incentive programme expired. Accordingly, the derivative was disposed of (€1.4 million recognised directly in equity), and derecognised through profit or loss (€0.1 million). In the course of the reporting year, subsequent measurement of the financial instruments from the second tranche of the programme led to gains of €0.5 million, disclosed under “other operating income”.

The financial instruments are regularly measured at fair value through profit or loss using internal models at the quarterly reporting dates. The models take into account the criteria underlying the conditional repayment of the grants made by Eurex Clearing AG and Eurex Frankfurt AG. The criteria include, in particular, non-financial indicators such as the expected number of customers in a specific market segment as well as expected trading volumes. They are monitored continuously to determine whether any adjustments may be necessary. In order to do this, customer information is also used. Since these are internal models, the parameters can differ from those of the settlement date. However, the derivative financial instruments will not exceed an amount of €1.5 million, and €3.5 million, respectively. These amounts arise if all beneficiaries of the incentive programmes fulfil the conditions and a repayment of the contribution is not taken into consideration.

Furthermore, derivative financial instruments related to contingent repayment claims in connection with advance payments disclosed under the “other current liabilities” item were derecognised through profit or loss (€3.3 million). The resulting income was disclosed as “other operating income”.

The fair value of other financial assets and liabilities not measured at fair value is determined as follows:

Debt instruments issued by Deutsche Börse Group have a fair value of €2,451.5 million (31 December 2016: €2,457.7 million) and are reported under interest-bearing as well as current liabilities. The fair value of such instruments is based on the debt instruments’ quoted prices. Hence, debt instruments were allocated to level 2.

The carrying amounts of the following items represent a reasonable approximation of their fair value:

- Unlisted equity instruments whose fair value generally cannot be reliably determined on a continuous basis and that are reported under the “financial assets” item; these are carried at cost less any impairment losses
- Other loans, which are reported under “financial assets”
- Other receivables and other assets as well as current receivables from banking business, to the extent that these are measured at amortised cost
- Restricted bank balances
- Other cash and bank balances
- Cash deposits by market participants
- Other current liabilities

Other disclosures

33. Consolidated cash flow statement disclosures

Cash flows from operating activities

After adjustments to net profit for the period for non-cash items, cash flows from operating activities excluding CCP positions amounted to €1,107.2 million (2016: €856.6 million). After adjustment for the change in CCP positions, cash flow from operating activities amounted to €1,056.2 million (2016: €1,621.4 million). For details on the adjustments see the [“Financial position”](#) section of the combined management report.

Other non-cash effects consist (consisted) of the following items:

Composition of other non-cash effects

	2017 €m	2016 €m
Subsequent measurement of non-derivative financial instruments	89.4	-17.6
Reversal of discount and transaction costs from long-term financing	3.4	3.7
Reversal of the revaluation surplus for cash flow hedges	2.8	2.7
Equity method measurement	1.0	8.9
Impairment of financial instruments	0	5.0
Subsequent measurement of derivatives	-8.0	4.7
Gains on the disposal of subsidiaries and equity investments	-191.0	-59.6
Miscellaneous	6.0	-0.1
Total	-96.4	-52.3

Cash flows from investing activities

Cash flows from investing activities amount to €181.9 million (2016: €578.5 million).

Investments in intangible assets and property, plant and equipment amounted to €149.2 million (2016: €164.9 million); none of these investments were attributable to discontinued operations (2016: €12.3 million). Among the investments in intangible assets and property, plant and equipment, the measures undertaken under the strategic growth initiatives and infrastructure projects are classified as expansion investments, while all remaining investments are reported as replacement investments.

The investments in intangible assets and property, plant and equipment are broken down by segment as follows:

Payment to acquire intangible assets and property, plant and equipment		
	31 Dec 2017 €m	31 Dec 2016 ¹⁾ €m
Expansion investments		
Eurex	21.2	16.3
Xetra	4.0	3.4
Clearstream	44.1	45.3
Market Data + Services	10.4	3.2
	79.7	68.2
Replacement investments		
Eurex	25.0	39.0
Xetra	2.8	10.2
Clearstream	27.2	18.3
Market Data + Services	14.5	16.9
	69.5	84.4
Total investments according to segment reporting	149.2	152.6

1) Not taking into account discontinued operations

Investments in long-term financial instruments totalling €312.4 million (2016: €178.9 million) included €292.9 million (2016: €155.6 million) for the purchase of floating-rate notes in the banking business. In addition, equity investments were acquired in a total amount of €14.5 million (2016: €5.4 million).

Non-current debt instruments and equity instruments totalling €859.1 million (2016: €149.9 million) matured or were sold in the financial year 2017. The disposal of shares in BATS Global Markets, Inc. and in another equity investment resulted in a cash inflow of €274.7 million (2016: €80.3 million).

In the 2016 financial year, cash flow from investing activities reflected the disposal of shares in the ISE subgroup in particular. This transaction involved a cash inflow of €916.3 million (adjusted for €13.0 million in cash disposed). Furthermore, the disposal of the shares in Infobolsa S.A. resulted in a cash inflow of €1.1 million (adjusted for €7.1 million in cash disposed).

Cash flows from financing activities

Cash outflows from financing activities totalled €501.0 million (2016: €848.8 million). This item included the acquisition of treasury shares as part of the share repurchase programme (€28.2 million; 2016: nil) as well as payments to non-controlling shareholders (€-39.3 million; 2016: €-15.9 million).

In the 2016 financial year, Series B and C of the private placements (US\$290.0 million) were repaid early.

In the 2017 financial year, the company did not place any commercial paper (2016: €400.0 million); neither did it pay out any commercial paper (2016: €495.0 million). As in the previous year, no commercial paper was issued as at 31 December 2017. Deutsche Börse AG paid dividends totalling €439.0 million for the 2016 financial year (dividend for the 2015 financial year: €420.1 million).

Reconciliation to cash and cash equivalents

Reconciliation to cash and cash equivalents	31 Dec 2017 €m	31 Dec 2016 €m
Restricted bank balances	29,392.0	27,777.6
Other cash and bank balances	1,297.6	1,458.1
Net position of financial instruments held by central counterparties	712.1	430.2
Less bank loans and overdrafts	-7.3	-0.1
	31,394.4	29,665.8
Reconciliation to cash and cash equivalents		
Current receivables and securities from banking business	13,036.5	13,465.5
Less loans to banks and customers with an original maturity of more than 3 months	-1,115.8	-1,068.1
Less available-for-sale debt instruments	-254.5	-592.2
Less derivatives	-0.7	0
Current liabilities from banking business	-13,264.4	-13,840.3
Current liabilities from cash deposits by market participants	-29,215.3	-27,777.6
	-30,814.2	-29,812.7
Cash and cash equivalents	580.2	-146.9

34. 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 39](#)) were added to the average number of shares. In order to calculate the number of potentially dilutive ordinary shares, the exercise prices were adjusted by the fair value of the services still to be provided.

In order to determine diluted earnings per share, all Stock Bonus Plan (SBP) and Long-term Sustainable Instrument (LSI) tranches for which cash settlement has not been resolved are 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 2017:

Calculation of the number of potentially dilutive ordinary shares

Tranche	Exercise price €	Adjustment of the exercise price according to IAS 33 ¹⁾ €	Average number of outstanding options 31 Dec 2017	Average price for the period ²⁾ €	Number of potentially dilutive ordinary shares 31 Dec 2017
2014 ³⁾	0	0	17,366	89.09	17,366
Total					17,366

1) According to IAS 33.47 (a), the issue price and the exercise price for stock options and other share-based payment arrangements must include the fair value of any goods or services to be supplied to the entity in the future under the stock option or other share-based payment arrangement.

2) Average price of Deutsche Börse AG shares on Xetra calculated on a daily basis for the period 1 January to 31 December 2017, calculated on a daily basis

3) 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 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 2017.

Calculation of earnings per share (basic and diluted)

	2017	2016
Number of shares outstanding as at beginning of period	186,805,015	186,723,986
Number of shares outstanding as at end of period	186,610,158	186,805,015
Weighted average number of shares outstanding	186,835,673	186,764,058
Number of potentially dilutive ordinary shares	17,366	46,157
Weighted average number of shares used to compute diluted earnings per share	186,853,039	186,810,215
Net income for the period (€m)	874.3	1,272.7
thereof from continuing operations (€m)	874.3	722.1
thereof from discontinued operations (€m)	0	550.6
Earnings per share (basic) (€)	4.68	6.81
thereof from continuing operations (€)	4.68	3.87
thereof from discontinued operations (€)	0	2.94
Earnings per share (diluted) (€)	4.68	6.81
thereof from continuing operations (€)	4.68	3.87
thereof from discontinued operations (€)	0	2.94

As at 31 December 2017, there were no subscription rights (2016: 66,909 subscription rights) which were excluded from the calculation of the weighted average of potentially dilutive shares for having a dilutive effect during the financial year ending on the reporting date.

35. Segment reporting

Segment reporting is governed by the internal organisational and reporting structure, which is broken down by markets into the following four segments:

Internal organisational and reporting structure

Segment	Business areas
Eurex	<ul style="list-style-type: none"> ▪ Electronic trading of European derivatives (Eurex Exchange), commodities (EEX group) and foreign exchange (360T) ▪ Eurex Repo over-the-counter (OTC) trading platform ▪ Electronic clearing architecture C7 ▪ Central counterparty for on- and off-exchange derivatives and repo transactions
Xetra	<ul style="list-style-type: none"> ▪ Cash market with the Xetra, Börse Frankfurt and Tradegate trading venues ▪ Central counterparty for equities and bonds ▪ Admission of securities (listing)
Clearstream	<ul style="list-style-type: none"> ▪ Custody and settlement services for securities ▪ Global securities financing and collateral management ▪ Investment funds services
Market Data + Services	<ul style="list-style-type: none"> ▪ Distribution of licences for trading and market signals ▪ Development and sales of indices (STOXX) ▪ Technology and reporting solutions for external customers ▪ Trading participant connectivity

In accordance with IFRS 8, information on the segments is presented on the basis of internal reporting (management approach).

During the year under review, Deutsche Börse Group made adjustments to the allocation of cost and revenue items to the Group's different segments. These adjustments had the following effects to the Group's segment reporting:

- Since the first quarter of 2017, revenue and costs associated with "Managed Services" (in particular, IT services for Clearstream customers) have been recognised under the international business position (International Central Securities Depository, ICSD) within the Clearstream segment (previously "Infrastructure Services" in the Market Data + Services segment).
- Since the third quarter of 2017, revenue and costs associated with the development of a common European intraday electricity market (XBID) have been recognised under the "Commodities" position within the Eurex segment (previously "Infrastructure Services" in the Market Data + Services segment).
- Effective as at the first quarter of 2017, the definitions of product groups were adjusted in the Xetra segment, including the introduction of the "partner markets" product group. All revenue and cost items were allocated accordingly.

The previous year's figures were adjusted accordingly.

Segment reporting

	Eurex		Xetra		Clearstream	
	2017 €m	(restated) 2016 €m	2017 €m	(restated) 2016 €m	2017 €m	(restated) 2016 €m
External sales revenue	1,019.5	1,052.8	197.8	186.8	1,023.7	933.1
Internal sales revenue	0	0	0	0	5.7	8.2
Total sales revenue	1,019.5	1,052.8	197.8	186.8	1,029.4	941.3
Net interest income from banking business	26.3	21.4	0	0	106.3	62.6
Other operating income	29.5	26.9	6.7	6.6	7.4	3.2
Total revenue	1,075.3	1,101.1	204.5	193.4	1,143.1	1,007.1
Volume-related costs	-73.2	-65.8	-28.0	-28.8	-256.2	-209.7
Net revenue (total revenue less volume-related costs)	1,002.1	1,035.3	176.5	164.6	886.9	797.4
Staff costs	-259.6	-227.7	-54.0	-49.5	-246.9	-234.3
Other operating expenses	-226.0	-264.8	-39.5	-47.9	-155.4	-179.3
Operating costs²⁾	-485.6	-492.5	-93.5	-97.4	-402.3	-413.6
Net income from equity investments	192.5 ³⁾	35.1	5.3	1.6	0	0.2
Earnings before interest, tax, depreciation and amortisation (EBITDA)	709.0	577.9	88.3	68.8	484.6	384.0
Depreciation, amortisation and impairment losses	-83.4	-73.9	-7.8	-5.6	-54.5	-40.6
Earnings before interest and tax (EBIT)	625.6	504.0	80.5	63.2	430.1	343.4
Financial result	-55.6	-55.7	-1.5	-0.6	-8.9	-5.1
Earnings before tax (EBT)	570.0	448.3	79.0	62.6	421.2	338.3
Investments in intangible assets and property, plant and equipment ⁴⁾	46.2	55.3	6.8	13.6	71.3	63.6
Employees (as at 31 December)	2,011	1,851	415	323	2,599	2,443
EBIT margin (%)⁵⁾	62	49	46	38	48	43

1) The consolidation of internal net revenue column shows the elimination of intra-Group sales revenue and profits.

2) Since the second quarter of 2017, operating costs have comprised staff costs as well as other operating expenses; depreciation, amortisation and impairment losses are disclosed separately. The previous year's figures were adjusted accordingly.

3) Including revenue in connection with the partial disposal of Direct Edge Holdings, LLC amounting to €117.0 million and revenue in connection with the disposal of ICE US Holding Company L.P. amounting to €73.6 million

4) Excluding goodwill

5) The EBIT margin is calculated as EBIT divided by net revenue.

Market Data + Services		Total of all segments		Consolidation of internal net revenue ¹⁾		Group	
2017 €m	(restated) 2016 €m	2017 €m	2016 €m	2017 €m	2016 €m	2017 €m	2016 €m
397.5	384.6	2,638.5	2,557.3	0	0	2,638.5	2,557.3
37.5	40.1	43.2	48.3	-43.2	-48.3	0	0
435.0	424.7	2,681.7	2,605.6	-43.2	-48.3	2,638.5	2,557.3
0	0	132.6	84.0	0	0	132.6	84.0
1.4	9.0	45.0	45.7	-13.6	-13.1	31.4	32.6
436.4	433.7	2,859.3	2,735.3	-56.8	-61.4	2,802.5	2,673.9
-39.6	-42.3	-397.0	-346.6	56.8	61.4	-340.2	-285.2
396.8	391.4	2,462.3	2,388.7	0	0	2,462.3	2,388.7
-77.8	-74.2	-638.3	-585.7	0	0	-638.3	-585.7
-72.4	-108.7	-493.3	-600.7	0	0	-493.3	-600.7
-150.2	-182.9	-1,131.6	-1,186.4	0	0	-1,131.6	-1,186.4
0	0	197.8	36.9	0	0	197.8	36.9
246.6	208.5	1,528.5	1,239.2	0	0	1,528.5	1,239.2
-14.2	-10.9	-159.9	-131.0	0	0	-159.9	-131.0
232.4	197.6	1,368.6	1,108.2	0	0	1,368.6	1,108.2
-13.7	-13.2	-79.7	-74.6	0	0	-79.7	-74.6
218.7	184.4	1,288.9	1,033.6	0	0	1,288.9	1,033.6
24.9	20.1	149.2	152.6	0	0	149.2	152.6
615	559	5,640	5,176	0	0	5,640	5,176
59	50	56	46	n.a.	n.a.	56	46

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 Eurex to Market Data + Services).

Due to their insignificance to segment reporting, the “financial income” and “financial expense” items have been combined to produce the “financial result”.

In the year under review there was an extraordinary impairment loss of €1.1 million (2016: €6.7 million, see [note 8](#)).

Non-cash valuation allowances and bad debt losses resulted from the following segments:

Breakdown of non-cash valuation allowances and bad debt losses

	2017 €m	2016 €m
Eurex	0.4	0.2
Xetra	0.5	0.4
Clearstream	0.4	0.1
Market Data + Services	-0.1	0.3
Total	1.2	1.0

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 identified the following information on geographical regions: the euro zone, 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⁾		Number of employees	
	2017 €m	2016 €m	2017 €m	2016 €m	2017 €m	2016 €m	2017	2016
Euro zone	1,347.4	1,328.1	144.6	145.7	3,742.7	3,617.4	4,224	3,843
Rest of Europe	1,019.5	992.3	3.6	6.4	485.1	488.4	1,063	1,035
America	169.4	144.9	0.1	0.5	10.6	11.9	157	99
Asia-Pacific	145.4	140.3	0.9	0	4.7	3.9	196	199
Total of all regions	2,681.7	2,605.6	149.2	152.6	4,243.1	4,121.6	5,640	5,176
Consolidation of internal net revenue	-43.2	-48.3						
Group	2,638.5	2,557.3	149.2	152.6	4,243.1	4,121.6	5,640	5,176

1) Including countries in which more than 10 per cent of sales revenue was generated: UK (2017: €792.8 million; 2016: €759.0 million) and Germany (2017: €636.7 million; 2016: €640.9 million).

2) Excluding goodwill

3) Including countries in which more than 10 per cent of non-current assets are held: Germany (2017: €3,550.2 million; 2016: €3,327.7 million) and Switzerland (2017: €467.7 million; 2016: €471.1 million).

36. Financial risk management

Deutsche Börse Group presents the qualitative disclosures required by IFRS 7 in detail in the combined management report (see explanations in the [risk report](#)). These include the nature and extent of risks arising from financial instruments, as well as the objectives, strategies and methods used to manage risk.

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 for financial risk is calculated at the end of each month and amounted to €554.0 million as at 31 December 2017, whereby €467.0 million stem from credit risk and €87.0 million stem 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

Deutsche Börse Group is exposed to credit risk arising from the following items:

Credit risk of financial instruments (part 1)

	Segment	Note	Carrying amounts – maximum risk exposure		Collateral	
			Amount as at 31 Dec 2017 €m	Amount as at 31 Dec 2016 €m	Amount as at 31 Dec 2017 €m	Amount as at 31 Dec 2016 €m
Collateralised cash investments						
Reverse repurchase agreements	Eurex ¹⁾		11.7	289.5	11.8 ²⁾	291.4
	Clearstream	16	4,843.5	4,050.4	4,870.2 ^{3/4)}	4,079.8 ^{3/4)}
	Group ¹⁾		610.0	660.0	611.3	662.5
			5,465.2	4,999.9	5,493.3	5,033.7
Uncollateralised cash investments						
Money market lendings – central banks	Eurex ¹⁾		27,111.1	24,910.6	0	0
	Clearstream	16	5,471.6	0	0	0
Money market lendings – other counterparties	Clearstream	16	388.3	7,320.0	0	0
Balances on nostro accounts and other bank deposits	Clearstream		1,291.2	1,128.0	0	0
	Group ¹⁾		2,952.8	3,375.6	0	0
Other fixed-income securities	Clearstream	13, 16	317.0	302.3	0	0
	Eurex	13	1.2	0	0	0
Floating-rate notes	Eurex	13	9.5	9.6	0	0
	Clearstream	13, 16	1,500.5	1,894.8	0	0
	Group	13	5.0 ⁵⁾	5.0 ⁵⁾	0	0
Fund assets	Group	13	15.1	11.4	0	0
			39,063.3	38,957.3	0	0
Loans for settling securities transactions						
Technical overdraft facilities	Clearstream	16	754.7	293.8	n.a. ⁶⁾	n.a. ⁶⁾
Automated Securities Fails Financing ⁷⁾	Clearstream		597.9 ⁸⁾	1,403.2 ⁸⁾	658.9	1,858.3
ASLplus securities lending ⁷⁾	Clearstream		52,121.9	44,777.8	52,603.0	47,068.1
			53,474.5	46,474.8	53,261.9	48,926.4
Total			98,003.0	90,432.0	58,755.2	53,960.1

Credit risk of financial instruments (part 2)

	Segment	Note	Carrying amounts – maximum risk exposure		Collateral	
			Amount as at 31 Dec 2017 €m	Amount as at 31 Dec 2016 €m	Amount as at 31 Dec 2017 €m	Amount as at 31 Dec 2016 €m
Balance brought forward			98,003.0	90,432.0	58,755.2	53,960.1
Other receivables						
Other loans	Group		0.4	0.4	0	0
Other assets	Group	32	514.9	450.2	0	0
Trade receivables	Group	32	329.4	669.8	0	0
Receivables from related parties	Group		2.5	2.0	0	0
Interest receivables	Clearstream	16	16.7	15.3	0	0
Margin requirements	Clearstream	16	14.8	0.4	0	0
			878.7	1,138.1	0	0
Financial instruments held by central counterparties			45,087.3³⁾	44,228.2⁹⁾	54,982.8¹⁰⁾	57,172.8¹⁰⁾
Derivatives		14	5.3	65.8	0	0
Total			143,974.3	135,864.1	113,738.0	111,132.9

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

2) Thereof none repledged to central banks (2016: nil)

3) Thereof none transferred via transfer of title to central banks (2016: nil)

4) Total of fair value of cash (2017: nil; 2016: €41.0 million) and securities collateral (2017: €4,870.2 million; 2016: €4,038.8 million) received under reverse repurchase agreements

5) The amount includes collateral totalling €5.0 million (2016: €5.0 million).

6) 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.

7) Off-balance-sheet items

8) Meets the IAS 39 criteria for a financial guarantee contract

9) Net value of all margin requirements resulting from executed trades at the reporting date as well as clearing fund requirements: this figure represents the risk-oriented view of Eurex Clearing AG and European Commodity Clearing AG, while 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.

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

Cash investments

Deutsche Börse Group is exposed to credit risk in connection with the investment of cash funds. The Group mitigates such risks by investing short-term funds either – to the extent possible – on a collateralised basis, e.g. via reverse repurchase agreements, or by depositing them with central banks.

According to the treasury policy, mainly 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 are eligible as collateral.

Uncollateralised cash investments are permitted only for counterparties with sound creditworthiness 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 (Clearstream subgroup, Eurex Clearing AG and Deutsche Börse AG) was €5,493.3 million (2016: €4,992.7 million). The Clearstream subgroup and Eurex Clearing AG are entitled to repledge the securities received to their central banks to regain liquidity.

As at 31 December 2017, Deutsche Börse Group has not pledged any securities to central banks (2016: nil).

A portion of the available-for-sale fixed-income financial instruments and floating-rate notes held by Clearstream is transferred via transfer of title to central banks to collateralise the settlement facilities obtained. The fair value of transferred securities was €1,195.9 million as at 31 December 2017 (2016: €1,818.5 million).

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 from its clearing members mainly in its clearing currencies euro and Swiss francs. In both cases, negative interest rates resulting from reinvestments are passed on to the respective Clearstream customers or Eurex Clearing clearing members after applying an additional margin.

Loans for settling securities transactions

Clearstream grants customers technical overdraft facilities to maximise settlement efficiency. These settlement facilities are subject to internal credit review procedures. They are revocable at the option of the Clearstream subgroup and are largely collateralised. Technical overdraft facilities amounted to €106.6 billion as at 31 December 2017 (2016: €123.8 billion). Of this amount, €3.6 billion (2016: €3.3 billion) is unsecured, whereby a large proportion relates to credit lines granted to central banks and other government-backed institutions. Actual outstandings at the end of each business day generally represent a small fraction of the facilities and amounted to €754.7 million as at 31 December 2017 (2016: €293.8 million); see [note 16](#).

Clearstream also guarantees the risk resulting from the Automated Securities Fails Financing programme it offers to its customers. This risk is collateralised. Guarantees given under this programme amounted to €597.9 million as at 31 December 2017 (2016: €1,403.2 million). Collateral received by Clearstream Banking S.A. in connection with these loans amounted to €658.9 million (2016: €1,858.3 million).

Under the ASLplus securities lending programme, Clearstream Banking S.A. had securities borrowings from various counterparties totalling €52,121.9 million as at 31 December 2017 (2016: €44,777.8 million). These securities were fully lent to other counterparties. Collateral received by Clearstream Banking S.A. in connection with these loans amounted to €52,603.0 million (2016: €47,068.1 million).

In 2016 and 2017, 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](#).

The aggregate margin calls based on the executed transactions and clearing fund requirements after haircuts was €45,087.3 million at the reporting date (2016: €44,228.2 million). Collateral totalling €54,982.8 million (2016: €57,172.8 million) was actually deposited.

Composition of collateral held by central counterparties

	Collateral value as at 31 Dec 2017 €m	Collateral value as at 31 Dec 2016 €m
Cash collateral (cash deposits) ¹⁾²⁾	28,751.5	27,772.0
Securities and book-entry securities collateral ³⁾⁴⁾	26,231.3	29,400.8
Total	54,982.8	57,172.8

1) The amount includes the clearing fund totalling €2,990.0 million (2016: €2,529.3 million).

2) The collateral value is determined on the basis of the fair value less a haircut amounting to €438.5 million (2016: €573.3 million).

3) The amount includes the clearing fund totalling €1,466.7 million (2016: €1,714.8 million).

4) The collateral value is determined on the basis of the fair value less a haircut amounting to €3,192.2 million (2016: €2,406.8 million).

Other 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. As a result of default by customers, receivables of €2.4 million (2016: €2.1 million) relating to fees for trading and the provision of data and IT services are not expected to be collectible.

In contrast to the risk-oriented net analysis of the transactions conducted via the central counterparties, the gross amounts are reported in the balance sheet, as the offsetting rules defined in IAS 32 cannot be met. For a detailed explanation of this balance sheet item, see the ["Financial instruments held by central counterparties"](#) section in [note 3](#) or [note 15](#). For an analysis of the carrying amount, see [note 15](#).

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 on individual counterparties are limited by application of counterparty credit limits.

Compliance with regulatory requirements on concentration risks and so-called large exposures, such as those arising from 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 article D, chapter II of the Basel Committee on Banking Supervision's "Supervisory framework for measuring and controlling large exposures" is ensured. See also [note 20](#) for an explanation of regulatory capital requirements.

The required economic capital (value at risk (VaR) with a 99.98 per cent confidence level) for credit risk is calculated for each business day and amounted to €467.0 million as at 31 December 2017 (2016: €407.0 million).

Deutsche Börse Group also applies additional methods in order to detect credit concentration risks. In 2017, no significant credit concentrations were assessed.

Market risk

In Deutsche Börse Group, market risk arises to a limited extent from changes in interest rates, foreign exchange rates and other market prices.

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

Deutsche Börse Group did not issue any bonds in 2017. For an overview on details on all bonds issued by Deutsche Börse Group see the ["Net assets" section in the combined management report](#).

Currency mismatches are avoided to the maximum extent possible. Additionally, as part of annual planning, Deutsche Börse Group's treasury policy requires any net earnings exposure from an individual currency to be hedged using forward foreign-exchange transactions if the unhedged exposure of such currency exceeds 10 per cent of consolidated EBIT. Foreign-exchange exposures below 10 per cent of consolidated EBIT may also be hedged.

On an intraperiod basis, the risk exposure described above is monitored against the latest EBIT forecast.

In addition, 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 2017, there were no significant net foreign-exchange positions.

Currency risks in the Group arise mainly from operating income and expenses denominated in US dollars and from that portion of Clearstream's sales revenue and net interest income from banking business (less expenses) that is directly or indirectly generated in US dollars. The Clearstream segment generated 17 per cent of its sales revenue and net interest income (2016: 10 per cent) directly or indirectly in US dollars.

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

The required economic capital for market risk is calculated on a monthly basis. As at 31 December 2017, the required economic capital for market risk was €87.0 million (2016: €67.0 million).

In financial year 2017, impairment losses amounting to €1.1 million (2016: €7.1 million) were recognised in profit or loss for strategic investments that are not included in the VaR for market risk.

Liquidity risk

For the Group, liquidity risk may arise from potential difficulties in renewing maturing financing, such as commercial paper 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 remains almost perfectly matched with respect to the durations of customer cash margins received and investments, only a limited amount of which may have tenors of up to one month. The Clearstream subgroup may invest customer balances up to a maximum of one year in secured money market products, or in high-quality securities with a remaining maturity of less than ten years, with an exception for UK gilts accepting a maximum remaining life to maturity of 30 years, subject to strict monitoring of mismatch and interest rate limits (see [note 31](#) for an overview of the maturity structure). 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.

Contractually agreed credit lines

Company	Purpose of credit line	Currency	Amount as at 31 Dec 2017 m	Amount as at 31 Dec 2016 m
Deutsche Börse AG	working capital ¹⁾	€	605.0	605.0
Eurex Clearing AG	settlement	€	1,170.0	1,170.0
	settlement	CHF	200.0	200.0
Clearstream Banking S.A.	working capital ¹⁾	€	750.0	750.0

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.

For refinancing purposes, Eurex Clearing AG and the Clearstream subgroup 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 2017 (2016: 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 (2016: US\$2.5 billion). Furthermore, Eurex Clearing AG holds a credit facility of US\$1.6 billion (2016: US\$1.7 billion) granted by Euroclear Bank S.A./N.V. in order to maximise settlement efficiency.

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. As at year-end, there was no commercial paper outstanding (2016: 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 at 31 December 2017, commercial paper with a nominal value of €274.7 million had been issued (2016: €349.5 million).

In November 2017, Standard & Poor's confirmed Deutsche Börse AG's AA credit rating with a stable outlook. Deutsche Börse AG was one of only three DAX-listed companies that had been given an AA rating by Standard & Poor's. Deutsche Börse AG's commercial paper programme was awarded the best possible 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 2017. For further details on the rating of Deutsche Börse Group, see the ["Financial position" section in the combined management report](#).

37. Financial liabilities and other risks

For the coming financial years, the Group's expenses in connection with long-term contracts relating to maintenance contracts and other contracts (without rental and lease agreements, see [note 38](#)) are presented in the following:

Breakdown of future financial obligations

	31 Dec 2017 €m	31 Dec 2016 €m
Up to 1 year	41.7	47.0
1 to 5 years	27.2	39.2
More than 5 years	6.9	9.1
Total	75.8	95.3

Other litigation and liability risks

Contingent liabilities may result from present obligations and from possible obligations arising from events in the past. 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 3](#)). 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 (as far as have already

taken place) as well as expert opinions and evaluations of legal advisors. However, it is also possible that no reliable estimate for any specific litigation could be determined before the approval of the consolidated financial statements, and that – as a result – no provisions are recognised.

Peterson vs Clearstream Banking S.A., Citibank NA et al. (“Peterson I”) and Heiser vs Clearstream Banking S.A.

In its [2012 corporate report](#), Deutsche Börse Group informed about Peterson vs Clearstream Banking S.A., the first Peterson proceeding, initiated by various plaintiffs seeking 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. That 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 then by the US Supreme Court on 20 April 2016. Once the process of distribution of funds to the plaintiffs is complete, a related case, Heiser vs Clearstream Banking S.A., also seeking turnover of the same assets, should be dismissed.

Peterson vs Clearstream Banking S.A. (“Peterson II”)

On 30 December 2013, a number of US plaintiffs from the first Peterson case, as well as other plaintiffs, filed a complaint 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 trial court. Regarding another aspect, the appellate court referred the case back to the court of first instance, which shall assess whether the assets held in Luxembourg are subject to execution in the US. Clearstream Banking S.A. filed a petition for rehearing the case with the appellate court in December 2017, which the appellate court has rejected, and is now considering a petition to the US Supreme Court.

Havlish vs Clearstream Banking S.A. (“Havlish”)

On 14 October 2016, a number of US plaintiffs filed a complaint 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.

Criminal investigations against Clearstream Banking S.A.

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.

Bank Markazi vs Clearstream Banking S.A.

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 to the same amount. The assets sought include assets to the amount 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 claim also addresses customer assets of approximately US\$2 billion, which include assets that are held at Clearstream Banking S.A. and which are currently subject to US and Luxembourg litigation brought by US plaintiffs, and addresses assets that were previously transferred out of Clearstream Banking S.A. to Banca UBAE S.P.A.

MBB Clean Energy AG

Disputes have arisen regarding a bond issued by MBB Clean Energy AG (MBB), which is held in custody by Clearstream Banking AG. MBB issued a first tranche of the bond in April 2013 and a second tranche of the bond in December 2013. The global certificates for the two tranches of the bond were delivered into Clearstream Banking AG by the paying agent of the issuer. The 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.

Proceedings by the Public Prosecutor's Office in Cologne

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 dividend date (cum/ex transactions). On 22 January 2018, the public 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). Due to the early stage of the investigations, it is not possible to predict timing, scope or consequences of a potential decision. The companies are cooperating with the competent authorities.

Proceedings by the Public Prosecutor's Office in Frankfurt/Main

On 1 February 2017, Deutsche Börse AG announced that the Public Prosecutor's Office in Frankfurt/Main was investigating Deutsche Börse AG in respect of a share purchase by its former Chief Executive Officer Carsten Kengeter which was carried out on 14 December 2015, in implementation of the Executive Board's remuneration programme as approved by the Supervisory Board of Deutsche Börse AG. On 18 July 2017, the Public Prosecutor's Office in Frankfurt/Main issued a notification of hearing to Deutsche Börse AG. According to this notification of hearing, the Public Prosecutor's Office intends to formally involve the company in the ongoing investigation proceedings against Carsten Kengeter. In the notification of hearing, the Public Prosecutor, with regard to the company, held out the prospect that two fines totalling €10.5 million could be imposed on Deutsche Börse AG in accordance with section 30 of the Gesetz über Ordnungswidrigkeiten (OWiG, German Act on Regulatory Offences) due to an alleged violation of the insider trading prohibition in December 2015 and an alleged failure to disclose an ad-hoc announcement in January 2016. On 13 September 2017, Deutsche Börse AG's Executive Board and Supervisory Board decided to accept the fine which would potentially be imposed by the competent local court (Amtsgericht). On 23 October 2017, however, the local court of Frankfurt am Main refused to approve the closure of the investigation proceedings against the former Chief Executive Officer of Deutsche Börse AG, Carsten Kengeter, subject to conditions in the form of payment of €500,000, as applied for by the Public Prosecutor. In light of the significance of the proceedings the court considers it appropriate to continue the investigation proceedings at this time. The further

investigations could lead from a closure of the proceedings due to lack of adequate suspicion to an indictment. The court has returned the matter, both as relates to the investigation proceedings against Carsten Kengeter as well as to potential actions against Deutsche Börse AG, to the Public Prosecutor which will now decide upon further procedural steps.

On 26 October 2017, Carsten Kengeter informed the Supervisory Board of Deutsche Börse AG that he would like to step down as the company's Chief Executive Officer with effect from 31 December 2017. The Supervisory Board accepted this request.

Following expert consultation, Deutsche Börse AG continues to believe the allegations made are unfounded in all respects.

In addition to the matters described above and in prior disclosures, Deutsche Börse Group is from time to time involved in various legal proceedings that arise in the ordinary course of its business. The Group recognises provisions for litigation and regulatory matters when it has a present obligation arising from a past event, an outflow of resources with economic benefit to settle the obligation is probable, and it is able to reliably estimate the amount. In such cases, there may be an exposure to loss in excess of the amounts recognised as provisions. When the conditions are not met, the Group does not recognise a provision. As a litigation or regulatory matter develops, Deutsche Börse Group evaluates on an ongoing basis whether the requirements to recognise a provision are met. The Group may not be able to predict what the eventual loss or range of loss related to such matters will be. The Group does not believe, based on currently available information, that the results of any of these various proceedings will have a material adverse effect on its financial data as a whole.

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 depending on the probability of occurrence. In a second step, these risks are measured on the basis of their expected value. A tax provision 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 provisions are met.

38. Leases

Finance leases

There were no minimum lease payments from finance leases for Deutsche Börse Group neither as at 31 December 2017 nor as at 31 December 2016.

Operating leases (as lessee)

Deutsche Börse Group has entered into leases to be classified as operating leases due to their economic substance, meaning that the leased asset is allocated to the lessor. These leases relate mainly to buildings, IT hardware and software.

Minimum lease payments from operating leases¹⁾

	31 Dec 2017 €m	31 Dec 2016 €m
Up to 1 year	63.4	59.8
1 to 5 years	177.2	176.7
More than 5 years	84.0	116.7
Total	324.6	353.2

1) The expected payments in US dollars were translated into euros applying the closing rate of 31 December.

In the reporting period, minimum lease payments amounting to €68.8 million (2016: €58.5 million) were recognised as expenses. For subleases or contingent rentals, no expenses were incurred in the reporting period (2016: nil).

Operating leases for buildings, some of which are subleased, have a maximum remaining term of six years. The lease contracts usually terminate automatically when the lease expires. The Group has options to extend some leases.

Expected rental income from subleases¹⁾

	31 Dec 2017 €m	31 Dec 2016 €m
Up to 1 year	0.7	0.6
1 to 5 years	2.3	0
Total	3.0	0.6

1) The expected payments in US dollars were translated into euros applying the closing rate of 31 December.

39. Share-based payment

Stock Bonus Plan (SBP)

In the reporting period, the company established an additional tranche of the SBP. In order to participate in the SBP, a beneficiary must have earned a bonus. The number of stock options for senior executives 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 two or three years after the grant date (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.

For the stock bonus of senior executives under the 2014 tranche, Deutsche Börse AG has an option to settle a beneficiary's claim in cash or shares. The company resolved a cash settlement for claims relating to the 2014 tranche due in March 2018. Cash settlement has been agreed upon with the introduction of the 2015 tranche.

The SBP for members of the Executive Board of Deutsche Börse AG was terminated prematurely on 31 December 2015. Settlement of the stock bonus from the 2013 to 2015 tranches took place in the first half of 2016; payments made from the 2014 and 2015 tranches were subject to a restriction on disposal until 31 December 2016 and 31 December 2017, respectively. According to the remuneration scheme launched in 2016, members of the Executive Board are obliged to invest the payments made in Deutsche Börse AG shares, where not restricted by legal provisions.

For further information on the number of stock options granted to members of the Executive Board, and the remuneration system for members of the Executive Board applicable since 1 January 2016, please also refer to the [remuneration report](#).

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 2017	Tranche 2016	Tranche 2015	Tranche 2014
Term to		28 Feb 2021	28 Feb 2020	31 Mar 2019	31 Mar 2018
Risk-free interest rate	%	-0.34	-0.5	-0.64	-0.78
Volatility of Deutsche Börse AG shares	%	23.18	22.63	17.82	17.73
Dividend yield	%	1.82	1.62	1.21	0
Exercise price	€	0	0	0	0

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

Valuation of SBP shares

Tranche	Balance as at 31 Dec 2017 Number	Deutsche Börse AG share price as at 31 Dec 2017 €	Intrinsic value/ option as at 31 Dec 2017 €	Fair value/ option as at 31 Dec 2017 €	Settlement obligation €m	Current provision as at 31 Dec 2017 €m	Non-current provision as at 31 Dec 2017 €m
2014	17,974	96.80	96.80	76.98–95.86	1.6	1.6	0
2015	15,445	96.80	96.80	67.30	1.0	0	1.0
2016	19,532	96.80	96.80	44.87	0.9	0	0.9
2017	16,347 ¹⁾	96.80	96.80	21.94	0.4	0	0.4
Total	69,298				3.9	1.6	2.3

1) Given that the 2017 tranche stock options for senior executives will not be granted until 2018, the number of shares applicable as at the reporting date may be adjusted subsequently.

Average price of the exercised and forfeited stock options

Tranche	Average price of the exercised stock options €	Average price of the forfeited stock options €
2013	83.18	74.65
2014	88.43	65.58
2015	89.85	44.10
2016	93.71	34.47

The stock options from the 2013 SBP tranche were exercised in the reporting period following expiration of the waiting period. Shares of the SBP tranches 2014, 2015 and 2016 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 €3.9 million were recognised at the reporting date of 31 December 2017 (31 December 2016: €7.3 million). The total expense for the stock options in the reporting period was €2.9 million (2016: €2.3 million).

Change in number of SBP shares allocated

	Balance as at 31 Dec 2016	Additions/ (disposals) Tranche 2014	Additions/ (disposals) Tranche 2015	Additions/ (disposals) Tranche 2016	Additions Tranche 2017	Fully settled cash options	Options forfeited	Balance as at 31 Dec 2017
To senior executives	132,186 ¹⁾	0	0	-5,629	16,347	72,038	1,568	69,298

1) Given that the 2017 SBP tranche stock options for senior executives will not be granted until 2018, the number of shares applicable as at the reporting date may be adjusted subsequently.

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.

The LSI remuneration model requires at least half of a part of the variable remuneration to be settled in cash and half in shares of Deutsche Börse AG (LSI shares). 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).

The number of LSI and RSU shares 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. This results in individual LSI tranches for the LSI bonus, which have maturities of between one and up to five years. The RSU bonus is used as a basis for a further four-year tranche. Payment of each tranche is made after a waiting period of one year. The remuneration system does not stipulate any condition of service. Following the expiry of the waiting period, both the LSI and the RSU shares 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. Settlement is generally made in cash, although the employer has the right to settle by delivering Deutsche Börse AG shares for the 2014 tranche.

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 2017	Tranche 2016	Tranche 2015	Tranche 2014
Term		31 Dec 2018– 31 Dec 2022	31 Dec 2017– 31 Dec 2021	31 Dec 2016– 31 Dec 2020	31 Dec 2017– 31 Dec 2019
Risk-free interest rate	%	–0.72 to –0.18	–0.78 to –0.34	–0.78 to –0.50	–0.78 to –0.64
Volatility of Deutsche Börse AG shares	%	17.44 to 23.40	0 to 23.4	0 to 23.4	0 to 21.73
Dividend yield	%	2.43	0 to 2.43	0 to 2.43	0 to 2.43
Exercise price	€	0	0	0	0

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

Valuation of LSI and RSU shares

Tranche	Balance as at	Deutsche Börse AG share price as at	Intrinsic value/ option as at	Fair value/ option as at	Settlement obligation	Current provision as at	Non-current provision as at
	31 Dec 2017 Number	31 Dec 2017 €	31 Dec 2017 €	31 Dec 2017 €		31 Dec 2017 €m	31 Dec 2017 €m
2014	15,379 ¹⁾	96.80	96.80	92.26–97.36	1.5	0.7	0.8
2015	25,160 ¹⁾	96.80	96.80	90.07–97.36	2.4	0.9	1.5
2016	100,338 ¹⁾	96.80	96.80	87.93–97.36	9.4	2.7	6.7
2017	83,775 ¹⁾	96.80	96.80	85.85–94.50	7.4	0	7.4
Total	224,652				20.7	4.3	16.4

1) Given that some of the 2014 to 2017 tranche stock options will only be granted in future financial years, the number of shares applicable as at the reporting date may be adjusted subsequently.

The carrying amount of the provisions for the LSI and the RSU results from the measurement of the number of LSI and RSU stock options at the fair value of the closing auction price of Deutsche Börse shares in electronic trading at the Frankfurt Stock Exchange as at the reporting date.

Provisions amounting to €20.7 million were recognised as at 31 December 2017 (31 December 2016: €13.1 million). The total expense for LSI stock options in the reporting period amounted to €9.7 million (31 December 2016: €7.6 million).

Change in number of LSI and RSU shares allocated

	Balance as at 31 Dec 2016	Additions/ (disposals) Tranche 2014	Additions/ (disposals) Tranche 2015	Additions/ (disposals) Tranche 2016	Additions/ (disposals) Tranche 2017	Fully settled cash options	Options forfeited	Balance as at 31 Dec 2017
To senior executives	182,978	-9,519 ¹⁾	-23,949 ¹⁾	-8,633 ¹⁾	83,775 ¹⁾	0	0	224,652
Total	182,978	-9,519	-23,949	-8,633	83,775	0	0	224,652

1) Given that some of the 2014 to 2017 tranche stock options will only be granted in future financial years, the number of shares applicable as at the reporting date may be adjusted subsequently.

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

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 holding period until 31 December 2019. The subsequent payment of the stock bonus will be settled in cash, by 31 March 2021.

On 1 January 2016, the Group launched its new share-based remuneration programme, the Performance Share Plan (PSP), for the Executive Board of Deutsche Börse AG as well as selected executives and employees of Deutsche Börse AG and participating subsidiaries. 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 is 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 vests only at the end of a five-year performance period.

The final number of performance shares is calculated by multiplying the original number of performance shares with the level of overall target achievement. The PSP level of overall target achievement is 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; and secondly, on the increase of Deutsche Börse AG's net profit for the period attributable to shareholders of Deutsche Börse AG. 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.

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 2017	Tranche 2016	Tranche 2015
Term to		31 Dec 2021	31 Dec 2020	31 Dec 2019
Risk-free interest rate	%	-0.34	-0.50	-0.64
Volatility of Deutsche Börse AG shares	%	22.25	23.40	21.73
Dividend yield	%	0	0	0
Exercise price	€	0	0	0
Relative total shareholder return	%	102.00	132.00	112.00
Net profit for the period attributable to Deutsche Börse AG shareholders	%	220.00	80.00	250.00

The valuation model does not take into account exercise hurdles. 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 2017 Number	Deutsche Börse AG share price as at 31 Dec 2017 €	Intrinsic value/ option as at 31 Dec 2017 €	Fair value/ option as at 31 Dec 2017 €	Settlement obligation €m	Current provision as at 31 Dec 2017 €m	Non-current provision as at 31 Dec 2017 €m
2015	124,957	96.80	96.80	60.02	7.5	0	7.5
2016	90,007	96.80	96.80	40.60	3.7	0	4.6
2017	147,713	96.80	96.80	13.83 to 19.84	2.9	0	5.4
Total	362,677				14.1	0	17.5

Provisions for the CPIP and the PSP amounting to €17.5 million were recognised at the reporting date of 31 December 2017 (31 December 2016: €5.1 million). Of the provisions, €14.8 million were attributable to members of the Executive Board (2016: €4.6 million). The total expense for CPIP and PSP stock options in the reporting period was €12.3 million (2016: €4.1 million). Of that amount, an expense of €10.2 million was attributable to members of the Executive Board active at the reporting date (2016: €3.6 million).

Change in number of CPIP and PSP shares allocated

	Balance as at 31 Dec 2016	Additions/ (disposals) Tranche 2015	Additions/ (disposals) Tranche 2016	Additions/ (disposals) Tranche 2017	Fully settled cash options	Options forfeited	Balance as at 31 Dec 2017
To the Executive Board	134,529	-9,572	56,392	88,021	0	0	269,370
To other senior executives	84,177	0	-50,562	59,692	0	0	93,307
Total	218,706	-9,572	5,830	147,713	0	0	362,677

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 subscribe for shares of Deutsche Börse AG at a discount of 30 or 40 per cent to the issue price under the Group Share Plan (GSP). This discount is based on the employee's length of service. Under the 2017 GSP tranche, eligible employees were able to buy up to 100 shares of the company. The purchased shares must be held for at least two years.

In the reporting period, an expense totalling €3.6 million (2016: €2.6 million) was recognised in staff expense for the GSP.

40. Executive bodies

The members of the company's executive bodies are listed in the ["The Executive Board"](#) and ["The Supervisory Board"](#) chapters of this financial report.

41. Corporate governance

On 12 December 2017, the Executive and Supervisory Boards issued the latest version of the declaration of conformity 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 [combined corporate governance statement and corporate governance report](#)).

42. Related party disclosures

Related parties as defined by IAS 24 are members of the executive bodies of Deutsche Börse AG 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 2017, the fixed and variable remuneration of the members of the Executive Board, including non-cash benefits, amounted to a total of €15.3 million (2016: €20.4 million).

During the 2017 financial year, expenses of €3.7 million (2016: €2.7 million) were recognised in connection with the Co-Performance Investment Plan (CPIP). In addition, expenses of €6.5 million were recognised in connection with the Performance Share Plan (PSP) during the year under review.

The actuarial present value of the pension obligations to Executive Board members was €21.2 million as at 31 December 2017 (2016: €21.5 million). Expenses of €1.8 million (2016: €2.8 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 €4.3 million in 2017 (2016: €4.5 million). The actuarial present value of the pension obligations was €69.9 million at 31 December 2017 (2016: €74.2 million).

Supervisory Board

The aggregate remuneration paid to members of the Supervisory Board in financial year 2017 was €1.8 million (2016: €1.8 million).

