Deutsche Börse Group

Half-yearly financial report

Quarter 2/2022

Q2/2022: Deutsche Börse Group achieves strong organic growth

Overview of quarterly results

- Net revenue increased by 15 per cent to €1,017.8 million in the second quarter of 2022, supported by high trading volumes and an increase in net interest income.
- Earnings before interest, taxes, depreciation and amortisation (EBITDA) increased to €584.9 million, a 13 per cent rise.
- Net profit for the period attributable to Deutsche Börse AG shareholders totalled €341.1 million, up 10 per cent on the same quarter of the previous year. Earnings per share before purchase price allocation stood at €1.98.

Group interim management report Q2/2022

Fundamental information about the Group

The fundamental information about the Group described on pages 23 to 26 of the Annual Report 2021 is still valid taking into consideration the comparability of figures.

Comparability of figures

To reduce the complexity of its financial reporting and emphasise the Group’s growth areas more clearly, the segment reporting was adjusted in accordance with the Group's management structure as of the first quarter of 2022 (including the respective amounts for the first quarter of the prior year). The eight existing segments will from now on be condensed to four: Data & Analytics (including the Qontigo and ISS segments), Trading & Clearing (Eurex, EEX, 360T and Xetra segments), Fund Services (IFS segment) and Securities Services (Clearstream segment).

Changes in the basis of consolidation

Acquisition of Kneip Communication S.A. (Kneip)
In the first quarter of 2022, Deutsche Börse AG completed the acquisition of 100 per cent of the shares in Kneip Communication S.A. (Kneip), thereby gaining control. Upon completion of the transaction on 31 March 2022, Kneip will be allocated to the Fund Services segment.

Sale of shares in REGIS–TR
On 31 March 2022 Clearstream Banking S.A. and Clearstream Holding AG successfully closed the sale of their respective 50 per cent stake in the European trade repositories REGIS–TR S.A. and REGIS–TR UK Ltd. to its joint venture partner Iberclear, part of SIX.

Loss of control over Tradegate Exchange GmbH and Börse Berlin AG
In course a capital restructuring at Tradegate Exchange GmbH on 17 June 2022, Deutsche Börse AG's voting rights in the company were reduced from 60.0 per cent to around 42.8 per cent. As a result, Deutsche Börse AG is no longer able to control Tradegate Exchange GmbH and its subsidiary Börse Berlin AG and has deconsolidated both companies. Tradegate Exchange GmbH will in future be accounted for as an associated company using the at-equity method.

Material business relationships with related parties and key management personnel

Details of material business relationships with related parties and key management personnel are provided in Note 15 to the condensed consolidated financial statements.

Report on the economic position

The first half of 2022 was heavily influenced by geopolitical as well as economic factors. Russia's ongoing war against Ukraine and the related consequences took centre stage. Sanction measures, among other factors, up to and including the closure of production sites in the affected areas, caused supply bottlenecks to become more severe. A resurgence of COVID-19 infections in China, which was accompanied by widespread lockdowns in metropolitan areas, further exacerbated this effect. At the same time, the sharp increase in energy prices drove inflation concerns in financial markets on both sides of the Atlantic. Market participants' fear that central banks would implement their monetary policy measures faster than expected put pressure on global equity markets. Already in the first half of the year the US Federal Reserve increased the interest rate corridor in several steps to 1.50–1.75 per cent. Similarly, the European Central Bank (ECB) raised its key interest rate by 0.50 percentage points at its July meeting and envisaged a further