In financial year 2017, the employee representatives on Deutsche Börse AG's Supervisory Board received salaries (excluding Supervisory Board remuneration) amounting to €0.5 million (2016: €0.5 million). The total consists of the respective total gross amounts for those employee representatives who drew salaries from Deutsche Börse AG in the year under review.

Business relationships with related parties and key management personnel

Business relationships with related parties

The following table shows transactions entered into within the scope of business relationships with non-consolidated companies of Deutsche Börse AG during the 2017 financial year. All transactions were concluded at prevailing market terms.

Transactions with related entities

	Amount of the transactions: revenue		Amount of the transactions: expenses		Outstanding balances: receivables		Outstanding balances: liabilities	
	2017 €m	2016 €m	2017 €m	2016 €m	31 Dec 2017 €m	31 Dec 2016 €m	31 Dec 2017 €m	31 Dec 2016 €m
Associates	12.6	13.0	-18.5	-12.3	2.9	2.5	-1.5	-3.6
Other shareholdings	0	0.5	0	-1.0	0	0	0	0
Total of business transactions	12.6	13.5	-18.5	-13.3	2.9	2.5	-1.5	-3.6

Monetary 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.

European Commodity Clearing Luxembourg S.à r.l., 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. ECC Luxembourg paid €14.0 thousand for these management services during the 2017 financial year.

Moreover, a member of the Supervisory Board of STOXX Ltd., Zurich, Switzerland, also holds a key management position within the law firm Lenz & Staehelin, Geneva, Switzerland. Deutsche Börse Group reported expenses to this law firm of €394.8 thousand in the 2017 financial year. As at 31 December 2017, liabilities amounted to €20.7 thousand.

The Board of Directors of Powernext SAS, Paris, France, a subsidiary of European Energy Exchange AG, Leipzig, Germany, comprises representatives of other shareholders of Powernext SAS. These shareholder representatives also hold key positions in the following companies which were Powernext SAS's shareholder companies until its full acquisition by European Energy Exchange AG: GRTgaz, Bois-Colombes, France (parent company of 3GRT, Tarascon, France), and EDEV S.A., Courbevoie, France. During the 2017 financial year, Powernext SAS rendered development and maintenance services for customised software solutions in the area of market coupling and balancing, as well as in connection with an electronic trading platform for 3GRT. The company generated €612.5 thousand in revenue with these services during the 2017 financial year. As at 31 December 2017, receivables amounted to €151.5 thousand.

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 have been business transactions with Clearstream Banking S.A., Luxembourg, Clearstream Services S.A., Luxembourg, Clearstream International S.A., Luxembourg, and Clearstream Banking AG, Frankfurt/Main, Germany, to LuxCSD S.A. Overall, revenue of €2,127.2 thousand as well as expenses of €1,283.3 thousand were recognised for such contracts during the 2017 financial 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 2017 financial year, Deutsche Börse Group realised revenue of €3,627.7 thousand and incurred expenses of €15,843.1 thousand based on the business relationship with Deutsche Börse Commodities GmbH.

Two Executive Board members of Deutsche Börse AG are members of the Supervisory Board of China Europe International AG, Frankfurt/Main, Germany, (CEINEX). This stock corporation is a jointly established company of Shanghai Stock Exchange Ltd., Shanghai, China; China Financial Futures Exchange, Shanghai, China; and Deutsche Börse AG. During the 2017 financial year, Deutsche Börse Group realised revenue of €177.3 thousand and incurred expenses of €216.1 thousand based on the business relationship with CEINEX.

Other business relationships with key management personnel

Selected executives of Deutsche Börse Group subsidiaries 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.

43. Employees

Employees	2017	2016
Average number of employees during the year	5,567	5,095
Employed at the reporting date	5,640	5,176
Employees (average annual FTEs)	5,183	4,731

Of the average number of employees during the year, 31 (2016: 29) were classified as Managing Directors (excluding Executive Board members), 335 (2016: 348) as senior executives and 5,201 (2016: 4,718) as employees.

There was an average of 5,183 full-time equivalent (FTE) employees during the year (2016: 4,731). Please refer also to the [“Employees”](#) section in the combined management report.

44. Events after the end of the reporting period

For details on the ongoing disputes between the Central Bank of Iran and Clearstream Banking S.A., Luxembourg, see [note 37](#).

45. Date of approval for publication

Deutsche Börse AG’s Executive Board approved the consolidated financial statements for submission to the Supervisory Board on 6 March 2018. The Supervisory Board is responsible for examining the consolidated financial statements and stating whether it endorses them.

Frankfurt/Main, 6 March 2018
Deutsche Börse AG



Theodor Weimer



Andreas Preuss



Gregor Pottmeyer



Hauke Stars



Jeffrey Tessler

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, 9 March 2018
Deutsche Börse AG



Theodor Weimer



Andreas Preuss



Gregor Pottmeyer



Hauke Stars



Jeffrey Tessler

Deutsche Börse AG

Combined management report as at 31 December 2017

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 in accordance with the Handelsgesetzbuch (HGB, German Commercial Code), the Deutscher Rechnungslegungs Standard Nr. 20 (DRS 20, German Accounting Standard No. 20) and the Deutscher Rechnungslegungs Änderungsstandard Nr. 8 (DRÄS 8, German Amendment Accounting Standard No. 8). This management report also takes into account the requirements of the Practice Statement “Management Commentary” issued by the International Accounting Standards Board (IASB).

Fundamental information about the Group

Overview of Deutsche Börse Group

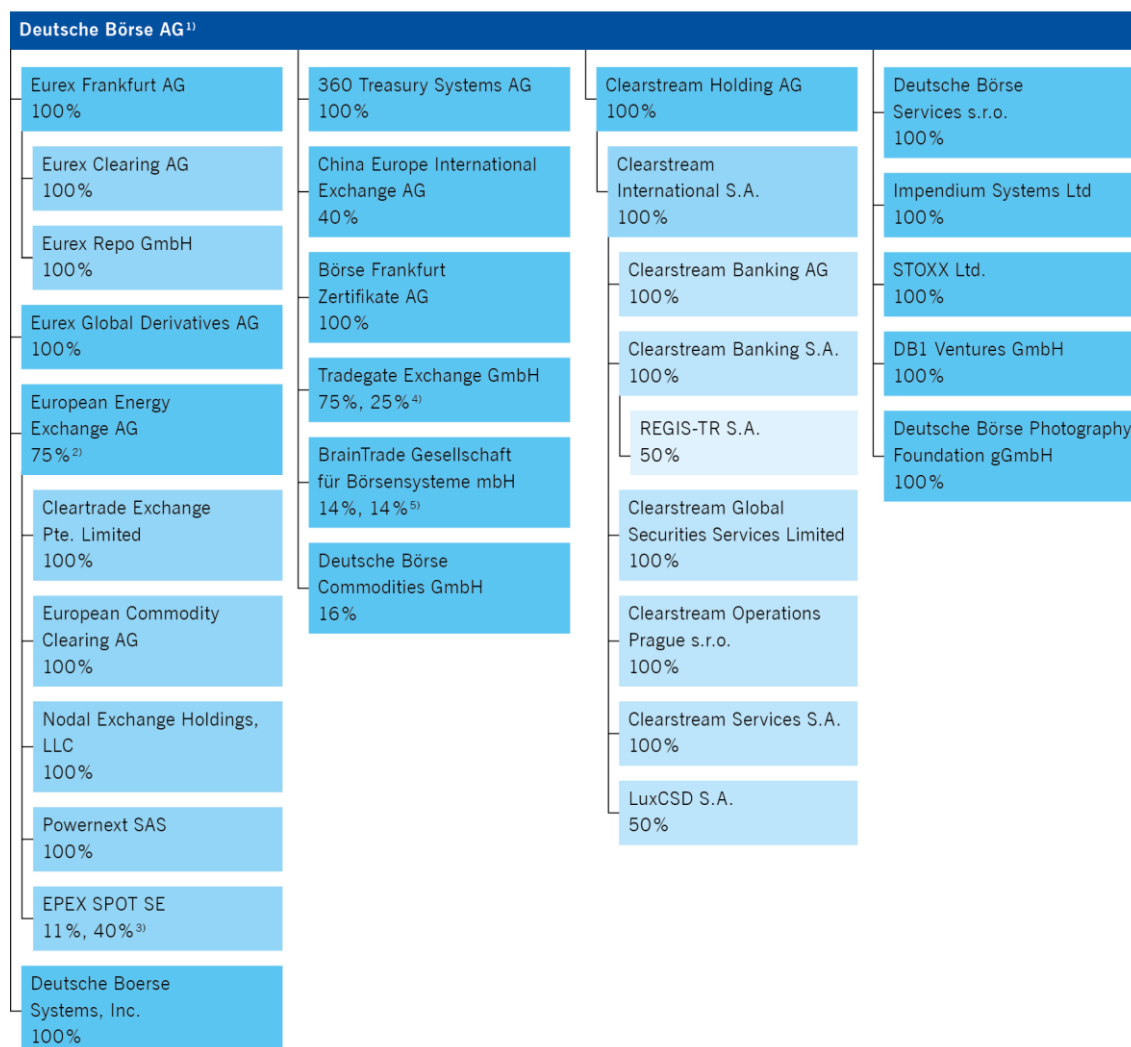
Business operations and Group structure

Deutsche Börse AG, which is headquartered in Frankfurt/Main, Germany, is the parent company of Deutsche Börse Group. As at 31 December 2017, the Group employed 5,640 people at 39 locations in 29 countries. As one of the largest market infrastructure providers worldwide, Deutsche Börse Group offers its customers a wide range of products and services. These cover the entire financial market transactions value chain – from trading through transaction clearing and settlement, securities custody, services for liquidity and collateral management, and the provision of market information, down to the development and operation of IT systems that support all these processes.

Deutsche Börse AG operates the cash market at Frankfurter Wertpapierbörse (FWB[®], the Frankfurt Stock Exchange) with its fully electronic trading venue Xetra[®]. It also offers trading in structured products (certificates and warrants) in Germany via Börse Frankfurt Zertifikate AG. In addition, Deutsche Börse AG operates the Eurex Exchange derivatives market via Eurex Frankfurt AG. Commodities spot and derivatives markets are operated by the Group’s indirect subsidiary European Energy Exchange AG (EEX). Deutsche Börse AG operates a foreign-exchange trading platform via its subsidiary 360 Treasury Systems AG (360T). The Group also offers clearing services for the cash and derivatives markets (Eurex Clearing AG). Furthermore, Deutsche Börse sells price and reference data as well as other trading information; its STOXX Ltd. subsidiary develops and sells indices. All post-trade 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 global securities financing and investment funds. Deutsche Börse AG and Clearstream Services S.A. develop and operate Deutsche Börse Group’s technological infrastructure.

The [“Shareholding structure of Deutsche Börse Group”](#) chart gives an overview of Deutsche Börse Group’s main shareholdings; its basis of consolidation is presented in full in [note 2](#) to the consolidated financial statements.

Shareholding structure of Deutsche Börse Group



1) Simplified presentation of main shareholdings (rounded values), as at 1 January 2018

2) Economic participation; lower voting rights

3) Direct equity interest European Energy Exchange AG: 11%, direct equity interest Powernext SAS: 40%

4) Direct equity interest Deutsche Börse AG: 75%, direct equity interest Tradegate AG Wertpapierhandelsbank: 25%

5) Direct equity interest Deutsche Börse AG: 14%, direct equity interest Börse Frankfurt Zertifikate AG: 14%

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 the unappropriated surplus, appoints the shareholder representatives on the Supervisory Board and approves the actions of the Executive Board and the Supervisory Board. In addition, it rules on corporate actions and other matters governed by the Aktiengesetz (AktG, German Stock Corporation Act).

The Supervisory Board appoints, supervises and advises the Executive Board and is directly involved in key decisions affecting the company. 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. The Supervisory Board of Deutsche Börse AG has twelve members: eight shareholder representatives and four employee representatives. Effective as of the 2018 Annual General Meeting, Deutsche Börse AG's Supervisory Board will consist of an equal number of shareholder representatives and employee representatives. Further details are described in the ["Combined corporate governance statement and corporate governance report"](#) 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 financial year 2017, the Executive Board of Deutsche Börse AG had five members. CEO Carsten Kengeter retired from the Executive Board with effect from 31 December 2017. He was succeeded by Theodor Weimer on 1 January 2018. The remuneration system and the remuneration paid to the individual members of the Executive Board are described in detail in the [remuneration report](#).

Reporting segments

Deutsche Börse Group classifies its business into four segments: Eurex, Xetra, Clearstream and Market Data + Services. This structure serves as a basis for the Group's internal management and for financial reporting (see the [table entitled "Deutsche Börse Group's reporting segments"](#) for details). The Group plans to adapt its internal segment management with effect from the first quarter of 2018. Consequently, a more detailed segment reporting will be established to further enhance transparency. The Eurex

Deutsche Börse Group's reporting segments

Reporting segment	Business areas
Eurex	<ul style="list-style-type: none"> ▪ Electronic trading of European derivatives (Eurex Exchange), commodities (EEX group) and foreign exchange (360T[®]) ▪ Eurex Repo[®] over-the-counter (OTC) trading platform ▪ C7[®] electronic clearing architecture ▪ Central counterparty for on- and off-exchange derivatives and repo transactions
Xetra	<ul style="list-style-type: none"> ▪ Cash market with the Xetra[®], Börse Frankfurt and Tradegate trading venues ▪ Central counterparty for equities and bonds ▪ Admission of securities (listing)
Clearstream	<ul style="list-style-type: none"> ▪ Custody and settlement services for securities ▪ Global securities financing and collateral management services ▪ Investment funds services
Market Data + Services	<ul style="list-style-type: none"> ▪ Distribution of licences for trading and market signals ▪ Development and sales of indices (STOXX) ▪ Technology and reporting solutions for external customers ▪ Trading participant connectivity

segment will be split into Eurex, Commodities and Foreign Exchange. The Clearstream segment will be reported as Clearstream, Investment Funds Services and Global Securities Financing. The Market Data + Services segment will be divided into index and data business. Furthermore, the Group will continue to report the Xetra segment results. Recognising the growing importance of these business lines, the Group will henceforth report their net revenue as well as their cost base – and therefore, profitability.

Organisational structure

The Clients, Products & Core Markets division combines Deutsche Börse Group's derivatives trading businesses, its clearing house as well as Clearstream's settlement and custody business. Clients, Products & Core Markets is responsible for coordinating Group-wide product development as well as global sales activities. The IT & Operations, Data & New Asset Classes division combines Deutsche

Leadership structure of Deutsche Börse Group as at 1 January 2018

Group Executive Board					
CEO	Clients, Products & Core Markets	Cash Market, Pre-IPO & Growth Financing	IT & Operations, Data & New Asset Classes		CFO
T. Weimer	J. Tessler	H. Stars	A. Preuss		G. Pottmeyer
Group Strategy/ Mergers & Acquisitions	Core Markets Development	Cash Market Development & Op. Management	Market Operations	FX/360T	Financial Accounting & Controlling
Group Communications, Marketing & Reg. Strategy	Clearing/CCP/CH	Cash Market Sales & Partner Markets	GFF IT	European Energy Exchange (EEX)	Chief Compliance Officer
Group Audit	Group Client Services & Administration	Pre-IPO & Capital Markets	IFS IT	Executive Office	Investor Relations
Group Legal & Regulatory Affairs	Settlement & Custody Core Products	Community Development	Digital Workplace	Clearing IT	Treasury
Human Resources	Group Business & Product Development	Digitisation/ Platforms	Derivatives & Cash Trading IT	Corporate Systems	Chief Risk Officer
Group Venture Portfolio Management	Investment Funds Services & GSF	Growth Financing	Asset Servicing	Data IT	Group Organisational Services
Chief of Staff	Group Sales		IT Infrastructure	Energy	Strategic Finance
Innovation (ext.)	Derivatives Markets Trading		Settlement IT	Risk IT	Group Project Portfolio Management
			Market Data + Services		Compensation Officer
					Group Tax

Börse Group's IT activities and market operations. Technological transformation and digitisation are key issues which are advanced by this division – in close coordination with the CEO. The market data business, the electronic foreign-exchange trading platform 360T®, as well as EEX group also belong to this division. Deutsche Börse Group's cash market businesses – comprising the trading venues Xetra, the Frankfurt Stock Exchange, and the certificates and warrants business – are allocated to the Cash Market, Pre-IPO & Growth Financing division. The division is also responsible for the build-up of a pre-IPO market and for tools for growth financing. The portfolio of the Chief Financial Officer (CFO) includes, amongst others, risk management, compliance, investor relations and portfolio management. The responsibilities of the CEO include Group Strategy, the area of Group Legal & Regulatory Affairs and Human Resources, as well as innovation; moreover, he provides strategic impetus in the areas of technological transformation and digitisation. The current organisational set-up is shown in the [“Leadership structure of Deutsche Börse Group as at 1 January 2018” chart](#).

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 enhances the capital markets' stability, efficiency and integrity. Issuers benefit from the low capital costs it offers, while investors enjoy 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's business success is founded on its business model: its broadly diversified product and service range covers the entire value chain for financial market transactions. The business model aims to offer customers reliable services in an efficient and cost-effective manner, based on the following key principles:

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

The efficiency of this business model can be seen from the fact that Deutsche Börse Group has generated strong cash flows from operating activities for many years and that it is one of the most cost-effective providers of trading, clearing and settlement services among comparable products.

In order to maintain its leading position among exchange organisations and to grow further, Deutsche Börse Group pursues its Group-wide growth strategy with the following objectives: to actively participate in global competition among capital markets infrastructure providers – in an agile, ambitious and effective manner with a strong client focus – and to turn Deutsche Börse into the global market infrastructure provider of choice, being top-ranked in all its activities. In order to achieve this strategic objective, Deutsche Börse has launched a broad range of initiatives, and triggered a cultural change throughout the company.

In the context of its growth strategy, Deutsche Börse Group has implemented far-reaching organisational changes and defined its financial targets. As part of that, the company is constantly assessing its future competitive positioning, profitability, innovative strength, and strategic benefits of all its shareholdings and own activities. Deutsche Börse pursues the goal of becoming the number one or number two player in every business area the company operates in – a goal that requires active management of the business portfolio.

Likewise, the Group has conducted an in-depth review of its organic growth initiatives, and reprioritised where appropriate. In this context, the Group pursues an accelerated expansion into new markets and asset classes. Within the scope of various initiatives, it aims for a markedly higher degree of innovation (please refer to the [report on opportunities](#)). Moreover, the remuneration system for the Executive Board and executive staff has created stronger incentives for growth in the individual divisions. 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.

Deutsche Börse Group has a scalable business model, which permits higher business volumes at relatively minor additional costs. With a strong business performance and organic or external growth, this means that income growth will exceed cost increases. To reinforce the scalability of its business model, the Group has introduced clearly defined profit growth targets. Accordingly, it anticipates structural net revenue increases of at least 5 per cent annually, based on its current business portfolio. The Group is targeting at least 10 per cent increases in earnings before interest, tax, depreciation and amortisation (EBITDA) and consolidated net profit for the period attributable to Deutsche Börse AG shareholders.

Deutsche Börse Group's ability to achieve its organic growth targets depends on the following factors, among others:

- The effect of macroeconomic conditions on the financial markets: e.g. greater stock market volatility typically leads to higher levels of trading in the cash and derivatives markets and rising interest rates drive higher net interest income and trading volumes of interest rate derivatives.
- Regulatory requirements affecting all market participants: if regulatory initiatives (e.g. EMIR, MiFIR and Capital Requirements Directives) 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 continually introducing new products and services for which there is demand on the market, the Group will further grow its business.

Deutsche Börse Group is committed to transparent, reliable and liquid financial markets, although it cannot affect how the volume drivers for these markets develop. However, the Group is able to influence the other factors to some extent or to control them in full; for instance, it can lobby for a favourable legal framework for the financial markets or it can develop products and services to support its customers' business. This also enables it to reduce its dependence on those factors that are beyond its control.

Planned merger with the London Stock Exchange Group prohibited by the European Commission

After the planned merger of Deutsche Börse Group and London Stock Exchange Group (LSEG) had run into difficulties from a political perspective, following the outcome of the Brexit referendum in the United Kingdom, the European Commission prohibited the merger at the end of March, citing competition law concerns. According to the Commission, the merger would have led to a de facto monopoly in the European market for clearing of fixed-income instruments (bonds and repurchase agreements). LSEG was not prepared to create a remedy by divesting MTS S.p.A. Both companies had agreed on a merger in the spring of 2016, and the plan had been approved by investors in both companies.

Following prohibition of the merger, Deutsche Börse Group focused on the continuation of its generic growth strategy. Moreover, the company intends to also pursue external growth options. In this context, the main focus will be on growth areas such as the index and data business, as well as on transactions designed to broaden the product and service portfolio.

Management approach for a Group-wide commitment to sustainability

Deutsche Börse Group's objectives and strategies include discharging its corporate responsibility holistically. In line with this, its management approach is guided by three action-based principles that aim to sustainably strengthen and preserve the value added to the economy and to society by Deutsche Börse Group:

- **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 company is working 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 both customers and the general public.
- **Leading by example.** As a listed service provider, Deutsche Börse Group aims to ensure that its own business 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.

Deutsche Börse Group established a Group Sustainability Board to develop the Group-wide sustainability strategy, and to advise the Executive Board on sustainability issues. The Board convenes twice a year; its 16 members comprise three representatives each of the five reporting segments, plus the Head of Group Sustainability. First successes are already evident: by incorporating performance indicators into the disclosure of its sustainability efforts, Deutsche Börse Group improved the presentation of its value creation chain, thus linking these indicators more clearly to its core business.

Internal management

Management systems

Deutsche Börse Group's internal management system is based on key performance indicators taken from the consolidated income statement (net revenue, operating costs excluding depreciation, amortisation and impairment losses, EBITDA, the Group's net profit for the period attributable to Deutsche Börse AG shareholders) and the balance sheet (cash flows from operating activities, liquidity, equity less intangible assets). Additionally, the system includes key performance indicators that are derived from the adjusted consolidated income statement and the balance sheet (interest coverage ratio, interest-bearing gross debt / EBITDA and return on shareholders' equity).

Net revenue is composed of sales revenue plus net interest income from banking business and from other operating income, less volume-related costs. Sales revenue from external customers is generally dependent on the growth factors described above (the performance of the financial markets, regulatory and structural changes, and the Group's innovative strength). Net interest income from banking business is dependent on how Clearstream's international settlement business performs, on the one hand, and on developments of short-term interest rates, particularly in the USA and in the eurozone, on the other. In addition to income from the Clearstream segment, net interest income has also included interest income and expenses in the Eurex segment. This income is generated by the Group's clearing houses from investing their clients' cash collateral. Other operating income results from exchange rate differences, among other things.

Volume-related costs normally correlate with business development in the relevant business areas, such as fees and commissions from banking business or the cost of purchasing price data. In addition, various licence fees (e.g. for index licences) contribute to volume-related costs.

To facilitate transparency in reporting costs and results and to increase comparability with competitors, Deutsche Börse Group has been separately disclosing operating costs as well as depreciation, amortisation and impairment losses since the second quarter of 2017, introducing earnings before interest, tax, depreciation and amortisation (EBITDA) as an additional parameter. Consequently, operating costs include staff costs as well as other operating expenses, but exclude depreciation, amortisation and impairment losses. Staff costs consist of wages and salaries, social security contributions and the cost of retirement benefits. They are subject to inflation adjustments and depend partially on the company's performance, as they also include a variable remuneration. Other operating expenses mainly comprise the costs of developing and operating the Group's technological infrastructure, office infrastructure costs and marketing costs. Depreciation, amortisation and impairment losses include depreciation and amortisation of, and impairment losses on, intangible assets and property, plant and equipment.

Around 80 per cent of Deutsche Börse Group's costs are fixed costs (unadjusted). As a result, the Group can handle higher volumes of business without a significant increase in costs. Conversely, a decline in business volumes has a direct impact on the Group's profitability. Approximately 20 per cent of the Group's costs are volume-related costs.

Deutsche Börse Group manages its EBITDA using net revenue and operating costs. At Group level, the net profit for the period attributable to Deutsche Börse AG shareholders also serves as a performance indicator for internal management.

The balance sheet key performance indicators include cash flows from operating activities, a predefined liquidity target and equity less intangible assets. Liquidity planning aims at maintaining enough liquidity to meet operating costs for one quarter (currently between €150 million and €250 million). There is no set target for the Group's management of its equity less intangible assets KPI; rather, the objective is to maintain a positive figure.

The interest coverage ratio is the ratio of EBITDA to the interest expense from financing activities. As part of its capital management programme, the Group aims to achieve an interest coverage ratio of at least 16 for Deutsche Börse Group. In addition, the goal is to achieve a maximum ratio of interest-bearing gross debt to EBITDA of 1.5 at Group level. The latter performance indicator is particularly important at present in protecting the Group's current AA rating. The goal of the Clearstream subgroup is to maintain an interest coverage ratio of 25 and to comply with other capital adequacy measures to protect its current AA rating. Because Clearstream had no financial liabilities from non-banking business in either the reporting period or the previous year, no interest coverage ratio had to be calculated for the subgroup.

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.

Further information on the Group's financial position is presented in the [📄 "Financial position" section](#) of this combined management report.

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. 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 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 is primarily responsible for preparing the accounts at Deutsche Börse AG and its consolidated subsidiaries. FA&C is supported in this task by decentralised units, which have to comply with the standards set by FA&C. Group Tax is responsible for determining tax items within the scope of the accounting; the relevant department heads are responsible for the related processes, including effective security and control measures. The goal is to ensure that risks in the accounting process are identified early on so that remedial action can be taken in good time.

In order to maintain consistent and continuous accounting processes, FA&C provides regularly updated accounting manuals as well as guidelines and work instructions for the material accounting processes – as part of the preparation of the annual financial statements and consolidated financial statements of Deutsche Börse AG. All FA&C employees have access to this documentation, accounting manuals and account allocation guidelines, allowing them to obtain information on the management judgements and accounting options exercised by Deutsche Börse Group.

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 feature of the ICS is the principle of the separation of functions: tasks and responsibilities are clearly defined and allocated within the organisation. 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 monitors these permissions continuously using a so-called incompatibility matrix. Transactions are initially recorded in the general ledger or the appropriate subledgers on the basis of the chart of accounts and the account allocation guidelines. The principle of dual control applies to all closing entries made and to preparation of the consolidated financial statements.

Major Deutsche Börse Group subsidiaries maintain and consolidate their general ledgers in the same system. Accounting data from the 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.

Research and development activities

As a service provider, Deutsche Börse Group does not engage in research and development activities comparable to those of manufacturing companies. As a result, this combined management report does not contain a detailed research and development report. However, Deutsche Börse does develop and operate its own trading and clearing systems as well as system solutions designed to achieve its structural growth objectives. The company works constantly to maintain and enhance the technological leadership and stability of its electronic systems in the interests of its customers and the systemic stability of the financial markets. To this end, Deutsche Börse has significantly overhauled its trading and clearing technology, which go by the trade names T7[®] and C7[®]. The new T7 trading technology was rolled out in the cash market during the year under review. Other technically challenging projects include implementing the European Central Bank's plans to create a uniform, pan-European securities settlement platform (TARGET2-Securities) and the implementation of the increasing reporting obligations according to EMIR and MiFID II.

In 2017, research and development expenses amounted to €154.4 million (2016: €171.0 million); of this figure, approximately 56 per cent (2016: 52 per cent) was attributable to development costs that were capitalised as internally developed software. In addition, €72.3 million of capitalised development costs were amortised in 2017. This means that research and development costs amounted to 6 per cent of net revenue (2016: 7 per cent). In the Eurex and Clearstream segments, which mainly invest in systems upgrades, research and development costs amounted to 6 per cent and 7 per cent of net revenue, respectively. Details can be found in [note 7 to the consolidated financial statements](#).

Further details of product and services development activities can be found in the [report on opportunities](#) and the [report on expected developments](#).

Takeover-related disclosures

Disclosures in accordance with sections 289a (1) and 315a (1) of the HGB

In accordance with sections 289a (1) and 315a (1) of the Handelsgesetzbuch (HGB, German Commercial Code), Deutsche Börse AG hereby makes the following disclosures as at 31 December 2017:

The share capital of Deutsche Börse AG amounted to €193.0 million on the above-mentioned reporting date and was composed of 193 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 €19.3 million by issuing up to 19.3 million no-par value registered shares (contingent capital 2014). The contingent capital increase will be implemented only to the extent that holders of convertible bonds or warrants attaching to bonds with warrants issued by the company or a Group company in the period until 14 May 2019 on the basis of the authorisation granted to the Executive Board in accordance with the resolution of the Annual General Meeting on 15 May 2014 on item 5 (a) 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 limitations to voting rights that result from the Aktiengesetz (AktG, German Stock Corporation Act), according to which voting rights arising from shares affected by section 136 of the AktG may not be exercised. Furthermore, shares held by Deutsche Börse AG as treasury shares are exempted from the exercise of any rights according to section 71b of the 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 rights granting the holder supervisory powers.

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 of the 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. 5 of the AktG. Under Article 12 (4) of the Articles of Association of Deutsche Börse AG, the Supervisory Board has the power to make changes 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 mandated 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 the approval of 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 the 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 €19.3 million on one or more occasions in the period up to 12 May 2020, 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 disapply 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: (i) in the case of cash capital increases, provided that the issue price of the new shares is not significantly lower than the prevailing exchange 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; (ii) 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 (iii) 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. The full authorisation, and particularly the conditions under which shareholders' pre-emptive rights can be disapplied, 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 €38.6 million on one or more occasions in the period up to 12 May 2020, 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 20 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 disapply such rights, subject to the approval of the Supervisory Board. The Executive Board is authorised to disapply 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 that are issued during the term of the authorisation and that exclude shareholders' 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 amounting to 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 ff. 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 16 May 2019 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 5 and 6 of the agenda for the Annual General Meeting held on 17 May 2017.

The following material agreements of the company are subject to a change of control 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 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 2015/2041 (hybrid bond), Deutsche Börse AG has a termination right in the event of a change of control 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 5 percentage points. 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., Standard & Poor's Rating Services 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 2013/2018, and the €600.0 million fixed-rate bonds 2012/2022, which were all issued by Deutsche Börse AG, all provide Deutsche Börse AG with a termination right in the event of a change of control. If these cancellation 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 sets of 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., Standard & Poor's Rating Services or Fitch Ratings Limited. Further details can be found in the applicable bond terms.
- Under certain conditions, members of Deutsche Börse AG's Executive Board have a special right to terminate their contracts of service in the event of a change of control. According to the agreements made with all Executive Board members, a change of control occurs if (i) 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 WpHG (sections 21 and 22 of the WpHG (previous version)), (ii) 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 (iii) Deutsche Börse AG is merged in accordance with section 2 of the Umwandlungsgesetz (UmwG, German Reorganisation and Transformation Act).

Moreover, agreements for compensation in the case of a change of control have been entered into with the members of the Executive Board. A description of these agreements, which are in line with customary national and international practice, can also be found in the [remuneration report](#).

Deutsche Börse AG shares

The average annual return since Deutsche Börse AG's initial public offering in 2001 has been 15 per cent. Thus, Deutsche Börse AG shares prove to be an attractive long-term investment. They closed financial year 2017 with a strong increase by 27 per cent – almost in line with the performance of the Dow Jones Global Exchanges Index, which tracks other exchange organisations and rose by 29 per cent during 2017. Deutsche Börse AG shares outperformed the DAX[®] blue-chip index (plus 10 per cent) as well as the STOXX[®] Europe 600 Financials Return (plus 8 per cent) (see the [“Share price development of Deutsche Börse AG and benchmark indices in 2017” chart](#)).

Deutsche Börse AG shares: key figures

		2017	2016
Earnings per share (basic) ¹⁾	€	4.59	4.34
Dividend per share	€	2.45 ²⁾	2.35
Dividend distribution ratio ¹⁾	%	53	54
Dividend yield ³⁾	%	2.7	3.1
Opening price (as at 1 Jan) ⁴⁾	€	77.54	81.39
High ⁵⁾	€	100.25	83.00
Low ⁵⁾	€	74.27	67.19
Closing price (as at 31 Dec)	€	96.80	77.54
Average daily trading volume on trading venue Xetra [®]	m shares	0.5	0.5
Number of shares (as at 31 Dec)	m	193.0	193.0
thereof outstanding (as at 31 Dec)	m	186.6	186.8
Free float (as at 31 Dec)	%	100	100
Price-earnings ratio ³⁾		19.9	17.3
Market capitalisation (as at 31 Dec)	€bn	18.1	14.5
Average annual return since IPO in 2001	%	15.0	13.2
Attendance of share capital at the Annual General Meeting	%	73.7	65.8
Share of investors from Germany/UK/USA/other countries	%	18/26/34/22	17/29/30/24
Institutional investors	%	93	94
Number of shareholders		appr. 50,000	appr. 60,000
Analyst recommendations buy/hold/sell (as at 31 Dec)	%	43/52/5	43/50/7
Average target price set by analysts at year-end	€	98.00	84.00

1) Adjusted for non-recurring effects

2) For financial year 2017, proposal to the Annual General Meeting 2018

3) Based on the volume-weighted average of the daily closing prices

4) Closing price on preceding trading day

5) Intraday price

Report on economic position

Macroeconomic and sector-specific environment

Macroeconomic conditions had, and continue to have, a significant impact on the overall economic environment and on trading activity on the markets. For Deutsche Börse Group, the macroeconomic environment during the year under review was rather complex; whilst some factors have a stimulating effect on business, others have the potential of unsettling market participants, burdening their business activity:

- The robust global economic situation, with growth in the economies relevant to Deutsche Börse Group (Central Europe, USA) during the year under review
- The European Central Bank's (ECB) persistent low interest rate policy, with deposit rates at minus 0.4 per cent and the resulting ongoing high levels of liquidity provided, reinforced by the bond-buying programme that is part of the ECB's quantitative easing (QE) policy
- The turnaround in the US Federal Reserve's (Fed) interest rate policy initiated at the end of 2015 and confirmed in the year under review, through interest rate increases of 25 basis points each in March, June and December
- The persistent extremely low level of volatility on equity markets – as measured by the VDAX® index – as one of the key drivers of activity on the cash and derivatives markets
- The more stable economic situation in the euro area – associated, however, with uncertainty regarding the UK's exit from the EU and its future impact on markets
- Growing confidence in a united Europe after election results in Germany, France, Austria and the Netherlands
- Unstable political conditions in some parts of Eastern Europe and recurring flashpoints in the Arab world and their impact on the Western world

Share price development of Deutsche Börse AG and benchmark indices in 2017

Indexed to 30 December 2016



¹⁾ Between 30 December 2016 and 3 April 2017, the data shown refer to tendered shares with ISIN DE000A2AA253.

- Regulatory projects and the resulting stricter requirements for capital market participants (see the [“Regulatory environment”](#) section)

Against this background, the economies of industrialised nations showed significantly stronger growth in 2017 compared to the previous year, as estimated by the International Monetary Fund (IMF). According to these estimates, real gross domestic product (GDP) rose by 2.3 per cent in 2017, compared to a growth rate of 1.7 per cent in 2016. Global economic growth was 3.7 per cent in 2017 (2016: real growth rate of 3.2 per cent).

Along with the upturn in global economic growth, German gross domestic product for 2017 significantly outperformed the previous year's levels as well, according to initial estimates. The IMF's January 2018 estimates put growth in German economic output at 2.5 per cent in 2017 (2016: increase in real terms of 1.9 per cent).

Economic performance throughout the euro area slightly improved in 2017: no country was in recession during 2017; moreover, economic growth accelerated in some states within the European Economic Area, particularly in France and Italy. Hence, the ECB continues to assess the economic situation in the EU as stable. Deposit rates for banks have been at -0.4 per cent since March 2016. Moreover, it extended its bond-buying programme by nine months until September 2018, albeit cutting monthly volumes from €60 billion to €30 billion per month from January 2018 on. In 2017, the monthly repurchase volume remained stable at €60 billion.

The IMF expects US economic output to post a real 2.3 per cent increase for 2017, compared to a 1.5 per cent increase the year before. Given further relief on the labour market and higher expected economic growth for 2018 (particularly due to tax reductions for companies), the US Federal Reserve raised its key interest rate again in December 2017, to a range between 1.25 and 1.50 per cent.

All told, improving economic growth, decline in political uncertainty in Europe, and the continued low interest rate policy pursued by the European Central Bank had a slightly positive effect on trading on the European capital markets. The Group has increased its trading volumes in equities and clearly benefited from trading activity in interest rate derivatives, whereas equity index derivatives showed a decline, as volatility hit historic lows, resulting in overall Eurex trading volumes slightly below the prior year's level.

Development of trading activity on selected European cash markets

	2017 €bn	Change vs 2016 %
Deutsche Börse Group	1,467.6	7
Euronext ¹⁾	1,906.9	6
Borsa Italiana ²⁾	745.9	6
London Stock Exchange ²⁾ (£)	1,338.9	5
Bolsas y Mercados Españoles ¹⁾	651.4	0

1) Trading volume in electronic trading (single-counted)

2) Part of London Stock Exchange Group

Source: Exchanges listed

Development of contracts traded on selected derivatives markets

	2017 m contracts	Change vs 2016 %
National Stock Exchange of India	2,465.3	15
CME Group	4,088.9	4
Intercontinental Exchange	2,125.3	4
Deutsche Börse Group – Eurex®	1,675.9	-3
Shanghai Futures Exchange	1,364.2	-19
Moscow Exchange	1,544.1	-21

Source: Exchanges listed

Regulatory environment

The international financial crisis has demonstrated the necessity for increased transparency and stability in the global financial markets and has sparked a discussion about the role and details of the necessary financial market infrastructure. In the wake of the United Kingdom's resolution to exit the EU, the conditions of Brexit for the financial services industry also need to be negotiated. In this context, it is crucial to consider the needs of all stakeholders.

As a provider of a highly regulated financial market infrastructure, Deutsche Börse Group shares the objective of national legislators, the European Union as well as G20 to strengthen transparent, stable and regulated markets. In this connection, Deutsche Börse Group has proven itself as a constructive partner, actively contributing to political discussions on suitable national and European initiatives for the regulation of financial markets.

The considerable increase in regulatory requirements has a twofold impact on Deutsche Börse Group: as a market infrastructure provider, the Group must meet regulatory duties and at the same time strive to offer products and services tailored exactly to meet the needs of its customers. It therefore holds an important position as a link between regulators and customers. As such, Deutsche Börse Group supports its customers in ensuring compliance with regulatory requirements and thereby minimising their risks. The various regulatory dossiers have different impacts and/or offer opportunities for the business units contributing to Deutsche Börse Group's value chain.

Financial markets infrastructure regulation

Regulation of markets in financial instruments (MiFID II, MiFIR)

The revised directive (MiFID II) and the accompanying regulation (MiFIR) became applicable on 3 January 2018.

The European Parliament, the European Commission as well as the Council of Member States have agreed on the majority of implementing measures (level 2); at present, amendments designed to ensure a level playing field are being made to the regulations for systematic internalisers. The European Securities and Markets Authority (ESMA) is currently developing specific interpretation and implementation guidance (level 3), in close cooperation with national supervisory authorities.

MiFID II und MiFIR will fundamentally transform the European financial market by expanding transparency provisions, strengthening the stability and integrity of its infrastructure, revising the market's microstructure and improving the quality and availability of market data. The new rules have a profound impact on Deutsche Börse Group, too, in particular on its trading and clearing activities, as well as on its market data business. In this context, the company has developed various products and services designed to support clients in their compliance with regulatory requirements. Specifically, these relate to the requirements regarding transparency and disclosure, market-making and algorithmic trading, as well as to the organisational requirements concerning safety mechanisms for trading venues and market participants.

Regulation of packaged retail and insurance-based investment products (PRIIPs Regulation)

The PRIIPs Regulation was adopted in response to market developments whereby retail investors looking to make an investment decision are faced with a constantly growing variety of available investment opportunities. To enhance transparency regarding these products, the PRIIPs Regulation requires the

provision of key information documents (KIDs), in order to establish a standard governing published information for retail investors within the EU. Standardised KIDs summarise key aspects of different PRIIPs – such as risks, premiums and costs – and thus help investors to better understand and compare these products. Specific legal requirements apply to exchange-traded derivatives.

According to the PRIIPs Regulation, Eurex is a PRIIP manufacturer for exchange-traded derivatives: hence, Eurex provides KIDs for all exchange-traded products from the Eurex product portfolio. The PRIIPs Regulation became applicable on 1 January 2018.

EMIR: implementation and review

The European Market Infrastructure Regulation (EMIR), which entered into force in 2012, is a significant regulation for central counterparties. The purpose of the proposals for a revision of the regulation published in the summer of 2017 (EMIR Review) was to enhance efficiency as well as to ensure the post-Brexit safety and stability of financial markets. For example, the proposals provide for adjustments to reporting and the supervisory structure, and aim to facilitate access to centralised clearing for smaller market participants. Deutsche Börse welcomes the review: it perceives opportunities for its business and offers market-oriented products and services to its clients in this respect.

By publishing the review proposals, the European Commission initiated the legislative process in the European Parliament and the European Council.

Recovery and resolution regulation for central counterparties

Following the European Market Infrastructure Regulation (EMIR), developing recovery and resolution plans for central counterparties is the next logical legislative step for making central counterparties even more secure and stable. A key aspect of regulation is to create sound incentive structures – on a European as well as a global level – in order to ensure that the interests of stakeholders involved are aligned.

As a next step following the coordination of international standards, the European Commission published draft legislation concerning recovery and resolution plans for central counterparties in November 2016, triggering the legislative process in the European Parliament and the European Council.

Central Securities Depository Regulation (CSDR)

With the CSDR, a uniform European regulatory framework for central securities depositories (CSDs) was established for the first time in September 2014. Official regulatory technical standards (RTSs) were published in March 2017.

The CSDR will harmonise the securities settlement systems and supervisory rules for CSDs throughout Europe. This will strengthen Clearstream's business model because the provision of integrated banking services will still be permitted. Licensing applications were filed with local regulatory authorities at the end of September 2017, with decisions on admission expected in the course of 2018.

At present, it is fair to assume that CSDs and their clients will be required to comply with the new CSDR rules from mid-May 2018. While the rules governing settlement discipline have not yet been finalised, they are expected to become binding during the course of 2020. Deutsche Börse Group will support its clients in fulfilling the new requirements through existing and enhanced service offers.

Regulation on benchmarks and indices

The regulation on indices used as benchmarks in financial instruments and financial contracts (Benchmark Regulation) entered into force on 30 June 2016. The final application of the regulation took place on 1 January 2018. Benchmark administrators from EU and non-EU countries will have to be admitted or recognised by 1 January 2020. The Benchmark Regulation largely follows the global principles for financial benchmarks of the International Organization of Securities Commissions (IOSCO). These principles were developed in 2013, as a response to the manipulation of certain indices or reference rates (such as LIBOR and Euribor).

Deutsche Börse Group, which successfully implemented the IOSCO principles in 2014 for its DAX® indices and for the indices of its subsidiary STOXX Ltd., welcomes the agreement reached between the European Parliament and the European Council. The regulation's specific impact on the Group's business activities depends on the implementing measures still to be laid out in the form of delegated acts and technical standards by the European Commission and ESMA.

Overview of regulatory initiatives and their impact on Deutsche Börse Group's business areas

	Cash Market	Eurex	EEX	360T	Eurex Clearing	Clear-stream	IT & MD+S	Status as at 31 December 2017
Financial market infrastructure								
MiFID II, MiFIR	X	X	X	X	X		X	Published in 2014; application since 3 January 2018
PRIIPs		X						Application since 1 January 2018
EMIR			X	X	X	X		Became effective in 2012; review in 2017
Recovery and resolution plans for CCPs			X		X	(X) ¹⁾		Draft legislation in the legislative process
CSDR	X	X			X	X		Became effective in 2014; application expected for mid-May 2018
Regulation on benchmarks and indices		X	X		X		X	Became effective on 30 June 2016; application since 1 January 2018
Capital Markets Union	X	X	X		X	X	X	Mid-term review in 2017; implementation by 2019
Review of European supervisory structures (ESAs review)					X		X	Legislative process commenced with the publication of a legislative proposal in September 2017
Investment firms								
Basel III					X	X		Finalisation at the end of 2017, with subsequent implementation throughout the EU
CRD V, CRR II			X		X	X		Finalisation expected by the end of 2018/beginning of 2019; implementation expected at the beginning of 2021
SFTR						X		Became effective in 2016; implementing standards still outstanding

1) Not in scope of legislative proposal

Capital Markets Union

The European Commission has placed the focus of its planned Capital Markets Union on growth, and on industrial policy. Its main goals are the sustainable promotion of growth and job creation, and the development of a diversified financial system where bank financing is supplemented by highly developed capital markets. A successful Capital Markets Union is more important than ever – especially given that the EU has fallen behind in global competition, with respect to numerous metrics. Success in the creation of integrated, pan-European capital markets would release inactive capital throughout Europe, as savers would be given a greater choice of investments, while businesses would benefit from enhanced financing options. The European Commission published its mid-term review in June 2017, in which it pointed out that 20 of the 33 measures lined up in the action plan had already been successfully implemented. Moreover, the Group has announced that it will initiate further measures to promote the Capital Markets Union in 2018.

The Capital Markets Union affects Deutsche Börse Group's entire value chain. Thus, the Group has actively supported the project from the outset, seeking active involvement in the political debate, and contributing to the creation of safer, integrated EU-27 capital markets. Deutsche Börse supports the objectives of the Capital Markets Union, through initiatives such as the Deutsche Börse Venture Network[®], a platform designed to connect high-growth start-up companies with investors, and the FinTech Hub, a business incubator for fintech enterprises.

Brexit

On 29 March 2017, the United Kingdom officially declared its exit from the EU, in accordance with Article 50 of the Treaty on European Union (EU Treaty). This triggered a two-year negotiation process on the terms of the exit: numerous relevant issues concerning the restructuring of the relationship between the United Kingdom and the remaining 27 EU member states (EU-27) will need to be clarified during this period.

The outcome of ongoing negotiations between the United Kingdom and the EU-27 remains to be seen. Should no new treaties (or transitional arrangements) have been negotiated between the European Commission and the British government by the time Brexit takes place on 29 March 2019, UK financial services providers might lose their existing rights under the EU passport – in which case they would no longer be allowed to offer services to clients within the EU.

The European Council and the European Commission are looking to commence the ratification process in October 2018. An extension of the two-year period would require the unanimous consent of the EU-27 – considering the various interests involved, this does not appear to be a realistic assumption at present. It is fair to assume that the United Kingdom will leave the EU in March 2019.

Financial markets in the EU and the United Kingdom are highly interconnected: at present, the UK financial markets serve as the main trading hub for other financial centres throughout the EU – close to 80 per cent of financial markets activities in the EU take place there.

As in the past, Deutsche Börse's paramount objective remains to create stable and resilient trading and post-trading conditions. Deutsche Börse Group maintains close and continuous contact with its clients, as well as with regulatory authorities and associations, to analyse the impact of Brexit and to recognise the needs of all its stakeholders.

It is the Group's goal to develop solutions supporting clients during and after Brexit, in order to mitigate related effects to the greatest possible extent. The Group is firmly convinced that even after Brexit it will be able to offer valuable add-on services to all parties, over and above its range of services covering the entire exchange trading value chain (comprising pre-trading, execution and post-trading). The Group covers all asset classes and is connected with all major financial markets.

Review of European supervisory structures (ESAs review)

Based on insights gained from the financial crisis of 2007/2008, the European Union was determined to establish a more efficient, more strongly integrated supervision. The introduction of the European System of Financial Supervision (ESFS) in 2010 – comprising the three European Supervisory Authorities (ESAs) and the European Systemic Risk Board (ESRB) – established a new supervisory structure at a European level for the first time. The European Commission reviews the tasks and organisation of this supervisory structure every three years.

As part of this regular review – embedded in the updated action plan for the Capital Markets Union – the European Commission launched a public consultation in spring 2017 and draft legislation in September 2017, on realigning the duties, authority, financing and governance of the ESAs. In particular, the role of ESMA is set to be upgraded through an extension of its regulatory powers. Especially in the wake of Brexit, the European Commission has assigned top priority to aligning European supervisory structures to the new political environment, strengthening regulatory integration for certain cross-border financial services within the remaining 27 EU member states.

The work of the ESAs – and especially of ESMA – has an impact on the entire value chain of Deutsche Börse Group: the Group welcomes the progress the EU has made in financial markets regulation and supervision over the past decade. EU regulations relevant to supervisory structures are still being implemented at present. Harmonisation of the European capital markets is set to be driven ahead by projects such as the Capital Markets Union, while Brexit will have profound implications on financial markets and their regulatory frameworks. In the context of these challenges, efficient regulation – with clearly defined responsibilities and decision-making processes – will remain a key topic. This is why Deutsche Börse Group will remain an active participant in political debate. The review of European supervisory structures should preserve an environment that promotes growth, while carefully adjusting the existing regulatory regime (if necessary), in order to safeguard financial stability – but also legal certainty and the operational viability of supervised enterprises.

More information on regulatory issues is available on Deutsche Börse Group's website at www.deutsche-boerse.com/regulation.

Rules for banks and investment firms

Basel III

As a consequence of the global financial crisis of 2007/2008, the Basel Committee on Banking Supervision (BCBS) thoroughly revised its existing Basel II framework for banks, on the basis of corresponding G20 agreements. Further amendments were resolved on top of the first cornerstones adopted in 2011; the revised Basel III framework was finally concluded on 7 December 2017.

The following changes have already been implemented:

- Stricter definition of the term “capital”
- Increased capital levels
- Revised market risk framework
- Introduction of a leverage ratio
- Introduction of international rules to contain risk concentration (large exposure rules)
- Introduction of liquidity requirements

With the measures adopted in December 2017, revised rules – largely governing capital backing of credit and operational risk – will come into effect between now and 1 January 2022. On top of the credit risk framework, both the standardised approach and the model-based approach have been substantially revised, and operational risk regulations have been restricted to a modified standardised approach. In addition, a floor was determined regarding capital requirements for credit risk, where these are calculated using internal models: the so-called output floor was set at 72.5 per cent of capital requirements under the standardised approach.

Moreover, the BCBS has submitted initial proposals as to how exposures to public-sector entities should be treated in the future. The BCBS will continue to develop these proposals, supplementing the Basel III framework, and may implement them at a later stage if applicable.

CRD V/CRR II

Accounting for ongoing changes to the Basel III framework and to other elements of bank regulation, the European Commission proposed amendments to the Capital Requirements Directive (CRD IV) and Capital Requirements Regulation (CRR) in November 2016. These proposals concern the minimum requirements for equity and eligible liabilities (MREL) as well as the total loss-absorbing capacity (TLAC); they also involve amendments to the EU Bank Recovery and Resolution Directive (BRRD) and the related regulation.

Besides the changes to MREL and TLAC, the European Commission's proposals concern the following items in particular:

- Introduction of a binding leverage ratio of 3 per cent
- Introduction of a net stable funding ratio (NSFR)
- Revision of the market risk framework

Deutsche Börse Group anticipates the draft legislation proposed by the European Commission not to be finalised prior to the end of 2018; the related requirements are not expected to come into force before the beginning of 2021. The draft legislation is still under discussion; hence, it is not yet possible to assess the related impact on financial markets infrastructure.

CRD IV/CRR entered into force on 1 January 2014, implementing the first elements of Basel III. Transitional provisions apply until 1 January 2019. The measures to finalise the Basel III framework, as resolved by the BCBS in December 2017, are expected to be incorporated following completion of the CRD V/CRR II package, for implementation into EU law – on time – by 2022.

Deutsche Börse Group actively and continuously seeks to contribute to discussions on modifications to banking regulations. In this context, it emphasises the impact on financial infrastructure providers with a (restricted) banking licence, as well as the necessity of identifying specific rules for regulated entities in order to avoid any negative impact on financial market stability, in terms of specific requirements for banks. Moreover, the Group focuses on the capitalisation of its regulated entities, intervening where required in order to ascertain adequate risk coverage.

Transparency of securities financing transactions

The Securities Financing Transactions Regulation (SFTR) was published in the EU Official Journal on 23 December 2015. It provides for reporting requirements concerning securities lending and repo transactions to so-called trade repositories. Furthermore, it sets out requirements regarding the re-pledging of collateral, and reporting obligations of investment fund providers which are active in securities lending. The introduction of comprehensive reporting duties for securities lending transactions has different effects upon the Clearstream subgroup, Eurex Clearing AG, and REGIS-TR S.A., with increased efforts – and hence, higher costs – expected for proprietary securities financing transactions. Yet the obligation to file reports to trade repositories also holds business potential for REGIS-TR. ESMA drew up corresponding implementation standards and submitted them to the European Commission in April 2017; however, these standards have not yet entered into force.

Uniform supervision of investment firms

On 20 December 2017, the European Commission published a draft legislative proposal for a uniform regulatory regime for investment firms, based on a proposal prepared by the European Banking Authority (EBA). The EBA had submitted its original draft within the framework of a public consultation, and modified it on the basis of feedback received. Having participated in the EBA consultation, Deutsche Börse Group will continue to constructively contribute to the legislative process. The Group is currently in the process of analysing the draft, and will continue to address its impact on Group entities and market participants.

Business developments

Given the overall framework conditions outlined at the beginning of the economic report, the situation on the capital markets for financial services providers in the reporting period was somewhat more favourable compared to 2016. Solid economic growth in the major economies, a strong German economy with stable corporate balance sheets as well as the stable political situation in the EU – despite the impending exit of the UK – provide fertile ground for the businesses of exchange operators. The benchmark DAX® and STOXX® indices reached record levels, and trading volumes on the cash market platforms of Deutsche Börse Group rose compared with the previous year. At the same time, the low level of volatility in the equity market and the ECB's QE policies negatively impacted other business segments of Deutsche Börse Group, such as index derivatives trading at Eurex. The Group's growth areas, such as Clearstream's Investment Funds Services, foreign-exchange (FX) trading on 360T, and the index business in the Market Data + Services (MD+S) segment, continued to develop favourably. In the post-trading business, the value of securities held with the Central Securities Depository (CSD) increased, while volumes at the International Central Securities Depository (ICSD) declined slightly. Due to rising interest rates in the US,

net interest income from Clearstream's banking business rose significantly. Looking at developments during the course of the year, business was strongest in the fourth quarter, whereas the third quarter turned out to be the weakest one.

Comparability of figures

Discontinued operations

The disposal of International Securities Exchange Holdings, Inc. (ISE) as of 30 June 2016 is disclosed as a discontinued operation in accordance with IFRS 5. Following IFRS 5, this combined management report contains financial indicators of the previous year excluding figures from this discontinued operation.

Changes to the basis of consolidation and to segment reporting

Within the Group's organisation, the allocation of revenue and costs to individual segments was changed in 2017, effective as from Q1/2017. Due to these changes, the following adjustments were made to segment reporting; previous year's figures were adjusted accordingly.

- Revenue and costs generated or incurred in connection with managed services (particularly IT services for Clearstream customers) are disclosed within the ICSD business of the Clearstream segment (previously under Infrastructure Services in the Market Data + Services segment).
- Revenue and costs generated or incurred in connection with the development of a central platform for the pan-European intraday power market (XBID) are disclosed under the "Commodities" item within the Eurex segment (previously under Infrastructure Services in the Market Data + Services segment).
- The definitions of product groups were changed within the Xetra segment; among other things, due to the introduction of the new product group "partner markets". Accordingly, revenues and costs were allocated.

Furthermore, there were changes to the basis of consolidation in 2017: EEX US Holdings, Inc., the parent entity of Nodal Exchange Holdings, LLC, which Deutsche Börse acquired in the first quarter of 2017, has been fully consolidated since 3 May 2017, with revenues and costs reported in the Eurex segment.

To facilitate transparency in reporting costs and results and to improve comparability with competitors, Deutsche Börse Group will now separately disclose operating costs as well as depreciation, amortisation and impairment losses, introducing earnings before interest, tax, depreciation and amortisation (EBITDA) as an additional parameter. The previous year's figures were adjusted accordingly.

Results of operations

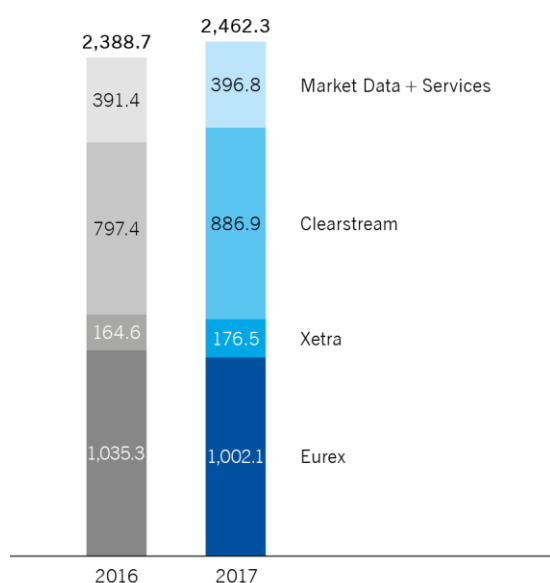
Deutsche Börse Group can look back on a satisfactory financial year. Structural drivers of the Group's business were largely intact, and substantially contributed to revenue and profit growth. The custody, funds and collateral management businesses at Clearstream benefited in particular. Structural growth was also evident in the index business at MD+S, and in new, innovative derivative products. Even though cyclical factors such as higher interest rates in the US provided support for the Group in Clearstream's banking business or in interest derivatives trading, these positive developments could not fully compensate for a decline in key revenue sources, which was driven by cyclical factors. For instance, equity derivatives trading was burdened by persistently low equity market volatility.

Deutsche Börse Group's net revenue increased by 3 per cent in the 2017 financial year, with the Clearstream and Xetra segments generating the strongest growth rate of 11 and 7 per cent. Net revenue of the Market Data + Services segment increased by 1 per cent. MD+S was thus able to more than compensate for the loss in net revenue, which was the result of the disposal of MNI and Infobolsa during the first half of 2016. The Eurex segment lagged 3 per cent behind the previous year. Net revenue is composed of sales revenue plus net interest income from banking business and of other operating income, less volume-related costs.

In the derivatives market, low volatility was reflected in lower traded index derivatives volumes, Eurex Exchange's biggest business segment. Conversely, traded volumes in interest rate contracts increased, largely due to interest rate hikes in the US and the expectation that ECB will also change its interest rate policy over the medium term. Overall, the volume of futures and options contracts traded at Eurex Exchange was down 3 per cent compared to 2016. Deutsche Börse's commodities business, operated by European Energy Exchange and its subsidiaries (EEX group), markedly increased in the areas of gas and emissions trading, expanding EEX group's market position vis-à-vis competitors, as well as over-the-counter (OTC) trading. Trading in gas products grew by 13 per cent, whilst emissions trading increased by 45 per cent. In contrast, the power market was influenced by a debate on price zones for the German and Austrian markets, which led to uncertainty amongst market participants and drove them to off-exchange trading platforms for an interim period. In this context, EEX temporarily lost market share but was able to win it back to a large extent during the course of the year. On a full-year basis, trading in EEX power products declined by 16 per cent. Regarding FX trading, operated by Deutsche Börse's subsidiary 360T, new customer business in particular provided the ground to achieve growth in a stagnating market. Aggregate net revenue in the Eurex segment was down by 3 per cent year-on-year.

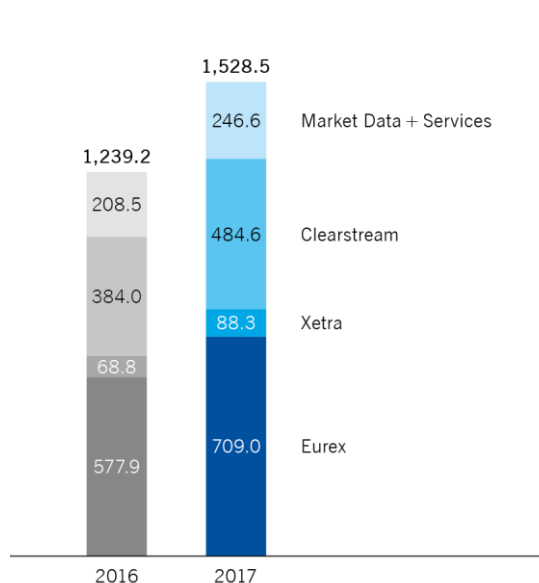
Net revenue by segment

€ million



EBITDA by segment

€ million



The cash market showed year-on-year increases across all trading platforms, in spite of very low volatility. This was attributable, on the one hand, to the extremely robust economic situation in Germany, which brought the benchmark index DAX to record levels. On the other hand, Deutsche Börse gained market share in trading DAX constituents from other trading platforms. Low interest rates make investments in equities and other variable-return securities more attractive compared to fixed income investments. Accordingly, net revenue increased by 7 per cent.

Net revenue generated by the Clearstream segment with its post-trading services increased by 11 per cent. In particular, Clearstream was able to further expand its Investment Fund Services business area, primarily through the acquisition of new clients as hedge fund business partners. Clearstream also benefited from higher interest rates in the US, and from increased trading activity – whilst the value of cash market securities held in custody rose at the same time.

The technology and market data business of Deutsche Börse Group (Market Data + Services segment) achieved growth in the index business in particular, whilst revenue in the data business was down year-on-year, mainly due to consolidation effects. Revenue in Infrastructure Services was up slightly against the previous year. Overall net revenue of the Market Data + Services segment was slightly above the previous year's figure – net revenue from the index business rose strongly, by 11 per cent.

Operating costs comprise staff costs and other operating costs. The Group reports depreciation, amortisation and impairment losses separately from operating costs. During the year under review, operating costs were down by 5 per cent from the previous year. They included non-recurring effects of €92.1 million in total (2016: €137.7 million), comprising, amongst other things, costs for the integration of acquired companies or the disintegration of sold entities (€20.7 million), efficiency programmes (€18.4 million), the planned merger with London Stock Exchange Group (€10.3 million) and criminal investigations against Clearstream Banking S.A. (and other entities) in the US (€8.3 million). Adjusted for these non-recurring effects, operating costs declined slightly, by 1 per cent compared to the previous year.

Staff costs are a key driver for operating costs. Adjusted staff costs increased by 7 per cent to €611.9 million (2016: €573.0 million) due to a series of reasons:

- Increased average number of employees during the year under review attributable to the hiring of staff at the beginning of the year, who had previously worked on a freelance basis
- Higher costs for share-based remuneration, due to the higher share price
- Salary increases for non-executive staff, between 2.5 per cent and 4 per cent (depending on location)

Other operating expenses relate primarily to the costs of enhancing and operating Deutsche Börse Group's technological infrastructure, including, for example, costs for IT services providers and electronic data processing. In addition, other operating expenses include the cost of the office infrastructure at all the Group's locations as well as travel expenses, most of which are incurred in connection with sales activities. Because of the Group's business model and the fact that the company does not normally distribute its products and services to end customers, advertising and marketing costs only account for a very small portion of the company's operating expenses. Adjusted for non-recurring effects, the other operating expenses declined by 10 per cent. This marked year-on-year decrease was due, in particular, to the hiring of staff who had previously worked on a freelance basis; the related costs have since been reported as staff costs.

Deutsche Börse Group's result from equity investments amounted to €197.8 million (2016: €36.9 million). This significant increase was due in particular to non-recurring income related to the full disposal of the stake in BATS Global Markets, Inc. during the first quarter of 2017, as well as to the disposal of shares in ICE US Holding Company L.P. during the fourth quarter of 2017. Adjusted for this non-recurring revenue, the result from equity investments stood at €8.3 million (2016: €5.7 million).

Deutsche Börse Group's earnings before interest, tax, depreciation and amortisation (EBITDA) increased by 23 per cent, largely reflecting the higher result from equity investments, combined with lower operating costs. On an adjusted basis, EBITDA rose by 6 per cent year-on-year.

Over the past years, Deutsche Börse Group has undertaken extensive infrastructure investments, in order to maintain its technological lead. Accordingly, depreciation, amortisation and impairment losses were up 22 per cent on the previous year's figure. Adjusted for non-recurring effects, depreciation and amortisation rose by 25 per cent, to €157.3 million.

Deutsche Börse Group's earnings before interest and tax (EBIT) increased by 24 per cent during the year under review, adjusted by 4 per cent.

The Group's financial result was €-79.7 million (2016: €-74.6 million). Adjusted for non-recurring effects, the financial result amounted to €-69.7 million (2016: €-74.6 million).

The effective Group tax rate 2017 was 30.5 per cent; adjusted it was 27.0 per cent, as expected.

Deutsche Börse Group's net profit for the period attributable to Deutsche Börse AG shareholders increased by 21 per cent compared with the previous year (adjusted: 6 per cent).

Non-controlling interests in net profit for the period attributable to Deutsche Börse AG shareholders for the period amounted to €21.7 million (2016: €25.5 million). The majority thereof was received by non-controlling shareholders of EEX group.

Basic earnings per share, based on the weighted average of 186.8 million shares, amounted to €4.68 (2016: €3.87 for an average of 186.8 million shares outstanding). Adjusted, basic earnings per share rose to €4.59 (2016: €4.34).

Deutsche Börse Group key performance figures

	Unadjusted			Adjusted		
	2017 €m	2016 €m	Change %	2017 €m	2016 €m	Change %
Net revenue	2,462.3	2,388.7	3	2,462.3	2,388.7	3
Operating costs	1,131.6	1,186.4	-5	1,039.5	1,048.7	-1
EBITDA	1,528.5	1,239.2	23	1,431.3	1,345.7	6
Depreciation, amortisation and impairment losses	159.9	131.0	22	157.3	125.5	25
EBIT	1,368.6	1,108.2	24	1,273.8	1,220.2	4
Net profit for the period attributable to Deutsche Börse AG shareholders	874.3	722.1	21	857.1	810.8	6
Earnings per share (basic) in €	4.68	3.87	21	4.59	4.34	6

Comparison of results of operations with the forecast for 2017

For 2017, Deutsche Börse Group originally expected an increase in net revenue between 5 and 10 per cent, anticipating further economic growth, improvements to the cyclical market environment (especially higher equity market volatility and further rising interest rates), and the variety of structural growth initiatives. Whilst the global economy performed as anticipated, equity market volatility fell short of the previous year's level on average during the year. Interest rates were only hiked in the US, whereas in Europe, they remained at the previous year's low levels. The conditions described earlier in the ["Business developments" section](#) only partly reflected the assumptions used in the forecast. Based on its highly diversified business model, Deutsche Börse Group increased its net revenue by 3 per cent, and thus did not reach completely the mean of its forecast for 2017. Breaking down net revenue increases and decreases by cyclical and structural factors, the Group was able to generate net revenue growth of around 5 per cent that was attributable to structural factors. Key drivers of this growth were Clearstream's custody, funds and collateral management businesses, the index business at MD+S, as well as new Eurex products. Whilst cyclical factors provided support to Deutsche Börse Group in Clearstream's banking business or for trading activities in interest rate derivatives, they also caused a marked year-on-year decline in traded contracts in Eurex's highest-volume business. Combined with consolidation effects, cyclical net revenue was down by 2 per cent.

Deutsche Börse Group manages operating costs (including depreciation and amortisation) – relative to the development of net revenue – based on principles designed to ensure the scalability of the Group's business model. For 2017, the Group forecast an adjusted operating costs growth range (including depreciation and amortisation) of between 0 and 5 per cent, depending on the net revenue increase. Given a 2 per cent increase in adjusted operating costs (including depreciation and amortisation), the Group achieved this objective in principle.

Deutsche Börse Group projected an increase in net revenue of between 5 and 10 per cent, and of operating costs in a corresponding range. Furthermore, the Group expected an increase in net profit for the period attributable to Deutsche Börse AG shareholders of between 10 and 15 per cent. Since the increase in net revenue slightly fell short of expectations, and the effect of lower operating costs was neutralised by markedly higher depreciation and amortisation, profit also remained slightly below the forecast. On an adjusted basis, Deutsche Börse Group achieved a 6 per cent increase in net profit for the period attributable to Deutsche Börse AG shareholders. Moreover, the Group achieved a ratio of interest-bearing gross debt to adjusted EBITDA of 1.4 at Group level, slightly below the target value of 1.5 at the

Key figures by quarter (adjusted)

	Q1		Q2		Q3		Q4	
	2017 €m	2016 €m	2017 €m	2016 €m	2017 €m	2016 €m	2017 €m	2016 €m
Net revenue	623.4	610.5	623.6	600.7	576.3	558.5	639.0	619.0
Operating costs	245.1	249.3	245.4	245.1	247.4	244.8	301.6	309.5
EBITDA	380.2	362.8	379.5	356.3	333.1	316.9	338.3	309.7
Depreciation, amortisation and impairment losses	35.2	30.5	39.2	30.7	40.3	30.9	42.6	33.4
EBIT	345.0	332.3	340.3	325.6	292.8	286.0	295.7	276.3
Net profit for the period attributable to Deutsche Börse AG shareholders	232.2	221.3	232.8	218.5	198.1	190.7	194.0	180.3
Earnings per share (basic) in €	1.24	1.18	1.25	1.17	1.06	1.02	1.04	0.97

maximum. The adjusted tax rate was 27.0 per cent, as planned. In line with projections, the operating cash flow was clearly positive. Investments in property, plant and equipment, as well as intangible assets in the amount of €149.2 million were in line with the forecast. After increasing its target figures, the Group aimed to distribute dividends equivalent to the mean of the projected 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, a figure of 53 per cent was reached.

Eurex segment

The performance of the Eurex derivatives segment largely depends on the trading activities of institutional investors and proprietary trading by professional market participants. The segment's revenue is therefore generated primarily from fees that are charged for trading and clearing derivatives contracts.

Revenue generated from Deutsche Börse Group's derivatives markets is primarily driven by the financial derivatives traded on Eurex Exchange: index derivatives accounted for 39 per cent of net revenue, interest rate derivatives 20 per cent and equity derivatives 4 per cent. Energy products traded on European Energy Exchange AG and its subsidiaries and/or shareholdings (EEX group), and derivatives based thereon (commodities), contributed 21 per cent; foreign-exchange trading on 360T[®] contributed approximately a further 7 per cent. The "other" item (9 per cent) includes, among other things, the repo business, the participation fees paid by trading and clearing participants, as well as interest income generated by the Group's clearing houses from investing their clients' cash collateral.

Regarding the derivatives market segment, trading volumes of the key business areas – financial derivatives (Eurex Exchange), commodities (EEX group) and foreign exchange (360T) – showed a mixed development during 2017. While Eurex Exchange was able to increase trading activity in interest rate derivatives, index derivatives trading was down compared to the same quarter of the previous year, due to the low volatility on equity markets. In the commodities business, traded volumes in gas products and emission rights boomed, while the power market declined in the wake of regulatory intervention. Daily FX trading volumes on the 360T trading platform continued to increase – in a stagnating overall market – in the year under review.

Net segment revenue decreased by 3 per cent, operating costs by 1 per cent, adjusted operating costs remained stable. EBITDA rose by 23 per cent, it comprises positive non-recurring effects of €189.2 million from the divestiture of the remaining shareholding in BATS Global Markets, Inc. in the first quarter of 2017 as well as from the sale of shares in ICE US Holding Company L.P. in the fourth quarter of 2017. Adjusted EBITDA was 6 per cent down year-on-year.

Segment key figures (adjusted)

	Eurex		Xetra		Clearstream		Market Data + Services	
	2017 €m	2016 €m	2017 €m	2016 €m	2017 €m	2016 €m	2017 €m	2016 €m
Net revenue	1,002.1	1,035.3	176.5	164.6	886.9	797.4	396.8	391.4
Operating costs	442.7	443.6	88.4	90.1	370.7	365.1	137.7	149.9
EBITDA	562.4	595.6	93.4	76.1	516.2	432.5	259.1	241.5
Depreciation, amortisation and impairment losses	81.3	69.8	7.8	5.6	54.2	39.5	14.0	10.6
EBIT	481.1	525.8	85.6	70.5	462.0	393.0	245.1	230.9

Interest rate increases in the US, expectations that the European Central Bank (ECB) will adapt its monetary policy stance over the next two years, aborting negative interest rates and scaling back its QE measures fuelled demand for interest rate derivatives, where volumes grew by 11 per cent during the year under review. As in the previous year, Eurex equity index derivatives were the product group with the highest trading volume. Persistent low market volatility did not provide any impetus for trading, however: traded volumes of index contracts were down significantly year-on-year. This decline also affected the most actively traded products by far: contracts on the EURO STOXX 50[®] and DAX[®] indices. Eurex has managed to gradually reduce its dependence on such benchmark products by continuously diversifying its product portfolio. Products on MSCI indices as well as contracts on sector indices, dividend indices and volatility indices, for example, totalled around 18 per cent of overall trading volumes in index derivatives in the year under review. The volume of Eurex's equity derivatives contracts (single-stock options and futures) declined by 6 per cent. In total, 1,675.9 million futures and options contracts were traded on Eurex Exchange during 2017, down by 3 per cent year-on-year (2016: 1,727.5 million).

For participants in more than 30 countries around the world, EEX group represents the central marketplace for energy and commodity products. The group's product portfolio comprises contracts on energy, metals, environmental products, freight and agricultural products. EEX acquired all shares in Nodal Exchange Holdings, LLC in May 2017. This acquisition allowed EEX group to open up access

Eurex segment: key figures

	2017	2016	Change
Financial key figures	€m	€m	%
Net revenue	1,002.1	1,035.3	-3
Operational costs	485.6	492.5	-1
EBITDA	709.0	577.9	23
EBITDA (adjusted)	562.4	595.6	-6
Depreciation, amortisation and impairment losses	83.4	73.9	13
EBIT	625.6	504.0	24
EBIT (adjusted)	481.1	525.8	-9
Financial derivatives: trading volume on Eurex Exchange	m contracts	m contracts	%
Derivatives ¹⁾	1,675.9	1,727.5	-3
Equity index derivatives ²⁾	818.6	909.4	-10
Interest rate derivatives	582.1	526.6	11
Equity derivatives ³⁾	275.0	291.4	-6
Commodities: trading volume on EEX⁴⁾	TWh / m t CO₂	TWh / m t CO₂	%
Electricity	3,760.7 ⁵⁾	4,455.6	-16
Gas	1,981.5	1,756.2	13
Emissions trading	1,380.5	949.9	45
Foreign-exchange business: trading volume on 360T[®]	€bn	€bn	%
Average daily volume on 360T	60.8	57.6	6

1) The total amount differs from the sum of the individual figures due to rounding differences.

2) Including index dividend and volatility derivatives; figures for 2016 adjusted accordingly

3) Including single stock dividend and ETF derivatives; figures for 2016 adjusted accordingly

4) Volumes traded on EEX – in terawatt hours (TWh) for power and gas contracts, and in million tonnes of CO₂ for emissions trading

5) Including Nodal Exchange (394.9 TWh since May 2017)

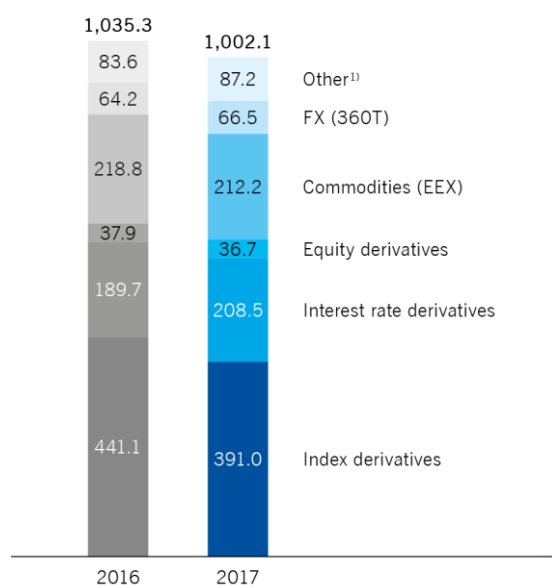
to the North American energy market, and to expand its global presence and member base. Nodal Exchange offers a wide range of electricity and natural gas contracts in order to hedge energy price risks in the US; it has been fully consolidated since 3 May 2017, with revenues and costs reported in the Commodities segment.

In the power market, the debate initiated by regulators on price zones and the impending split of the German/Austrian price zone has caused a significant decline in trading volumes on the power derivatives market. As a consequence, EEX developed new products for Germany and Austria, which allow its clients to set up hedges despite a potential price zone split. EEX was thus able to gradually regain market share during the second half of the year. The launched Phelix-DE future established itself as new benchmark for the European electricity segment along the entire curve. Furthermore, the unexpected shutdown of nuclear power plants in France in 2016 negatively impacted upon trading volumes in the first half of 2017. EEX increased its market share in the Italian power market to 74 per cent in the year under review. PEGAS, EEX Group's trading platform for natural gas products, was also able to gain market share and raise trading volumes thanks to its broad product range and high pricing quality. In the trading of emission rights, transaction volumes significantly posted double-digit growth rates on both the spot and the derivatives market.

Deutsche Börse Group has further increased daily FX trading volumes on 360T as well as its market share, whereas global FX trading has experienced static transaction volumes in the year under review. As a result of the low-interest environment in Europe and the relatively low fluctuations in the main currencies during the course of the year, the foreign exchange market lacked any major macroeconomic impulses in the first half of the year under review. Hence, volatility was low – apart from fluctuations triggered by specific occasions such as major political events. In contrast, the interest rate increases in the last quarter of 2017 had a positive impact on the trading volumes. In the US, this growth was

Net revenue in the Eurex segment

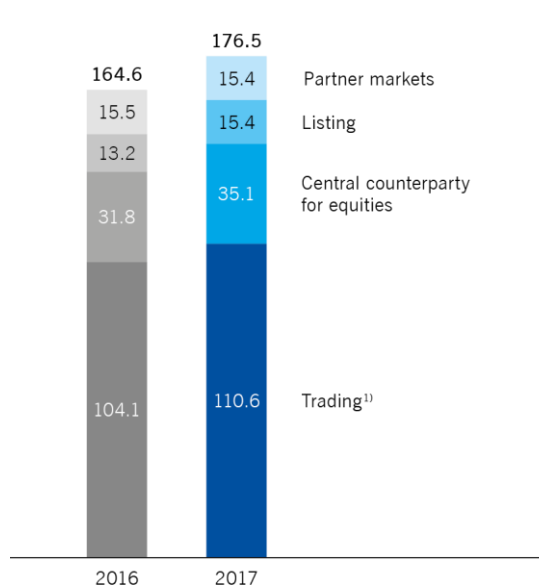
€ million



1) Incl. repo business and net interest income from banking business

Net revenue in the Xetra segment

€ million



1) The position "Trading" includes the Xetra® electronic trading system, Börse Frankfurt as well as structured products trading.

mainly driven by trading activity of new clients. 360T's efforts to consistently expand its network across all regions and market segments, especially in the growth markets of Asia/Pacific and US, is now paying off. In addition to corporates and banks, client acquisition focused on asset managers in particular – one of 360T's key strategic focus areas for the future. New trading mechanisms in the FX spot market also contributed to 360T's success. All in all, 360T generated growth from its most important pillars: geography, customer segments and products. Customers appreciate the performance of 360T's trading platform, which became also evident in the awards recently won by 360T, including three Euromoney awards for best "Speed of Execution", "Variety of Dealers" and "Breadth of Currencies" as well as the FX Week Best Banks Award 2017 for "Best Professional E-Trading Venue".

MiFID II has brought about fundamental changes for the derivatives markets, too, creating new competitive dynamics. Eurex is well prepared and has been supporting markets in the transition. For instance, Eurex provides new trading models and off-book liquidity discovery services, thus addressing the new best execution and transparency requirements. Eurex's new market making models respond to the requirements in the fields of market making, algorithmic trading, licensing, as well as to location and equivalence requirements.

Xetra segment

The Xetra segment generates most of its net revenue from trading and clearing cash market securities. The primary sales driver, accounting for 63 per cent, was net revenue from trading. The central counterparty (CCP) for equities and exchange-traded products (ETPs) operated by Eurex Clearing AG contributed 20 per cent to the segment's net revenue; the net revenue of the CCP is determined to a significant extent by trading activities on the trading venue Xetra®. Listing revenue (which accounts for around 9 per cent) is primarily generated from existing listings and new admissions. The segment generates another 9 per cent of net revenues with partner markets, and through cooperations with other exchanges.

Net revenue in the Xetra segment increased by 7 per cent during the year under review. Operating costs went down by 4 per cent year-on-year, adjusted by 2 per cent. As a result of higher net revenues and lower costs, EBITDA increased by 28 per cent, adjusted by 23 per cent.

Trading activities on Deutsche Börse Group's cash markets – Xetra, the Frankfurt Stock Exchange and Tradegate – increased across the board during 2017. In the 2017 financial year, securities with a total volume of €1.47 trillion were traded (2016: €1.38 trillion), marking the second highest volume since 2012. The securities include shares and bonds from German and international issuers, exchange-traded funds (ETFs) and exchange-traded commodities (ETCs) as well as units in actively managed mutual funds and structured products. Institutional, international and private investors with a focus on highly liquid equities and ETFs primarily trade on the trading venue Xetra. As a result, Xetra generates by far the highest trading volumes within the segment. In addition to Xetra, Deutsche Börse operates trading at the Frankfurt Stock Exchange and holds a 75 per cent stake in Tradegate Exchange GmbH. Moreover, it holds a stake of just under 20 per cent in Tradegate AG Wertpapierhandelsbank, which holds the remaining shares in Tradegate Exchange.

Reasons for the increase in traded volumes, in spite of persistently low equity market volatility, are manifold: the political and economic situation in the eurozone has stabilised; especially the German economy is showing outstanding records and full order books – at the same time, the benchmark indices DAX and STOXX are trading at record levels. Investor confidence in Europe as a stable economic area with good growth prospects has recovered again, whilst disenchantment was widespread in the US, following the first year of President Trump's term of office. Moreover, during the current low interest rate

environment, equities are amongst the few asset classes providing investors with opportunities for higher returns – which are gaining relevance in public discussion as a building block for private retirement provisions over the long term.

The trading venue Xetra also gained ground compared to so-called multilateral trading facilities (MTFs); for instance, its share – as a reference market for trading in DAX shares – increased again to 65 per cent (2016: 57 per cent). The attractiveness of exchange trading was also enhanced thanks to T7[®], the new trading technology to which Xetra trading migrated in July 2017, and which offers numerous advantages such as further reductions in latency – the time for processing an order in the system.

It was not least due to this technological renewal of its systems for the Xetra trading venue that Deutsche Börse managed to attract further renowned issuers – Fidelity, Vanguard and Franklin Templeton – for its ETF segment. Deutsche Börse offers investors the largest selection of ETFs of all European exchanges: as at 31 December 2017, 1,205 ETFs were listed (2016: 1,133 ETFs). Assets under management held by ETF issuers totalled €527.1 billion at the end of the year, a year-on-year increase of 28 per cent (31 December 2016: €411.6 billion). Trading volumes, however, declined by 17 per cent to €131.7 billion (2016: €158.0 billion). Deutsche Börse thus remains Europe's leading marketplace for ETFs. The most heavily traded ETFs are based on the European STOXX equity indices and on the DAX index.

Xetra-Gold[®], a bearer bond issued by Deutsche Börse Commodities, benefited from the stable economic environment. The increase was due in particular to strong demand from institutional investors. At 174.2 tonnes (2016: 117.6 tonnes), gold holdings reached a record level at the year-end: assets under management in Xetra-Gold stood at a record level of approximately €6.1 billion as at 31 December 2017 (2016: €4.2 billion). Xetra-Gold has generated the most turnover among all ETCs traded on Xetra: aggregate order book turnover was around €2.9 billion in 2017.

The purpose of an exchange is to provide financing to, and foster growth for the real economy – this is at the very heart of an exchange's business. Against this background, 2017 was a satisfactory year for initial public offerings (IPOs), with the total number of IPOs at the Frankfurt Stock Exchange amounting to 13, compared to 19 in the previous year. The issue volume amounted to €2.7 billion (2016: €5.2 billion). The biggest IPO of 2017 was Delivery Hero AG, an online food ordering service, with a total issue size of €1.0 billion.

Xetra segment: key figures

	2017	2016	Change
Financial key figures	€m	€m	%
Net revenue	176.5	164.6	7
Operating costs	93.5	97.4	-4
EBITDA	88.3	68.8	28
EBITDA (adjusted)	93.4	76.1	23
Depreciation, amortisation and impairment losses	7.8	5.6	39
EBIT	80.5	63.2	27
EBIT (adjusted)	85.6	70.5	21
Cash market: trading volume (single-counted)	€bn	€bn	%
Xetra [®] trading venue	1,329.7	1,262.1	5
Börse Frankfurt	46.7	43.9	6
Tradegate	91.2	71.0	28

Yet companies continue to seek refinancing options outside a listing, not least due to prevailing low interest rates and the vast amount of cash in the markets. This is where the Deutsche Börse Venture Network comes into play. It matches start-ups in their growth phase looking for follow-up financing of €1 million or more, with international investors in a targeted manner, facilitating the raising of capital. The exclusive Venture Network online platform allows investors and entrepreneurs to establish initial contacts, exchanging information within a protected area. Deutsche Börse Venture Network is continuously growing and is becoming increasingly international: at the end of the reporting year, 175 growth companies and 300 investors were active on the platform. The enterprises have raised around €500 million in growth financing, and an additional €1.3 billion were raised via three IPOs directly from the Network.

It remains Deutsche Börse's goal to establish an ecosystem for growth, designed to facilitate a better flow of investments into the real economy, and to enhance financing options for enterprises of any size. Deutsche Börse has built "Scale", a new segment for established small and medium-sized companies primarily from Germany. The segment was launched on 1 March 2017: by the end of the year, 48 issuers of shares and 11 issuers of bonds were listed. Traded volumes of listed enterprises which moved to Scale have since more than doubled. In March, Deutsche Börse launched the Scale All-Share index, which was complemented by a selection index at the beginning of 2018.

The revised Markets in Financial Instruments Directive (MiFID II) came into force on 3 January 2018. New rules brought about by MiFID II include a shift of trading in financial instruments from off-exchange trading venues to regulated exchanges; also, it restricts the volume of trading in so-called "dark pools" to 8 per cent of the market volume in each share. Dark pools are off-exchange markets where investors can buy or sell large amounts of shares without disclosing their order size (or their limit) prior to trading. Deutsche Börse has adapted to these foreseeable changes in the order flow at an early stage; it developed trading and reporting systems which help clients to comply with their obligations under MiFID II.

Clearstream segment

The segment provides the post-trade infrastructure for the Eurobond market, and offers custody services for securities from more than 50 markets worldwide. In doing so, Clearstream ensures that once a trade has been executed, cash and securities change hands. Clearstream is responsible for securities issuance, settlement, management and custody. As an international central securities depository (ICSD), Clearstream provides these settlement and custody services for securities held in Luxembourg. As a central securities depository (CSD), Clearstream services the market for German securities. The ICSD and CSD business accounted for 63 per cent of net revenue in the year under review. Investment Funds services accounted for 16 per cent of net revenue. Using Clearstream's Vestima® fund processing platform, clients can manage settlements and custody for their entire fund portfolio. Net revenue from the Global Securities Financing (GSF) franchise – which encompasses triparty repo, GC Pooling®, securities lending and collateral management – contributed 9 per cent of the segment's net revenue. Net interest income from Clearstream's banking operations accounted for 12 per cent of net revenue.

During the year under review, Clearstream saw considerable growth in its investment fund business and its net interest income from banking business. The segment increased its net revenue by 11 per cent. Operating costs declined by 3 per cent, adjusted they rose by 2 per cent. EBITDA thus increased by 26 per cent, adjusted by 19 per cent.

Within the ICSD and CSD business, custody services provide the greater contribution. Net revenue in this business is mainly driven by the volume and value of securities under custody, which determines the deposit fees. The settlement business depends heavily on the number of settlement transactions processed by Clearstream, both via stock exchanges and over the counter (OTC). The domestic CSD business reflects the business development on the German cash markets, whereby custody volumes are largely determined by the market values of equities, funds and structured products traded. At the beginning of February 2017, Clearstream migrated the domestic settlement business of its CSDs to the TARGET2-Securities platform (T2S) provided by the ECB. This step represented the migration of the largest T2S participant, boosting the settlement volume on the ECB platform by some 40 per cent. Following migration to T2S, the segment no longer generates net revenue with domestic settlement transactions. Clearstream is the only CSD in Europe to not charge an extra margin on the ECB settlement fees, thus providing lowest-cost settlement services to its customers. Nevertheless, Clearstream was able to compensate for the resulting lack of settlement revenues by an increase in the value of

Clearstream segment: key figures

	2017	2016	Change
Financial key figures	€m	€m	%
Net revenue	886.9	797.4	11
Operating costs	402.3	413.6	-3
EBITDA	484.6	384.0	26
EBITDA (adjusted)	516.2	432.5	19
Depreciation, amortisation and impairment losses	54.5	40.6	34
EBIT	430.1	343.4	25
EBIT (adjusted)	462.0	393.0	18
Business key figures			
International business (ICSD)	€bn	€bn	%
Value of securities under custody (average value during the year)	6,699.4	6,753.6	-1
Domestic business (CSD)	€bn	€bn	%
Value of securities under custody (average value during the year)	4,546.5	4,419.3	3
Investment Funds Services	€bn	€bn	%
Value of securities under custody (average value during the year)	2,218.7	1,902.0	17
Global Securities Financing	€bn	€bn	%
Outstanding volume (average value during the year)	459.8	515.9	-11
Net interest income from banking business	€bn	€bn	%
Average daily cash balances ¹⁾	13.6	13.1	4

1) Includes some €1.5 billion currently or formerly blocked by EU and US sanctions (2016:€1.5 billion)

assets under custody in the domestic CSD businesses, and by adapting the pricing model to the new T2S environment. In Clearstream's ICSD business the value of international assets held in custody (which predominantly comprise bonds traded on the OTC market) declined slightly year-on-year due to reduced issuance while the number of transactions increased by 25 per cent.

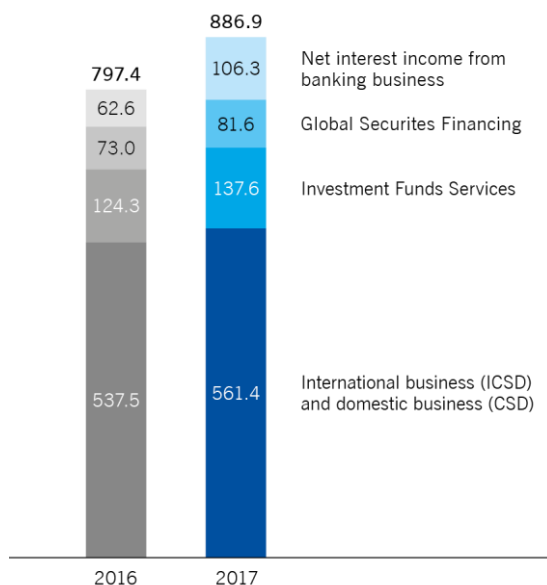
The Investment Funds Services business achieved significant growth by gaining new issuers for its services and increasing assets held in custody, partly due to capital inflows from the US and partly reflecting the positive overall performance on the international fund markets throughout the year. Since some of these business gains came with a fee holiday in the beginning, the segment saw the full impact of these gains in the course of the year under review. At the same time, Clearstream continues to attract new clients as partners in the hedge fund business. In June 2017, Vontobel selected Clearstream as strategic partner to streamline and consolidate its third-party hedge fund processing activities. Clearstream's investment funds processing infrastructure Vestima enables processing of all types of funds from mutual funds to hedge funds on a single platform. Centralised solutions, such as Clearstream's Vestima platform, support market participants in complying with the regulatory requirements and new rules on risk mitigation.

In the GSF business, average outstanding volumes decreased by 11 per cent. After the ECB began to provide plenty of liquidity on the market as part of its QE programme, volumes declined considerably, especially in GC Pooling. At the same time, order flows shifted towards smaller, higher-priced lending volumes, raising GSF net revenue overall.

Average cash customer deposits were up 4 per cent year-on-year. Besides the effect of this increase in volume, interest rate levels in the US – with three interest hikes in 2017, the latest by 0.25 per cent in December – gave a boost to net interest income, given that around 53 per cent of cash deposits is denominated in US dollar. Consequently, net interest income generated with daily cash balances increased considerably.

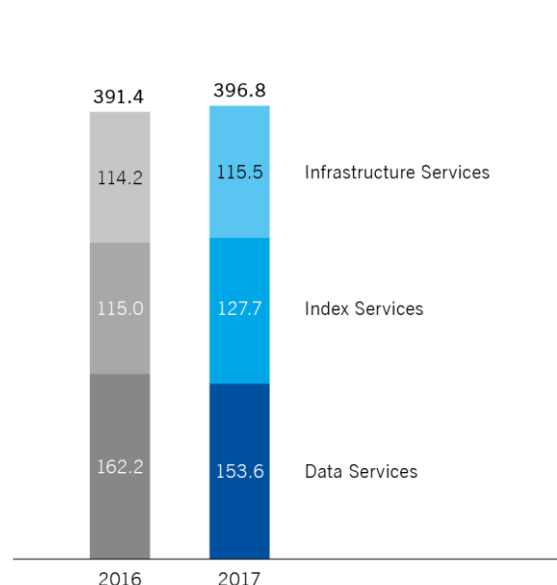
Net revenue in the Clearstream segment

€ million



Net revenue in the Market Data + Services segment

€ million



Market Data + Services segment

The core business of the Market Data + Services segment is the development, production and marketing of capital market information, technology and infrastructure services to clients worldwide. These services include real-time trading and market signals, as well as indices such as EURO STOXX 50 and DAX. Capital market participants subscribe to this information, or licence it for their own use, processing, or dissemination. The segment generates much of its net revenue on the basis of long-term client relationships; it is relatively independent of trading volumes and capital markets volatility. The assets and liabilities related to its subsidiary Market News International Inc. (MNI) were sold by way of an asset deal, effective 8 July 2016. Deutsche Börse AG already sold its 50 per cent stake in Infobolsa S.A. in February 2016. The net revenue of the segment comprises the business areas Data Services (39 per cent), Index Services (32 per cent), and Infrastructure Services (29 per cent).

Market Data + Services slightly increased net revenue during the year under review. In the previous year, operating profit also included net revenue of MNI and Infobolsa, which were deconsolidated in 2016. Operating costs declined by 18 per cent, adjusted by 8 per cent, due to strict cost management and deconsolidation effects, amongst other factors. Accordingly, the segment's EBITDA rose considerably by 18 per cent, adjusted by 7 per cent.

The Data Services business area mainly involves the marketing of licences for real-time trading and market signals, and for the provision of historical data to banks, trading firms and fund management companies. The most important products in this respect are order book data from the cash and derivatives markets, as well as reference data of Deutsche Börse and its partner exchanges. The segment's core business took a fundamentally positive development, driven by the introduction of new products and licensing models. However, the segment was not able to entirely compensate for the disposal of MNI. Moreover, the release of provisions increased the comparative figure for that year. Adjusted for these effects, Data Services revenues were slightly higher than in the previous year.

In its Index Services business area, which it conducts through its STOXX Ltd. subsidiary, Deutsche Börse generates revenue from calculating and marketing indices and benchmarks, which banks and fund management companies use as underlying instruments or benchmark references for financial instruments, investment vehicles and securities portfolios. The extensive range of indices offered by STOXX Ltd. provides issuers with a wealth of opportunities for creating financial instruments for most diverse investment strategies. As one of Deutsche Börse Group's growth drivers, the index business

Market Data + Services segment: key figures

	2017	2016	Change
Financial key figures	€m	€m	%
Net revenue	396.8	391.4	1
Operational costs	150.2	182.9	-18
EBITDA	246.6	208.5	18
EBITDA (adjusted)	259.1	241.5	7
Depreciation, amortisation and impairment losses	14.2	10.9	30
EBIT	232.4	197.6	18
EBIT (adjusted)	245.1	230.9	6
Performance indicators	€bn	€bn	%
Assets under management in ETFs on STOXX® indices (annual average)	77.0	61.1	26
Assets under management in ETFs on DAX® indices (annual average)	28.7	26.0	10

maintained its growth momentum during the year under review – due, in particular, to higher volumes of ETFs based on STOXX indices and thus higher licence fees. Revenues from issuance of structured products based on STOXX indices were also up year-on-year. In this way, the index business more than offset the decline in revenues due to lower trading volumes in equity index derivatives on STOXX and Deutsche Börse indices traded at Eurex Exchange. At the same time, STOXX continued to persevere with its internationalisation strategy, expanding its presence in Hong Kong in order to respond to expectations of clients in the Asia/Pacific region in the best possible way.

The Infrastructure Services business area generates revenue primarily from connectivity services for trading and clearing participants. Revenue generated from these services rose during the year under review, thanks to the segment's success in convincing a constantly rising number of clients to opt for data connections with higher bandwidth, or for new connectivity models. In addition, Infrastructure Services provides development and operational services for technology clients outside the Group – such as partner exchanges, banks acting as Designated Sponsors, or the German regional stock exchanges. Deutsche Börse operates technology on behalf of partner exchanges in Dublin, Vienna, Sofia, Ljubljana, Prague, Budapest, on Malta and the Cayman Islands, as well as domestic exchanges operated by brokers and banks in Frankfurt/Main, Berlin, Dusseldorf, Hamburg/Hanover and Munich. Dublin-based Irish Stock Exchange also migrated to the new T7 trading technology – proof of the reliability and performance of Deutsche Börse Group's IT services.

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 2017. At 18.8 per cent, return on shareholders' equity exceeded the previous year's ratio in the 2017 financial year (2016: 17.3 per cent). Adjusted for the non-recurring effects described in the [“Results of operations”](#) section, the return on equity amounted to 18.4 per cent (2016: 19.4 per cent).

Financial position

Cash flow

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. Cash and cash equivalents as at 31 December 2017 amounted to €580.2 million (31 December 2016: €–146.9 million). Cash and cash equivalents were negative on the reporting date for the previous year – especially due to financial assets with a maturity of more than three months. The latter do not qualify as cash and cash equivalents and the cash flows associated with them have been allocated to investing activities. Cash and bank balances amounted to €1,297.6 million as at 31 December 2017 (31 December 2016: €1,458.1 million).

Deutsche Börse Group's cash flow from operating activities is relevant only to a limited extent as it includes in particular CCP positions, which are subject to significant fluctuations on the reporting date. Due to this, the following refers in particular to the cash flow from operating activities excluding CCP positions. In the 2017 financial year, Deutsche Börse Group generated €1,107.2 million (2016: €856.6 million) in cash flow from operating activities, excluding changes in CCP positions on the reporting date.

Moreover, Deutsche Börse Group paid taxes in the amount of €308.8 million during the 2017 financial year (2016: €277.8 million). The increase in tax payments was largely due to €32.5 million in tax back payments for previous years, resulting from an out-of-court settlement reached with the U.S. Office of Foreign Assets Control (OFAC), the US export control authority, in 2013.

Other non-cash income amounted to €96.4 million (2016: €52.3 million); this was, in particular, due to income from the sale of shares in BATS Global Markets, Inc. and ICE US Holding Company L.P. The transactions generated cash of €274.7 million in total, reported under cash flows from investing activities.

Taking the change in CCP positions into account, cash flow from operating activities amounted to €1,056.2 million (2016: €1,621.4 million).

Cash inflows from investing activities amounted to €181.9 million in the 2017 financial year (2016: €578.5 million).

The acquisition of Nodal Exchange Holdings, LLC by EEX for a purchase price of US\$206.9 million (equivalent to €189.6 million) involved a cash outflow of €157.5 million. Cash inflows from investing activities in the 2016 financial year were attributable, in particular, to the sale of shares in ISE group, which generated cash of €916.3 million (adjusted for cash and cash equivalents sold of €13.0 million that were originally included in the cash amount). Furthermore, the sale of shares in Infobolsa S.A. generated cash of €1.1 million (adjusted for cash and cash equivalents sold of €7.1 million).

In addition, cash inflows of €859.1 million (2016: €149.9 million) resulted from maturities of securities with an original maturity of more than one year as well as from the disposal of shares.

Cash outflows of €312.4 million (2016: €178.9 million) were due to the acquisition of long-term financial instruments.

At €149.2 million, investments in intangible assets and property, plant and equipment were below the prior-year level (2016: €164.9 million); most were made in the Clearstream and Eurex segments. Clearstream's investments related primarily to the expansion of its settlement and collateral management systems, while Eurex invested in its trading and clearing systems.

Cash outflows from financing activities stood at €501.0 million in the 2017 financial year (2016: cash inflows of €848.8 million). Cash outflows of €28.2 million were attributable to the purchase of treasury shares, within the scope of the share repurchase programme which commenced in November 2017.

Consolidated cash flow statement (condensed)

	2017 €m	2016 €m
Cash flows from operating activities (excluding CCP positions)	1,107.2	856.6
Cash flows from operating activities	1,056.2	1,621.4
Cash flows from investing activities	181.9	578.5
Cash flows from financing activities	-501.0	-848.8
Cash and cash equivalents as at 31 December	580.2	-146.9
Cash and other bank balances as at 31 December	1,297.6	1,458.1

Additional cash outflows totalling €39.3 million were related to dividend distributions to non-controlling shareholders of subsidiaries, and to increases of shareholdings in already fully consolidated subsidiaries. During the 2016 financial year, Deutsche Börse AG repaid private placements prior to maturity; this led to cash outflows of €321.6 million.

No commercial paper was outstanding as at 31 December 2017, unchanged from the year before.

In addition, Deutsche Börse AG distributed €439.0 million in dividends for the 2016 financial year (dividends for the 2015 financial year: €420.1 million).

As in previous years, the Group assumes it will have a strong liquidity base in financial year 2017 due to its positive cash flows from operating activities, adequate credit lines and flexible management and planning systems.

Operating leases

Deutsche Börse Group mainly uses operating leases for the office building in Eschborn that the Group moved into in the second half of 2010 and for the buildings used by Clearstream International S.A. in Luxembourg (see [note 38 to the consolidated financial statements](#) for details).

Liquidity management

Deutsche Börse Group primarily meets its operating liquidity requirements from internal financing, i.e. by retaining generated funds. The aim is to provide enough liquidity to cover operating costs for one quarter (currently between €150 million and €250 million). 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 collateralised using liquid bonds from prime-rated issuers. Moreover, Deutsche Börse AG has access to external sources of financing, such as bilateral and syndicated credit lines, and a commercial paper programme (see [note 36 to the consolidated financial statements](#) for details on 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.

Deutsche Börse Group's interest coverage ratio

Interest expense from financing activities	Issue volume	2017 €m	2016 €m
Fixed-rate bearer bond (term until March 2018)	€600 m	7.6	7.4
Fixed-rate bearer bond (term until October 2022)	€600 m	14.8	14.8
Fixed-rate bearer bond (term until October 2025)	€500 m	8.7	8.7
Fixed-rate bearer bond (hybrid bond)	€600 m	16.5	17.2
Private placements ¹⁾	US\$290 m	–	9.3
Commercial paper	€35 m – 2016 ²⁾ €0 m – 2017 ²⁾	–	–
Other interest expense		4.4	4.5
Total interest expense (incl. 50 per cent of the hybrid coupon)		43.7	53.3
EBITDA (adjusted)		1,431.1	1,345.7
Interest coverage³⁾		32.7	25.3

1) Bought back with the proceeds from the sale of ISE mid-2016

2) Annual average

3) EBITDA / interest expense from financing activities (includes 50 per cent of the interest on the hybrid bond)

Capital management

The company's clients generally expect it to maintain conservative interest coverage and leverage ratios, and to achieve good credit ratings. According to the definition of the rating agency, only 50 per cent of the Group's hybrid bond is deducted to determine gross debt as well as interest expenses. Therefore, the Group targets a minimum consolidated interest coverage ratio (defined as the ratio of EBITDA to interest expenses from financing activities) of 16. During the reporting period, Deutsche Börse Group achieved this target, with an interest coverage ratio of 32.7 (2016: 25.3). This figure is based on relevant interest expenses of €43.7 million and adjusted EBITDA of €1,431.1 million.

Data included for the purpose of calculating interest coverage comprises interest expenses incurred for financing Deutsche Börse Group, less interest expenses incurred by subsidiaries 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 coverage.

Moreover, Deutsche Börse targets a maximum ratio of interest-bearing gross debt to EBITDA of 1.5 at Group level. During the reporting period, the Group achieved the target ratio of gross debt to EBITDA of 1.4. This figure is based on gross debt of €1,988.4 million, and adjusted EBITDA of €1,431.1 million. Gross debt consisted of interest-bearing liabilities of €1,988.4 million.

Furthermore, the company endeavours to maintain the strong AA credit rating of Clearstream Banking S.A., 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.

Also, Deutsche Börse AG has publicly stated its intention to maintain certain additional financial indicators for Clearstream entities which the company believes to be consistent with an AA rating. Specifically, this involves a commitment to maintain minimum tangible equity (equity less intangible assets) of €700 million for Clearstream International S.A., and of €400 million for Clearstream Banking S.A. During the reporting period, Clearstream International S.A. fulfilled this commitment, reporting tangible equity of €1,206.6 million; the figure for Clearstream Banking S.A. was €1,213.6 million, also in line with this target. To the extent that the Clearstream subgroup has financial liabilities to non-banks, the subgroup is committed to a minimum interest coverage ratio of 25. During the reporting period as in the previous year, Clearstream had no financial liabilities to non-banks; for this reason, no interest coverage ratio is being reported.

Debt instruments issued by Deutsche Börse AG (outstanding as at 31 December 2017)

Type	Issue volume	ISIN	Term	Maturity	Coupon p.a.	Listing
Fixed-rate bearer bond	€600 m	DE000A1R1BC6	5 years	March 2018	1.125%	Luxembourg/ Frankfurt
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 (hybrid bond)	€600 m	DE000A161W62	Call date 5.5 years/ final maturity in 25.5 years	February 2021/ February 2041	2.75% (until call date)	Luxembourg/ Frankfurt

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 Deutsche Börse AG shareholders. In recent years (where the Group's net profit was lower), the dividend payout ratio was kept at the upper end of this range, in order to distribute stable dividends to shareholders. Given the expected Group's profit growth, the company aims for a dividend payout ratio in the middle of the range between 40 and 60 per cent going forward.

For financial year 2017, Deutsche Börse AG is proposing that the Annual General Meeting resolve to pay a dividend of €2.45 per no-par value share (2016: €2.35). This dividend corresponds to a distribution ratio of 53 per cent of net profit for the period attributable to Deutsche Börse AG shareholders, adjusted for non-recurring effects described in the [“Results of operations”](#) section (2016: 54 per cent, also adjusted for non-recurring effects). Given 186.3 million no-par value shares bearing dividend rights, this would result in a total dividend of €456.4 million (2016: €439.0 million). The aggregate number of shares bearing dividend rights is produced by deducting 6.4 million treasury shares from the ordinary share capital of 193.0 million shares.

Furthermore, Deutsche Börse AG announced in April 2017 that it would launch a share repurchase programme with a volume of around €200 million during the second half of 2017. The programme has been operational since 27 November 2017, and is scheduled for completion by end of March 2018 at the latest. On top of this, Deutsche Börse AG announced on 5 December 2017 that it will launch an additional share repurchase programme with a volume of around €200 million as well during the course of 2018. The company's objective, in the context of these repurchase programmes, is to achieve a balanced use of freely available funds of some €800 million. The company generally expects to use available funds primarily for organic growth, but also, secondarily, for complementary external development. Further details on the purchase of treasury shares within the scope of the share repurchase programme, pursuant to section 160 (1) no. 2 of the AktG are available in the [notes to Deutsche Börse AG's annual financial statements, section “Equity”](#).

Credit ratings

Deutsche Börse AG regularly has its credit quality reviewed by the Standard & Poor's (S&P) rating agency, while Clearstream Banking S.A. is rated by Fitch and S&P.

On 27 September 2017, 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 very low risk appetite, combined with strict risk management systems, diligent liquidity management, as well as its impeccable capitalisation.

On 24 November 2017, S&P affirmed the AA credit rating of Deutsche Börse AG, raising the outlook from “negative” to “stable”.

Relevant key performance indicators

	2017	2016
	€m	€m
Tangible equity of Clearstream International S.A. (as at the reporting date)	1,206.6	1,092.1
Tangible equity of Clearstream Banking S.A. (as at the reporting date)	1,213.6	1,179.4

Credit ratings

	Long-term	Short-term
Deutsche Börse AG		
Standard & Poor's	AA	A-1+
Clearstream Banking S.A.		
Fitch	AA	F1+
Standard & Poor's	AA	A-1+

On the same date, S&P affirmed the AA credit rating of Clearstream Banking S.A. with a stable outlook. The rating reflects the strong risk management, minimum debt levels, as well as Clearstream's strong position on the international capital markets, especially through its international custody and transaction business.

As at 31 December 2017, Deutsche Börse AG was one of only two DAX-listed companies that had been awarded an AA rating by S&P. The ratings histories of Deutsche Börse AG and Clearstream are given in the [five-year overview](#).

Net assets

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

Deutsche Börse Group's non-current assets include primarily intangible assets and financial assets as well as financial instruments held by central counterparties. The last category represented the largest item. This asset item is matched by a liability item in the same amount. Receivables and securities from the banking business, which Deutsche Börse Group holds as financial assets, remained all about the same compared with the previous year, in line with goodwill and other intangible assets.

Consolidated balance sheet (extracts)

	31 Dec 2017	31 Dec 2016
	€m	€m
ASSETS		
Non-current assets	10,883.7	11,939.7
thereof intangible assets	4,091.0	3,972.0
thereof goodwill	2,770.9	2,721.1
thereof financial assets	1,732.3	1,920.9
thereof receivables and securities from banking business	1,563.0	1,604.8
thereof financial instruments held by central counterparties	4,837.2	5,856.6
Current assets	124,257.7	151,904.4
thereof financial instruments held by central counterparties	79,510.7	107,909.6
thereof restricted bank balances	29,392.0	27,777.6
thereof other cash and bank balances	1,297.6	1,458.1
EQUITY AND LIABILITIES		
Equity	4,959.4	4,623.2
Liabilities	130,182.0	159,219.9
thereof non-current liabilities	7,023.8	8,669.8
thereof financial instruments held by central counterparties	4,837.2	5,856.6
thereof interest-bearing liabilities	1,688.4	2,284.7
thereof current liabilities	123,158.2	150,550.1
thereof financial instruments held by central counterparties	78,798.6	107,479.4
thereof cash deposits by market participants	29,215.3	27,777.6

Current assets decreased, driven in particular by financial instruments held by central counterparties and the decline of receivables and securities from banking business, while restricted bank balances increased. This was mainly driven by two factors: higher client cash deposits at Clearstream, and higher cash collateral provided by the clearing members of Eurex Clearing AG during the year under review.

The financing of assets was provided through equity and debt capital. Equity increased year-on-year, driven particularly by the accounting profit realised with the full disposal of the remaining stake in BATS Global Markets and ICE US Holding Company.

Non-current liabilities declined, driven mainly by two factors: firstly, financial instruments held by central counterparties decreased. This liability item is matched by an asset item in the same amount. Secondly, interest-bearing liabilities declined due to a reclassification of a bond in the amount of €599.8 million maturing in 2018.

The main changes within the non-current liabilities item occurred in the following areas:

- A decline in financial instruments held by central counterparties
- An increase of liabilities from cash deposits by market participants as a result of higher cash collateral provided by the clearing members of Eurex Clearing AG; the main reason for this increase was that clearing participants provided a larger proportion of cash compared to securities as collateral for Eurex Clearing AG during the reporting period

Overall, Deutsche Börse Group invested €149.2 million in the continued business in intangible assets and property, plant and equipment (capital expenditure or capex) in the reporting period (2016: €152.6 million). The Group's largest investments were made in the Clearstream and Eurex segments.

Working capital

Working capital comprises current assets less current liabilities, excluding technical closing-date items and commercial paper. Current assets, excluding technical closing-date items, amounted to €1,020.9 million (2016: €1,293.6 million). As Deutsche Börse Group collects fees for most of its services on a monthly basis, the trade receivables of €329.4 million included in current assets as at 31 December 2017 (31 December 2016: €669.8 million) were relatively low compared with net revenue. The current liabilities of the Group, excluding technical closing-date items, amounted to €1,280.1 million (2016: €1,452.8 million, excluding technical closing-date items). The Group therefore had slightly negative working capital of €259.2 million at the end of the year (2016: €159.4 million).

Technical closing-date items

The “receivables and securities from banking business” and “liabilities from banking business” balance sheet items on the balance sheet are technical closing date items that were strongly correlated in the reporting period and that fluctuated between approximately €13 billion and €17 billion (2016: between €14 billion and €20 billion). These amounts mainly represent customer balances in Clearstream's international settlement business.

The “financial instruments of the central counterparties” item relates to the function performed by Eurex Clearing AG and European Commodity Clearing AG: since the latter 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 3, 15 and 36 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 €27 billion and €35 billion (2016: between €24 billion and €29 billion).

Value added: breakdown of company performance

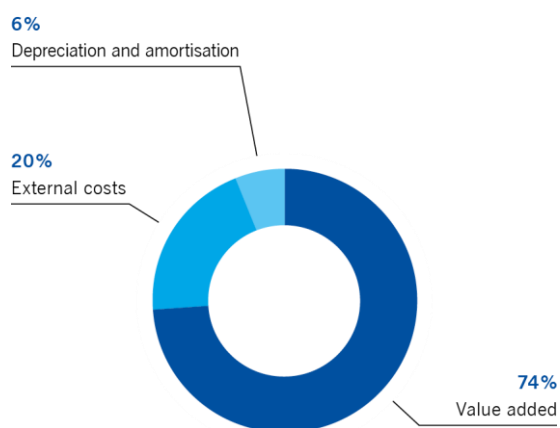
Value added is calculated by subtracting depreciation and amortisation as well as external costs from the company performance. In 2017, the value added by Deutsche Börse Group amounted to €1,879.6 million (2016: €1,627.1 million). The breakdown shows that large portions of the generated value added flow back into the economy: 24 per cent (€456.4 million) benefit shareholders in the form of dividend payments, while 34 per cent (€638.3 million) was attributable to staff costs in the form of salaries and other remuneration components. Taxes accounted for 17 per cent (€311.0 million), while 2 per cent (€47.6 million) was attributable to external creditors. The 22 per cent value added that remained in the company (€410.2 million) is available for investments in growth initiatives, among other things (see ["Origination of value added"](#) and ["Distribution of value added"](#) charts).

Overall assessment of the economic position by the Executive Board

The economic environment in 2017 continued to show signs – in some cases clearly – of a continued recovery, both in Europe and on a global scale. Moreover, interest rates rose, at least in the US. Yet at the same time, volatility on the equity markets remained very low, reaching several historical lows during the second half of 2017. Against this background, equity index derivatives volumes declined significantly, whilst equities trading showed slight increases. The energy markets had to deal with temporary uncertainty, which negatively impacted volumes in power products for the German and Austrian markets – key volume drivers. In summary, these opposing factors led Deutsche Börse Group's financial performance to develop positively during the 2017 financial year, albeit below the range anticipated by the

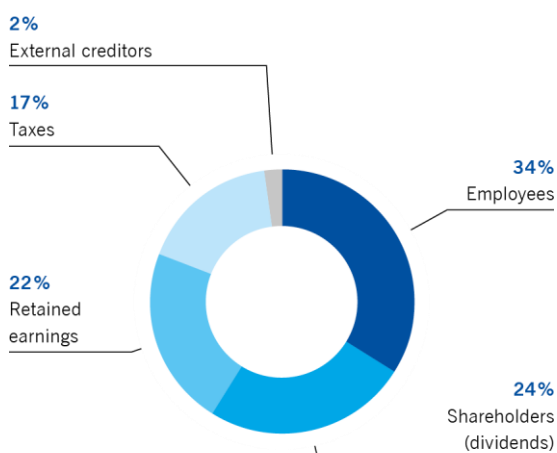
Origination of value added

Company performance: €2,532.8 million



Distribution of value added

Value added: €1,879.6 million



Executive Board. Overall, the Group recorded a 3 per cent increase in net revenue. Operating costs were down 5 per cent on 2016's figure during the year under review, largely due to lower costs incurred in connection with mergers and acquisitions. Adjusted by such effects, costs incurred decreased in 2017 by 1 per cent compared to the previous year. Adjusted for non-recurring effects, net profit for the period attributable to Deutsche Börse AG's shareholders was up by 6 per cent, and thus below the forecast range of between 10 per cent and 15 per cent.

The Executive Board believes that Deutsche Börse Group's financial position was extremely sound during the reporting period. The Group generated high operating cash flows, as in the previous year. Given the increase in adjusted EBITDA, Deutsche Börse Group was able to further improve the ratio of interest-bearing gross debt to EBITDA at Group level: at 1.4, the Group achieved its target of a ratio below the target level of 1.5.

Rating agencies again affirmed the Group's credit quality, awarding it excellent ratings in 2017. On 24 November 2017, Standard & Poor's affirmed the AA credit rating of Deutsche Börse AG raising the negative outlook to stable. On the same day, Standard & Poor's – just like Fitch Ratings on 2 September 2017 – affirmed the AA credit rating of Clearstream Banking S.A. Both ratings were assigned a stable outlook.

Deutsche Börse AG has offered its shareholders attractive returns for years – and financial year 2017 is no exception. At €2.45 (2016: €2.35), the dividend proposed for distribution to shareholders is above the prior-year level. In addition, the distribution ratio decreased slightly as a result of the improvement in earnings, falling from 54 per cent in the previous year to 53 per cent in the year under review (adjusted for non-recurring effects in both cases), and was thus in line with the Executive Board's forecast range of 40 to 60 per cent.

The Group's net assets, financial position and results of operations can be considered to be in an orderly state.

Report on post-balance sheet date events

For details on the ongoing disputes between the Central Bank of Iran and Clearstream Banking S.A., Luxembourg, see the [“Legal disputes and business practice”](#) section in the risk report.

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 (Group) management report; it complies with the requirements of sections 289b-e and 315b-c of the Handelsgesetzbuch (HGB, German Commercial Code), and of the Deutscher Rechnungslegungs Änderungsstandard Nr. 8 (DRÄS 8, German Amendment Accounting Standard No. 8). It is also in accordance with the G4 Standard (“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 > Reporting > GRI. Information of this nature which is referenced in the non-financial statement does not form part of the statement itself. In line with the combined management report, qualitative statements apply equally to Deutsche Börse Group as well as to the parent entity Deutsche Börse AG, unless statements explicitly refer to the parent. In some cases, quantitative details concerning the parent entity are disclosed separately.

A process-based materiality analysis is a key element of Deutsche Börse Group’s sustainability strategy: in particular, this means considering the needs and expectations of relevant internal and external stakeholders, on an ongoing basis. This is the only way in which the Group is able to identify and analyse opportunities and risks in its core business activities at an early stage, and to define concrete areas of entrepreneurial activity on this basis. The purpose of this process is to determine topics which are of particular importance for the company’s business activities, and which have a significant impact upon non-financial matters.

The combined non-financial statement outlines the management approaches, objectives, measures and performance indicators that Deutsche Börse Group applies with respect to employee matters (see the [“Employees”](#) section), compliance including the combat against corruption and bribery, social matters, and product matters. Active protection of human rights is a key element of Deutsche Börse Group’s corporate responsibility. The Group addresses this at various points along the value creation chain. Relevant matters in this non-financial statement are reflected, in particular, in the [“Employees”](#) section, and in the [“Human rights in the supply chain”](#) section, which focuses on the Group’s procurement. It also provides information on the risks the company’s business model is exposed to in connection with these aspects.

As a provider of predominantly electronic services, Deutsche Börse Group engages in relatively little environmentally sensitive activity from a corporate ecology perspective; hence, no detailed report is provided in this respect. Nonetheless, the company is committed to protecting the environment, and to conserving natural resources. Deutsche Börse Group has outlined its ecological policies in its [code of business conduct](#). Indicators for its environmental sustainability performance are available on its website: www.deutsche-boerse.com > Sustainability > Reporting > ESG indicators. Moreover, environmental protection issues are relevant for the design of individual products or services; related measures are described in detail in the [“Product matters”](#) section.

As an international capital markets organiser, Deutsche Börse aims to build and grow trust in market structures. As a listed company included in DAX®, it wants to lead by example. And as a corporate citizen, it endeavours to use the expertise it deploys to successfully manage its core business in such

a way that enables contribution to resolving social challenges. Please refer to the [“Fundamental information about the Group”](#) section for a detailed description of Deutsche Börse Group’s business model. Deutsche Börse Group acts “with an eye to the future”. Its sustainability strategy of the same name defines the Group’s understanding of entrepreneurial responsibility, and guides its operations. Please see the [“Management approach for a Group-wide commitment to sustainability”](#) section.

Employees

This chapter provides an overview of key figures 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

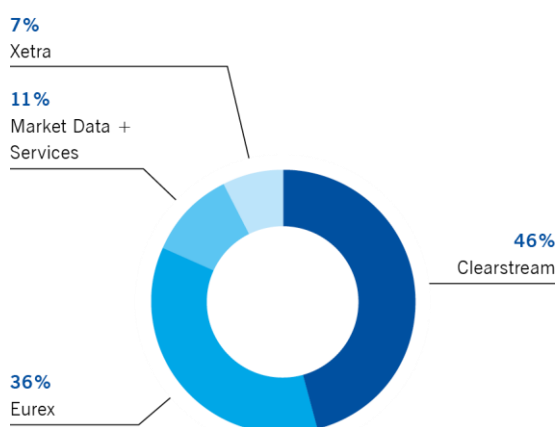
As at 31 December 2017, Deutsche Börse Group employed a total of 5,640 staff (31 December 2016: 5,176), having 85 nationalities at 39 locations worldwide. The average number of employees in the reporting period was 5,567 (2016: 5,095). Staffing numbers at Group level were up by approximately 9 per cent year-on-year, due in particular to the internalisation of external staff at the beginning of the year under review (+339 employees) and the consolidation of EEX subsidiary Nodal Exchange (+53 employees). Moreover, new jobs were created in the Investment Funds Services and Datafication areas (+30 employees). Including part-time employees, there was an average of 5,183 full-time equivalents during the year (2016: 4,732). As at 31 December 2017, the proportion of part-time employees was higher in the general workforce than in management, and it was higher amongst women than amongst men.

410 employees left the Group during the course of the year (excluding deconsolidation effects, and also excluding the number of employees who accepted one of the Group offers within the framework of efficiency programmes and left the company, or who entered partial retirement), whilst 898 staff joined the Group (excluding consolidation effects). The fluctuation rate was 7.4 per cent (unadjusted: 8.7 per cent) and thus, below the previous year (2016: 7.7 and 9.8 per cent). At the end of the year under review, the average length of service for the company was 9.4 years (2016: 8.9 years).

Employees by country/region

	31 Dec 2017	Male	Female
Germany	2,567	1,584	983
Luxembourg	1,068	650	418
Czech Republic	837	527	310
Ireland	347	140	207
United Kingdom	168	103	65
Rest of Europe	299	190	109
America	157	116	41
Asia	196	93	104
Total	5,640	3,403	2,237

Employees by segment as at 31 December 2017



The number of Deutsche Börse AG's employees rose by 255 during the year under review, to 1,433 as at 31 December 2017 (31 December 2016: 1,178), comprising 518 women and 915 men. On average, 1,392 people worked for Deutsche Börse AG during the 2017 financial year (2016: 1,150). On 31 December 2017, Deutsche Börse AG had employees at seven locations around the world. During the 2017 financial year, 56 employees left Deutsche Börse AG; the adjusted fluctuation rate thus amounted to 4.0 per cent (unadjusted: 6.0 per cent).

Human resources strategy

Committed, highly skilled employees are one of the cornerstones of 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, ideally, that they stay for the long term. The Group's workforce is diverse in many respects – including nationality, age, gender, religion, or cultural and social origin. The company consciously promotes this diversity and benefits from it, creating an environment conducive to integration – to the advantage of corporate culture. This is also in the interest 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.

Joiners and leavers by gender in 2017

	Joiners			Leavers		
	Male	Female	Total	Male	Female	Total
Deutsche Börse AG						
All locations	225	95	320	39	17	56
Deutsche Börse Group						
Germany	326	153	479	76	32	108
Luxembourg	52	27	79	32	29	61
Czech Republic	82	47	129	48	28	76
Ireland	40	13	53	9	13	22
Other locations	95	63	158	88	55	143
All locations	595	303	898	253	157	410

Joiners and leavers by age in 2017

	Joiners				Leavers			
	Under 30 years	30–39	40–49	50 years and older	Under 30 years	30–39	40–49	50 years and older
Deutsche Börse AG								
All locations	85	133	56	46	16	25	10	5
Deutsche Börse Group								
Germany	151	203	76	49	35	47	21	5
Luxembourg	30	34	11	4	18	21	17	5
Czech Republic	58	61	9	1	35	38	3	0
Ireland	25	18	8	2	9	10	2	1
Other locations	63	54	33	8	36	56	31	20
Total	327	370	137	64	133	172	74	31

Within the scope of its growth strategy, the Group increased its emphasis upon a high-performance culture, with a more distinct focus on clients' needs and on innovation. This culture is supported by a remuneration system for executive staff which incorporates growth, performance and financial indicators to a higher extent than before.

Work-life balance

At the same time, Deutsche Börse Group is well aware of its duty of care, and attaches great importance to the health and well-being of employees. Deutsche Börse Group offers a variety of sports and relaxation courses to its employees (also refer to the [“Training and continuing professional development”](#) section). One of the objectives pursued with these measures is to ensure that employees not only remain healthy despite a high workload, but also to keep sickness levels within the company as low as possible. For example, since 2016, the company has been assigning increased importance to the fact that employees take their annual vacation during the course of the year. The sickness ratio within Deutsche Börse Group stood at 3.0 per cent during the year under review (2016: 2.9 per cent), within the parent company Deutsche Börse AG at 3.9 per cent (2016: 3.8 per cent).

It is Deutsche Börse Group's declared intention to achieve a reasonable work-life balance. The company offers a number of options designed to achieve a positive work-life balance as part of its “Job, Life & Family” initiative:

- Option to work from home (home office)
- An “Elder and Family Care” programme to facilitate support for family members requiring care
- Option to take sabbaticals, e.g. in Germany, Luxembourg, Prague and Cork
- Depending on the specific environment and employee needs, Deutsche Börse Group has made various childcare offers available at different locations – such as emergency parent-child offices in Eschborn, Luxembourg and Prague, as well as a childcare subsidy in Germany (up to a maximum of €255.65 net per child, paid monthly until the child reaches the age of six years, or until enrolment at school).

Deutsche Börse Group offers parental leave at all its locations, in accordance with applicable national regulations (see the [“Key figures on parental leave”](#) table). The high ratio of employees returning from parental leave indicates a pleasant working atmosphere and good employment conditions within the company.

Deutsche Börse Group offers its employees a wide range of benefits, over and above statutory requirements (see the [“Total expenses for employee benefits”](#) table). Full-time and part-time staff receive the same benefits. At €118 thousand, average staff costs for employees and executive staff (adjusted for the costs of efficiency programmes and staff costs for the members of the Executive Board) slightly decreased year-on-year (2016: €121 thousand). Staff costs per employee at the parent entity Deutsche Börse AG, which accounts for the largest part of the Group's executive staff, amounted to €149 thousand (2016: €163 thousand). In addition to the base salary they include, among others, social benefits, pension provisions and variable remuneration components. The Executive Board of Deutsche Börse AG resolved

Key figures on parental leave

	Entered parental leave in 2017		Returned from parental leave in 2017		Multiple-year return ratio ¹⁾	
	Male	Female	Male	Female	Male %	Female %
Deutsche Börse AG	23	22	23	17	100	94
Deutsche Börse Group	80	98	73	68	100	97

1) Employees whose parental leave ended in 2017, and who remained with the company

a 2.5 per cent voluntary salary increase for tariff employees in Germany during financial year 2017. Salaries were also adjusted at the other locations.

Future Workplace

The digital “Future Workplace” environment supports collaboration throughout the Group; it brings colleagues around the world closer together and facilitates everyday work routines for all members of staff. Future Workplace comprises the Microsoft SharePoint collaboration platform, the Skype for Business messenger and video call service, as well as Good Work for mobile business communications. During the year under review, a pilot scheme for a ground-breaking model for staff collaboration at Deutsche Börse Group was launched at the Eschborn headquarters. The so-called CoWorking Space comprises different modules, facilitating the perfect combination of architecture, design and technology – thus creating an individual and flexible working environment for all.

Feedback for employees and managers

Managers hold appraisal discussions with employees within their area of responsibility, jointly defining targets for the next year; these discussions are documented. 91 per cent of employees recorded in Deutsche Börse Group’s internal staff performance appraisal system receive an assessment. The remaining 9 per cent are attributable to the following special provisions:

- Pursuant to an employer/works council agreement, German employees aged 59 or older may waive the annual appraisal and target-setting process.
- Newly hired employees will receive an appraisal and agree upon targets following expiry of their probationary period.

The appraisal system is applied equally to female and male employees. A separate target-agreement system exists for managerial staff. Since 2016, Deutsche Börse Group has also conducted 360-degree feedback for executive staff, irrespective of whether they have staff responsibility. This system permits open and constructive feedback – from different parties – on one’s own behaviour: this is the only way to recognise any discrepancies between self-evaluation and the assessment of others, as a basis for further personal development. A response rate of more than 86 per cent shows that the programme was once again very well received in 2017. In addition, team leaders participated in this process for the first time in 2017, thus significantly increasing the number of feedback receivers.

Total expenses for employee benefits

	Lunch allowance € thous.	Childcare € thous.	Sports and leisure € thous.	Accident insurance € thous.	Savings plans € thous.	Travel expenses € thous.
Deutsche Börse AG						
All locations	2,264.6	531.1	36.5	978.0	468.3	565.8
Deutsche Börse Group						
Germany	3,825.4	945.7	66.7	184.3	819.4	986.9
Luxembourg	1,548.9	0	7.6	115.6	0	113.9
Czech Republic	678.0	30.6	222.4	24.7	1,013.6	104.0
Ireland	238.7	0	26.4	17.0	0	0

360-degree feedback is analysed by an external service provider, whereby the various assessments from different appraisal groups are compared against each other, as well as against the feedback recipient's self-evaluation. The findings gained are incorporated in managers' development planning.

Subsidiaries EEX and 360T use their own appraisal systems; data collected is not recorded or provided centrally. The long-term objective is to harmonise appraisal and target-agreement processes across the entire Group, and to enhance availability and transparency of the data collected.

Promoting diversity and gender equality

As a global enterprise, Deutsche Börse Group advocates openness and fairness in the workplace. This is why Deutsche Börse AG signed the "Diversity Charter", to support recognition, appreciation and integration of diversity in the working environment. For Deutsche Börse Group, diversity within the company is the basis for achieving a corporate culture characterised by open dialogue, trust, and mutual acceptance. This culture is based, for instance, on the "People Principles", which set out expectations for collegial and professional cooperation within the Group. Looking at the diversity of the workforce, the "Respect" principle is particularly relevant: we value the diversity of our global team and we consider the perspectives of others. We are professionals with a personal touch. We welcome colleagues in all locations, regardless of their position or business background. We are conscious of the impact of our behaviour on others.

Deutsche Börse Group does not tolerate any discrimination, whether on the grounds of gender, sexual orientation, race, nationality, ethnic origin, age, religion or disability, irrespective of whether behaviour among employees is concerned or the placement of orders with third parties. In 2017, there were no confirmed incidents of discrimination at the Frankfurt/Eschborn, Luxembourg, Prague and Cork locations (which are covered by reporting); accordingly, no counter-measures were required.

MarketPride – the network of lesbian, gay, bisexual, transgender, intersex and queer (LGBTIQ) colleagues, is a vivid example of diversity: MarketPride's goal is to promote respect and tolerance – very much in line with the People Principles and the Diversity Charter. Specifically, MarketPride seeks to be a point of contact on LGBTIQ-related issues; the network offers regular meetings and information events.

Deutsche Börse Group's Equal Opportunities Officer safeguards the equal treatment of staff members in a corporate culture shaped by diversity. Moreover, Human Resources has implemented processes designed to ensure appropriate personnel selection, and which allow the Group to take prompt action whenever discrimination is suspected.

To prevent systematic remuneration disadvantages for women or men, Deutsche Börse AG carries out analyses for employees in Germany to identify any remuneration differences between women and men, at regular intervals.

Target quotas for women

Deutsche Börse Group fulfils statutory requirements for the promotion of women in executive positions – in fact, the Group has set itself voluntary targets for higher quotas. The share of women in executive positions 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. In accordance with the Gesetz für die gleichberechtigte Teilhabe von Frauen und Männern an Führungspositionen in der Privatwirtschaft und im öffentlichen Dienst (FührposGleichberG, German Act on the Equal Participation of Women and Men in Leadership Positions in the Private and Public Sectors), Deutsche Börse AG's Supervisory Board and Executive Board have defined target quotas for women on these boards, and for the two management levels directly beneath the Executive Board. These target quotas relate to Deutsche Börse AG in Germany (excluding subsidiaries) and were valid until 30 June 2017. Deutsche Börse AG exceeded these targets. Therefore, its Supervisory Board and Executive Board resolved to set further targets, to be achieved by 31 December 2021: by that point in time, the proportion of females 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 at 31 December 2017, the proportion of female employees of Deutsche Börse AG in Germany holding positions in the first and second management levels beneath the Executive Board stood at 10 per cent and 16 per cent, respectively.

In 2010, the Executive Board had already set a voluntary target for Deutsche Börse Group to increase its proportion of women in middle and senior management to 20 per cent, and in junior management to 30 per cent, by 2020. The Group has affirmed this ambition. These targets relate to Deutsche Börse Group worldwide, including subsidiaries. In contrast to statutory obligations, the voluntary commitment is based on a wider definition of management levels, including team leaders, for example. In Deutsche Börse Group's global operations, as at 31 December 2017, these quotas stood at 14 per cent for middle and senior management and 29 per cent for junior management levels. In the Group's German locations, they were 15 per cent and 26 per cent, respectively. For more details regarding targets for female quotas, please refer to the [section entitled "Combined corporate governance statement and corporate governance report – target figures for the proportion of female executives beneath the Executive Board"](#).

Measures to promote women

In order to raise the share of women in executive positions, the company explicitly ensures that women are also identified as candidates for executive positions. In principle, however, qualifications are decisive when filling such vacancies. In addition, Deutsche Börse Group offers numerous additional tools to promote female employees, such as targeted succession planning, a mentoring programme involving internal and external mentors, a women's network, as well as training courses designed specifically for women.

Talent promotion

To motivate and promote top talent is a key instrument for Deutsche Börse Group to remain sustainably successful in this digital age. Two programmes were launched to this end: the Evolving Leaders programme, which is designed to identify and promote future managers from within the Group, and the "Show Your Talent" initiative, which is set to create visibility for – and to support – employees' entrepreneurial and innovative potential. At the same time, the programmes are designed to strengthen staff commitment and their performance orientation.

Talents can apply for one of the programmes. Representatives and managers of various divisions take part in the selection process and evaluate participants based upon defined criteria.

During the year under review, nine employees (four women and five men) were admitted to the “Evolving Leaders” programme, and six employees (two women and four men) to the “Show Your Talent” initiative. Four Evolving Leaders and one Show Your Talent member work at the parent entity Deutsche Börse AG.

Training and continuing professional development

Deutsche Börse assigns high priority to training its staff and to providing continuing professional development: employees continuously refresh and expand their knowledge of financial markets; they can also receive regular tutoring on their communications and organisational skills. Through a broad range of internal and external training measures, Deutsche Börse supports managers and staff in mastering their individual challenges.

For instance, experienced colleagues act as mentors for new joiners, helping them to become familiar with Deutsche Börse Group. They assist new colleagues in networking beyond their own department, and offer a comprehensive cross-divisional understanding of the company. The “New Role” mentoring programme makes it easier for colleagues to take on a new management role.

In the area of continuing professional development, the Group invested an average total of 3.3 days per employee in 2017 (2016: 3.8 days) and, among other things, conducted 1,568 internal training events (2016: 1,524 internal training events). Of these, 33 per cent were on business-related issues, 33 per cent covered specialist topics, 10 per cent dealt with the work-life balance, 24 per cent were on IT subjects or part of induction training.

Key figures on staff training in 2017

	Deutsche Börse AG			Deutsche Börse Group		
	Male	Female	Total	Male	Female	Total
Average number of training days per employee	3.3	2.8	3.1	3.4	3.1	3.3
Average number of training days per FTE ¹⁾	3.4	3.3	3.4	3.5	3.6	3.5
Number of hours	24,395	11,455	35,850	92,448	55,518	147,966
thereof managers	% 6	3	5	6	2	4
thereof employees	% 94	97	95	94	98	96

1) FTE = full-time equivalent

Key data on Deutsche Börse Group's workforce as at 31 December 2017

	Deutsche Börse AG		Deutsche Börse Group			
	All locations		Germany		Luxembourg	
	Male	Female	Male	Female	Male	Female
Employees	915	518	1,584	983	650	418
50 years and older	306	113	447	198	179	78
40–49 years	282	142	486	269	272	178
30–39 years	245	175	495	358	151	115
Under 30 years	82	88	156	159	49	47
Average age	43.5	40.0	42.4	39.8	43.5	41.3
Full-time equivalents	875	370	1,525	693	622	271
Senior and middle management	103	14	148	26	66	11
Junior management	76	20	107	35	53	18
Staff	697	337	1,270	632	503	242
Part-time employees	40	148	59	290	28	147
Senior and middle management	3	1	3	1	1	2
Junior management	1	2	1	3	0	6
Staff	36	145	55	286	27	139
Disabled employees	18	12	33	26	3	0
Proportion of graduates (%) ¹⁾	79	70	77	68	58	56
Apprentices	11	8	11	8	0	0
Interns and students	79	78	129	116	11	15
Length of service						
Under 5 years (%)	46	46	44	44	26	29
5–15 years (%)	21	21	26	25	21	26
Over 15 years (%)	33	33	30	31	53	45
Staff turnover						
Joiners	225	95	326	153	52	27
Leavers	39	17	76	32	32	29
Training days per staff member	3.3	2.8	2.9	2.7	4.3	3.8
Promotions	23	17	33	23	11	8
Employees covered by collective bargaining agreements	789	485	1,194	792	570	403

1) This figure is calculated on the basis of the number of employees holding a degree from a university, university of applied sciences or university of cooperative education; it also includes employees who have completed comparable studies outside Germany.

Compliance – including combat against corruption and bribery

Responsible entrepreneurial action implies adherence to laws and regulations; it is also based on the principle of consistently acting with integrity, and in an ethically irreproachable manner. 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 within Deutsche Börse Group. The compliance management system implemented by Deutsche Börse Group – 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, and monitoring 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). Thanks to its Group-wide compliance approach, Deutsche Börse Group safeguards the respective Group entities' adherence with applicable law and regulatory requirements. The compliance functions of individual Group entities have a direct reporting line to the Group Chief Compliance Officer, who in turn reports directly to the Executive Board of Deutsche Börse AG.

Deutsche Börse Group continually develops its compliance management system in order to deal with rising complexity and increasing regulatory requirements. Deutsche Börse Group has implemented measures designed to prevent, identify, and sanction compliance risks – especially with regard to the areas of money laundering/terrorism financing, financial sanctions and embargoes, as well as market manipulation and insider trading. For this purpose, Deutsche Börse Group has aligned its system with the recommendations of an internationally recognised standard (ISO 19600 “Compliance management systems – Guidelines”).

As a member of the UN Global Compact, Deutsche Börse AG has committed to observe the related principles, including principle no. 10 (“Businesses should work against corruption in all its forms, including extortion and bribery.”). Deutsche Börse Group does not involve itself in corruption in any way, nor does it take part in any actions which may lead to the impression that the Group promises, arranges, provides, receives, or asks for inadmissible benefits. Bribery and similar payments are prohibited.

It is Deutsche Börse Group's guiding principle that actions and decisions of all employees are taken objectively and with integrity. Management has a particular importance in this context. Deutsche Börse Group is fully aware of the importance of so-called “tone from the top” in achieving a high level of attention for avoiding 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, Compliance has implemented a variety of risk-oriented prevention measures.

Compliance organisation

Compliance has overall responsibility for identifying and managing Group-wide compliance risks. Compliance devises risk-oriented measures in order to contain and manage corresponding risks, communicating 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 guidelines and processes.

Key compliance topics are discussed by Deutsche Börse's Group Compliance Committee, which comprises senior management representatives from the business divisions, and from the relevant Group-wide control functions.

Code of business conduct

Deutsche Börse Group's code of business conduct, which is communicated to all members of Deutsche Börse Group staff, summarises the most important aspects with regard to corporate ethics and compliance as well as appropriate conduct. Moreover, Compliance provides Deutsche Börse Group employees with compliance-relevant information via the corresponding Intranet pages, unless specific confidentiality aspects prevent such communication. For details, see the ["Combined corporate governance statement and corporate governance report"](#) section.

Compliance rules

Compliance has implemented Group-wide guidelines covering relevant local requirements. These rules are designed to ensure that the respective internal stakeholder groups acting on behalf of Deutsche Börse Group comply with the behavioural rules set out in such guidelines, with the objective of countering breaches of compliance through preventive, identifying and sanctioning measures. 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.

In addition, all external staff and service providers must sign a form through which they undertake to comply with Deutsche Börse Group's compliance regulations, including rules to combat corruption.

Compliance training

Regular compliance training is essential for a culture of compliance throughout Deutsche Börse Group: the Group's employees worldwide are being trained with respect to relevant areas in the compliance context – also covering the areas of money laundering/terrorism financing, data protection, corruption, market manipulation and insider trading in particular. Managers who are exposed to increased compliance risks on account of their activities receive additional training in line with their needs. Participation in training measures covering the compliance topics mentioned above is mandatory for employees, as well as for management.

Whistleblowing system

Deutsche Börse Group has established a whistleblowing system, where employees can relay information about potential or actual breaches of regulatory rules or ethical standards, by phone or e-mail, whereby the anonymity of whistleblowers is a fundamental guarantee. Through its commitment to compliance awareness, Deutsche Börse Group cultivates an open approach to dealing with misconduct. For this reason, reports received are often passed on directly to the responsible line manager, or to Compliance. During 2017, 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 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, market manipulation or insider trading. 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 constantly improves 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. The Group does not enter into client relationships where the risks involved are too high. Deutsche Börse Group analyses transaction data in order to identify transactions which might provide an indication of 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 “black lists”). Appropriate measures are taken in the event of any match against such lists.

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 the right of informational self-determination very seriously, and has taken measures to ensure compliance with data protection law, as well as the sensible collection, processing, and use of personal data. For this purpose, the Executive Board has appointed a Data Protection Officer, whose duties include working towards compliance with the provisions, in line with set guidelines, as well as monitoring the legally permissible use of data processing tools used for handling personal data, and who is available as a responsible contact for issues related to data protection – both within the Group (acting as a contact for all employees), as well as in dialogue with the supervisory authorities for data protection. The Data Protection Officer informs senior management on an annual basis about protective measures taken. Furthermore, the Group’s data protection organisation focused on preparation for implementing the requirements of the EU General Data Protection Regulation, which will come into force on 25 May 2018.

Non-financial key performance figures: corruption/data protection

		2017	2016
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/corruption) ¹⁾		4,487	47
Data protection			
Number of justified customer complaints relating to data protection		0	0

1) The web-based ABC training is mandatory for employees of Deutsche Börse Group. The number of employees who attended anti-bribery/corruption trainings varies due to the training frequency set out for the ABC training module.

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 insider information. For this reason, the Group has implemented Group-wide guidelines for employees' personal account transactions. These guidelines are designed to mitigate the risks of market manipulation and insider trading, and are geared towards ensuring that maximum sensitivity is applied to dealing with such information.

Compliance maintains a Group-wide restricted list of issuers and financial instruments affected by any particularly sensitive compliance-relevant information. Compliance may impose a general prohibition on trading in such issuers or financial instruments, or may prohibit certain types of transactions. A confidential watchlist 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 as well as information restriction areas.

Internal/external audit

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

Social matters

As a market infrastructure provider, Deutsche Börse Group considers ensuring transparency on the capital markets as its direct responsibility. In doing so, it fosters stability in these markets, thereby promoting their economic success. Positioning itself in this manner, Deutsche Börse Group focuses on the needs of market participants.

In May 2017, Deutsche Börse Group joined other key Frankfurt financial players to launch "Accelerating Sustainable Finance", a sustainability initiative. In this context, participants signed the "Frankfurt Declaration", a joint declaration of intent for the creation of sustainable infrastructure in the financial services industry. The Accelerating Sustainable Finance initiative is built on the conviction that current global challenges, such as climate change or progressing digitisation, call for innovative, solution-oriented approaches. The transformation towards a more sustainable global financial system is of great significance in this context. Participants in this initiative have set themselves the goal of actively contributing to the implementation of sustainable milestones, based on their own core business activities – such as the United Nations' Sustainable Development Goals, the realisation of the Global Climate Agreement, or the development of the Green Finance focus set by the German G20 presidency. In this way, the initiative is designed as a platform for dialogue concerning all issues related to safeguarding the future of the financial system, and for launching further specific initiatives and projects, involving all stakeholder groups.

Strengthening the non-profit sector

As Deutsche Börse Group is committed to strengthening the non-profit sector, it founded Phineo gAG together with the Bertelsmann Foundation in 2009. Phineo is a charitable public limited company that provides advisory and analysis services to foundations, non-profit organisations and companies.

Deutsche Börse decided to continue this cooperation with the goal of interlocking its core competences more closely with those provided by Phineo, to jointly develop solutions for social challenges. During the year under review, both houses were among those successfully applying to participate in the EU project “Establishing a new early-stage impact fund for social-tech ventures”, thereby establishing a thematic focus for their joint work in 2017.

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 separate, secure data centres. Should a trading system fail, the other data centre would take over operations. 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 personnel absence were also tested. Thanks to manifold tests and monitored roll-out of the software deployed, as well as the continuous monitoring of servers, network and applications, Deutsche Börse Group achieved a 99.968 per cent availability of its cash market trading system, and 99.967 per cent for its derivatives trading system. Over the course of the year, this corresponded to downtime of 64 minutes and 75 minutes, respectively.

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. The 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 into 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 concerning their transparency duties in the best possible manner, by sending out e-mail reminders prior to each deadline. All reports and data submitted to FWB are subsequently available on www.boerse-frankfurt.com, 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.

Thanks to the special requirement for submission via ERS, FWB is also able to monitor fulfilment of transparency requirements – seamlessly and without delay. Twelve proceedings concerning the failure to publish information in good time had to be forwarded to the Sanctions Committee of the Frankfurt Stock Exchange during the course of 2017. Eleven proceedings were already concluded as at 21 January 2018, one of which was suspended, and administrative fines totalling approximately

€128,000 were imposed in nine proceedings. The seamless and timely monitoring of post-admission duties concerning financial reports, with sanctions imposed for non-compliance, provides a forceful incentive for Prime Standard issuers to adhere to their transparency obligations and to enforce these.

Following the increase in the maximum administrative fine pursuant to section 22 (2) of the BörsG (from €250,000 to €1 million) by way of the Zweite Finanzmarktnovellierungsgesetz (2nd FiMaNoG, Second German Financial Markets Amendment Act), adopted in the summer of 2017, the management board of the FWB plans to implement this increase in its notices handing over cases to the Sanctions Committee. This will enable the exchange to take even more effective measures to enhance market transparency – if required – in the future.

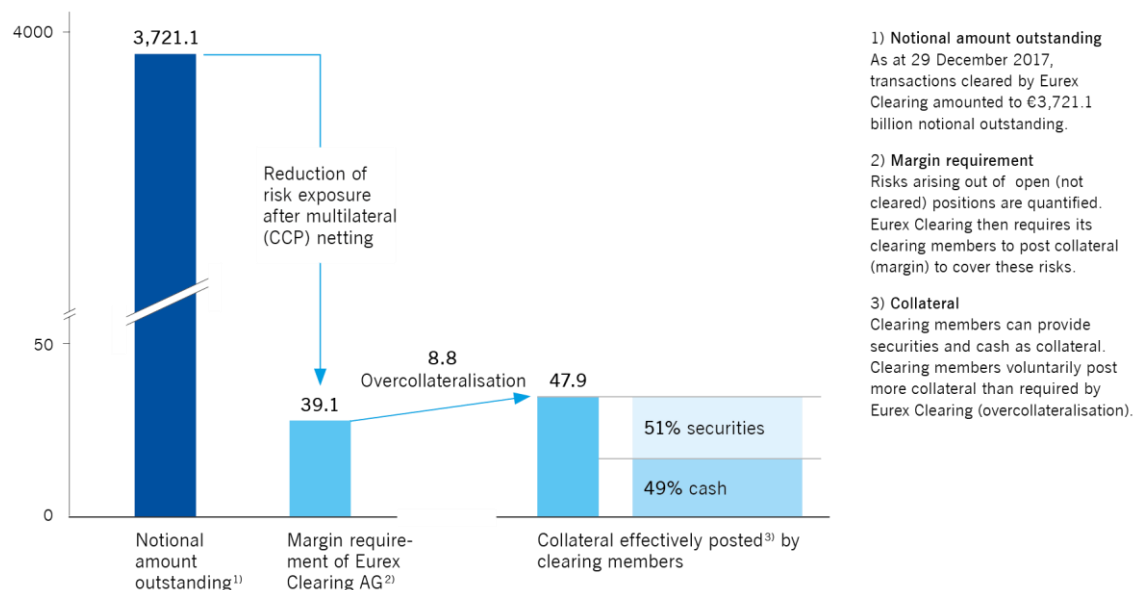
Today, environment, social and governance (ESG) factors account for a considerable share of enterprise value, which is why institutional investors place more and more importance on this information in their decision-making processes. To support these processes, Deutsche Börse Group has conducted surveys amongst companies listed in the DAX, MDAX®, SDAX® and TecDAX® indices on their sustainability reporting every year since 2014. The results are openly accessible on en.boerse-frankfurt.de/sustainable-securities and provide an overview of the reporting formats the companies choose (annual report, separate sustainability report or combined/integrated report), the standards they apply as well as the contact details for sustainability-related questions for each company.

Stable financial markets

As part of market infrastructure provider Deutsche Börse Group, Eurex Clearing AG acts as a central counterparty, fulfilling its responsibility of promoting sustainable global economic growth and financial stability.

Risk mitigation via netting and overcollateralisation

€ billion, as at 29 December 2017



The core economic function of an exchange is to preserve and create economic prosperity and growth: as a global market infrastructure provider, the Group operates markets which help enterprises of all sizes to raise equity and debt – which in turn enables them to grow, to create and protect jobs, and to contribute to the value chains in their respective fields.

Eurex Clearing AG contributes to Deutsche Börse's corporate success in the area of risk management – a commitment to reduce risks and enhance trading efficiency. Its services fulfil the highest quality standards; combined with market-oriented innovation, they serve the objective of improving risk management and thus to boost financial stability (such as direct clearing membership of buy-side companies, and cross-margining). The bundling of default risk permits high netting effects, which in turn facilitate sustainable cost savings for the entire market.

The outcome of the UK's Brexit referendum on 23 June 2016 has caused massive uncertainty for the entire European financial services sector. A key issue in this context is the clearing of over-the-counter (OTC) interest rate derivatives – with outstanding volumes of some €250 trillion it is the second-largest market for financial derivatives, after currency derivatives. [Source: BIS, Semiannual OTC Derivatives Statistics, June 2017; the indication provided by the Bank for International Settlements of approx. €415 trillion (www.bis.org > Statistics > Derivatives > Semiannual OTC derivatives statistics) was adjusted by eliminating the dual counting of interdealer volumes (source: www.clarusft.com > Blog > Monthly archive > September 2016 > "Moving euro clearing out of the UK"); EUR/USD exchange rate as at 30 June 2017: 1.1412 (Deutsche Bundesbank)]. The EU and the UK are currently negotiating the terms for UK's exit from the EU, which is scheduled to take place at the end of March 2019. A controversial discussion is ongoing concerning future access to clearing houses outside the EU-27, creating significant market uncertainty. Eurex Clearing AG has come up with a market-oriented solution designed to make the (potentially required) shift of euroclearing into 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 opportunity alternative for clearing interest rate derivatives outside of London and within the EU-27 member states – Eurex Clearing also fulfils its responsibility within Deutsche Börse Group as a market infrastructure provider by anticipating potential market turbulence and taking early action to actively counteract it.

Non-financial key indicators: social matters

		2017	2016
Transparency			
Proportion of companies reporting in accordance with maximum transparency standards ¹⁾	%	91	91
Security			
Availability of cash market trading system ²⁾	%	99.968	99.999
Availability of derivatives market trading system ²⁾	%	99.967	99.962
Average monthly cleared volumes across all products ³⁾	€ trillion	20.6	19.6

1) Ratio of the market capitalisation of companies listed in the Prime Standard for shares to the market capitalisation of all companies listed on 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.

Eurex Frankfurt AG already generates a significant portion of its revenues with clients outside the EU-27. It is therefore in the interest of its own sustainability to provide its clients with a solution to the circumstances brought about by Brexit, in order to safeguard the stability and growth potential of its own income.

Deutsche Börse Group's commercial activity 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](#). At present, a regional breakdown of costs cannot be provided for technical reasons. The company is reviewing the existing procedure for potential improvements.

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.

One example of Deutsche Börse Group's customer focus is Clearstream's annual client services survey. This survey aims to identify customer needs in the areas of products and services and to prioritise and address enhancement requests to further improve products and services. The results of this survey are taken up by the Clearstream Client Committee, which includes senior management, where concrete actions are taken to address customer needs.

Traditionally, the assessment of customer satisfaction within the Group has been conducted on an individual subsidiary level. In 2017, however, an analysis was conducted to ascertain ways to improve the process that relevant business areas use when conducting customer satisfaction surveys. The result of this investigation was the determination that future customer satisfaction surveys, starting in 2018, will be aligned to include common questions and a standardised Net Promotor Score methodology across the Group. In this context, businesses ask their clients about their readiness to recommend the service provider.

Beginning in 2018, all of the pertinent product and service areas will conduct their customer satisfaction reviews in parallel, in the latter half of the year, with the aim of notifying senior management and staff of the results shortly after the close of the survey. The conclusion of the newly conceived surveys are intended to be communicated back to clients using appropriate channels, while results at a Group level will also be assessed.

Deutsche Börse Group's indirect economic impact, namely trading activity and traded contracts, benchmarked against other exchange operators can be found in the report on economic position of this combined management report (see [☒ tables entitled “Development of trading activity on selected European cash markets” and “Development of contracts traded on selected European derivatives markets”](#)).

Sustainable index products

STOXX Ltd., a Deutsche Börse Group company, calculates and distributes more than 12,000 indices, a growing number of which designed after sustainability aspects. STOXX's offering of sustainability indices is diversified and includes ESG-, climate change- and carbon emissions-related products. Indices are

built based on internal research and the evaluation of market demand. In this context, STOXX developed and launched the STOXX® Regional Industry Neutral ESG indices in 2017 which are used as benchmarks by a European pension fund.

STOXX Global ESG Specialized Leaders index family

The STOXX Global ESG Environmental Leaders, STOXX Global ESG Social Leaders and STOXX Global ESG Governance Leaders indices that together are the STOXX Global ESG Specialized Leaders indices, all consist of companies that are leading in one of the three dimensions and range above average in all other criteria. All components of the specialised indices together make up the STOXX Global ESG Leaders index. To keep up with the demands of responsible investors, STOXX excludes companies from the index universe which are involved in controversial weapons or violate one or several of the global compact principles. The ESG blue-chip indices are derived from the STOXX Global ESG Leaders index and cover the largest capitalisations regionally. In all above-mentioned ESG indices, constituents are weighted proportionally to their ESG score – hence, a better score means a higher weight in the index. ESG data are provided by Sustainalytics.

STOXX Low Carbon index family

The STOXX Low Carbon indices focus on the selection of stocks with low carbon intensity scores with a weighting scheme that balances between the company's size and its emissions amount. The STOXX Global Climate Impact Ex Global Compact and Controversial Weapons and STOXX Global Climate Impact Ex Global Compact Controversial Weapons & Tobacco indices select those companies that are seen as leading in terms of climate change: these companies are disclosing particular actions which mark them as leaders, or provide evidence that they understand their climate impact and take measures to manage it. The STOXX Climate Awareness Ex Global Compact Controversial Weapons and STOXX Climate Awareness Ex Global Compact Controversial Weapons & Tobacco indices additionally include companies that have looked at implications of climate change for, and on, their business and display a high contextual knowledge of environmental issues. All emissions-related data are provided by the Carbon Disclosure Project (CDP).

ESG Impact index family

A third family of indices, the ESG Impact indices, aims to select companies committed to specific, significant corporate governance criteria, such as carbon emission reduction targets, percentage of independent board members, percentage of women in the board, policies against child labour, and limitations of "golden parachute" agreements.

In addition to the above mentioned STOXX indices, Deutsche Börse's ÖkoDAX® index focuses on German companies active in the renewable energy business.

Non-financial key indicators: sustainable index products

		2017	2016
ESG criteria			
Managed assets in ETFs which track ESG indices ¹⁾	€m	55.1	12.4
Total assets under management in ETFs	€bn	83.4	64.6
Transparency			
Number of sustainable index concepts		117	100
Number of calculated indices		12,422	11,975

1) Based on the ETFs issued in 2016: FlexShares STOXX® Global ESG Impact index and FlexShares STOXX® US ESG Impact index

For all these indices, the ultimate goal is to provide solutions to investors who consider sustainability a key element of their investment strategy. STOXX 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 regulations of the International Organization of Securities Commissions (IOSCO) and the European Securities and Markets Authority (ESMA). STOXX indices are entirely rule-based, hence neither is a committee involved nor are customers consulted in the process of reviewing an index composition.

There is an increasing demand for considering sustainability indicators in the investment process. Having launched several index families with different aspects of sustainability in focus and by continuing researching applications of sustainable portfolio allocations, STOXX aims to provide their clients with state-of-the-art solutions in that space. The current offering ensures that STOXX's products are securely established in the market and that STOXX can offer a timely response to the next developments in sustainability.

STOXX, as an index provider, also has the duty to represent the economic reality of the environment in which financial actors operate: from this point of view, sustainable investment currently only represents a minority and is still mostly perceived as an investment add-on, rather than as an essential building block. In order to prepare for, and help facilitate a shift in investment culture, STOXX develops and maintains a broad range of sustainability indices. This is 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.

Respect for human rights in the supply chain

Being aware of its corporate responsibility, Deutsche Börse Group has committed to adhere to principles of sustainability. Accordingly, the Group's suppliers and service providers are required to observe these principles: to this end, Deutsche Börse Group has introduced the code of conduct for suppliers which comprises ESG criteria. In 2016, the human rights aspects within this code were enhanced to include the topics of modern slavery and human trafficking.

The key inputs for Deutsche Börse Group's supply chain are energy, information and communications technology, IT services and office equipment. In addition, the Group purchases marketing services and advertising materials. The Group's goal is a sound supplier strategy and a stable procurement organisation, and it aims to ensure that all suppliers and manufacturers adhere to the desired prices and deliver the desired product and service quality with minimised risk. In geographical terms, the Group focuses on European vendors and takes care to ensure that suppliers and manufacturers behave ethically.

Corporate Purchasing continuously improves the Group's procurement within the scope of the code of conduct for suppliers agreements. It does this by regularly analysing the suppliers managed by Corporate Purchasing and classifying them using an ABC analysis. This breaks them down into three categories accounting for 70 per cent, 20 per cent and 10 per cent of expenditure volumes, respectively. The Group's objective is to ensure that at least 90 per cent of the global procurement volume is covered by the agreements of the code (i.e. all category A and category B suppliers must sign such agreements). Major category C suppliers are naturally also requested to sign them.

At present, around 98.9 per cent of the procurement volume is covered by agreements of the code of conduct for suppliers. As a rule, any new suppliers must sign Deutsche Börse Group's code of conduct for suppliers. In exceptional cases, they may have a self-commitment in place that is at least equivalent. For this reason, the number of suppliers having signed the code of conduct for suppliers keeps rising steadily.

The commitment by suppliers and service providers to adhere to the code is only one element in our endeavours to select responsible business partners. The Group continuously evaluates its category A suppliers within the framework of a cross-divisional, Group-wide evaluation process, including criteria covering suppliers' economic, ecological, social and ethical sustainability.

Moreover, Deutsche Börse Group analyses the extent to which its suppliers have their own guidelines – such as codes of conduct for employees or suppliers – or have committed to recognised social standards. To this end, the Group surveyed sustainability aspects at the suppliers managed by Corporate Purchasing for the first time in 2016. The purpose of this survey was to identify risks in relation to environmental protection and social matters, with a particular focus on human rights. Within this survey, Deutsche Börse Group additionally analyses whether suppliers are active in countries which are critical with regard to breaches of human rights. Suppliers who responded to this survey accounted for 63 per cent of purchasing order volumes in 2017. These suppliers represent the sample on which the following analysis is based.

The analysis revealed that 66 per cent of participating suppliers have their own code of conduct and/or code of conduct for employees or suppliers, or have committed to at least one set of social standards (International Labour Organization, UK Modern Slavery Act, United Nations Global Compact, UN Declaration of Human Rights). Furthermore, the survey revealed that 90 per cent of the participating category A suppliers have their own code of conduct and/or code of conduct for suppliers, or have committed to at least one set of the above-mentioned social standards. The comparable figure for category B suppliers is 70 per cent, while that for category C suppliers is 55 per cent.

Additionally, the supplier survey revealed that 29 per cent of participating suppliers have operations in countries that are regarded by the United Nations Environment Programme Finance Initiative as involving human rights risks. Of these suppliers, 79 per cent have a code of conduct or a supplier code of conduct or have committed to at least one set of the above-mentioned social standards.

Non-financial key indicator: respect for human rights

		2017	2016
Share of turnover with suppliers or service providers which have signed the code of conduct, and/or have self-commitments exceeding the standards set by the code.	%	98.9	97.5

Deutsche Börse Group contacted all companies during 2017 which participated in the survey in 2016 and (i) are active in countries and/or procure goods or services from countries classified as risky in terms of human rights by the United Nations Environment Programme Finance Initiative; and (ii) which have not established their own code of conduct for employees or suppliers, and have not committed to any recognised social standard. 18 enterprises were identified during the course of this process; Deutsche Börse Group initiated a dialogue with these enterprises to highlight the importance of these topics for the Group and to minimise existing risks in cooperation with the suppliers concerned.

Category A suppliers are monitored and reviewed according to various risk criteria, in cooperation with an external service provider. This “risk radar” monitors risks along the entire supply chain, from (sub-)suppliers to logistics nodes, right through to the end customer. This process covers all types of risks: supplier risks (e.g. compliance, financial stability and quality), location risks (e.g. related to industrial action or natural disasters), country risks (e.g. political risk or sanctions), and risks related to certain groups of goods (e.g. import restrictions). In the event of any risk materialising, the early warning system will issue alerts by e-mail or mobile app. Moreover, analyses facilitate the evaluation of latent risk exposures or negative trends (where no damage has occurred) in order to enact targeted measures designed to prevent such risks. Depending on the level of impact, risk radar alerts are assessed together with the contracting parties.

Comparison with the forecast for 2017

With regard to the development expected of its non-financial performance indicators for 2017, the Group only partially succeeded in maintaining the previous year’s level of systems availability: in the cash market, trading system availability declined from 99.999 per cent to 99.968 per cent. At the same time, availability of the T7[®] system for the derivatives market improved slightly, from 99.962 per cent to 99.967 per cent.

In its endeavours to increase 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 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. On a global level, as at 31 December 2017, Deutsche Börse Group achieved a quota of 14 per cent for the upper and middle management levels (2016: 15 per cent), and 29 per cent for lower management positions (2016: 28 per cent). For Germany, the quotas were 15 per cent and 26 per cent, respectively (2016: 16 per cent and 22 per cent).

Risk report

Deutsche Börse Group's core area of expertise includes solutions that enable its customers to efficiently manage risk and collateral. It is therefore all the more important for the Group to protect itself against risk. This section of the combined management report shows how the company deals with risks and threats. Deutsche Börse Group's aggregate risk exposure has increased by 15 per cent. This can mainly be attributed to increased risks in the fields of taxes and cybercrime.

The first section of this risk report explains the risk strategy and demonstrates how the Group manages its risk. In the second section of this risk report, approaches and methods employed for monitoring risk will be outlined. In the third section, the various types of risks the Group is exposed to are described, and how the Group manages them. The fourth section provides a summary of the risk situation, together with an outlook on future developments for Deutsche Börse Group's risk management. Supplementing the risk report, senior management sets out what it believes the Group's future prospects are, in the [report on opportunities](#).

Deutsche Börse Group includes Clearstream Banking S.A. and Clearstream Banking AG, which are part of the Clearstream Holding Group (referred to as "Clearstream" below), as well as Eurex Clearing AG – all regulated as credit institutions. Furthermore, Eurex Clearing AG and European Commodity Clearing AG are authorised as central counterparties (CCPs) and are subject to the requirements of the European Market Infrastructure Regulation (EMIR). Other entities 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 [note 20 to the consolidated financial statements](#)). Over and above the statutory requirements of EU directives and regulations CRD/CRR, EMIR and MiFID and, where applicable, their implementation into national law, these include the national requirements of the Minimum Requirements for Risk Management (MaRisk) issued by the Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin) and of 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 Holding AG and Eurex Clearing AG regarding the establishment of recovery plans. Deutsche Börse Group has an enterprise-wide recovery plan in place, beyond this requirement. Deutsche Börse Group follows international standards in its risk management and applies these also without or beyond such statutory requirements. Hence, the risk management adheres to high standards on a Group-wide level.

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 two subsidiaries in particular.

With its range of risk management services, Deutsche Börse Group strives to make a sustainable contribution – primarily through its role as an organiser of capital markets, securing market integrity and security; and also by enhancing market efficiency in distribution, through its price discovery function. On top of this, Deutsche Börse Group assumes key risk management functions for its clients – for example, through the centralised management of their market risk exposure via the Group's clearing house, Eurex Clearing AG. In this way, Deutsche Börse Group contributes to the efficiency and systemic stability of the capital markets.

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 plays 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:

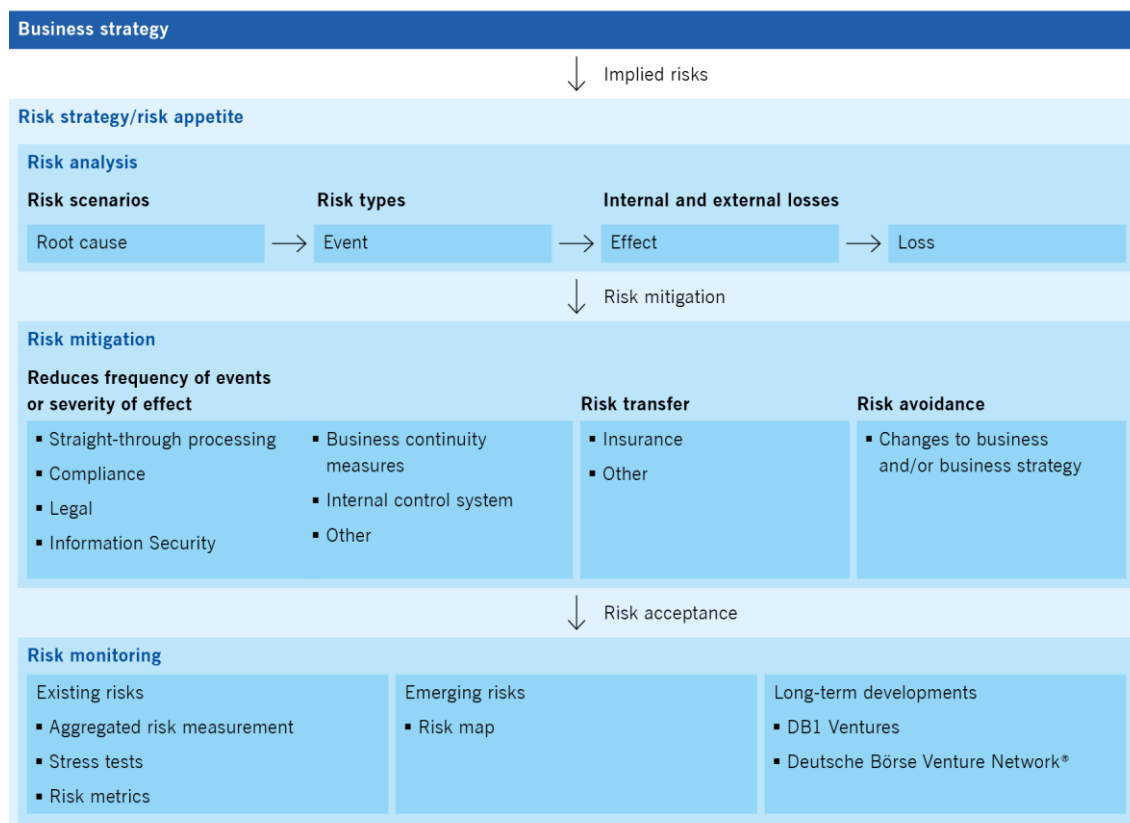
1. Risk limitation – protecting the company against liquidation and ensuring its continuing operation

“Capital exhaustion should not occur more than once in 5,000 years and an operating loss may not be generated more than once every hundred years.” This means that one goal is to ensure a probability of 99.98 per cent or more that the total capital will not be lost within the next twelve months. 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 EBIT. In other words, this principle establishes how much risk the Group must be able to withstand while also determining its risk appetite.

2. Support for growth in the various business segments

“Risk management supports the business areas in expanding their business by working together to comprehensively identify and communicate risks.” This principle aims to permit the Group to make informed strategic decisions within the scope of the risk appetite that it has defined.

Interlocking business strategy and risk strategy



3. Appropriate risk/return ratio

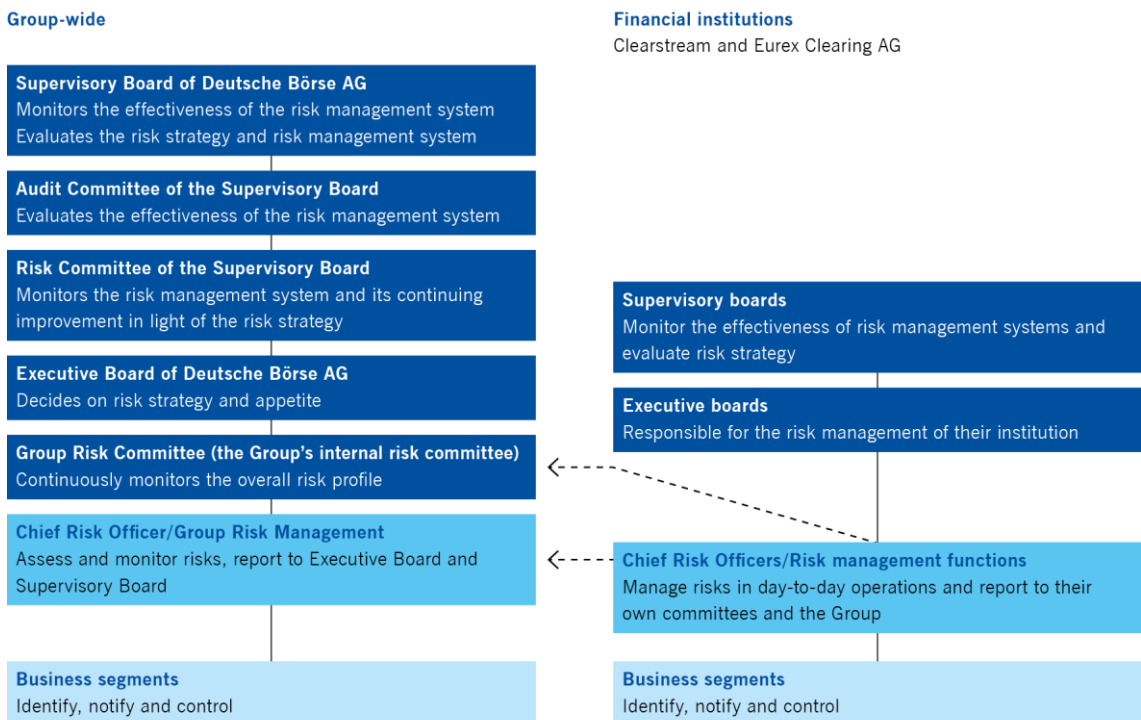
“The return on equity should exceed the cost of equity.” Deutsche Börse Group has set itself the goal of ensuring that risk and return should be reasonably balanced, both for specific business areas in general and for individual regions, products and customers.

Internal risk management is based on the Group-wide detection management of risk, which is focused on its risk appetite, see the [“Interlocking business strategy and risk strategy”](#) chart. 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. This coordinated process ensures, for example, that the Group and its companies can act just as quickly and effectively in the event that several systems fail simultaneously as if a single system fails.

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 and is flanked by measures such as risk management training. The Executive Board is responsible for risk management overall, whereas within the individual companies it is the responsibility of the management. The boards and committees given below receive comprehensive and timely information on risks.

Risk management – organisational structure and reporting lines



Deutsche Börse AG's Supervisory Board evaluates the effectiveness of the risk management system, its continuing development and oversees the monitoring of risks. The Supervisory Board has delegated the regular evaluation of the appropriateness and the effectiveness of the risk management system to the Risk Committee. The Risk Committee reviews the risk management system, its continuing improvement and oversees the monitoring of risks. In addition, it 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. It also determines what parameters are used to assess risks, how risk capital is allocated and what procedures apply. It ensures that all business units comply with these requirements for the risk strategy, risk appetite and risk limits.

The Group Risk Committee (GRC) reviews the risk position of the Group every two months and involves the Executive Board in all decisive questions. The GRC is an internal Group committee, chaired by the Chief Financial Officer. In addition, the GRC regularly checks the levels of all parameters for appropriateness and current status and, where necessary, makes recommendations to the Chief Risk Officer (CRO) or the Executive Board, as to any adjustments that should be made.

Group Risk Management (GRM) is headed by the CRO. This unit prepares the proposals to be adopted for risk levers, i.e. the Group's risk strategy, appetite, parameters, capital allocation and procedures. GRM continuously analyses and evaluates risks and produces quantitative and qualitative reports. These are submitted six times a year to the GRC, once a month to the Executive Board, once a quarter to the Risk Committee of the Supervisory Board and twice a year to the Supervisory Board. This system means that the responsible bodies can regularly check whether the defined risk limits are being adhered to consistently. In addition, GRM recommends risk management measures.

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 risk management functions within the various business areas. Clearstream and Eurex Clearing AG, the Group's institutions, implement customised versions of this risk strategy, using parameters and reporting formats that are compatible with the overarching Group-wide structure. In general, the management of the subsidiary bears the responsibility and is controlled by the supervisory board of the institute.

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 [☒ "The five-stage risk management system" chart](#)). The first stage identifies the risks and the possible causes of losses or operational hitches. 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, while 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. Internal Auditing is responsible for monitoring compliance with the risk management system.

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 and the business environment.

Existing risks

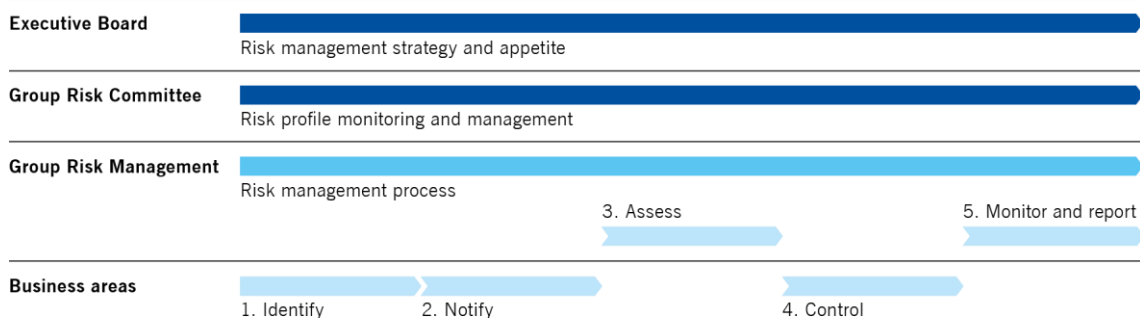
Deutsche Börse Group employs a range of tools to monitor and evaluate its operational, financial and business risk on a continuous basis. Applying the liquidation principle, the going-concern principle, and the regulatory capital requirements of the Group's credit institutions, risks are aggregated at a Group level and quantified using the concept of value at risk (VaR). 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. Risk metrics, which are used as an early-warning system for quantified internal risks, are an additional risk monitoring method.

Aggregate risk measurement

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 one year. In this context, economic capital (EC) in accordance with the liquidation principle, as well as regulatory capital (RC) for credit institutions within Deutsche Börse Group are calculated. Conversely, the going-concern principle is based on earnings at risk (EaR).

The five-stage risk management system

Responsibility



1. Liquidation principle: what risk can the capital cover?

The first part of Principle 1 of its 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, EC 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). It adjusts this figure for precautionary reasons, for example to take into account the fact that it may not be possible to dispose of intangible assets at their carrying amounts in cases of extreme stress. Clearstream and Eurex Clearing AG determine their risk-bearing capacity on the basis of their regulatory capital (for details, see [note 20 to the consolidated financial statements](#)).

For management purposes, GRM regularly determines the ratio of the EC 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 EC to risk-bearing capacity remained within the stipulated maximum risk 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 have to be liquidated (“gone concern”). The liquidation concept therefore assumes that the Group will not have to be liquidated.

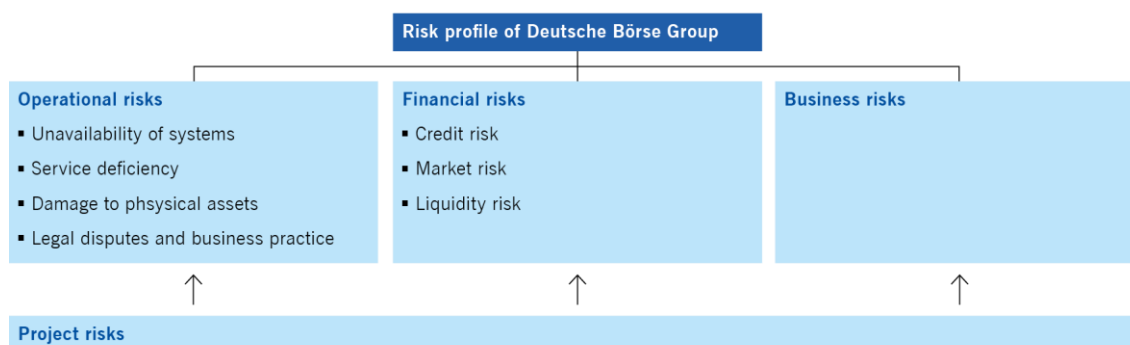
2. Going-concern principle: what risks can be absorbed by earnings?

Deutsche Börse Group employs the going-concern principle that assumes an orderly continuation of the Group in the event of a crisis, and that uses EaR as an indicator. This indicator corresponds to the second part of Principle 1 of the Group’s risk strategy, i.e. that an operating loss may occur no more than once in a hundred years. In other words, there should be a probability of 99.0 per cent or more that Deutsche Börse should at least break even (net profit/loss expressed in terms of earnings before interest and tax (EBIT)). Under the going-concern principle, EaR determined in this way is compared with the Group’s risk appetite – which is, in turn, measured in terms of projected EBIT.

3. Regulatory capital requirements

In addition, Clearstream and Eurex Clearing AG must calculate their capital requirements for various risk types (see the [“Deutsche Börse Group’s risk profile” chart](#)) in line with the Pillar I requirements under Basel III. In addition, Eurex Clearing AG must fulfil EMIR requirements. A standardised approach is used for analysing and evaluating credit and market risk; risk weightings are applied on the basis of the relevant counterparty ratings.

Deutsche Börse Group’s risk profile



The approach taken for operational risk is different: Clearstream has used the significantly more complex advanced measurement approach (AMA) for this in all business units since 2008. This means that it meets the regulatory capital requirements for operational risk set out in the EU's Capital Requirements Regulation (CRR). Similar to EC calculations, the model employed was fundamentally revised and improved in 2016. The method – which has been approved and is regularly tested by BaFin – allows required capital to be allocated to the regulated units. In contrast, Eurex Clearing AG employs the basic indicator approach in order to calculate regulatory capital requirements (for details, see [note 20 to the consolidated financial statements](#)).

Stress tests

Stress tests are being carried out in order to simulate extreme, yet plausible, events for all material types of risk. Using both hypothetical as well as historical scenarios, stress tests simulate the occurrence of extreme losses, or an accumulation of large losses, within a single year. In addition, liquidity risk is evaluated by way of liquidity stress tests as well as so-called inverse stress tests; the latter analyse which loss scenarios would exceed the risk-bearing capacity.

Risk metrics

Risk metrics are used to quantify the exposure to the most important internal operational risks against set limits. Any breach of these limits serves as an early warning signal, which is reported to the Executive Board and other boards and committees 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 for expected or upcoming regulatory requirements, business risk, as well as for IT and information security risks. Risk maps classify risks by their probability of occurring – and by their financial impact, should they materialise. This is based on a five-year planning horizon, which is equivalent to the development cycle for the operational risk relevant to Deutsche Börse Group: regulation and IT. Typically, regulatory requirements evolve over a period of up to five years, from the first draft to implementation. This horizon is also appropriate for the evaluation of IT risks, given that technology is subject to ongoing change.

Long-term developments

For Deutsche Börse Group, risks that prevail throughout longer consideration periods mainly comprise the failure to respond to global changes in, or mega-trends on, the financial markets and the business environment, or a late response to such developments. In order to compensate for such risks, Deutsche Börse Group aspires to think ahead, and to set standards applicable throughout the industry. The Group pursues its targets by promoting mutual exchange with regulators and market participants (e.g. White Paper). A further trend worth noting is the potential of start-up companies to come up with innovations that may have a disruptive effect upon markets. Deutsche Börse Group not only actively invests in such enterprises, through its DB1 Ventures subsidiary, it also offers them a platform. Deutsche Börse Venture Network provides an opportunity to exchange ideas and experience, and also to find investors.

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 reduce the loss event and to minimise their financial effects. Firstly, however, what follows is a brief explanation of the risk profile, which differs from most other financial services providers, since financial risk plays a significantly smaller role for Deutsche Börse Group.

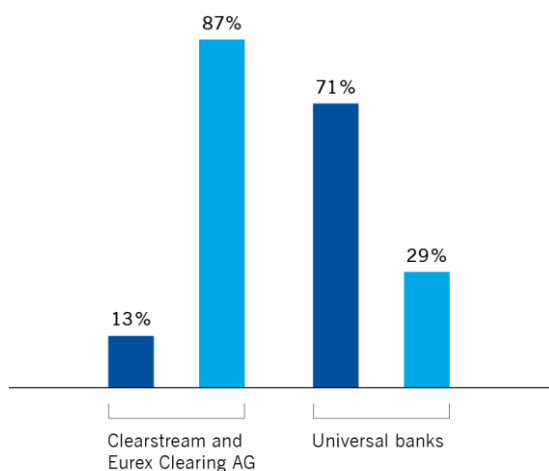
Risk profile

Deutsche Börse Group differentiates between the three standard types of risk: operational, financial and business risk. Project risk also exist but the Group does not specifically quantify these as their impact is already reflected in the three traditional risk types.

Low level of typical bank risk

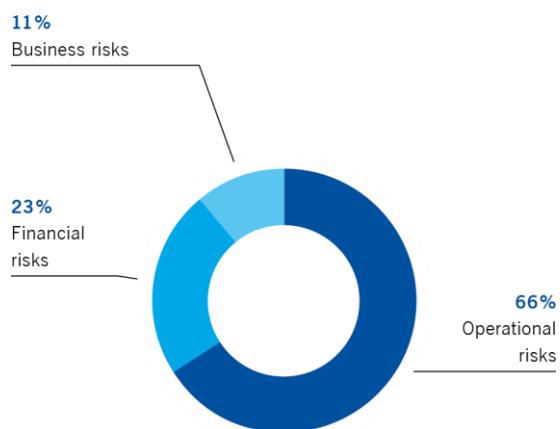
The risks faced by Deutsche Börse Group's institutions differ fundamentally from those of other financial service providers. Considering credit and market price in particular, Clearstream and Eurex Clearing AG report a structurally lower risk compared with other banks, since they act as intermediaries. Thus, for example, they do not operate a proprietary trading business on financial markets. Consequently, Deutsche Börse Group's institutions do not bear the associated market risks. On the contrary, they offer market participants services such as collateral and risk management to reduce their risk from trading activities. The Group's banking business mainly consists of providing reliable clearing, settlement and custody services, as well as collateral management.

Regulatory capital requirements for Clearstream and Eurex Clearing AG as at 31 Dec 2017



- Credit risks and market risks
- Operational risks

Required economic capital for Deutsche Börse Group by risk types as at 31 Dec 2017



The regulatory capital requirements for Clearstream and Eurex Clearing AG are primarily due to operational risk (see the [“Regulatory capital requirements for Clearstream and Eurex Clearing AG as at 31 December 2017” chart](#)). Information on the additional capital requirements of other subsidiaries is provided in [note 20 to the consolidated financial statements](#).

Operational risk greater than financial and business risk

Utilisation of risk-bearing capacity in the liquidation principle and of risk appetite in the going concern principle are used as internal management indicators throughout Deutsche Börse Group (see the [“Approaches and methods for risk monitoring” section](#) 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. Under the liquidation principle, financial risk amounts to approximately 23 per cent of Deutsche Börse Group’s total risk, while business risk represents 11 per cent of the total. This makes the third typical risk type all the more important for Deutsche Börse Group: at 66 per cent, operational risk accounts for more than half of the total risk (see the [“Required economic capital for Deutsche Börse Group by risk type as at 31 December 2017” chart](#)).

A larger part of the risk is associated with the Clearstream and Eurex segments (see the [“Required economic capital by segment as at 31 December 2017” chart](#)), in keeping with the proportion of sales revenue and earnings accounted for by their business. In contrast to the regulatory capital requirements, this calculation also includes business areas that are not covered by banking regulations.

A similar split can be seen for EaR. Here, too, the business segments with the largest proportions of revenues and earnings – Clearstream and Eurex – have the largest shares of earnings at risk (see the [“Earnings at risk by segment as at 31 December 2017” chart](#)).

Deutsche Börse Group assigns indicators to each risk exposure to estimate how likely it is to occur and what financial effect it could have. It distinguishes four probability levels (very low, low, medium and high) and four financial impact levels (low, medium, substantial and a risk to the company as a going concern). However, none of the risks assessed reach the fourth impact level either individually or in total; in other words, none jeopardises the existence of the entire Group as a going concern. These categories can be used to assess the risk types given below as examples. The estimated probabilities of the risks occurring are categorised as follows:

- Very low (the probability of the risk occurring is less than 1 per cent)
- Low (the probability of the risk occurring is equal to or greater than 1 per cent but less than 10 per cent)
- Medium (the probability of the risk occurring is equal to or greater than 10 per cent but less than 50 per cent)
- High (the probability of the risk occurring is equal to or greater than 50 per cent)

The estimated financial effects can be classified into the following four categories:

- Low (the financial loss could be up to 10 per cent of EBIT)
- Medium (the financial loss could be up to 50 per cent of EBIT)
- Substantial (the financial loss could be up to 100 per cent of EBIT)
- Risk to the business as a going concern (the financial loss of Deutsche Börse AG could be up to the available risk cover amount)

In the following, the risk types are first illustrated with specific examples and then explained in detail.

1. Operational risk

- Failure of a trading system
- Cyber attacks
- Incorrect processing of client instructions (e.g. corporate actions)
- Incorrect handling of the default of a large customer
- Losses from ongoing legal disputes
- Conflicting laws of different jurisdictions
- Threat of tax back-payments

2. Financial risk

- Default of a credit counterparty
- Losses of on-balance sheet and off-balance sheet assets and liabilities, due to market price fluctuations
- Default by a customer and an associated liquidity squeeze

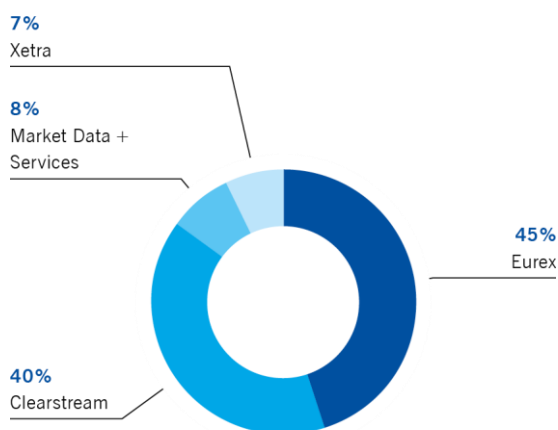
3. Business risk

- Market share loss in European trading markets
- The return of the European government debt crisis
- Implementation of a financial transaction tax

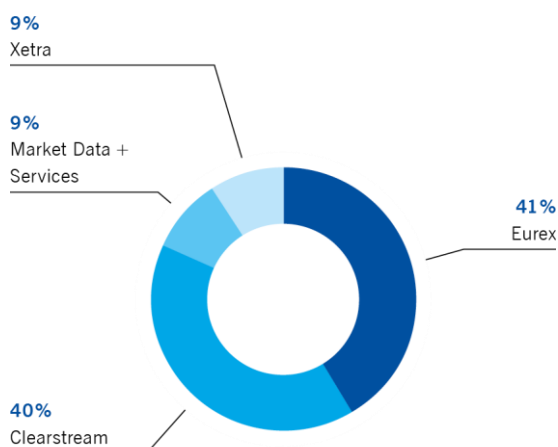
Risks which could jeopardise the Group's continued existence could arise only from a combination of extreme events that have a very low probability:

- Failure of a trading system over several days, in a highly volatile market environment
- Simultaneous default of multiple large banks with systemic relevance

Required economic capital by segment
as at 31 December 2017



Earnings at risk by segment
as at 31 December 2017



- Successful serious abuse of banking applications, through a coordinated cyber attack
- Failure of key infrastructure providers in extreme market conditions, associated with failure of lines of defence

These extreme events that could lead to a loss corresponding to more than 100 per cent of annual EBIT are rated as having a probability of far less than 0.1 per cent. Such extreme events, also known as “tail risks”, have not occurred to date. Tail risks may represent going concern threats for certain subsidiaries, for example if sanctions were to be deliberately contravened. GRM assesses these risks continuously and reports the results regularly to the Executive Board of Deutsche Börse Group.

Operational risk

For Deutsche Börse Group, operational risk comprise the unavailability of systems, service deficiency, damage to physical assets as well as legal disputes and business practice (see the [“Operational risk at Deutsche Börse Group” chart](#)). Human resources risks are quantified just like other operational risks. Operational risk accounts for 66 per cent of the total Group risk.

Unavailability of systems

Operational resources such as the Xetra[®] and T7[®] trading systems 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 cyber crime 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. This supports the view that the probability of a system failure lasting a week in an extremely volatile market is very low. However, the potential financial effect of such an event could be significant if claims are justified and asserted.

In general, availability risk represents the largest operational risk for Deutsche Börse Group. The Group therefore subjects its systems to regular stress tests, which check 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 errors in handling the default of a large clearing customer. To date, defaults are rare, no such handling errors have occurred and related processes are tested at least annually, which is why the probability is considered to be very low. The potential financial loss is put at medium.

Other sources of error may be attributable to suppliers or to product defects or mistakes that may lead to the loss of client assets or mistakes in accounting processes. The Group registers all complaints and formal objections as a key indicator of deficient processing risk.

Damage to physical assets

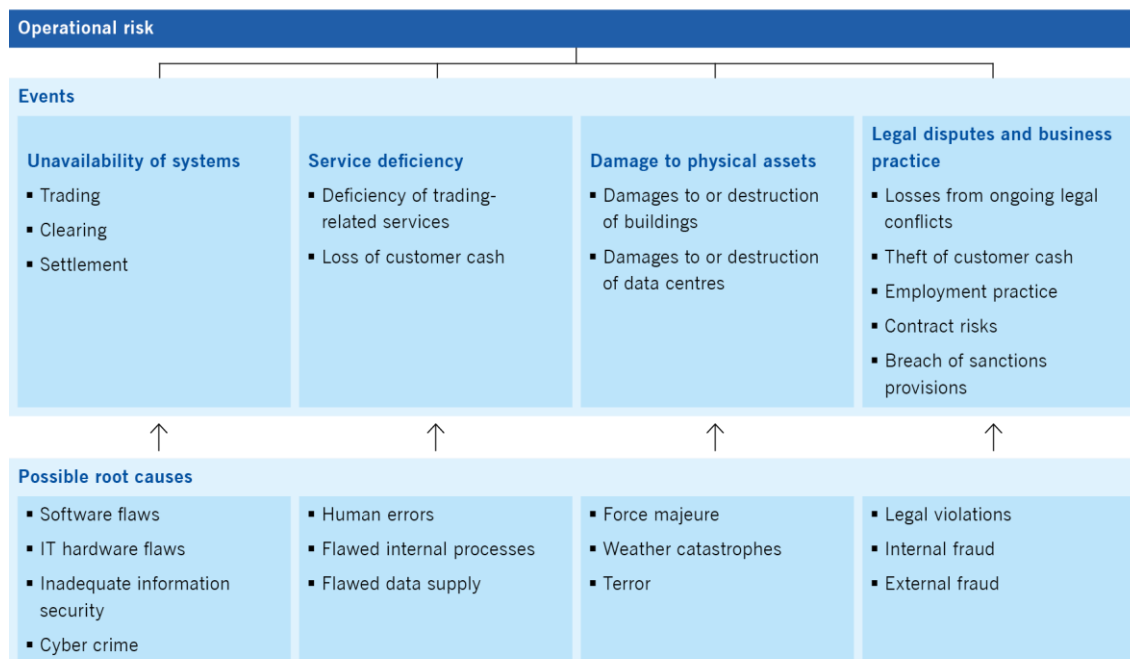
Natural disasters, accidents, terrorism or sabotage are other operational risks that could, for example, cause the destruction of, or severe damage to, a data centre or office building. Business continuity management (BCM) aims at averting significant financial damage (see the [“Business continuity management”](#) chart).

Legal disputes and business practice

Losses can also result from ongoing legal proceedings. Deutsche Börse judges the probability that this operational risk will occur to be medium, although the losses involved could be substantial. As a result, GRM continually monitors ongoing legal proceedings. These can be brought 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 higher-order regulations.

In its [2012 corporate report](#), Deutsche Börse Group informed about Peterson vs Clearstream Banking S.A., the first Peterson proceeding, initiated by various plaintiffs seeking 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 million. That matter was settled between Clearstream Banking S.A. and the plaintiffs and the direct claims against Clearstream Banking S.A. were abandoned.

Operational risk at Deutsche Börse Group



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 then by the US Supreme Court on 20 April 2016. Once the process of distribution of funds to the plaintiffs is complete, a related case, Heiser vs Clearstream Banking S.A., also seeking turnover of the same assets, should be dismissed.

On 30 December 2013, a number of US plaintiffs from the first Peterson case, as well as other plaintiffs, filed a complaint 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 trial court. Regarding another aspect, the appellate court referred the case back to the court of first instance, which shall assess whether the assets held in Luxembourg are subject to execution in the U.S. Clearstream Banking S.A. filed a petition for rehearing with the appellate court in December 2017, which the appellate court has rejected, and is now considering a petition to the US Supreme Court.

On 14 October 2016, a number of US plaintiffs filed a complaint 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 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 to the same amount. The assets sought include assets to the amount 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 claim also addresses customer assets of approximately US\$2 billion, which include assets that are held at Clearstream Banking S.A. and which are currently subject to US and Luxembourg litigation brought by US plaintiffs, and addresses assets that were previously transferred out of Clearstream Banking S.A. to Banca UBAE S.P.A.

Disputes have arisen regarding a bond issued by MBB Clean Energy AG (MBB), which is held in custody by Clearstream Banking AG. MBB issued a first tranche of the bond in April 2013 and a second tranche of the bond in December 2013. The global certificates for the two tranches of the bond were delivered into Clearstream Banking AG by the paying agent of the issuer. The 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.

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 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*). Due to the early stage of the investigations, it is not possible to predict timing, scope or consequences of a potential decision. The companies are cooperating with the competent authorities.

On 1 February 2017, Deutsche Börse AG announced that the public prosecutor's office in Frankfurt/Main was investigating Deutsche Börse AG in respect of a share purchase by its former Chief Executive Officer Carsten Kengeter which was carried out on 14 December 2015, in implementation of the Executive Board's remuneration programme as approved by the Supervisory Board of Deutsche Börse AG. On 18 July 2017, the public prosecutor's office in Frankfurt/Main issued a notification of hearing to Deutsche Börse AG. According to this notification of hearing, the public prosecutor's office intends to formally involve the company in the ongoing investigation proceedings against Carsten Kengeter. In the notification of hearing, the public prosecutor, with regard to the company, held out the prospect that two fines totalling €10.5 million could be imposed on Deutsche Börse AG in accordance with section 30 of the Gesetz über Ordnungswidrigkeiten (OWiG, German Act on Regulatory Offences) due to an alleged violation of the insider trading prohibition in December 2015 and an alleged failure to disclose an ad-hoc announcement in January 2016. On 13 September 2017, Deutsche Börse AG's Executive Board and Supervisory Board decided to accept the fine which would potentially be imposed by the competent local court (Amtsgericht). On 23 October 2017, however, the local court of Frankfurt am Main refused to approve the closure of the investigation proceedings against the former Chief Executive Officer of Deutsche Börse AG, Carsten Kengeter, subject to conditions in the form of payment of €500,000, as applied for by the public prosecutor. In light of the significance of the proceedings the court considers it appropriate to continue the investigation proceedings at this time. The further investigations could lead from a closure of the proceedings due to lack of adequate suspicion to an indictment. The court has returned the matter, both as relates to the investigation proceedings against Carsten Kengeter as well as to potential actions against Deutsche Börse AG, to the public prosecutor which will now decide upon further procedural steps.

On 26 October 2017, Carsten Kengeter informed the Supervisory Board of Deutsche Börse AG that he would like to step down as the company's Chief Executive Officer with effect from 31 December 2017. The Supervisory Board accepted this request.

Following expert consultation, Deutsche Börse AG continues to believe the allegations made are unfounded in all respects.

Despite the ongoing proceedings described above, the Executive Board is not aware of any material changes to the Group's risk situation.

Measures to mitigate operational risk

Deutsche Börse Group takes specific measures to reduce its operational risk. Among them are emergency and contingency plans, insurance policies, measures concerning information security and the physical safety of employees and buildings as well as precautions to ensure that the applicable rules are observed (compliance).

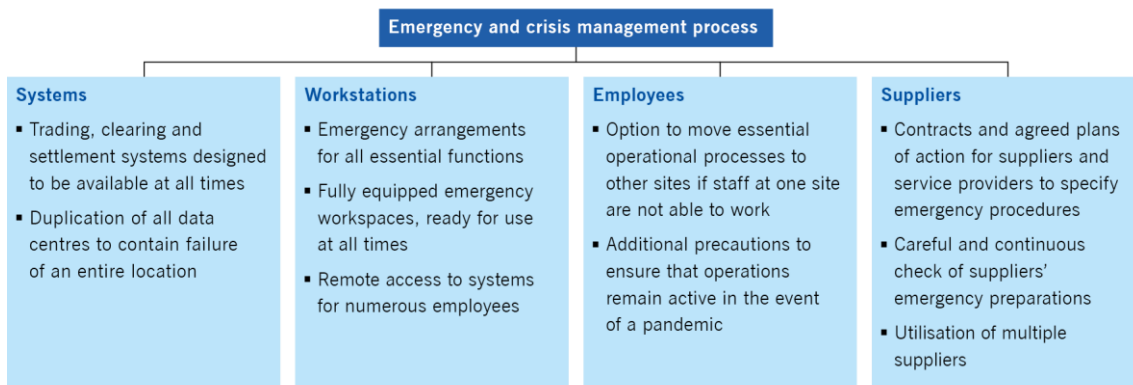
Emergency and contingency plans

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 and disasters. 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 disaster 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 availability 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. Examples of such precautions are listed in the [“Business continuity management” chart](#).

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 acts as the crisis manager. 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:

Business continuity management



- 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.

Information security

Information security attacks and cybercrime represent operational risks for Deutsche Börse Group. Cybercrime is increasingly becoming a focus for organised crime and now features high on the list of crime statistics year after year. It is a threat to all financial services providers, to credit institutions and to Deutsche Börse Group. Due to the growing danger from cyber criminals and increasing regulatory requirements, the Group is focused on mitigating these specific risks and expanding its information security measures. Besides mitigating availability risks, these serve in particular to reduce the risk of loss of confidential information or of transaction integrity, or the risk of the authenticity of information being compromised – hence, to preserve Deutsche Börse Group’s integrity as a transaction services provider. In this connection, the Group has extended its procedures to quantify information security risks and has specified them in more detail, in order to facilitate implementation of targeted counter-measures. This also encompasses all measures taken within the scope of cyber security and cyber resilience (i.e. to boost the robustness of procedures, applications and technologies against cyber-attacks).

Besides the traditional “second line of defence” function (that is, to monitor whether requirements concerning information security and the related risk management are being adhered to), information security also monitors the systemic integration of (and adherence to) security functions, 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 in cooperation with national and international financial intelligence units at an early stage and coordinates risk mitigation measures in cooperation with the business areas. Moreover, procedures based on the ISO 27001 industry standard and the NIST Cyber Security Framework were established in order to bring Deutsche Börse Group’s information security measures continuously into line with growing – and permanently changing – requirements, and to anticipate regulatory requirements at an early stage. Since parts of Deutsche Börse Group (specifically, securities settlement and custody services) are subject to regulations under the *IT-Sicherheitsgesetz* (German IT Security Act), the Group has been conducting a detailed exchange of information in current cyber-risks with the German Federal IT Security Authority (BSI) since 2016.

In 2015, Group Information Security launched an extensive Group-wide programme designed to raise staff awareness for the responsible handling of information and to improve staff conduct in this aspect. 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. Corporate Security has developed an integral security concept to protect the company, its employees and values from external attacks. A highly qualified security staff assess the security situation at Deutsche Börse Group's locations permanently and are in close contact with local authorities and security departments of other companies.

In an increasingly competitive global market environment, know-how and confidential company information bear 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 while they are travelling or on foreign assignment. In this context, a world-wide travel security programme was established, supported by a travel-tracking system.

Insurance policies

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.

Compliance

The compliance function, in cooperation with individual business segments, has the task of ensuring as a general matter that regulatory requirements are observed, and of protecting the Group against a variety of monetary and non-monetary risks, such as reputational damage in the markets it serves, in the view of supervisory authorities, or the general public. Whilst endowed with appropriate autonomy from the business units, the compliance function nonetheless fulfils its mandate as an enabler of business, to allow the latter to focus on the clients and markets the Group wishes to serve. Compliance has to take the necessary steps to systematically and pre-emptively mitigate compliance risks. This requires the identification of compliance risks, and a risk-based assessment of appropriate measures.

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. Under applicable law, the compliance functions of the individual Group entities report to the respective member of the Executive Board responsible for Compliance. Moreover, the compliance functions and their staff report directly to the Group Chief Compliance Officer via a uniform reporting structure. Wherever possible, Deutsche Börse Group's compliance follows a synergistic and holistic approach by applying Group-wide compliance regulations and standards, with the objective of ensuring that the related concepts are spread throughout the Group.

Deutsche Börse Group's compliance function has been consistently strengthened over recent years. As a further step in the enhancement of Group compliance over the past few years, in the course of 2017, the Group significantly increased its dedicated compliance personnel in major offices around the world with the objective of coordinating and strengthening the alignment between compliance officers, control functions of individual business areas and other control functions as required by supervisory bodies. This close alignment forms a solid second line of defence. In order to be able to act pre-emptively and to mitigate the compliance risks referred to above, the Group continues to invest into the acquisition and further development of IT tools. This provides validated data sources, upon which the Group can consistently and appropriately respond to compliance risks. During 2017, the focus was to review trends and patterns in order to identify statistical anomalies that might be indicators of compliance risks.

Deutsche Börse Group also improved its due diligence procedures with respect to clients, market participants, counterparties and business partners. As far as possible, the compliance function follows a strongly centralised approach. This guarantees the continuous monitoring of compliance risks with respect to clients served by multiple legal entities within Deutsche Börse Group.

Since its products and services – as a provider of financial market infrastructures – are often focused on other financial intermediaries, Deutsche Börse Group’s cooperative approach seeks to raise the standards throughout the industry and enhance the integrity of financial markets for all participants. One of the results of these efforts was the development of the Financial Crime Compliance Principles for Securities Custody and Settlement, by the International Securities Services Association (ISSA). Deutsche Börse Group and Clearstream continue to promote this project. Senior Group Compliance officers are active participants in national and international working groups such as the above mentioned, seeking to define and promote adoption of consistent industry standards.

Group Compliance continuously promotes awareness of the importance of regulation-compliant and ethically correct conduct, as well as integrity amongst all Deutsche Börse Group employees. For instance, emphasis and attention regarding compliance-relevant aspects has been increased throughout all business areas, including Deutsche Börse Group’s control functions required according to supervisory requirements.

Over the last few years, Deutsche Börse Group has devoted itself to the development of market-leading compliance standards. The Group promotes and reflects these standards across its entire product-related value chain, particularly from the perspective of a leading global provider of financial markets infrastructure. As a key next step, designed to exploit Group-wide synergies and to go beyond the scope of supervisory requirements, Group Compliance decided in 2017 to align Deutsche Börse Group’s compliance management system with the globally recognised ISO 19600 standard.

Financial risk

Deutsche Börse Group classifies its financial risk into credit, market and liquidity risk (see the [“Financial risk at Deutsche Börse Group” chart](#)). At Group level, these risks account for about 23 per cent of the entire risk profile (this information only includes credit and market risk; liquidity risk is not quantified as part of the EC; see [note 36 to the consolidated financial statements](#)). They primarily apply to the Group’s institutions. As a result, the following explanation focuses on Clearstream and Eurex Clearing AG.

Financial risk at Deutsche Börse Group



Credit risk

Credit risk describes the danger that a counterparty might not meet its contractual obligations, or not meet them in full. Measurement criteria include the degree to which the credit line has been utilised, the collateral deposited and concentration risk. Although Clearstream and Eurex Clearing AG often have short-term claims against counterparties totalling several billion euros overall, these are secured in most cases by collateral deposited by the market participants. Moreover, the Group regularly evaluates the reliability of its emergency plans at Clearstream and Eurex Clearing AG in the event of client defaults, and the resulting credit risk.

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. Only selected bonds may be used as collateral; these must be rated at least BBB– by the Standard & Poor's rating agency or the equivalent from other agencies. In the case of short-term securities without individual ratings, the issuers must be rated at least A–1.

Clearstream grants credits to its customers in order to make settlement more efficient. This type of credit business is, however, fundamentally different from the classic lending business. First, credit is extended solely on a very short-term basis, normally for less than a day. Second, it is largely collateralised and granted to clients with high creditworthiness. Furthermore, the credit lines granted can be revoked at any time.

Under its terms and conditions, Eurex Clearing AG only enters into transactions with its clearing members. Clearing mainly relates to defined securities, rights, derivatives and emission allowances that are traded on specific stock exchanges. Eurex Clearing AG also offers this service for some over-the-counter (OTC) products such as interest rate swaps and forward rate agreements. As a central counterparty, it steps in between transactional counterparties. Through offsetting mutual claims and requiring clearing members to post collateral, Eurex Clearing AG mitigates its clients' credit risk exposure.

To date, no default by a client with a secured credit line has resulted in financial losses. Deutsche Börse Group continues to view the probability that one of its customers could become insolvent and that this could lead to losses for the Group as low. It considers the impact of such an event to be low if the credit line in question is collateralised and medium if it is uncollateralised. The probability of a counterparty to an uncollateralised credit defaulting is considered to be very low. If several large, systemically relevant banks were to default simultaneously, the financial impact might be significant. The probability of this scenario is considered to be very 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 Clearstream and Eurex Clearing AG customers. To date, counterparty default has not led to any loss for the Group. The probability that the default of a counterparty to an uncollateralised cash investment could lead to a loss is considered to be low, the financial loss itself could have a medium impact.

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.

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 regular creditworthiness checks, which they supplement with ad hoc analyses if necessary. They define haircuts for securities posted as collateral depending on the risk involved, and continually review their appropriateness. They include all relevant risk factors when determining the haircut and allocate a specific deduction to each. The total haircut is calculated by adding together the individual margins for the risk factors concerned.

Given the size and volatility of its clients' liabilities, Eurex Clearing AG has developed a leading-edge collateral management system, which is described in detail in the following section.

Safety for both participants and the clearing house

Each clearing member must prove that it has capital equal to at least the amounts that Eurex Clearing AG has defined for the different markets. The amount of capital 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 to be used as collateral. It continually reviews what collateral it will accept and uses haircuts with a confidence level of at least 99.9 per cent to cover market risk. It applies an additional haircut to securities from issuers in high-risk countries or excludes them from being furnished as collateral altogether. Risk inputs are checked regularly and the safety margins are calculated daily for each security. In addition, a minimum safety margin 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 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 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 five-day holding period) for OTC transactions. Eurex Clearing AG checks regularly whether the margins match the requested confidence level: initial margin is currently calculated using the legacy risk-based margining method, and the Eurex Clearing

Prisma method, which is already available for all derivative contracts traded. The method 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, physical deliveries, as well as for securities lending and repo transactions. The Prisma method is set to fully replace risk-based margining in the future.

In addition to the margins for current transactions, each clearing member contributes to a clearing 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 clearing fund. Eurex Clearing AG uses regular stress tests to check whether its clearing fund matches the risks. 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 clearing 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 clearing 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, the relevant clearing member's outstanding positions and transactions can be netted and/or closed from a risk perspective by entering into appropriate back-to-back transactions, or they can be settled in cash.
- 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 2017, collateral amounting to €47,912.9 million had been provided for the benefit of Eurex Clearing AG (after haircuts).
- After this, the relevant clearing member's contribution to the clearing fund would be used to cover the open amount. Contributions ranged from €1 million to €399 million as at 31 December 2017.
- Any remaining shortfall would initially be covered by a contribution to the clearing fund by Eurex Clearing AG. Eurex Clearing AG's contribution amounted to €150 million as at 31 December 2017.
- Only then would the other clearing members' contributions to the clearing fund be used proportionately. As at 31 December 2017, aggregate clearing fund contribution requirements for all clearing members of Eurex Clearing AG amounted to €3,193.1 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 clearing fund contributions. In parallel to these additional contributions, Eurex Clearing AG provides additional funds of up to €300 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 equity would be used.
- Finally, the remaining minimum regulatory equity of Eurex Clearing AG would be drawn upon.

- In addition, 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 the funds to Eurex Clearing AG required to fulfil its duties – including the duty to provide additional funds of up to €300 million, as mentioned before. The maximum amount to be provided under the Letter of Comfort amounts to €600 million, including payments already made. Third parties are not entitled to any rights under the Letter of Comfort.

In the event of default by a clearing member, Eurex Clearing AG triggers its tried-and-tested Default Management Process (DMP), in order to rebalance the central counterparty. This will 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.

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 losses which may result from a clearing member's default, and which exceed the resources of the defaulted clearing member, are covered via a "waterfall" consisting of multiple lines of defence. Eurex Clearing AG's own contribution is first in line, before the mutual clearing fund – or any other funds segmented along the risk-weighted liquidation groups – are drawn upon to cover losses.

Historically, 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 above, 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.

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 regular credit checks and using ad hoc analyses, as necessary. Since extending its licence as an investment and credit institution under the Kreditwesengesetz (German Banking Act), Eurex Clearing AG can also use Deutsche Bundesbank's permanent facilities.

Clearstream and Eurex Clearing AG run stress tests to analyse scenarios such as the default of their largest counterparty. 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 counterparties defaulting at the same time is calculated for Eurex Clearing AG. A special stress test examines Clearstream Banking S.A.'s credit risk exposure from the settlement procedure with Euroclear. 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. In the course of the stress tests run in financial year 2017, the identified risks have been further analysed and appropriate measures to reduce risk have been implemented.

Deutsche Börse Group tracks a variety of risk indicators in addition to its risk measures (EC, EaR and the credit risk stress tests performed). These include the extent to which individual clients utilise their credit lines, and credit concentrations.

Market risk

Market risk include risks of a reverse 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, with a low sensitivity to interest rate fluctuations. 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 pension plan in Luxembourg). The Group reduced its risk of extreme losses by deciding to invest a predominant proportion of the CTA on the basis of a value preservation mechanism.

Liquidity risk

Liquidity risk applies 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. The aim is to maintain enough liquidity to meet operating costs for one quarter (currently between €150 million and €250 million). 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 exclusively 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 AG 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, liquidity 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.

The key liquidity risk for Deutsche Börse Group lies in 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 in, and the collateral provided by the client could then be liquidated. Deutsche Börse Group estimates the probability of this liquidity risk to be low, with the possibility of medium financial losses.

A decline in market liquidity, following a counterparty default, would further increase Deutsche Börse Group's liquidity risk exposure. On a daily basis, Clearstream and Eurex Clearing AG calculate their liquidity needs which would result from a default of their two biggest clients, and maintain sufficient liquidity in order to cover the liquidity needs determined.

To consider different scenarios, regular stress tests are being carried out to examine the liquidity risk exposure of Clearstream and Eurex Clearing AG. Risks identified in the course of stress tests carried out during the 2017 financial year were analysed further, and corresponding risk-reduction measures initiated.

Business risk

Business risk reflects the fact that the Group depends on macroeconomic 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 EBIT, and are monitored constantly by the divisions. They account for about 11 per cent of the Group's total risk. 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 CurveGlobal and Intercontinental Exchange (ICE) or Euronext, might increase their market shares on the European trading markets (both on- and off-exchange). Deutsche Börse Group estimates the probability of a minor loss in market share as medium but the resulting impact to be relatively low.

If a state were to leave the eurozone or if a state were to become insolvent, this could mean that government bonds would not be redeemed or only would be redeemed in part. This might have a negative influence on Deutsche Börse Group's customers and reduce their trading volume in the future. Currently, the Group still views the probability of this risk occurring as low, and the possible consequences as medium.

Additional business risk may arise from regulatory requirements, or from the economic environment. For example, the introduction of a financial transaction tax, which continues to be supported by ten European states, might have a negative impact upon Deutsche Börse Group's business activities. Moreover, the UK's exit from the European Union might negatively affect clients' trading activity, or even – depending on the progress of the Brexit negotiations – involve regulatory disadvantages. A sustained period of weak trading activity on the market, after a significant downturn on the equity markets, for example, also represents a risk to the Group. Deutsche Börse Group simulates different scenarios in stress tests. These take into account the simultaneous occurrence of different business risk, such as the negative effects of stronger competition combined with a simultaneous loss of business due to new regulations.

Project risk

Project risk could result from the implementation of ongoing projects (such as the launch of new products, processes or systems) and could have a material impact on one or more of the three other risk categories (operational, financial and business risk). Project risk is not broken down further. Such risks are evaluated by the project owner and GRM and are already taken into account in the initial phase of substantial projects. Throughout 2017, regulatory changes brought about by the amended Markets in Financial Instruments Directive (MiFID II) and the Central Securities Depository Regulation (CSDR) continued to have a major impact on the project portfolio. While these projects need to ascertain Deutsche Börse Group's compliance with new regulatory requirements, initiatives such as the Regulatory

Reporting Hub are designed to support clients in their compliance with the new framework. Ultimately, project risk has an operational, financial and business impact, which is why it is quantified as part of these risk types. Ongoing monitoring and checks ensure that project risk is continually analysed and evaluated.

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. Its summary of the situation in 2017 is given here, and is followed by a brief look at the coming financial year.

Summary

Additional external risk factors emerged for Deutsche Börse Group's business in the past financial year, including in particular increased operational risk in the fields of cybercrime and taxes. That is also why the Group's risk profile increased in total. Deutsche Börse Group's risks were covered by sufficient risk-bearing capacity at all times during the reporting period, i.e. the allocated risk appetite limits were complied with.

As at 31 December 2017, the Group's EC amounted to €2,362 million, a 15 per cent increase year-on-year (31 December 2016: €2,056 million). The available risk-bearing capacity increased by 8 per cent to €4,128 million year-on-year (31 December 2016: €3,810 million). EaR as at 31 December 2017 were €812 million, while risk appetite was €1,399 million, based on the adjusted budgeted EBIT in 2017.

Deutsche Börse AG's Executive Board is convinced that the risk management system is effective. The Board continues to strengthen the system and the control function responsible for it. The Group-wide strategy to capture and manage risk, which focuses on risk appetite, forms the basis for internal risk management. It is codified in the three principles described in the ["Risk strategy and risk management"](#) section.

Outlook

Deutsche Börse Group continually assesses its risk situation. Based on stress tests, on the required EC, which was calculated, and 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 could endanger the Group's existence as a going concern.

In 2018, the aim is to further strengthen Group-wide risk management – with a focus on further improving collaboration with other central and control functions within the Group. On the one hand, this will be achieved through a harmonisation of Group-wide documentation and control processes, enhancing their efficiency and quality at the same time. On the other hand, a cross-divisional initiative will be launched to strengthen the risk culture within the company – for example, through training courses designed to promote the conscious management of risks. Furthermore, business continuity precautions are set to be expanded, to account for emergencies or crises.

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 both on an ongoing basis throughout the year in the individual business areas and systematically at Group level as part of its annual budget planning process. Suggestions from the Group's business areas for new products, services or technologies serve as the starting point. The process begins with a careful analysis of the market environment: this considers both customer wishes and factors such 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. Qualitative aspects are documented in a business plan, and expenses and revenues are projected in detail for multiple years.

Once a business plan and profitability analysis have been prepared for a specific growth initiative, the Executive Board of Deutsche Börse AG decides on its implementation. This decision is taken as part of the annual budget planning process. The initiatives that, after taking into consideration the associated risks, add the most value and that can be financed from the budget allocated are selected by the Executive Board and included in the budget.

Budgeting for growth initiatives involves reserving a full-year budget comprising expenditures and expenses for each selected growth initiative included in the investment portfolio. The Group Project Committee (GPC) monitors progress of growth initiatives throughout the year, checking and overseeing projects on a regular basis. In this context, the GPC focuses on whether defined milestones have been reached, on the potential impact of changes in the competitive environment on commercial performance, and on the utilisation of budgets compared to planning.

Where budget adjustments are required during the course of the year, project management must first submit a corresponding application to the GPC. The GPC may also recommend adjustments to full-year budgeted funds, to bring them into line with general business developments. Where needed, this also provides for the opportunity to approve new growth initiatives during the course of the year.

Furthermore, supervision of growth initiatives is supported by regular reporting. This report is coordinated by central functions and created in cooperation with the individual projects from the business areas and compares planned costs with actual budget utilisation. In addition, the financial planning is adjusted, forecasts are updated and changes to the scope of the project are made transparent. Checks are made to establish whether milestones have been reached and whether project-specific risks and the countermeasures taken are described.

Organic growth opportunities

When assessing organic growth opportunities, Deutsche Börse Group makes a basic distinction between structural and cyclical opportunities. Structural opportunities arise, for example, as a result of regulatory changes or new customer requirements, and can be influenced directly by the company. Cyclical opportunities cannot be influenced directly by the company and are driven by macroeconomic changes. In addition, the Group intends to seize opportunities arising as a result of the technological transformation.

Structural growth opportunities

The focus of Deutsche Börse Group's structural growth potential is on product- and service-driven initiatives designed to satisfy new client needs as well as regulatory requirements. In order to ensure the Group is optimally positioned and in order to explore new opportunities, the Group already has gradually realigned its organisational structure with its growth strategy. Moreover, it regularly examines options for growth in high-potential asset classes, products or services – organically or through external acquisitions and cooperations.

The Group anticipates the strongest revenue increases in its Eurex segment. Among other things, this is due to the clearing of over-the-counter (OTC) derivatives and further growth in the trading of power and gas products. 360 Treasury Systems (360T) will also provide a contribution to net revenue growth in this segment. In the Clearstream segment, the focus is on developing the investment funds business, cross-border securities settlements via TARGET2-Securities (T2S), as well as collateral and liquidity management. The growth focus in the Market Data + Services segment is on the expansion of the index business. The business potential of the above-mentioned initiatives are described in more detail below.

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. In response, the European Union developed the European Market Infrastructure Regulation (EMIR), which is aimed at regulating OTC trading in derivatives. EMIR includes the following regulatory requirements:

- An obligation to clear standardised OTC derivatives transactions using a central counterparty
- Special risk management requirements for transactions in non-standardised derivatives
- An obligation to report the transactions to a trade repository

The obligation for market participants to comply with EMIR requirements kicked in on 21 June 2016, with the first of four phases. Preparing for mandatory clearing, Eurex Clearing AG has developed a central counterparty to clear OTC derivatives. The offering, which may later be extended to other asset classes, is aimed primarily at institutional customers and the interest rate swaps they enter into. It especially focuses on security and efficiency, allowing customers to gain the full benefit of Eurex Clearing's risk and collateral management services for their OTC transactions as well. The majority of

transactions entered into by these clients has been subject to mandatory clearing since the start of phase 2 on 21 December 2016. As expected, clearing volumes in OTC interest rate derivatives rose significantly in 2017. The Group expects this trend to accelerate further in 2018.

Moreover, Brexit – and the associated uncertainty as to whether clearing houses outside the scope of EU regulation will still be permitted to clear euro-denominated interest rate swaps in the future – offers another opportunity to build market share in this product area. Against this background, Eurex Clearing created an alternative for clearing interest rate swaps within the EU, through its partner programme announced in November 2017, which has met with broad market acceptance. By the beginning of February 2018, 25 market participants from the US, the UK, Asia and Continental Europe had already opted to participate in the programme.

Trading and clearing of power and gas products (EEX)

With the acquisition of a majority stake in European Energy Exchange AG (EEX), based in Leipzig, Deutsche Börse Group expanded its product range to include trading and clearing of spot and derivatives contracts on power and gas as well as emission certificates – in order to benefit from markedly higher demand for energy trading and clearing services. The double-digit growth rates which the Group has achieved since then have been the result of external growth but also reflect structural organic growth which Deutsche Börse Group has been able to exploit, thanks to its good position. For instance, EEX has evolved into the central marketplace for energy, energy-related and commodities products in Continental Europe; its product range includes the markets in Germany, France, the Netherlands, Belgium, Italy and Spain. EEX also generated organic growth, especially in the power and gas business. While this growth momentum is based on the changing importance of renewable energy sources – wind power in particular – for power generation, the resulting gains are difficult to predict, also due to the strong fragmentation of the European energy market, and the fact that market participants predominantly trade off-exchange. Given this high degree of fragmentation, as well as the inefficiency of OTC markets, demand for on-exchange trading and clearing solutions for such transactions has been growing over recent years. While OTC trading clearly continues to be the bigger market, EEX was able to significantly increase market share in recent years. At the end of 2017, it amounted to around 30 per cent. EEX continues to anticipate strong demand for efficient trading and clearing solutions for the energy markets, and resulting structural growth.

Expansion into foreign-exchange trading (360T)

Deutsche Börse AG successfully explored a new asset class – foreign-exchange trading – with the full acquisition of 360T. 360T® is a leading, globally active foreign-exchange trading platform which has generated double-digit annual growth rates almost continually since its inception in 2000. The broad client base of 360T includes corporate and buy-side clients as well as banks. The acquisition of 360T by Deutsche Börse is expected to further boost the company's organic growth momentum. In the medium-term horizon, the combination offers the potential for revenue synergies in the range of an eight-figure sum (in euros), with 360T using Deutsche Börse Group's international sales network and expertise to grow business, especially through the introduction of electronic trading in order to further improve liquidity and transparency in Q3/2017. To date, regulatory obligations such as EMIR have not yet been expanded to cover the foreign-exchange market. If this were to happen, Deutsche Börse Group would be able to tap further growth opportunities from its extensive portfolio of products and services it offers in the context of regulatory requirements. For instance, in the first half of 2018, the Group plans to establish a foreign-exchange clearing house in order to service the fundamental demand for capital-efficient solutions. Thanks to its leading position, 360T further benefits from a structural trend. Even

though, at present, the vast majority of daily foreign-exchange trading volumes are executed off-exchange, demand for transparent, electronic multi-bank trading platforms such as 360T is rising. By combining the skills and experience of 360T in foreign-exchange trading with Deutsche Börse's IT competence, the Group will be able to explore the resulting revenue potential.

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 regulatory authorities demand more efficient settlement and custody solutions in order to achieve a maximum safety level for customer assets, the Group anticipates that it will acquire additional client portfolios.

Cross-border securities settlement (T2S)

Initiated by the ECB, the purpose of the T2S project is to harmonise cross-border securities settlement using central bank funds across Europe. For Deutsche Börse Group, this holds the opportunity of winning new clients for Clearstream's innovative services, such as global liquidity management. Furthermore, the Group expects higher custody volumes and new services from T2S, which can only be provided through Clearstream via its integrated international central securities depository (ICSD). Clearstream has been connected to T2S within the scope of the fourth migration wave in February 2017. Since then, clients have been able to use Clearstream as a central point of access for domestic and international settlements, both in central bank and commercial bank funds. National central securities depositories (CSDs) – Clearstream Banking AG in Germany and LuxCSD S.A. in Luxembourg – offer their clients T2S settlements at ECB terms, without any mark-up. Full interoperability between national and international CSDs will enhance liquidity and collateral management.

Collateral and liquidity management

Clearstream's collateral and liquidity management offering, developed as part of its Global Liquidity Hub growth initiative, helps customers cope with the structural changes they are facing, such as those resulting from the additional liquidity requirements under Basel III and the clearing obligations under EMIR which came into force in December 2015. The Global Liquidity Hub allows banks to use the assets held in custody by Clearstream on their behalf more efficiently across different platforms and countries.

Expansion of the index business

Deutsche Börse Group's objective in its index business is to re-position its established European index provider STOXX with a global profile, in order to develop further indices (on top of its DAX[®] and STOXX[®] index families) and to market them on a worldwide basis. The goal is to acquire new client groups, both within Europe as well as in Asia and the Americas, through diversification. In addition, the Group will position its index business to better exploit 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.

Other structural growth opportunities

In addition to these initiatives, the Group has identified a number of other structural factors that should have a positive impact on its business success.

- In January 2014, agreement was reached at a European level on the amended Markets in Financial Instruments Directive (MiFID II). It came into force in January 2018: among other things, OTC derivatives transactions will in future have to be settled via organised trading facilities, a requirement that is expected to benefit Eurex. In addition, a decision was taken to limit the volume of equities traded in dark pools. The Group expects this restriction to have a positive impact on the volumes traded on the cash market. The Group's Regulatory Reporting Hub went live at the beginning of January 2018. Developed in cooperation with the Group's clients, the Hub offers a one-stop shop for solutions, helping clients to fulfil their reporting duties under MiFID II. Altogether, more than 2,200 institutions have connected to the Regulatory Reporting Hub.
- Risk management is becoming more important in the wake of the financial crisis. The company expects market participants to make greater use of Eurex Clearing's clearing services to net out transactions in different asset classes and hence to eliminate counterparty risk.
- In line with the European legal and administrative framework governing certain undertakings for collective investment in transferable securities (UCITS V), the company expects that traditional investment funds will increasingly include derivatives in their portfolio strategies. This could result in additional business for the Eurex segment.
- With respect to Clearstream's post-trade activities, the company anticipates a long-term increase in capital raising through equity and debt financing on the capital markets. This ties in with the higher capital and liquidity requirements for banks and the resulting negative impact on the total volume of available credit. For Clearstream, this could have a positive effect on custody volumes, especially in the international bond segment. In addition, given the growing internationalisation of the capital markets, the company is continuing to expect a sharper rise in the bond volume issued internationally compared with national bond issues.

Cyclical opportunities

In addition to its structural growth opportunities, Deutsche Börse Group has cyclical opportunities, for instance as a result of positive macroeconomic developments. Although the company 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:

- In the cash and derivatives market segments (Xetra and Eurex), sustained positive economic development, a lasting rise in investor confidence in the capital markets leading to a renewed rise in risk appetite among market participants and a sustained increase in market volatility could again stimulate trading activity by market participants and boost trading volumes.
- 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.
- While the company does not expect the ECB to change its low interest rate policy during the forecast period, the US Federal Reserve might continue to gradually hike its key interest rates during 2018, following the turnaround of its policy. Among other things, this would positively impact Clearstream's net interest income from banking business as some 53 per cent of its daily cash balances are denominated in US dollars. A rise in key interest rates of one basis point affecting all customer cash deposits could lift income by some €120 million.
- In the market data business, an increase in the number of employees at companies active on the financial markets could lead to growing demand for data packages.

Technological opportunities

New developments such as those related to artificial intelligence (AI), big data, robotics, or blockchain technology, combined with the innovation potential of fintechs, are driving change in the financial services sector. This new wave of technology might help overcome barriers to market harmonisation, while creating new efficiency and mitigating risks. This development is expected to last for the next ten years, with digitisation set to accelerate. The challenge for incumbent providers is in finding the right way to open up new business models and innovative technologies.

Some consider blockchain as a disruptive technology – at present, the financial services sector is evaluating the associated 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 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 involves adhering to security standards, as well as limiting risks and ensuring cost efficiency.

As part of its corporate strategy, Deutsche Börse Group pursues a cooperative approach with regard to new technological developments. This approach is designed to further strengthen the Group's leading technological role, while gauging the potential of new technologies along the value chain (from the issue of securities to trading, clearing, and settlement). Against this background, for example, the Group developed various blockchain prototypes in cooperation with Deutsche Bundesbank, Eurex Clearing as the central counterparty, and other central securities depositories, in order to showcase how this technology might be applied to solve business issues. One of these prototypes involved a concept for the risk-free transfer of commercial bank money, based on blockchain technology. The goal is to enhance efficiency by integrating blockchain technology into the Group's post-trading infrastructure. Through Deutsche Börse Group's central counterparty, it will be possible to reduce the credit risks involved in the transfer of digital commercial bank money. Moreover, through the interface between Eurex Clearing and Clearstream, the Group's central securities depository, the new concept could also contribute to enhancing the efficiency of post-trading processes such as settlement services or asset servicing. Joining forces with three other central securities depositories, the Group is also working on a blockchain-based initiative designed to simplify the cross-border provision of securities collateral. The objective of this joint initiative is to remove existing obstacles to the transfer of collateral between different countries, thus making the process faster and more efficient.

Further Group projects are the newly created Content Lab, working on improving the use of data in providing client services, and the Product Development Lab, which develops micro-services. Beyond this, Deutsche Börse Group is currently examining whether to offer application programming interface (API) connectivity to its systems, in order to use cloud technology to facilitate new data and analytical offers to clients.

External growth opportunities

In addition, the company regularly explores external growth opportunities, which are subject to the same kind of stringent analysis as its organic growth initiatives. For this reason, only a small number of the opportunities analysed are ultimately realised. Examples of external growth in the past few years include the takeover of Citco's hedge fund custody business, the majority interests in EEX, the full acquisition of Powernext and the joint ventures STOXX including Indexium, as well as the full acquisition of 360T.

Report on expected developments

The report on expected developments describes Deutsche Börse Group's expected performance in financial year 2018. 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 influence the Group's success, its business strategy and its financial results, many of them outside the company's control. 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

Deutsche Börse Group anticipates that the global economy will further grow moderately during the forecast period. In the case of the emerging markets, the Group expects that countries with a current account surplus will expand at an above-average rate. Due to cyclical as well as structural factors, these countries will no longer be able to achieve the high growth rates seen in the past. Moreover, the Group expects a continued recovery of developed economies, with growth rates set to rise compared to previous years. Looking at Europe, the Group expects further improvement of the economic situation, driven by developments in Germany and France, the two largest economies. Against this generally positive background, the Group assumes that market participants will have more confidence in the capital markets compared to the previous year, which was marked events such as the French presidential elections, the very slow progress in negotiations concerning the terms for the UK's impending exit from the EU, or disillusionment in the US following the November 2016 elections. However, current uncertainties could once again upset the markets. These include geopolitical crises, the development of commodity prices, monetary policy moves by the Federal Reserve (Fed) in the US and the European Central Bank (ECB) in Europe, or a crisis of confidence in the growth of certain emerging market countries, especially in Asia. It remains unclear as to how the UK's exit from the EU will work out, and what the impact on markets will be. Regarding interest rate trends, the Group does not expect to see any fundamental departure from the current low interest rate policy in Europe. While the monthly volumes of the ECB's bond-buying programme will be further reduced and the programme is set to expire in September 2018, the deposit rate is expected to remain at -0.4 per cent. In the absence of any material impact of this monetary policy on cash and derivatives markets trading volumes during 2017, the Group does not expect any such stimulus for 2018 either. The turnaround in US interest rates continued in 2017, and we expect further hikes in 2018 – provided that the economy (and inflation) accelerate further.

In its economic development forecast published in January 2018, the International Monetary Fund (IMF) predicted economic growth of around 2.2 per cent in the eurozone and growth of around 2.3 per cent in Germany for the year 2018. Expectations for the United States are slightly higher than for the eurozone: the US economy is forecast to grow by around 2.7 per cent. The highest growth by far in 2018 – approximately 6.5 per cent – is again expected in Asian countries (especially India and China), due to expected high domestic demand. Given the extremely varied estimates for the different economic regions, global economic growth is projected to be around 3.9 per cent in 2018.

Regulatory environment

Governments and central banks are currently working to enhance regulation of the financial markets so as to stabilise the financial sector and prevent future crises of the magnitude already experienced. The initiated measures, and in some cases already implemented, range from revising the legal framework for banking business and capital adequacy requirements through rules for clearing over-the-counter (OTC) derivatives transactions down to improving financial market supervision (for more information, please see the [“Regulatory environment” section of the report on economic position](#)). For Deutsche Börse Group’s customers, the ultimate impact of these far-reaching regulatory reform projects on market structures and business models is difficult to gauge accurately at present. Deutsche Börse anticipates that this uncertainty will continue to weigh on market participants’ business activities during the forecast period. For the Group itself, the various regulatory projects will have both positive and negative consequences. Overall, however, the Group sees the changing regulatory environment as an opportunity to expand its business further; see the [report on opportunities](#) for further details.

In addition to the structural opportunities arising from regulation, the Group expects to see further debate in the forecast period on the potential introduction of a financial transaction tax. The introduction of a financial transaction tax will continue to be pursued in 2018 by a number of EU Member States, which have formed an alliance to achieve greater cooperation. The introduction of such a tax would negatively impact Deutsche Börse Group’s business performance. Since the ten Member States concerned have been unable to date to reach agreement on the tax base, tax rates and technical collection and remittance methods, it is not possible to gauge the concrete impact on the Group’s business.

Future development of results of operations

Given its diversified business model and multiple sources of revenue, Deutsche Börse Group continues to consider itself very well positioned and expects to see a positive trend in its results of operations over the medium and long term. This expectation is based on, among other things, the growth opportunities that the company intends to exploit over these periods. The Group expects net revenue to increase further in the forecast period. This assumption is based on two main factors. Firstly, a further slight increase in economic growth could improve investor confidence, and motivate US investors to continue to return to European markets. Moreover, market speculation on interest rate developments in the US and Europe may boost trading activity in interest rate derivatives at Eurex derivatives exchange – whilst higher or increasing US interest rates could lead to a further increase in net interest income from the

banking business in 2018. Secondly, the Group expects a further increase of the contribution from its structural growth initiatives as well as from new growth opportunities (for details, please refer to the [report on opportunities](#)).

In financial year 2018, Deutsche Börse Group expects net revenue growth of at least 5 per cent from structural opportunities as well as from the success of new products and functionalities. At the same time, the Group expects the cyclical economic environment to develop in such a way that net revenue will not decrease, at least, in those business areas that depend on cyclical factors. Net revenue growth expected during the forecast period is based on net revenue of around €2,462.3 million achieved in 2017.

Even if, contrary to expectations, the operating environment turns out to be worse than described above, and clients were to scale back their business activities, particularly in the Group's business divisions which depend upon trading, Deutsche Börse Group believes it is in a position to continue to do business profitably thanks to its successful business model and its cost discipline.

Within the scope of its growth strategy, Deutsche Börse Group pursues specific principles for managing operating costs. The core element of these principles is to ensure the scalability of the Group's business model. To this end, the Group continuously manages operating costs adjusted for non-recurring effects relative to the development of net revenue. Essentially, the Group achieves the necessary flexibility in managing operating costs through two different initiatives designed to enhance operating efficiency. Firstly, the Group has implemented a continuous process to improve operating efficiency by focusing even more on client needs in order to further enhance quality and efficiency of the services offered. At the same time, Group-internal processes are simplified, generating costs savings. Secondly, the Group resolved a series of structural cost reduction measures during the reporting period, and has already commenced implementation. For instance, we reduced the number of external service providers. This included the shift of tasks from external to internal staff, or the hiring of external service providers as internal staff. In the year 2018 and beyond, the company's focus will include continuously increasing efficiency through digitalisation, automation, and the use of cloud-based infrastructure. As at the publication date of this combined management report, the company expects that operating costs will be affected by non-recurring effects of some €80 million. The majority of these effects is attributable to the integration of acquired companies, but also due to efficiency measures, restructuring and costs incurred in connection with criminal proceedings against Clearstream Banking S.A. in the US.

Given the expected increase in net revenue driven by structural factors of at least 5 per cent, and further given the scalability of the Group's business model and its efficient cost management, the Group anticipates a growth rate of at least 10 per cent (excluding non-recurring effects) for net profit for the period attributable to Deutsche Börse AG shareholders during the forecast period. This assumption is based on an adjusted figure of €857.1 million for 2017.

With regard to the cyclical environment and structural growth initiatives, Deutsche Börse AG's expected business development is based on the same factors that influence the expected business development of Deutsche Börse Group as a whole. For 2018, the company expects sales revenue to be above the level of the previous year by at least 5 per cent (2017: €1,348.0 million).

Given the expected increase in Deutsche Börse AG's sales revenue of at least 5 per cent and its efficient cost management, the Group anticipates a growth rate of at least 10 per cent (excluding non-recurring effects) for adjusted net profit for the period for the forecast period (2017: €618.1 million).

Eurex segment

In the past year, cyclical factors (see the [“Future development of results of operations”](#) section for details) led to an overall decline in derivatives trading volumes. Traded equity index derivatives volumes declined significantly due to a marked reduction in equity market volatility, especially during the second half of 2017. Conversely, trading activity in interest rate derivatives benefited from the improved interest rate environment in the US. These contracts posted significant increases in volumes, which however, were not sufficient to compensate for declines in the other product groups. Deutsche Börse Group believes that structural growth factors will remain the dominant feature over the long term, and that they will positively influence trading volumes in all product segments (see the [report on opportunities](#) for further details). In the short term, a positive economic environment as well as a rise of stock market volatility would result in increasing trading volumes, in particular for equity index derivatives – whilst the present direction of monetary policy, especially in the US, would have positive effects on interest rate derivatives trading.

Eurex will continue to invest systematically in expanding its product offering in the forecast period in order to take advantage of structural factors, such as regulation or changing customer needs. The focus of our efforts will be on the acquisition of new business, which is currently not settled through an exchange or clearing house. We are expecting positive developments along these lines due to regulatory requirements determining that OTC derivative transactions must be settled via central counterparties. This requirement entered into force in 2016. Having already generated additional net revenue from these investments (made in the previous financial year) in 2017, the Group plans to further increase revenue in 2018. Over the medium to long term, the Group anticipates generating significant additional net revenue from this initiative – not least due to extra potential which might arise from uncertainty concerning the outcome of the ongoing Brexit negotiations, and potential changes for the clearing of euro-denominated interest rate swaps which might emanate therefrom. European Energy Exchange AG (EEX) trading volumes in commodities declined in 2017, largely due to lower volumes on the German power market – which in turn was predominantly attributable to significant market uncertainty caused by the announcement of a split of the German/Austrian price zone at the beginning of 2017. Against this background, EEX launched separate electricity futures for Germany and Austria in April 2017, and traded volumes in these products have risen consistently ever since. The new products established themselves as the new benchmarks for European power by the end of 2017. Due to the positive market environment for trading in power and gas products, the Group expects the business activity in the commodities sector to exhibit structural growth again during the forecast period, e.g. by gaining additional market share at the expense of OTC energy markets, but also through cyclical growth, assuming the market environment for power products in Germany and Austria continues to stabilise. In foreign-exchange (FX) trading, the Group expects rising demand for multi-bank platforms to further boost business activity at the FX platform 360T[®]. This has gained further attractiveness through the launch of an electronic trading platform. The company plans to include clearing services in the value chain of fully electronic FX trading during the 2018 financial year, in order to realise the revenue synergies projected in the context of the acquisition of 360T.

Xetra segment

As in the past, net revenue in the Xetra cash market segment will continue to depend heavily on stock market cyclical and volatility. Trading volumes could rise during the forecast period, driven by a gradual improvement in economic growth as well as a rise in investor confidence. Furthermore, the company expects stock market volatility to increase, at least temporarily, making further positive contribution to business development.

As well as enhancing its cash market offering, the company will continue to closely track changes in the competitive environment for the European cash markets. As in the past, it considers itself well positioned to retain its status as the market leader for trading German blue chips and to offer its customers across the globe an attractive range of products and services for cash trading in German and European equities, and for equities clearing. However, the stronger competition in the cash market means that further shifts in the market shares of all competitors cannot be ruled out.

Clearstream segment

The Clearstream segment's main net revenue driver is the settlement and custody of international bonds – a business that is much more stable and less sensitive to capital market fluctuations than the trading business. The Group anticipates a structurally driven increase in demand for collateral and liquidity management services due to regulatory requirements. In the medium to long term, Clearstream expects its attractive collateral and liquidity management and its strong position in the TARGET2-Securities (T2S) network to result in increased business activity and hence in significant additional net revenue. As Clearstream migrated to T2S in February 2017, the Group anticipates only a moderate contribution to net revenue for 2018. Another factor to impact Clearstream's business in the forecast period will be central bank monetary policy, as it has been in the past. Transaction activity is expected to increase in the medium term, as a result of the ECB's ongoing commitment (at least until September 2018) to the programme for purchasing government and corporate bonds. At the same time, however, the continuation of the programme could have a dampening effect on securities issuance and liquidity management. If, contrary to expectations, monetary policy becomes more restrictive, this would have positive consequences for securities issuance, the use of collateral and liquidity management services, as well as for net interest income in the banking business. As a significant portion of customer balances are denominated in US dollars, the turnaround in US interest rate policy – initiated in December of 2016 and continued in 2017 – will cause a rise in net interest income in 2018, at steady cash balance levels. Moreover, thanks to its attractive funds services, Clearstream anticipates growth in this area to continue. Clearstream covers all types of funds – from traditional investment funds to exchange-traded funds (ETFs) and hedge funds. Given that regulators 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.

With regard to its customer structure, the company continues to expect that consolidation in the financial sector will persist and that customers in Clearstream's domestic and international business will merge. These larger customers would benefit from greater discounts, which would lead to a decline in average fees.

Although Deutsche Börse faces especially intense competition in the settlement and custody of international bonds, the company does not expect this to have a major impact on its net revenue or to result in a loss of market share during the forecast period.

Market Data + Services segment

This segment aims to accelerate expansion of Deutsche Börse's technology leadership and expertise in the area of market data by pooling all relevant resources within the company in a dedicated, market-driven business unit. The goal is to open up untapped growth opportunities in the medium to long term.

The company anticipates that net revenue in the Market Data + Services segment will further increase during the forecast period. This expectation is based on the continuous expansion of the product range in all areas and greater marketing of these products in growth regions. The Group's index business is set to benefit from this development in particular. Moreover, the Group considers the significant structural growth in the market for passively managed assets as an additional growth driver that is expected to further strengthen demand for index licences for ETFs. In addition to distributing index licences, the Group also benefits from the growing investment volumes in these products. In this light, the Group believes it is well placed to increasingly extend the positioning of its globally focused range of indices to the Asian market as well.

The company also envisages additional growth from the Regulatory Reporting Hub, launched in January 2018. Developed in cooperation with the Group's clients, the Hub offers a one-stop solution, helping clients to fulfil their reporting duties under MiFID II.

Changes in pricing models

Deutsche Börse anticipates sustained price pressure in some of its business areas during the forecast period. The company's objective is to cushion this price pressure by continually improving its products and services and by offering selective incentives for price-elastic business.

Over the long term, the average net revenue per unit (e.g. trading or clearing fees per transaction, or fees for custody services) is expected to decline slightly in all areas of the Group. This is a result of laddered pricing models that lead to a decline in income per unit as customers' business activities increase.

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. Against this backdrop, the company expects to maintain the availability of the different trading systems for the cash and derivative market at the very high level seen in previous years throughout the forecast period.

Responsible management that focuses on long-term value creation is of considerable importance for Deutsche Börse Group as a service company. Given demographic change and the resulting shortage of specialist staff, the company aims to continue to position itself adequately and among other things to increase the number of women in management positions. The Executive Board already set a voluntary target in 2010 for Deutsche Börse Group to increase the proportion of women in middle and senior management to 20 per cent and in junior management to 30 per cent by 2020. These targets remain in place. They relate to Deutsche Börse Group worldwide, including subsidiaries.

In accordance with the Gesetz für die gleichberechtigte Teilhabe von Frauen und Männern an Führungspositionen in der Privatwirtschaft und im öffentlichen Dienst (FührposGleichberG, German Act on the Equal Participation of Women and Men in Leadership Positions in the Private and Public Sectors), the Supervisory and Executive Boards of Deutsche Börse AG additionally resolved in September 2015 to maintain the existing quotas of women on the two management levels below the Executive Board, i.e. 6 per cent on the first and 10 per cent on the second management level, at least until 30 June 2017. Deutsche Börse AG achieved these targets with a quota of 11 per cent on the first and 15 per cent on the second management level. Hence, the Executive Board of Deutsche Börse AG determined new targets, and now endeavours to achieve a female quota of 15 per cent on the first management level and of 20 per cent on the second management level by 31 December 2021.

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 forecast period. The Group expects that two significant factors will influence changes in liquidity. Firstly, the company plans to invest some €180 million per year in intangible assets and property, plant and equipment at Group level during the forecast period. These investments will be included in cash flows from investing activities, and will serve primarily to develop new products and services in the Eurex and Clearstream segments and to enhance existing ones. The total amount mainly comprises investments in trading infrastructure and in risk management functionalities. Secondly, the Executive Board and Supervisory Board of Deutsche Börse AG will propose a dividend of €2.45 per share to the Annual General Meeting to be held in May 2018. This would correspond to a liquidity outflow of about €450 million. In addition, the Group announced that it would implement two share repurchase programmes of €200 million each. The first programme was launched at the end of November 2017, and is scheduled for completion by the end of June 2018. The second programme will be completed by the end of 2018 at the latest. 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 due to its positive cash flow, adequate credit lines (see [note 36 to the consolidated financial statements](#) for details), and flexible management and planning systems.

Within the framework of a programme to optimise its capital structure, 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 Deutsche Börse AG shareholders. In recent years (where the Group's net profit for the period attributable to Deutsche Börse AG shareholders was lower), the dividend payout ratio was kept at the upper end of this range, in order to distribute stable dividends to shareholders. In connection with the expected earnings growth, the company is targeting a dividend payout ratio approximately at the centre of a range between 40 per cent and 60 per cent.

Against the background of the growth strategy, the company anticipates that in future, freely available funds will increasingly be applied not only to support the Group's organic growth, but also to complementary external growth options. The company wants shareholders to continue participating in the company's success in a well-balanced manner; the two share repurchase programmes of €200 million each serve this purpose, amongst other factors.

To maintain its strong credit ratings at Group level, the company aims at a ratio of interest-bearing gross debt to EBITDA of no more than 1.5. The Group expects to slightly come below this figure in 2018, depending on net revenue developments.

The parent company, Deutsche Börse AG, plans to invest some €50 to 60 million in intangible assets and property, plant and equipment during the forecast period.

Overall assessment by the Executive Board

The Executive Board of Deutsche Börse AG believes that the company continues to be in a very good position compared with the international competition thanks to its comprehensive offering along the securities trading value chain and its innovative strength. Against this background, it therefore expects to see a positive trend in its results of operations in 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 act in a more agile and effective manner, and with increased client focus, to turn Deutsche Börse into the global market infrastructure provider of choice, being top-ranked in all its activities. Looking at the economic and regulatory framework over the forecast period, uncertainty persists concerning capital market participants' behaviour; therefore, it is impossible to come up with a concrete forecast for cyclical growth in net revenues. Nonetheless, Deutsche Börse Group endeavours to further expand its structural growth areas, and to further increase their contribution to net revenues by at least 5 per cent. At the same time, the Group plans to safeguard the scalability of its business model throughout the forecast period. To this end, the Executive Board will actively manage operating costs in a way that net profit for the period attributable to Deutsche Börse AG shareholders will grow at a stronger rate than net revenue. Specifically, annual growth rates of at least 10 per cent (excluding non-recurring effects) are projected for 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)

In contrast to the consolidated financial statements, the single-entity financial statements of Deutsche Börse AG are not prepared in accordance with International Financial Reporting Standards (IFRSs) but with the German Commercial Code (Handelsgesetzbuch, HGB) and the supplementary provisions of the German Stock Corporation Act (Aktiengesetz, AktG).

Business and operating environment

General position

Deutsche Börse AG is the parent company of Deutsche Börse Group. Its business activities primarily comprise its cash and derivatives markets, as well as the areas of Information Technology and Market Data + Services. The performance of the Clearstream segment is primarily reflected in Deutsche Börse AG's business performance via a profit and loss transfer agreement with Clearstream Holding AG. In view of this, 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

Revenue for the 2017 financial year increased by 4 per cent, slightly below the company's expectations. At the same time, total costs (comprising staff costs, amortisation of intangible assets and depreciation of property, plant and equipment, as well as other operating expenses) declined – mainly due to the internalisation of external advisors and lower advisory costs, after the previous year had incurred high advisory costs for the planned merger with the London Stock Exchange Group. Net profit increased significantly, exceeding the company's expectations: factors contributing to the increase included the proceeds from the sale of the stake in Eurex Zürich AG to Eurex Global Derivatives AG, as well as higher dividends paid by subsidiaries to Deutsche Börse AG. Against this background, Deutsche Börse AG's Executive Board considers the company's performance during the 2017 financial year as satisfactory.

Results of operations of Deutsche Börse AG

Deutsche Börse Group's net revenue rose by 4 per cent during the 2017 financial year, to €1,348.0 million (2016: €1,300.2 million). Despite a slight year-on-year decline, the Eurex segment generated the lion's share of revenue, at €792.2 million (2016: €799.4 million). The ["Sales revenue by segment" table](#) provides a breakdown of revenue by company segment.

Regarding the performance of the Eurex derivatives market segment, general reference is made to the ["Eurex segment" section](#). Any divergence from the statements in that segment are essentially due to the fact that developments of the energy market (EEX Group) and the foreign exchange market (360T Group) do not directly impact upon the business of Deutsche Börse AG. The results of operations of the Market Data + Services segment are described, in general, in the ["Market Data + Services segment" section](#). 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. Details concerning the business development in the Xetra segment are largely provided in the ["Xetra segment" section](#). Revenue attributable to the Clearstream segment is generated from IT services that Deutsche Börse AG provides to entities within the Clearstream Holding AG subgroup.

Other operating income increased to €182.8 million during the year under review (2016: €149.1 million). This increase was attributable, in particular, to €139.5 million in sales proceeds recognised from the sale of the stake in Eurex Zürich AG to Eurex Global Derivatives AG. In the previous year, sales proceeds recognised from the disposal of International Securities Exchange Holdings had led to a capital gain of €99.0 million.

Performance figures for Deutsche Börse AG

	2017 €m	2016 €m	Change %
Sales revenue	1,348.0	1,300.2	4
Total costs	915.2	946.1	-3
Net profit from equity investments	346.6	289.9	20
EBITDA	887.8	739.8	20
Net profit for the period	615.7	553.2	11
Earnings per share (€)	3.30 ¹⁾	2.96 ¹⁾	11

Sales revenue by segment

	2017 €m	2016 €m	Change %
Eurex	792.2	799.4	-1
Market Data + Services	260.0	275.8	-6
Xetra	193.7	175.8	10
Clearstream	102.1	49.2	108
Total	1,348.0	1,300.2	4

1) Calculation based on weighted average of shares outstanding

The company's total costs of €915.2 million were down 3 per cent year-on-year (2016: €946.1 million). The previous year's total costs were burdened, in particular, by expenses of €65.8 million related to the planned merger with the London Stock Exchange Group. For a breakdown, please refer to the [table "Overview of total costs"](#). Staff costs were up by 12 per cent year-on-year during the year under review, to €225.9 million (2016: €201.8 million), caused by an increase in staff numbers, from an average of 1,118 to 1,368 during the 2017 financial year.

Amortisation of intangible assets and depreciation of property, plant and equipment rose to €37.3 million during the year under review (2016: €24.3 million). The increase was attributable to the merger of Finnovation Software GmbH with Deutsche Börse AG, with effect from 1 October 2017, which led to a marked increase in intangible assets, to €126.6 million (2016: €12.3 million). Other operating expenses were down 9 per cent year-on-year, to €652.1 million (2016: €720.0 million). The decrease was largely due to lower expenses for advisory services of €133.6 million (2016: €199.5 million). In the previous year, these costs were incurred primarily in relation to the planned merger with the London Stock Exchange Group.

Deutsche Börse Group's result from equity investments for the 2017 financial year totalled €346.6 million (2016: €289.9 million). Besides income from the disposal of equity investments (€139.5 million), the total figure includes €129.7 million in income from dividends and €84.7 million in profit transfers from Clearstream Holding AG.

During the financial year under review, Deutsche Börse AG sold its 50 per cent stake in Eurex Zürich AG to Eurex Global Derivatives AG, for a consideration of €308.4 million; this resulted in a capital gain of €139.5 million. In the previous year, the company realised income of €99.0 million from the disposal of shares in International Securities Exchange Holdings, Inc. (ISE). Income from dividends rose to €129.7 million in the year under review (2016: €37.3 million); the increase was particularly attributable to higher distributions made by STOXX Ltd. (2017: €56.9 million; 2016: €34.5 million), and to €54.5 million in dividends distributed by Deutsche Börse Systems Inc. for the 2017 financial year (2016: nil). In contrast, profits transferred by Clearstream Holding AG decreased from €167.2 million in the 2016 financial year, to €84.7 million.

Earnings before interest, tax, depreciation and amortisation (EBITDA) rose to €887.8 million (2016: €739.8 million). Net profit for the period of €615.7 million was up 11 per cent over the previous year (2016: €553.2 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 2017. Due to increased results, return on equity rose to 24 per cent, compared to 21 per cent in 2016.

Financial position of Deutsche Börse AG

Cash and cash equivalents as at the 31 December 2017 reporting date amounted to €912.0 million (2016: €935.4 million), comprising cash on hand, current account balances with banks and term deposits.

The company received dividends totalling €129.7 million (2016: €37.3 million). The increase was primarily due to higher dividends distributed by STOXX Ltd., and the resumption of dividend payments by Deutsche Börse Systems Inc. in 2017.

Deutsche Börse AG has available external credit lines in the amount of €605.0 million (unchanged from 2016), which were not drawn upon as at 31 December 2017. 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](#). Moreover, as part of Group-internal restructuring measures in 2014, the company raised loans from associates, in a total amount of €375.6 million, which were redeemed during the 2017 financial year.

Deutsche Börse AG generated €700.1 million (2016: €156.4 million) in cash flow from operating activities during the 2017 financial year. The increase was especially attributable to higher receivables from affiliated entities and growth in net profit for the period.

Cash flow from investing activities amounted to €688.8 million (2016: €141.4 million). This increase is primarily related to the capital reduction at Eurex Frankfurt AG (€435.0 million) and sales proceeds recognised from the sale of the stake in Eurex Zürich AG (€308.4 million).

Cash flow from financing activities amounted to €–835.0 million in the year under review (2016: €–697.9 million). Besides €439.0 million in dividends paid for the 2016 financial year, the company repaid loans of €375.6 million. Cash and cash equivalents amounted to €–297.1 million on the 31 December 2017 reporting date (2016: €–1,006.8 million), comprising liquid funds of €912.0 million (2016: €935.4 million) less cash-pooling liabilities of €1,209.1 million (2016: €1,942.2 million).

Overview of total costs

	2017 €m	2016 €m	Change %
Staff costs	225.9	201.8	12
Depreciation and amortisation	37.3	24.3	53
Other operating expenses	652.1	720.0	–9
Total	915.3	946.1	–3

Cash flow statement (condensed)

	2017 €m	2016 €m
Cash flows from operating activities	700.1	156.4
Cash flows from investing activities	688.8	141.4
Cash flows from financing activities	–835.0	–697.9
Cash and cash equivalents as at 31 December	–297.1	–1,006.8

Net assets of Deutsche Börse AG

Deutsche Börse AG's non-current assets amounted to €5,509.9 million on 31 December 2017 (2016: €6,141.2 million). The lion's share of this figure was attributable to investments in affiliated companies of €5,235.7 million (2016: €6,001.8 million), mainly comprising investments in Clearstream Holding AG and Eurex Frankfurt AG. The €766.1 million decline in investments in affiliated companies was mainly due to a capital reduction at Eurex Frankfurt AG (€435.0 million).

Deutsche Börse AG's investments in intangible assets and property, plant and equipment totalled €155.2 during the year under review (2016: €41.6 million). The increase was mainly due to the merger with Finnovation Software GmbH, during the course of which €120.0 million in assets were transferred to Deutsche Börse AG. Depreciation and amortisation amounted to €37.3 million (2016: €24.3 million). The increase was also due to the merger with Finnovation Software GmbH, and the resulting increase in assets.

Receivables from and liabilities to affiliated companies include settlements for intra-Group services and amounts invested by Deutsche Börse AG within the scope of cash-pooling arrangements. Receivables from affiliated companies of €84.7 million (2016: €167.2 million) mainly related to the existing profit transfer agreement with Clearstream Holding AG. Liabilities to affiliated companies predominantly resulted from cash pooling (€1,209.1 million; 2016: €1,942.2 million) and trade liabilities of €52.3 million (2016: €82.1 million).

Deutsche Börse AG collects fees for a large part of services provided immediately after each month-end; accordingly, trade receivables totalled €136.7 million at the year-end (2016: €157.1 million).

Working capital amounted to €-1,844.7 million during the year under review (2016: €-2,064.0 million). The change was mainly attributable to a decrease in liabilities to affiliated companies.

Non-current assets (condensed)

	2017	2016
	€m	€m
Intangible assets	126.7	12.3
Tangible assets	68.8	66.3
Financial assets	5,314.4	6,062.6
Non-current assets as at 31 December	5,509.9	6,141.2

Employees per country/region

	31 Dec 2017	%
Germany	1,353	96.9
United Kingdom	31	2.2
France	5	0.4
Rest of Europe	5	0.4
Asia	1	0.1
Total Deutsche Börse AG	1,395	100.0

Deutsche Börse AG employees

The number of people employed by Deutsche Börse AG rose by 263 during the reporting period, to a total of 1,395 as at 31 December 2017 (31 December 2016: 1,132). On average, Deutsche Börse AG employed 1,368 people during the 2017 financial year (2016: 1,118).

During the course of the 2017 financial year, 56 employees left Deutsche Börse AG; the fluctuation rate thus amounted to 4 per cent.

Deutsche Börse AG employed staff at seven locations throughout the world as at 31 December 2017. Details on the countries/regions concerned, the employee age structure and the length of service of the company's employees are given in the tables on this page and those on the previous page.

As at 31 December 2017, 76 per cent of Deutsche Börse AG's employees were graduates. This figure is calculated on the basis of the number of employees holding a degree from a university, a university of applied sciences or a university of cooperative education, and employees who have completed comparable studies abroad. In total, the company invested an average of 3.2 days per employee in staff training in 2017.

Remuneration report of Deutsche Börse AG

As the structure and design principles of the remuneration system correspond to those of Deutsche Börse Group, please refer to the latter's [remuneration report](#).

Corporate governance declaration in accordance with section 289f HGB

The corporate governance statement in accordance with section 289f of the HGB is identical to that of Deutsche Börse Group; therefore, reference is made to the ["Combined corporate governance statement and corporate governance report"](#) section.

Employee age structure

	31 Dec 2017	%
Under 30 years	151	11
30 to 39 years	398	29
40 to 49 years	424	30
50 years and older	422	30
Total Deutsche Börse AG	1,395	100

Employee length of service

	31 Dec 2017	%
Less than 5 years	629	45
5 to 15 years	291	21
Over 15 years	475	34
Total Deutsche Börse AG	1,395	100

Opportunities and risks facing Deutsche Börse AG

As the opportunities and risks facing Deutsche Börse AG – and the measures and processes for dealing with them – are essentially the same as for Deutsche Börse Group, please refer to the [risk report](#) and the [report on opportunities](#) for more information. As a matter of principle, Deutsche Börse AG's share of the opportunities and risks of its equity investments and subsidiaries is proportionate to the size of its shareholding. Risks that threaten the existence of the Eurex Clearing AG subsidiary have a direct impact on Deutsche Börse AG as it has issued a letter of comfort ("Patronatserklärung"). As at the balance sheet day risks which could jeopardise the company's continued existence were not discernible. Further information on the letter of comfort issued to Eurex Clearing AG is available in the ["Other financial obligations and transactions not included in the balance sheet"](#) section 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.

Report on expected developments at 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 [report on expected developments](#).

Remuneration report

This remuneration report outlines the principles governing the remuneration system applicable to the members of Deutsche Börse AG's Executive Board. It also describes the structure and amount of remuneration payable to them, together with the principles governing Supervisory Board remuneration, and the amounts payable. The remuneration report is part of the combined management report and complies with the requirements of the Handelsgesetzbuch (HGB, German Commercial Code), the International Financial Reporting Standards (IFRSs) and Deutscher Rechnungslegungs Standard (DRS, German Accounting Standard) No. 17 (Reporting on the Remuneration of Members of Governing Bodies). In addition, it complies with almost all recommendations of the German Corporate Governance Code (the Code); see the ["Combined corporate governance statement and corporate governance report" section](#) for details. The remuneration report comprises two sections, "remuneration system and total Executive Board remuneration" as well as "Supervisory Board remuneration".

Remuneration system and aggregate Executive Board remuneration

Principles and targets

The Supervisory Board resolved to adopt a new remuneration system for the Executive Board members, effective 1 January 2016. The system was approved by the Annual General Meeting on 11 May 2016 in accordance with section 120 (4) of the Aktiengesetz (AktG, German Stock Corporation Act). Changes made to the remuneration system during the year under review are explained in the ["Principles governing the PSP and assessing target achievement for performance shares"](#), ["Automated share purchase designed to fulfil the plan conditions as well as the share ownership guidelines"](#), and ["Caps on the total amount of remuneration"](#).

The remuneration system 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, sustainability 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 align the interests of shareholders, management and other stakeholders.

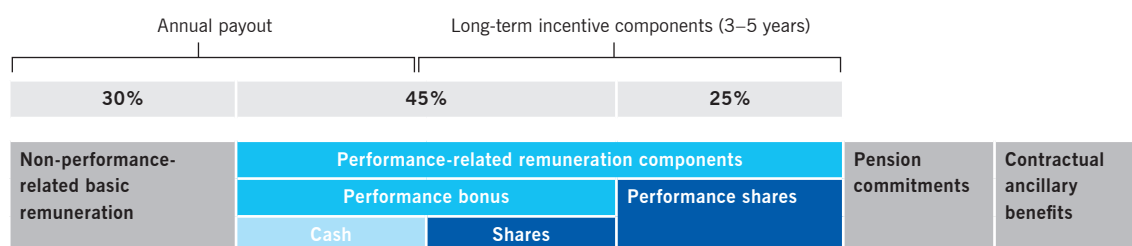
Executive Board remuneration is set by the full Supervisory Board; the Personnel Committee is responsible for preparing the Supervisory Board's decision. The Nomination Committee and the Personnel Committee were combined into one joint committee with effect from 3 January 2018, with the duties of the former Personnel Committee transferred to the Nomination Committee. The Supervisory Board reviews the appropriateness of the Executive Board remuneration on a regular basis, and at least every two years. Factors examined in this context include the relationship between Executive Board remuneration and the salaries paid to senior managers and the workforce as a whole, as well as how pay grades have developed over time. The remuneration system applies equally to all members of the Executive Board.

Structure and remuneration components

The remuneration system for Executive Board members consists of four components:

- Non-performance-related basic remuneration
- Performance-related remuneration components
- Contractual ancillary benefits
- Pension commitments

Composition of the total target remuneration



% = Proportion of the total target remuneration

■ Non-performance-related component (cash component)

■ Performance-related component (cash component)

■ Performance-related component (share-based payment)

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.

The individual components of the Executive Board's remuneration are explained in detail below.

Non-performance-related basic remuneration

The members of the Executive Board receive a fixed base salary, which is payable in twelve equal monthly instalments. This non-performance-related remuneration comprises approximately 30 per cent of the total target remuneration payable each year.

Performance-related remuneration components

Performance-related remuneration accounts for approximately 70 per cent of total target remuneration for the year. It comprises a performance bonus and performance shares.

Performance bonus

The performance bonus is calculated on the basis of Deutsche Börse AG's Performance Bonus Plan (PBP). It accounts for roughly two-thirds of Executive Board members' performance-related remuneration and for approximately 45 per cent of their total target remuneration. The performance bonus is split 50:50 between a share-based component (the share-based performance bonus) and a cash component.

Performance shares

Performance shares are calculated and granted on the basis of the Performance Share Plan (PSP). They are paid out after the reporting period since they reflect the performance of Deutsche Börse AG's share price over a five-year performance period. Performance shares account for approximately one-third of Executive Board members' performance-related remuneration and for approximately 25 per cent of their total target remuneration.

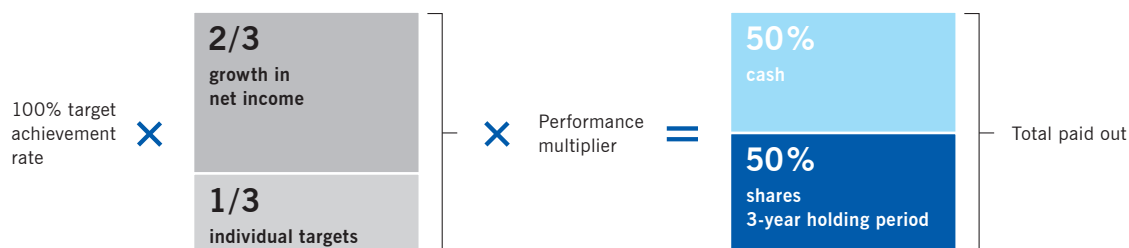
The criteria used by the Supervisory Board to assess the extent to which Executive Board members have met their individual targets are described below. These criteria are used to calculate the performance bonus due to Executive Board members, as well as the number of performance shares to be granted and their value.

Principles governing the PBP and assessing target achievement for the performance bonus

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 reflects the increase in net profit attributable to Deutsche Börse AG's shareholders for the remuneration year concerned (hereinafter referred to as net income), while one-third reflects the Executive Board members' individual performance.

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; 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. 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. For further details regarding the share purchase process, please refer to the [“Automated share purchase designed to fulfil the plan conditions as well as the share ownership guidelines”](#) section.

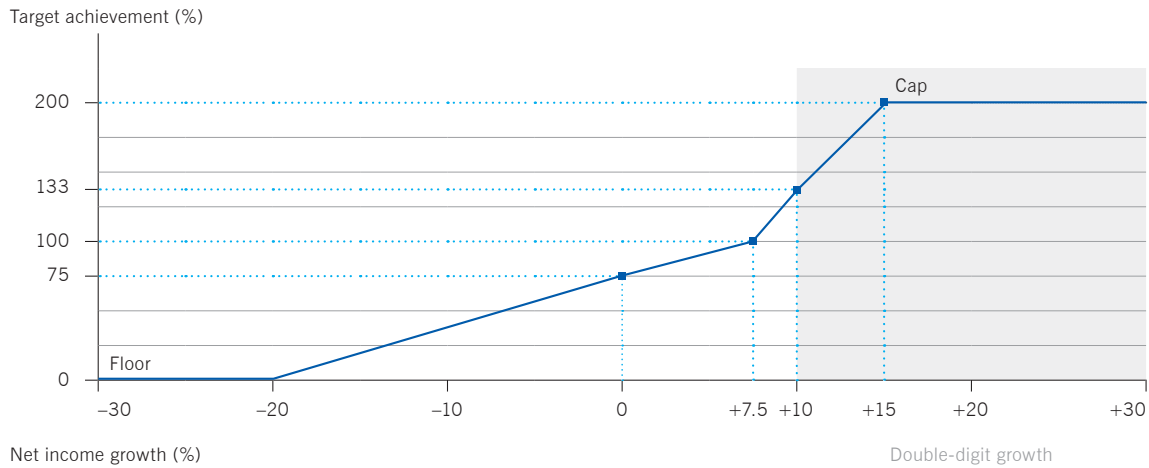
Breakdown of the performance bonus



Assessing net income growth

Net income growth is calculated independently of the financial planning concerned by comparing the net income for the remuneration year with the prior-year figure. The target achievement rate may range between 0 and 200 per cent, with a decline in net income of 20 per cent or more being taken to mean a 0 per cent target achievement (floor). Where net income remains stable (i.e. unchanged year-on-year), this is deemed to represent a target achievement rate of 75 per cent, while a 7.5 per cent increase is equivalent to a target achievement rate of 100 per cent. Net income growth of 15 per cent or more corresponds to a 200 per cent target achievement rate (cap). This means that there is a stronger incentive to achieve net income growth of between 7.5 per cent and 15 per cent, because the target achievement curve is steeper (see the [“Assessing net income growth for the performance bonus” chart](#)).

Assessing net income growth for the performance bonus



Assessing individual target achievement

The Supervisory Board sets the individual performance targets for each Executive Board member at the beginning of the financial year, taking into account both the general corporate strategy and targets that are particularly relevant to individual Executive Board portfolios (e.g. targets for financial indicators, customers, employees and control systems). 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. As with the assessment of net income growth, a range of 0 per cent (floor) to 200 per cent (cap) has been defined for individual target achievement rates.

Determining the performance multiplier

The performance multiplier for the performance bonus is 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 200 per cent cap into account.

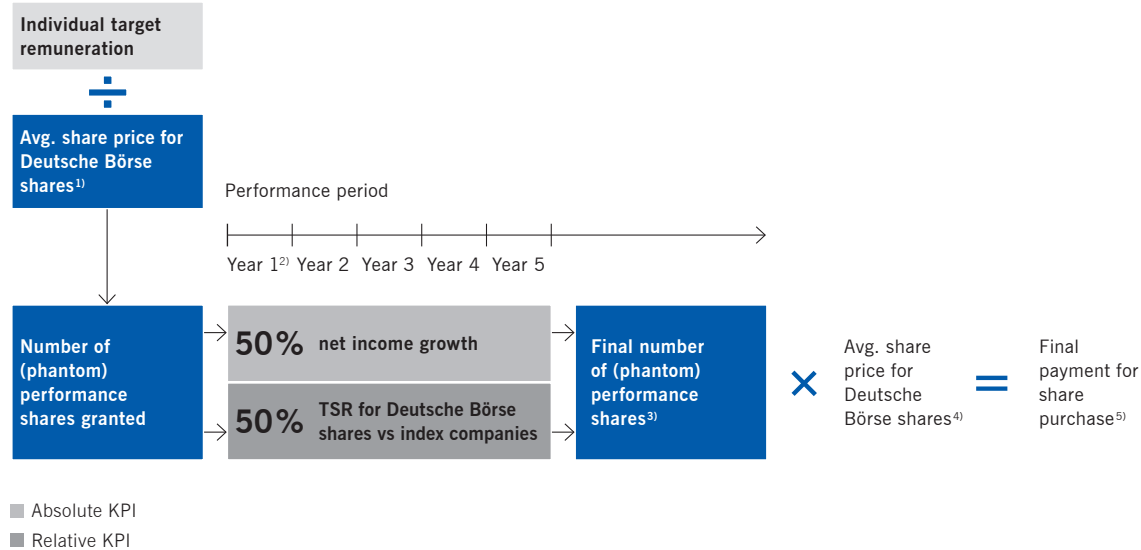
Principles governing the PSP and assessing target achievement for performance shares

At the beginning of each financial year, the 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 (fair value of the performance shares). 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, 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 final number of phantom performance shares is multiplied by the average Xetra closing price for Deutsche Börse shares in the calendar month preceding the end of the performance period. This results in the amount to be paid out to purchase the tradeable shares (adjusted for the dividends per share paid out during the performance period). The rules governing the due dates of the amounts to be paid out were amended, with effect from 1 January 2017. According to the amendment, 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 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. For further details regarding the share purchase process, please refer to the [☒ "Automated share purchase designed to fulfil the plan conditions as well as the share ownership guidelines" section](#).

The PSP has two variables:

- The first variable is the number of performance shares. This is derived from the net income growth and from the TSR for Deutsche Börse shares in comparison to the TSR of the reference index, over a five-year period in each case. The maximum number of performance shares is capped at 250 per cent of the number of performance shares determined at the beginning of the performance period.
- The second variable is the change in the share price and the dividend during the performance period; no cap is applied to the share price.

Principles governing the Performance Share Plan (PSP)



1) In the calendar month preceding the start of the performance period

2) Year in which performance shares are granted

3) Capped at 250 per cent of number granted

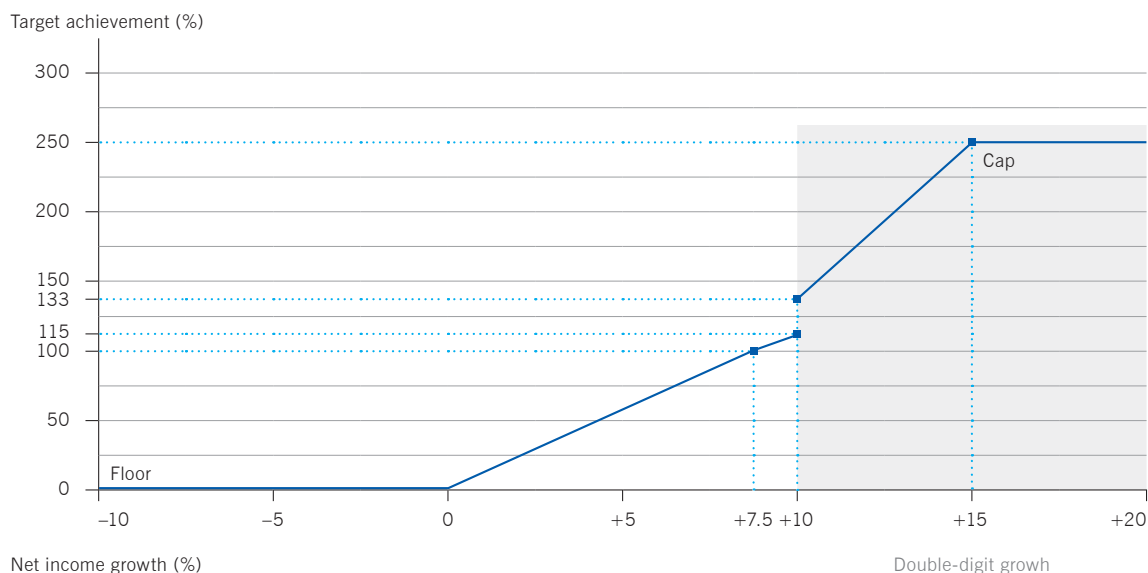
4) In the last calendar month of the performance period, including all dividends paid during the performance period

5) Due in three tranches

Assessing net income for performance shares

The Supervisory Board determines the target achievement rate for net income growth at the end of each financial year during the five-year performance period and determines them for the Executive Board members. The target achievement rate at the end of the performance period in question is calculated by adding together the annual target achievement rates for each of the five years and dividing the total produced by five. 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). Net income growth of 7.5 per cent corresponds to a 100 per cent target achievement rate. Net income growth of 15 per cent or more corresponds to a 250 per cent target achievement rate (cap). The target achievement rate increases more strongly for growth rates between 10 and 15 per cent than for single-digit growth rates, providing a greater incentive for Executive Board members to aim for double-digit net income growth. See also the [“Assessing net income growth for performance shares” chart](#).

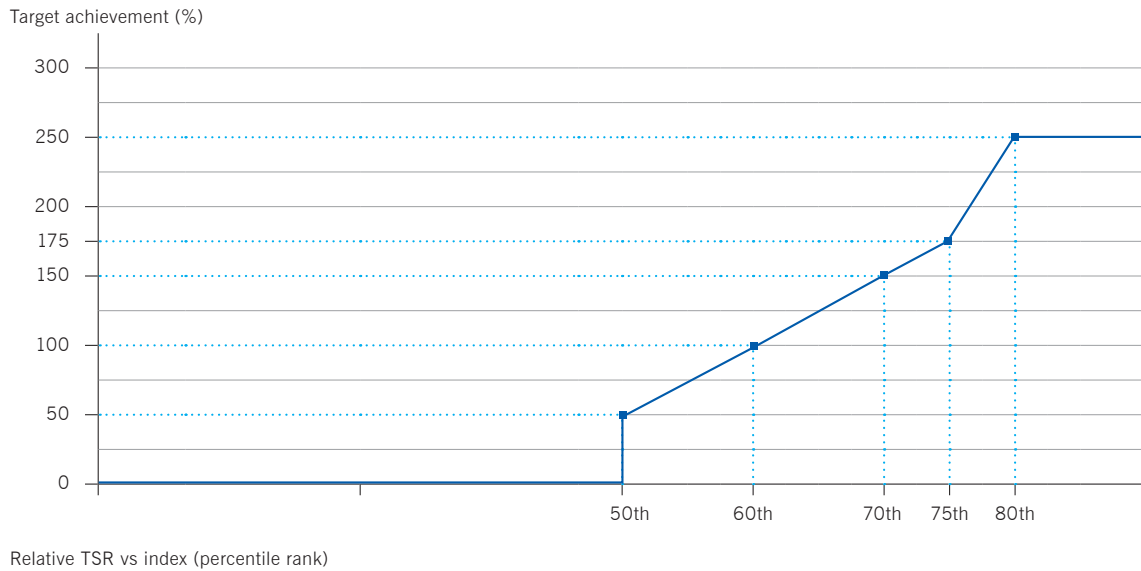
Assessing net income growth for performance shares



Assessing the TSR performance for Deutsche Börse shares

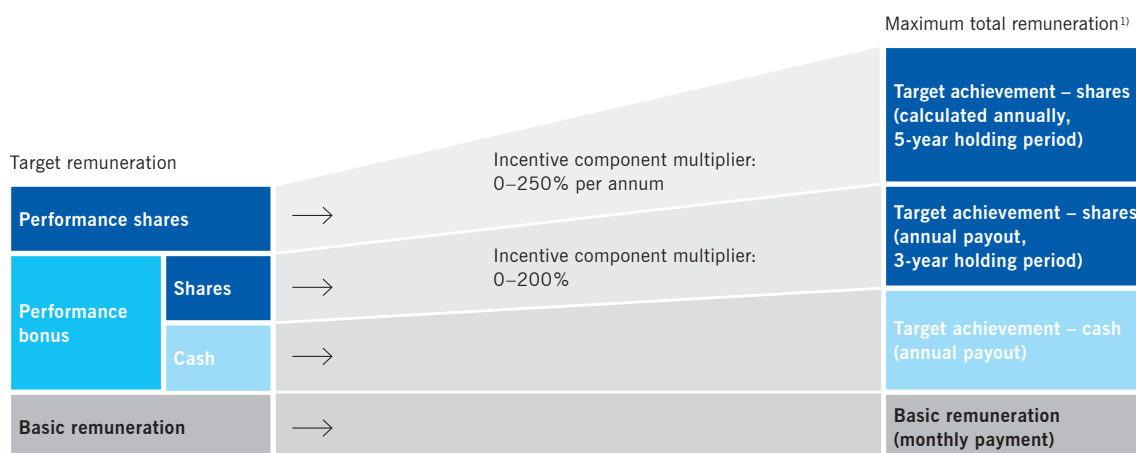
The TSR performance for Deutsche Börse shares is derived from Deutsche Börse AG's ranking relative to the companies included in the STOXX® Europe 600 Financials index. The target achievement rates for Executive Board members can range from 0 per cent (floor) to 250 per cent (cap). A 0 per cent target achievement rate is assumed where Deutsche Börse AG's relative five-year TSR falls short of 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 outperformed 60 per cent of index constituents, this represents a target achievement rate of 100 per cent. Where Deutsche Börse AG's TSR has outperformed at least 75 per cent of index constituents, this represents a target achievement rate of 175 per cent. The cap of 250 per cent is reached if Deutsche Börse AG's TSR ranks in the top 20 per cent of index constituents – in other words, if it is in the 80th percentile of the index or higher. Please also refer to the [“Assessing the total shareholder return \(TSR\) for Deutsche Börse shares for performance shares”](#) chart.

Assessing the total shareholder return (TSR) for Deutsche Börse shares for performance shares



Performance-related remuneration for Executive Board members is predominantly share-based. In addition, it is largely calculated on a long-term basis, with various target criteria being assessed over a period of five years (performance shares) or four years (share-based performance bonus: annual payout and three-year holding period for shares to be invested), respectively (see also the [“Basic remuneration, and annual and long-term incentive components”](#) chart). The cash component of the performance bonus (annual payout) is the only short-term variable remuneration component.

Basic remuneration, and annual and long-term incentive components



% = proportion of total target remuneration

■ Performance-related component (share-based payment)

■ Performance-related component (cash component)

■ Non-performance-related component (cash component)

1) No cap on share price performance

Contractual ancillary benefits

The members of the Executive Board receive contractual ancillary benefits such as the provision of an appropriate company car for business and personal use (with the tax on the pecuniary benefit from personal use being payable by the member concerned). They also receive taxable contributions towards private pensions. In addition, the company has taken out insurance cover for them, such as personal accident insurance and directors & officers (D&O) insurance.

Pension commitments

Retirement benefits

Messrs Pottmeyer and Tessler are entitled to receive retirement benefits on reaching the age of 60, Ms Stars on reaching the age of 62, and Mr Preuss on reaching the age of 63, provided that they are no longer in the service of Deutsche Börse AG at that time. As a matter of principle, the Supervisory Board reviews and determines the pensionable income that is used as the basis for retirement benefits. There are two different retirement benefit systems for Executive Board members. Those members who were appointed for the first time prior to 1 January 2009 receive a defined benefit pension. Executive Board members who were appointed for the first time after that date receive a defined contribution pension. The pensionable income and the present value of the pension commitments existing as at 31 December 2017 are shown in the [“Retirement benefits” table](#).

Defined benefit pension system: After reaching the contractually agreed retirement age, members of the Executive Board covered by the defined benefit pension system receive a specified percentage (known as 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. The pensionable income is determined and regularly reviewed by the Supervisory Board. The replacement rate when the Executive Board members’ term of office began was 30 per cent and it rose by 5 percentage points with each reappointment, up to a maximum of 50 per cent. The defined benefit pension system applies to Messrs Preuss and Tessler.

Defined contribution pension system: For Executive Board members covered by 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 replacement rate to the pensionable income. As with the defined benefit pension system, 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. The defined contribution pension system applies to Mr Pottmeyer and Ms Stars.

Early retirement pension

Members of the Executive Board who have a defined benefit pension are entitled to an early retirement pension if the company does not extend 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.

Permanent incapacity to work and death benefits

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, 62 or 63, as appropriate.

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 in addition to the benefits described above. The size 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.

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. The Supervisory Board may exceed the cap in exceptional, justified cases. Prospective performance shares 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.

Change of control

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.

Share ownership guidelines

Under Deutsche Börse's share ownership guidelines, members of the Executive Board are obliged to continuously hold a multiple of their average basic remuneration in Deutsche Börse AG shares during their term of office. A multiple of 3 applies to the CEO, and a multiple of 2 to the Deputy CEO and to ordinary Executive Board members. The relevant period is from 1 January 2016 to 31 December 2018. Shares belonging to the following three categories are used to assess compliance with the share ownership guidelines: (i) shares purchased from the performance bonus and being held during the holding period; (ii) shares received under the allocation of performance shares; and (iii) shares held in private ownership. Messrs Preuss, Pottmeyer and Tessler and Ms Stars must build up such shareholdings over a three-year period ending on 31 December 2018. Mr Kengeter's obligations under the share ownership guidelines ended upon the termination of his office on the Executive Board of Deutsche Börse AG as at 31 December 2017.

Automated share purchase designed to fulfil the plan conditions as well as the share ownership guidelines

The share purchase process for members of the Executive Board was adjusted in 2017. Going forward, the share purchase agreed upon under the Performance Bonus Plan and the Performance Share Plan shall be settled by a service provider appointed by Deutsche Börse AG and assigned by the beneficiary;

the service provider invests the investment amounts independently, i.e. without any influence from the beneficiary or the company, on behalf of the beneficiary into Deutsche Börse AG shares. The share purchase takes place during the first four trading days (consecutive calendar days) in June every year.

Caps on the total amount of remuneration

The existing remuneration system for members of Deutsche Börse AG's Executive Board was adjusted with effect from 1 January 2017, with the annual remuneration – comprising fixed salary, variable remuneration components and pension expenses – now being capped at an aggregate gross amount of €9.5 million for each Executive Board member. Ancillary benefits are not included in this amount. Although these are subject to fluctuation, no extraordinary fluctuations are expected and therefore it is not necessary to include them in the total cap. In the interest of shareholders, the company will continue to provide competitive incentives for good personal performance and the company's sustainable success to Executive Board members, whilst preventing any unintended excesses which might otherwise be possible.

CEO remuneration from 1 January 2018 onwards

The remuneration system for members of the Executive Board also applies to CEO Theodor Weimer, who assumed his office on 1 January 2018. To comply with the share ownership guidelines, he is obliged to hold Deutsche Börse AG shares worth three times his weighted average basic remuneration; this shareholding must be established by 31 December 2020. For this purpose, Theodor Weimer will invest a total amount of €4,500,000 in Deutsche Börse AG shares from his private funds; this investment will be made in three equal instalments in 2018, 2019 and 2020. For further details regarding the procedures for these share purchases, please refer to the [☒ “Automated share purchase designed to fulfil the plan conditions as well as the share ownership guidelines” section](#).

Miscellaneous

Post-contractual non-compete clause

A post-contractual non-compete clause applies to members of Deutsche Börse AG's Executive Board who were appointed or reappointed to the Board on or after 1 October 2014. 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 performance 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.

Sideline activities

Additional appointments assumed, or sideline activities entered into, by individual members of the Executive Board, require the approval of the full Executive Board and the Chairman of the Supervisory Board or, in certain cases, of the full Supervisory Board (which has delegated granting such approval to the Personnel Committee; effective 3 January 2018, to the Nomination Committee). If a member of the Executive Board receives any remuneration for an office performed at an affiliate of Deutsche Börse AG, this remuneration is offset against the Executive Board member's entitlement to remuneration from Deutsche Börse AG.

Loans to Executive Board members

The company did not grant any loans or advances to members of the Executive Board during financial year 2017, and there are no loans or advances from previous years to members of the Executive Board.

Payments to former members of the Executive Board

Former members of the Executive Board or their surviving dependants received payments of €4.3 million in the year under review (2016: €4.5 million). The actuarial present value of the pension obligations as at the reporting date was €69.9 million in the year under review (2016: €74.2 million).

Remuneration of former CEO Carsten Kengeter

The former Chief Executive Officer, Carsten Kengeter, who stepped down with effect from 31 December 2017, participated in the Co-Performance Investment Plan (CPIP) that was resolved 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; these are basically subject to the same criteria as for performance shares, which are explained in the [“Principles governing the PSP and assessing target achievement for performance shares”](#) section. Thus, the performance of the co-performance shares was 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 performance period for the co-performance shares commenced on 1 January 2015 and will end on 31 December 2019. Notwithstanding any diverging agreement regarding amounts and disbursement dates, their equivalent will fall due and be disbursed in three instalments, on 31 March 2019 (first prepayment), 31 March 2020 (second prepayment), and 31 March 2021 (final payout). However, for the time being, the Supervisory Board will be monitoring further developments of the investigation against Mr Kengeter for alleged insider trading, and will take any such developments into consideration (if necessary) for further decisions. Based on a pro-rata entitlement of 60 per cent (i.e. three fifths) for Mr Kengeter’s term of office, the company has recognised a provision amounting to €7,499,919.14.

For the period from 1 January to 31 March 2018, Mr Kengeter will receive the gross monthly fixed remuneration that he is entitled to amounting to €125,000 per month plus the variable remuneration calculated pro rata temporis and any contractual ancillary benefits provided for in his contract. Additionally, subject to a set-off of other income (if any), he will receive the contractually agreed non-competition compensation in the gross monthly amount of €222,087 to compensate him for the post-contractual non-compete clause (see also the [“Post-contractual non-compete clause”](#) section). The compensation will be paid for the period from 1 April 2018 until 31 August 2018 as the company has waived the non-compete clause with six months’ notice by declaration dated from February 2018.

Prior to his resignation, no agreement was concluded with Mr Kengeter for the implementation of the overall cap of an aggregate gross remuneration of €9.5 million, as outlined in the [“Caps on the total amount of remuneration”](#) section. In any case, the remuneration paid to Mr Kengeter in 2017 remained below this threshold. The same applies to the remuneration payable to Mr Kengeter in 2018.

Mr Kengeter has no pension claims; his previous claims on pension benefits lapsed when he left the company.

Amount of Executive Board remuneration

The following tables contain the figures for the individual Executive Board remuneration components mentioned above for financial years 2017 and 2016. The remuneration awarded to each Executive Board member in accordance with section 4.2.5 (3) of the German Corporate Governance Code is shown in the [“Benefits granted”](#) and [“Benefits received”](#) tables. The information disclosed in accordance with section 314 of the HGB is shown in the [“Benefits received”](#) table.

Retirement benefits

	Pensionable income	Replacement rate		Present value/defined benefit obligation		Pension expense	
		as at		as at		2017	2016
		31 Dec 2017	31 Dec 2016	31 Dec 2017	31 Dec 2016		
2017	%	%	€ thous.	€ thous.	€ thous.	€ thous.	
Defined benefit system							
Andreas Preuss	800.0	50.0	50.0	11,928.9	11,241.2	1,000.2	1,331.7
Jeffrey Tessler	577.8	45.0	45.0	4,515.6	5,550.2	288.2	403.8
Total	1,377.8			16,444.5	16,791.4	1,288.4	1,735.5
Defined contribution system							
Carsten Kengeter ¹⁾	1,000.0	40.0	40.0	0	989.2	0	548.2
Gregor Pottmeyer	500.0	48.0	48.0	3,207.3	2,711.5	293.3	279.9
Hauke Stars	500.0	36.0	36.0	1,549.1	978.8	225.1	209.0
Total	2,000.0			4,756.4	4,679.5	518.4	1,037.1

1) The provision was reversed given that existing pension claims were forfeitable.

2017 total expense for share-based payments

(Prior-year figures in brackets)

	Expense recognised (total) € thous.	Carrying amount as at the reporting date (total) € thous.
Carsten Kengeter ¹⁾	7,965.7 (3,011.7)	12,057.0 (4,091.3)
Andreas Preuss	667.0 (164.2)	831.2 (164.2)
Gregor Pottmeyer	532.6 (131.1)	663.7 (131.1)
Hauke Stars	491.4 (120.9)	612.4 (120.9)
Jeffrey Tessler	529.4 (130.3)	659.7 (130.3)
Total	10,186.1 (3,558.2)	14,824.0 (4,637.8)

1) Includes the expense recognised for the Co-Performance Investment Plan and the Performance Share Plan

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 2017
Carsten Kengeter	Tranche 2017	17,327	10,592	27,919
	Tranche 2016	16,593	1,018	17,611
	Tranche 2015 ¹⁾	68,987	55,970	124,957
	Total 2015 to 2017 tranches			170,487
Andreas Preuss	Tranche 2017	9,348	8,706	18,054
	Tranche 2016	8,952	2,698	11,650
	Total 2016 to 2017 tranches			29,704
Gregor Pottmeyer	Tranche 2017	7,464	6,952	14,416
	Tranche 2016	7,148	2,154	9,302
	Total 2016 to 2017 tranches			23,718
Hauke Stars	Tranche 2017	6,887	6,414	13,301
	Tranche 2016	6,595	1,988	8,583
	Total 2016 to 2017 tranches			21,884
Jeffrey Tessler	Tranche 2017	7,420	6,911	14,331
	Tranche 2016	7,105	2,141	9,246
	Total 2016 to 2017 tranches			23,577
	Total 2015 to 2017 tranches			269,370

1) Concerning the Co-Performance Investment Plan

Benefits granted

Carsten Kengeter
CEO (until 31 Dec 2017)

	2017	2017	2017	2016
	€ thous.	(min)	(max)	€ thous.
	€ thous.	€ thous.	€ thous.	€ thous.
Fixed remuneration	1,500.0	1,500.0	1,500.0	1,500.0
Ancillary benefits	36.5	36.5	36.5	129.3
Total	1,536.5	1,536.5	1,536.5	1,629.3
One-year variable remuneration				
Cash component performance bonus (50%)	1,100.0	0	2,200.0	1,100.0
Multi-year variable remuneration	2,400.0	0	no max.	2,400.0
Share component performance bonus (50%, 3-year holding period) ¹⁾	1,100.0	0	no max.	1,100.0
Performance shares (5-year term) ²⁾	1,300.0	0	no max.	1,300.0
Total	5,036.5	1,536.5	no max.	5,129.3
Pension expense	0	0	0	548.2
Total remuneration	5,036.5	1,536.5	no max.	5,677.5

1) The level of target achievement is capped at 200 per cent. No cap on the share price performance – therefore, no maximum can be stated (no max.).

For more information, please refer to the [“Combined corporate governance statement and corporate governance report”](#) 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 [“Combined corporate governance statement and corporate governance report”](#) section.

3) The total remuneration (excluding ancillary benefits) is capped at €9.5 million.

Hauke Stars

	2017	2017	2017	2016
	€ thous.	(min)	(max)	€ thous.
	€ thous.	€ thous.	€ thous.	€ thous.
Fixed remuneration	650.0	650.0	650.0	650.0
Ancillary benefits	24.8	24.8	24.8	24.5
Total	674.8	674.8	674.8	674.5
One-year variable remuneration				
Cash component performance bonus (50%)	516.7	0	1,033.4	516.7
Multi-year variable remuneration	1,033.4	0	no max.	1,033.4
Share component performance bonus (50%, 3-year holding period) ¹⁾	516.7	0	no max.	516.7
Performance shares (5-year term) ²⁾	516.7	0	no max.	516.7
Total	2,224.9	674.8	no max.	2,224.6
Pension expense	225.1	225.1	225.1	209.0
Total remuneration	2,450.0	899.9	9,500.0³⁾	2,433.6

Andreas Preuss
 Deputy CEO

Gregor Pottmeyer
 CFO

	2017	2017	2017	2016	2017	2017	2017	2016
	(min)	(max)	(min)	(max)	(min)	(max)	(min)	(max)
€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.
800.0	800.0	800.0	800.0	800.0	720.0	720.0	720.0	720.0
33.0	33.0	33.0	31.7	31.7	30.5	30.5	30.5	28.5
833.0	833.0	833.0	831.7	831.7	750.5	750.5	750.5	748.5
701.4	0	1,402.8	701.4	701.4	560.0	0	1,120.0	560.0
1,402.8	0	no max.	1,402.8	1,402.8	1,120.0	0	no max.	1,120.0
701.4	0	no max.	701.4	701.4	560.0	0	no max.	560.0
701.4	0	no max.	701.4	701.4	560.0	0	no max.	560.0
2,937.2	833.0	no max.	2,935.9	2,935.9	2,430.5	750.5	no max.	2,428.5
1,000.2	1,000.2	1,000.2	1,331.7	1,331.7	293.3	293.3	293.3	279.9
3,937.4	1,833.2	9,500.0³⁾	4,267.6	4,267.6	2,723.8	1,043.8	9,500.0³⁾	2,708.4

Jeffrey Tessler

	2017	2017	2017	2016
	(min)	(max)	(min)	(max)
€ thous.	€ thous.	€ thous.	€ thous.	€ thous.
780.6	780.6	780.6	761.6	761.6
18.2	18.2	18.2	18.2	18.2
798.8	798.8	798.8	779.8	779.8
556.7	0	1,113.4	556.7	556.7
1,113.4	0	no max.	1,113.4	1,113.4
556.7	0	no max.	556.7	556.7
556.7	0	no max.	556.7	556.7
2,468.9	798.8	no max.	2,449.9	2,449.9
288.2	288.2	288.2	403.8	403.8
2,757.1	1,087.0	9,500.0³⁾	2,853.7	2,853.7

Benefits received

	Carsten Kengeter CEO (until 31 Dec 2017)				Andreas Preuss Deputy CEO			
	2017		2016		2017		2016	
	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	€ thous.	
Fixed remuneration	1,500.0	1,500.0	800.0	800.0				
Ancillary benefits ¹⁾	36.5	129.3	33.0	31.7				
Total	1,536.5	1,629.3	833.0	831.7				
One-year variable remuneration								
Cash component performance bonus (50%)	1,026.7	2,200.0	757.5	1,363.0				
Multi-year variable remuneration	1,026.7	3,670.6	757.5	5,941.1				
Variable share component (SBP tranches 2013–2015) ²⁾	–	1,470.6	–	4,578.1				
Share component performance bonus (50%, 3-year holding period)	1,026.7	2,200.0	757.5	1,363.0 ⁶⁾				
Performance shares (5-year term)	–	–	–	–				
Total	3,589.9	7,499.9	2,348.0	8,135.8				
Pension expense	0	548.2	1,000.2	1,331.7				
Total remuneration (German Corporate Governance Code)³⁾	3,589.9	8,048.1	3,348.2	9,467.5				
Plus performance shares	1,300.0	1,300.0	701.4	701.4				
Less variable share component ²⁾	–	–1,470.6	–	–4,578.1				
Less pension expense	0	–548.2	–1,000.2	–1,331.7				
Total remuneration (section 314 of the HGB)	4,889.9	7,329.3	3,049.4	4,259.1				
Number of phantom shares ⁴⁾	17,327	16,593	9,348	8,952				

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) Remuneration components under the remuneration system applicable until the end of 2015

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 2017 grant date is calculated by dividing the target amount by the average share price (Xetra® closing price) for Deutsche Börse shares in December 2016 (€75.03).

5) No share investments have been executed to date, due to the planned merger with London Stock Exchange Group.

6) For further details regarding the share purchase process, please refer to the ["Automated share purchase designed to fulfil the plan conditions as well as the share ownership guidelines"](#) section.

Gregor Pottmeyer CFO		Hauke Stars		Jeffrey Tessler		Total	
2017 € thous.	2016 € thous.	2017 € thous.	2016 € thous.	2017 € thous.	2016 € thous.	2017 € thous.	2016 € thous.
720.0	720.0	650.0	650.0	780.6	761.6	4,450.6	4,431.6
30.5	28.5	24.8	24.5	18.2	18.2	143.0	232.2
750.5	748.5	674.8	674.5	798.8	779.8	4,593.6	4,663.8
604.8	952.0	558.0	682.0	601.2	851.7	3,548.2	6,048.7
604.8	4,839.9	558.0	3,866.1	601.2	4,497.1	3,548.2	22,814.8
-	3,887.9	-	3,184.1	-	3,645.4	-	16,766.1
604.8	952.0 ⁽⁶⁾	558.0	682.0 ⁽⁶⁾	601.2	851.7 ⁽⁶⁾	3,548.2	6,048.7 ⁽⁵⁾
-	-	-	-	-	-	-	-
1,960.1	6,540.4	1,790.8	5,222.6	2,001.2	6,128.6	11,690.0	33,527.3
293.3	279.9	225.1	209.0	288.2	403.8	1,806.8	2,772.6
2,253.4	6,820.3	2,015.9	5,431.6	2,289.4	6,532.4	13,496.8	36,299.9
560.0	560.0	516.7	516.7	556.7	556.7	3,634.8	3,634.8
-	-3,887.9	-	-3,184.1	-	-3,645.4	-	-16,766.1
-293.3	-279.9	-225.1	-209.0	-288.2	-403.8	-1,806.8	-2,772.6
2,520.1	3,212.5	2,307.5	2,555.2	2,557.9	3,039.9	15,324.8	20,396.0
7,464	7,148	6,887	6,595	7,420	7,105	48,446	46,393

Supervisory Board remuneration

The members of the Supervisory Board receive fixed annual remuneration of €70,000. The Chairman receives remuneration of €170,000 and the Deputy Chairman receives €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 €60,000 in the case of the Chairman 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 remuneration payable for their membership of committees, for each month or part-month in which they are members.

Members of the Supervisory Board or a Supervisory Board committee receive an attendance fee of €1 thousand 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.

Remuneration paid to members of the Supervisory Board for advisory and agency services

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.

Supervisory Board remuneration¹⁾

	2017	2016	2017 ²⁾ € thous.	2016 € thous.
Joachim Faber (Chairman)	full year	full year	266.0	257.0
Richard Berliand (Deputy Chairman)	full year	full year	196.0	190.0
Ann-Kristin Achleitner ³⁾	full year	11 May – 31 Dec	142.0	89.7
Karl-Heinz Flöther	full year	full year	149.0	142.0
Marion Fornoff	full year	full year	114.0	107.0
Hans-Peter Gabe	full year	full year	112.0	106.0
Craig Heimark	full year	full year	108.0	103.0
Monica Mächler	full year	full year	146.0	140.0
Gerhard Roggemann ⁴⁾	–	1 Jan – 11 May	–	54.2
Erhard Schipporeit	full year	full year	172.0	166.0
Jutta Stuhlfauth	full year	full year	145.0	135.0
Johannes Witt	full year	full year	154.0	143.0
Amy Yip	full year	full year	138.0	132.0
Total			1,842.0	1,764.9

1) The recipient of the remuneration is determined individually by the members of the Supervisory Board.

2) Remuneration including individual attendance fee

3) Elected to the Supervisory Board on 11 May 2016

4) Left the Supervisory Board on 11 May 2016

Combined corporate governance statement and corporate governance report

Deutsche Börse Group assigns great importance to the principles of good corporate governance and control. In this section we report on corporate governance at Deutsche Börse AG, in accordance with section 3.10 of the Deutscher Corporate Governance Kodex (the Code, German Corporate Governance Code). Moreover, this report includes the Corporate Governance Statement pursuant to sections 289f and 315d of the Handelsgesetzbuch (HGB, German Commercial Code).

Declaration of conformity pursuant to section 161 of the Aktiengesetz (AktG, German Stock Corporation Act)

On 12 December 2017, the Executive Board and Supervisory Board of Deutsche Börse AG issued the following declaration of conformity:

“Declaration of conformity 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 8 December 2016 until 23 April 2017, the following declaration of conformity refers to the old version of the German Corporate Governance Code (the Code) of 5 May 2015. Since 24 April 2017 it refers to the new version of the Code as amended on 7 February 2017 and published in the Federal Gazette on 24 April 2017.

The Executive Board and the Supervisory Board of Deutsche Börse AG declare that the recommendations of the Code have been met almost completely and will be met with only few deviations. For details, please see below:

1. Agreement of severance payment caps when concluding Executive Board contracts (no. 4.2.3 (4) of the Code)

Severance payment caps agreed upon in all current contracts with the members of the Executive Board complied and will continue to comply with recommendation no. 4.2.3 (4) of the Code. As in the past, however, the Supervisory Board reserves the right to deviate from no. 4.2.3 (4) of the Code in the future under certain circumstances. The Supervisory Board is of the opinion that a deviation may become necessary in extraordinary cases.

2. Caps on total amount of remuneration (no. 4.2.3 (2) (sentence 6) of the Code) and disclosure in the remuneration report (no. 4.2.5 (3) of the Code)

No. 4.2.3 (2) (sentence 6) of the Code recommends that the amount of management be capped, both as regards variable components and in the aggregate. Deutsche Börse AG deviated and will deviate from this recommendation.

Effective as of 1 January 2017, the existing remuneration system for the Executive Board of Deutsche Börse AG was adjusted. The annual remuneration, comprising fixed and variable remuneration components and pension benefits, has now been capped at €9.5 million (total cap) for each member of the Executive Board. Ancillary benefits are not included in this amount. Although these are subject to fluctuation, no extraordinary fluctuations are expected and therefore it is not necessary to include them in the total cap.

The long-term variable remuneration components under the remuneration system are share-based. Even though a cap is provided in relation to the number of shares granted, no cap is foreseen on the maximum

achievable bonus amount as there is no cap on share price performance. In our opinion, setting another cap solely on the amount of the variable remuneration component would be inconsistent with the rationale of a share-based remuneration system which aims to achieve an adequate participation in the economic opportunities and risks of the company by the members of the Executive Board. Extraordinary developments are sufficiently reflected in the total cap.

No. 4.2.5 (3) (subitem 1) of the Code recommends, inter alia, presenting the maximum achievable remuneration for variable remuneration components in the remuneration report. As there will be no cap in relation to the share-based variable remuneration components, the maximum achievable remuneration cannot be presented as recommended in no. 4.2.5 (3) (subitem 1) of the Code. Therefore, the deviation from the Code results from the fact that there is no cap on the maximum achievable remuneration for the amount of the variable compensation component.

3. Composition of the Nomination Committee (no. 5.3.3 of the Code)

No. 5.3.3 of the Code recommends that the Supervisory Board form a Nomination Committee composed exclusively of shareholder representatives. Section 4 b of the German Stock Exchange Act, in the version applicable from 3 January 2018, provides that the Nomination Committee shall also assist the Supervisory Board in selecting candidates for positions in the management at exchange operators. At Deutsche Börse AG, this task has previously been performed by the Personnel Committee, on which employee representatives also sit. In order to implement the new requirements of the German Stock Exchange Act while maintaining the practice of involving employee representatives in the process of selecting candidates for the Executive Board of Deutsche Börse AG, the Supervisory Board has resolved to combine the Nomination Committee and the Personnel Committee in the future into a joint committee on which employee representatives also sit. Therefore, the Nomination Committee will also be composed of employee representatives. However, it will be ensured that the nominees proposed to the Annual General Meeting are determined solely by the shareholder representatives on the Committee.”

The annual declaration of conformity pursuant to section 161 of the AktG, as well as the declarations of conformity for the the past five years, are available on our website www.deutsche-boerse.com/declconformity.

Disclosures on suggestions by the Code

Deutsche Börse AG also largely complies with the suggestions of the Code, and only deviates regarding the following aspects:

In accordance with section 4.1.3 sentence 3 of the Code, employees shall be given the opportunity to report, in a protected manner, suspected breaches of the law within the company; third parties should also be given this opportunity. Deutsche Börse AG has implemented a whistleblowing system for its employees, in accordance with the recommendation in section 4.1.3 sentence 3 of the Code. This whistleblowing system is also open to external service providers. However, Deutsche Börse deviates from the suggestion of also giving third parties the opportunity of reporting such suspicions, mainly given the fact that as far as Deutsche Börse is concerned, such third parties are regular market participants – having other options for reporting suspicions at their disposal without being bound by fiduciary duties under employment law.

In accordance with section 4.2.3 (2) sentence 9 of the Code, early disbursements of multiple-year, variable remuneration components should not be permitted. Whilst Deutsche Börse AG adheres to this suggestion in principle, it reserves the right to deviate in extraordinary circumstances, e.g. in the event of an Executive Board member’s inability to work, disease or death. The company also reserves the right to diverge from this procedure, in other extraordinary cases such as change-of-control events.

Information on corporate governance practices

Conduct policies

Deutsche Börse Group's global orientation means that binding policies and standards of conduct must apply at each 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 profits, Deutsche Börse Group's business is managed in accordance with recognised standards of social responsibility.

Code of 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 handling of sensitive information
- Conflicts of interest
- Personal account dealing, as well as prevention of insider dealing and market manipulation
- Corporate funds and assets
- Anti-bribery and corruption
- Risk management
- Whistleblowing
- Ecological awareness
- Equal opportunities and protection from unsolicited behaviour

The code of business conduct applies to members of the Executive Board as well as to all other managers, and to all employees of Deutsche Börse Group. In addition to specifying concrete rules, the code 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 will receive the code as part of their employment contract documentation. Staff who were already in the company prior to the introduction of the code will familiarise themselves with the guidelines within the scope of an online training course, following which they will need to confirm having attended the course and having understood its content. The code of business conduct will evolve into an integral part of the relationship between employer and employees at Deutsche Börse Group. Breaches of the code may lead to disciplinary action. The document is available on www.deutsche-boerse.com > Sustainability > Set an example > 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. The code of conduct for suppliers and service providers requires them to respect human rights and employee rights, and to comply with minimum standards. Implementing a resolution of the Executive Board, the code of conduct 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 up to the code or enter into an equivalent voluntary commitment before they can do business with Deutsche Börse Group. The code is reviewed regularly, in the light of current developments, and amended if necessary. The code of conduct for suppliers and service providers is available on Deutsche Börse Group's website www.deutsche-boerse.com > Sustainability > Set an example > 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 which 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, the environment 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 Organisation 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 jointly shape 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, among 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.

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 whistleblowing system and risk and control management policies.

Whistleblowing system

Deutsche Börse Group's whistleblowing system gives employees and external service providers an opportunity to report non-compliant behaviour. The Group has engaged Deloitte to act as an external ombudsman, and to receive any such information submitted by phone or e-mail. Whistleblowers' identities are 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 the legal requirements, the recommendations of the German Corporate Governance Code, international regulations and recommendations, and other company-specific policies, among other things. 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

The German Stock Corporation Act enshrines the dual board system – which assigns separate, independent responsibilities to the Executive Board and the Supervisory Board – as a fundamental principle. These responsibilities 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 increase in value. Their actions are based on the principle of good 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 course of business in a regular, timely, and comprehensive manner. In addition, the Executive Board regularly informs the Supervisory Board concerning all issues relating to corporate planning, the company's business performance, the risk situation and risk management, compliance, and the company's control systems. The Chief Executive Officer (CEO) reports to the Supervisory Board without undue delay, orally or in writing, on matters that are of special importance to the company. Strategic orientation for the company is examined in detail and agreed with the Supervisory Board. Implementation of the relevant measures is discussed at regular intervals. In particular, the chairmen of the two boards maintain regular contact and discuss the company's strategy, business performance and risk management. The Supervisory Board may also request reports from the Executive Board at any time, especially on matters relating to Deutsche Börse AG and on business transactions at subsidiaries that could have a significant impact on Deutsche Börse AG's position.

Deutsche Börse AG's Executive Board

The Executive Board manages Deutsche Börse AG and Deutsche Börse Group; it had five 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 consolidated and annual 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, there are two functional areas of responsibility – that of the CEO and that of the Chief Financial Officer (CFO). The business areas cover the operating business units, such as the company's cash market activities and the derivatives business, securities settlement and custody, information technology, and the market data 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 resolved 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, and 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. The CEO also has a right of veto, although he or she cannot enforce a resolution against a majority vote.

More information on the Executive Board, its composition, and 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, for deciding on their total remuneration, and for examining Deutsche Börse AG's consolidated and annual financial statements, as well as the combined management report including the combined non-financial statement. Details of the Supervisory Board's work during the 2017 financial year can be found in the [report of the Supervisory Board](#).

To date, the Supervisory Board has consisted of twelve members: two-thirds of its members are shareholder representatives, and one-third are employee representatives. The term of office of current members will end at the close of the Annual General Meeting held on 16 May 2018. Following the end of proceedings for change of status (Statusverfahren) under section 98 of the AktG on 22 December 2017, the Supervisory Board of Deutsche Börse AG is to be composed in accordance with the provisions of the Mitbestimmungsgesetz (MitbestG, German Co-determination Act). This reflects the fact that the number of Deutsche Börse's employees in Germany has exceeded the threshold of 2,000 employees, as referred to in section 1 (1) no. 2 of the MitbestG. Accordingly, with effect from the 2018 Annual General Meeting, the company's Supervisory Board must consist of an equal number of shareholder representatives and employee representatives.

Considering the future equal representation on the Supervisory Board of Deutsche Börse AG, in accordance with the provisions of the MitbestG, a proposal will be made to the 2018 Annual General Meeting to resolve that the number of Supervisory Board members be increased from currently 12 to 16 members. This increase is also supposed to account for the increased demands placed upon Supervisory Board members, in connection with the growth of the company and the Group, in particularly with regard to diversity and internationalisation.

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. 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 efficiency of its work, discusses potential areas for improvement, and resolves suitable measures where necessary.

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. The Supervisory Board had six committees during the reporting period (for details, please refer to the [“The Supervisory Board committees during 2017: composition and responsibilities” tables](#)). Their individual responsibilities are outlined in the Supervisory Board's bylaws. The committees' rules of procedure correspond to those for the plenary meeting of the Supervisory Board. In accordance with section 4b (5) of the BörsG, the Supervisory Board resolved to merge the Nomination and the Personnel Committee to a joint committee, with effect from 3 January 2018. Details of the duties and members of the individual committees can be found online, at www.deutsche-boerse.com/supervboard > Committees.

The chairmen 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 2017: composition and responsibilities

Audit Committee

Members	Composition
<ul style="list-style-type: none"> ▪ Erhard Schipporeit (Chairman) ▪ Karl-Heinz Flöther ▪ Monica Mächler ▪ Johannes Witt 	<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 and internal control processes (financial expert) ▪ persons who cannot chair the committee: the Chairman of the Supervisory Board; former members of the company's Executive Board whose appointment ended less than two years ago <p data-bbox="606 660 742 683">Responsibilities</p> <hr/> <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 auditing ▪ audit reports ▪ deals with accounting issues, including oversight of the accounting and reporting process ▪ half-yearly financial reports, plus any quarterly financial reports, if applicable ▪ 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 unappropriated surplus ▪ 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 ▪ deals with the required independence of external auditors ▪ deals with non-audit services rendered by the external auditors ▪ issues the engagement letter to the auditor – 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 of Compliance pursuant to section 161 of the AktG, and the corporate governance statement in accordance with section 289f of the HGB

Nomination Committee¹⁾

Members	Composition
<ul style="list-style-type: none"> ▪ Joachim Faber (Chairman) ▪ Ann-Kristin Achleitner ▪ Amy Yip 	<ul style="list-style-type: none"> ▪ The Chairman of the Personnel Committee also chairs the Nomination Committee. ▪ at least two other members (solely shareholder representatives, who are also members of the Personnel Committee)
	Responsibilities
	<ul style="list-style-type: none"> ▪ proposes suitable candidates to the Supervisory Board for inclusion in the Supervisory Board's election proposal to the Annual General Meeting

1) The Nomination Committee and the Personnel Committee were merged to a joint committee, effective 3 January 2018. Marion Fornoff has been a member of the joint Nomination Committee since 3 January 2018.

Personnel Committee¹⁾

Members	Composition
<ul style="list-style-type: none"> ▪ Joachim Faber (Chairman) ▪ Ann-Kristin Achleitner ▪ Marion Fornoff ▪ Amy Yip 	<ul style="list-style-type: none"> ▪ chaired by the Chairman of the Supervisory Board ▪ at least three other members, who are elected by the Supervisory Board and one of whom must be an employee representative
	Responsibilities
	<ul style="list-style-type: none"> ▪ deals with issues relating to the contracts of service for Executive Board members, and in particular to the structure and amount of their remuneration ▪ addresses succession planning for the Executive Board ▪ approves appointments of members of Deutsche Börse AG's Executive Board to other executive boards, supervisory boards, advisory boards and similar boards, as well as honorary appointments and sideline activities, and approves any exemptions from the requirement to obtain approval ▪ approves the grant or revocation of general powers of attorney ▪ approves cases in which the Executive Board grants employees retirement pensions or other individually negotiated retirement benefits, or proposes to enter into employer/works council agreements establishing pension plans

1) The Nomination Committee and the Personnel Committee were merged to a joint committee, effective 3 January 2018. Marion Fornoff has been a member of the joint Nomination Committee since 3 January 2018.

Risk Committee

Members	Composition
<ul style="list-style-type: none"> ▪ Richard Berliand (Chairman) ▪ Monica Mächler ▪ Erhard Schipporeit ▪ Jutta Stuhlfauth 	<ul style="list-style-type: none"> ▪ at least four members, who are elected by the Supervisory Board
	Responsibilities
	<ul style="list-style-type: none"> ▪ reviews the risk management framework, including the overall risk strategy and risk appetite, and the risk roadmap ▪ takes note of and reviews the periodic risk management and compliance reports ▪ oversees monitoring of the Group's operational, financial and business risk ▪ discusses the annual reports on significant risks and on the risk management systems at regulated Group entities, to the extent legally permissible

Strategy Committee

Members	Composition
<ul style="list-style-type: none"> ▪ Joachim Faber (Chairman) ▪ Ann-Kristin Achleitner ▪ Richard Berliand ▪ Hans-Peter Gabe ▪ Jutta Stuhlfauth ▪ Amy Yip 	<ul style="list-style-type: none"> ▪ chaired by the Chairman 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 fundamental strategic and business issues, as well as important projects for Deutsche Börse Group

Technology Committee

Members	Composition
<ul style="list-style-type: none"> ▪ Richard Berliand (Chairman) ▪ Karl-Heinz Flöther ▪ Craig Heimark ▪ Johannes Witt 	<ul style="list-style-type: none"> ▪ at least three 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 the IT systems, operational IT risks, and information security services and risks

Targets for composition and qualification requirements of the Supervisory Board

In accordance with section 5.4.1 of the German Corporate Governance Code, the Supervisory Board has adopted a catalogue of specific targets concerning its composition, particularly with regard to the nomination of members in the future. 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, half of 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
- Knowledge of the financial services sector
- Understanding of the corporate governance system
- Understanding of Deutsche Börse AG's activities
- Understanding of the member's own position and responsibilities
- Understanding of Deutsche Börse Group's structure

General qualification requirements

The general qualifications refer to the Supervisory Board in its entirety. At least two of its members should have profound 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, digitisation
- 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, digitisation	Clearing, settlement and custody business	Regulatory requirements
Joachim Faber (Chairman)	+	+	+			+
Richard Berliand (Deputy Chairman)	+	+	+	+	+	
Ann-Kristin Achleitner	+	+				+
Karl-Heinz Flöther		+		+		
Craig Heimark		+		+	+	
Monica Mächler		+	+			+
Erhard Schipporeit	+	+	+			
Amy Yip	+	+			+	

Independence

In accordance with section 5.4.2 of the German Corporate Governance Code, the Supervisory Board shall be comprised of what it considers to be an appropriate number of independent members. Supervisory Board members are no longer to be considered independent in the meaning of section 5.4.2 of the Code particularly if they have a personal or business relationship with the company, its governing bodies, a controlling shareholder or an entity affiliated with the controlling shareholder that may cause a substantial (and not merely temporary) conflict of interest. The Supervisory Board has resolved that at least half of its members who are shareholder representatives are to be independent in this sense. At present, all shareholder representatives are regarded 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 of the 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 appointing new Executive Board members, or regarding nominations 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.

Accordingly, Craig Heimark and Erhard Schipporeit who have been members of the Supervisory Board since 2005 will not be nominated to the Annual General Meeting 2018 for re-election. In order to ensure balance between personnel changes and continuity in the work of the Supervisory Board, as well as to preserve knowledge and experience amongst its members, the Supervisory Board proposes to the Annual General Meeting to re-elect Richard Berliand who has been a member of the Supervisory Board since October 2005. The proposal to extend Mr Berliand's term of office beyond the general limitation to members' maximum term of office is based, in particular, on his profound experience – gained over many years – with exchange organisations and their processes, and his extensive knowledge of financial markets infrastructure providers.

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 so as 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. The appointments of Andreas Preuss and Jeffrey Tessler, who have both reached the age of 60, were only extended by one year each during 2017. CEO Theodor Weimer, who has been appointed as at 1 January 2018, will be 61 years old at the end of his current term of office.

Share of women holding management positions

In accordance with the Gesetz für die gleichberechtigte Teilhabe von Frauen und Männern an Führungspositionen in der Privatwirtschaft und im öffentlichen Dienst (FührposGleichberG, German Act on the Equal Participation of Women and Men in Leadership Positions in the Private and Public Sectors), Deutsche Börse AG's Supervisory Board has defined target quotas for women on these boards, in accordance with section 111 (5) of the AktG.

At the time when the targets for Deutsche Börse AG's Supervisory Board and Executive Board were set, 33.33 per cent of Supervisory Board members were women, while the figure for the Executive Board was 20 per cent. In view of this, the Supervisory Board resolved on 16 June 2015 that the current proportion of female members of the Supervisory Board (33.33 per cent) and the Executive Board (20 per cent) should be maintained as a minimum requirement until the end of the first implementation period (30 June 2017). Both targets were achieved: whilst the proportion of female Executive Board members remained unchanged at 20 per cent as at 30 June 2017, the proportion of female members of the Supervisory Board reached 41.67 per cent at the same date, thus exceeding the self-imposed minimum target. The Supervisory Board resolved, with effect from 1 July 2017, to maintain both targets until 31 December 2021. By virtue of the Mitbestimmungsgesetz (MitBestG, German Co-determination

Act) being applicable to Deutsche Börse AG as from the Annual General Meeting 2018, the statutory gender quota of 30 per cent (pursuant to section 96 (2) of the AktG) will apply in lieu of the self-imposed minimum quota (pursuant to section 111 (5) of the AktG). In order to avoid a potential discrimination of either shareholder or employee representatives and to enhance planning certainty for the respective election processes, the shareholder representatives on the Supervisory Board have objected to overall compliance with the quota pursuant to section 96 (2) sentence 2 of the AktG. This means that both shareholder representatives and employee representatives must comply with the minimum quota of 30 per cent. The current composition of the Supervisory Board complies with the statutory quota. Nonetheless, the Supervisory Board endeavours to further increase the proportion of female members on the Executive Board and the Supervisory Board.

International profile

The composition of the Executive Board and the Supervisory Board shall reflect the company's international activities. The Supervisory Board had four members holding non-German citizenship during the year under review: Richard Berliand, Craig Heimark, Monica Mächler and Amy Yip. Moreover, numerous Supervisory Board members have many years of international experience. The Supervisory Board will continue to reflect the company's international activities: with Martin Jetter and Barbara Lambert, two new Supervisory Board members with long-standing international professional experience are proposed to the Annual General Meeting. Ms Lambert holds dual German/Swiss citizenship; she lives in Switzerland. Mr Jetter is resident in the United States. The Supervisory Board therefore continues to meet the objectives concerning its international composition. The same applies to the Executive Board, where Jeffrey Tessler holds a non-German citizenship.

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. Besides with 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, administration and regulation, science, and the energy sector. In terms of academic education, economic and legal degrees prevail; in addition, members have studied biology, political sciences, and engineering. 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. Please refer to www.deutsche-boerse.com/execboard for further information concerning the members of the Executive Board.

Preparations for 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 recommendation to the Annual General Meeting, has concerned itself, in great detail, with preparations for the election of shareholder representatives to the Supervisory Board by the Annual General Meeting in 2018. In addition to Craig Heimark and Erhard Schipporeit leaving the Supervisory Board after twelve years of membership, it also had to take into account that Monica Mächler foregoes seeking another term. Considering the future equal representation on the Supervisory Board, the Committee resolved on 19 February 2018 to propose eight candidates for the election of shareholder representatives. Five of the eight proposed candidates were incumbent members of the

Supervisory Board, while three candidates have not been members to date. When selecting candidates, the Committee has ensured that all the above-mentioned criteria are met. For this purpose, an external consultant commissioned by the Chairman of the Supervisory Board had first prepared a pre-selection list of suitable persons. Following personal interviews with the candidates on this pre-selection list, the Committee agreed upon Martin Jetter, Barbara Lambert and Joachim Nagel as new candidates for election to the Supervisory Board in 2018: during his professional career in Germany and abroad, Martin Jetter has held various senior roles at IBM and is currently Senior Vice President for Global Technology Services and member of IBM Corporation's management board at the company's top management level. In this role, he has responsibility for the group's worldwide infrastructure services. He possesses considerable and proven technological expertise. Barbara Lambert acquired international experience as well as expertise in the areas of accounting and internal control procedures through positions, inter alia, at WestLB, Arthur Andersen/Ernst & Young and Pictet & Cie. In addition to heading audit activities in the financial sector at Ernst & Young Switzerland, she was also, among other things, auditor of a major Swiss bank. She will be a member of the executive board and Group Chief Risk Officer at Pictet & Cie until 31 March 2018, and will be appointed to the company's Board of Directors with effect from 1 April 2018. Ms Lambert meets the requirements for being a financial expert pursuant to sections 107 (4), 100 (5) of the AktG, and section 5.3.2 (3) of the German Corporate Governance Code. Furthermore, the Supervisory Board proposes Joachim Nagel, a candidate who has extensive capital market and regulatory expertise, particularly in the financial services sector. Between 1999 and 2016, Mr Nagel held several senior positions at Deutsche Bundesbank (the German central bank), and was a member of its executive board in the last six years, responsible for, among other things, the markets sector. Currently, he is a member of the executive board of KfW Group.

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. In addition, Deutsche Börse AG complies with the recommendation of section 5.4.5 (2) of the German Corporate Governance Code to support them in their endeavours for training and professional development – for example, by organising targeted introductory events for new Supervisory Board members, or workshops on selected strategy issues as well as on professional topics (if required). Thus, in addition to a strategy workshop, two technology workshops took place during the year under review, covering the topics of digitisation and artificial intelligence. Moreover, briefings on several regulatory issues (such as MiFIR/MiFID II) were held during Supervisory Board meetings.

Examination of efficiency of Supervisory Board work

Deutsche Börse AG regards regular reviews of the efficiency of Supervisory Board work – in accordance with section 5.6 of the German Corporate Governance Code – as a key component of good corporate governance. The 2017 efficiency audit was dedicated to the following areas: tasks of the Supervisory Board and performance of its duties, co-operation within the Supervisory Board and between the Executive Board and the Supervisory Board, as well as Supervisory Board organisations and meetings. The review yielded overall positive results. Where it identified room for improvement, optimising proposals were discussed and measures for their execution implemented.

Target figures for the proportion of female executives beneath the Executive Board

In accordance with the FührungsGleichberG, 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) of the AktG, in each case referring to Deutsche Börse AG.

The proportion of women holding management positions at the two levels beneath the Executive Board amounted to 6 per cent (level 1) and 10 per cent (level 2) on 15 September 2015, the date when the Executive Board initially defined the relevant targets. At that time, the Executive Board resolved that these proportions be maintained as a minimum requirement until 30 June 2017. These targets were achieved, with a proportion of 11 per cent on the first management level and 15 per cent on the second management level. Effective 1 July 2017, the Executive Board of Deutsche Börse AG determined new targets, endeavouring to achieve a female quota of 15 per cent on the first management level and of 20 per cent on the second management level by 31 December 2021. As at 31 December 2017, the female proportion of managers holding positions on the first and second management levels beneath the Executive Board was 10 per cent and 16 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. These target figures relate to Deutsche Börse Group (including subsidiaries), on a global basis. During the reporting period, the share of women holding lower management positions increased slightly, whilst the share of women holding middle and upper management positions remained constant.

Further information regarding target figures for the share of female managers and Deutsche Börse's voluntary commitment (as part of its non-financial performance indicators) are available in the ["Employees – Target female quotas"](#) section in the combined non-financial statement.

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 they 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. Among other things, the AGM elects the shareholder representatives to the Supervisory Board and resolves on the formal approval of 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. Ordinary AGMs – at which the Executive Board and the Supervisory Board give an account for the past financial year – take place once a year.

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 consolidated and annual financial statements at an annual press briefing. It also offers conference calls for analysts and investors following the publication of the interim reports. Furthermore, when outlining its strategy and providing information to everyone who is interested, it abides by the principle that all target groups worldwide must be informed at the same time.

Additionally, Deutsche Börse AG submitted a COP for 2017 to the UN Global Compact. Good corporate governance is one of Deutsche Börse Group's core concerns, which 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 responsibility > UN Global Compact.

Accounting and auditing

Deutsche Börse AG's corporate 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 corporate 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 consolidated and annual 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 report is reviewed by the external auditors. In line with the proposal by the Supervisory Board, the 2017 AGM elected KPMG AG Wirtschaftsprüfungsgesellschaft, Berlin, (KPMG) to audit its 2017 annual and consolidated financial statements and to review its half-yearly financial report in the year under review. KPMG was also instructed to perform an external review of the contents of the combined non-financial statement during the 2017 financial year. The lead auditor, Andreas Dielehner, has been responsible for the audit since 2013 and the deputy lead auditor, Thomas Hommel, since 2017. 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 2017. 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](#).

Frankfurt/Main, 6 March 2018
Deutsche Börse AG



Theodor Weimer



Andreas Preuss



Gregor Pottmeyer



Hauke Stars



Jeffrey Tessler

Independent Auditor's 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 2017, the consolidated income statement, the consolidated statement of comprehensive income, the consolidated cash flow statement and the consolidated statement of changes in equity for the financial year from 1 January to 31 December 2017, 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, Frankfurt am Main, for the financial year from 1 January 2017 to 31 December 2017. In accordance with the German legal requirements we have not audited the content of the combined corporate governance statement, which is included in the combined management report.

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

- the accompanying consolidated financial statements comply in all material respects with the IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to 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 2017 and of its financial performance for the financial year from 1 January to 31 December 2017, 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 combined corporate governance statement mentioned above.

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 2017. 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 3 (Summary of key accounting policies) and note 11 (Intangible assets) in the notes to the consolidated financial statements.

THE FINANCIAL STATEMENT RISK

At 31 December 2017, goodwill amounted to EUR 2,770.9 million (previous year: EUR 2,721.1 million). The goodwill thus represents 2 per cent of the assets of the Group at 31 December 2017.

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 on assumptions concerning the 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 result can have material impacts on the statement of the assets, liabilities and financial performance of Deutsche Börse AG. 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 3 (Summary of key accounting policies) and note 11 (Intangible assets) in the notes to the consolidated financial statements.

THE FINANCIAL STATEMENT RISK

The other intangible assets amounted to EUR 911.2 million (previous year: EUR 859.9 million) at 31 December 2017. The other intangible assets thus represent 0.7 per cent of the assets of the Group at 31 December 2017.

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 on assumptions concerning the 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 result can have material impacts on the statement of the assets, liabilities and financial performance of Deutsche Börse AG. 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.

The valuation of provisions for tax risks

For the accounting policies applied as well as the assumptions used, please refer to note 3 (Summary of key accounting policies) and note 10 (Income tax expense) in the notes to the consolidated financial statements. Information on the tax provisions and risks can be found in note 26 (Tax provisions) and note 37 (Financial liabilities and other risks).

THE FINANCIAL STATEMENT RISK

Deutsche Börse AG operates in a variety of jurisdictions with different legal systems. The provisions for tax risks amounted to EUR 339.4 million at 31 December 2017.

The application of the local and international tax regulations and of tax relief is complex and associated with risks. The calculation of tax provisions requires the company to exercise judgement in the assessment of tax issues and to make estimates concerning tax risks. The result of these assessments is dependent to a large extent on assumptions concerning the future interpretation of tax situations in the course of tax audits and also on decisions of the tax authorities and courts on similar tax situations and is therefore subject to discretion. Any additional tax expenses can have material impacts on the statement of assets, liabilities and financial performance of Deutsche Börse AG. Therefore, the identification and correct allocation of provisions for tax risks is of particular significance for the consolidated financial statements.

Deutsche Börse AG occasionally commissions external experts to assess tax matters.

OUR AUDIT APPROACH

With the support of our employees specialising in local and international tax law, we appraised the tax calculation, including the risk assessment, of Deutsche Börse AG. Where available, we have also acknowledged the assessment of external experts engaged by the company. We held meetings with the management as well as staff from the tax department in order to gain an understanding of the existing tax risks. We have assessed the competence and the objectivity of external experts and evaluated the documents they have produced.

Furthermore, we evaluated the correspondence with the competent tax authorities and assessed the assumptions used to determine the tax provisions on the basis of our knowledge and experience of the current application of the relevant legal regulations by the authorities and the courts.

OUR OBSERVATIONS

The assumptions for determining the tax provisions are appropriate.

Other Information

Management is responsible for the other information. The other information comprises:

- the combined corporate governance statement and
- the remaining parts of the corporate report, with the exception of the audited consolidated financial statements and combined management report and our 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 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. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, 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

Further information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditors by the annual general meeting held on 17 May 2017. We were engaged by the audit committee of the Supervisory Board on 12 September 2017. In compliance with the transitional provisions of Article 41 Section 2 of the EU Audit Regulations, 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 and project-related audits for the implementation of new accounting standards. Other certification services relate to ISAE 3402 and ISAE 3000 reports, audits of financial statements in the context of M&A activities, and statutory or contractual audits such as audits under the WpHG, KWG and 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. In addition, we have supported the implementation of regulatory requirements with quality assurance.

German Public Auditor Responsible for the Engagement

The German Public Auditor responsible for the engagement is Andreas Dielehner.

Frankfurt am Main, 9 March 2018

KPMG AG
Wirtschaftsprüfungsgesellschaft
[Original German version signed by:]

Dielehner
Wirtschaftsprüfer
[German Public Auditor]

Hommel
Wirtschaftsprüfer
[German Public Auditor]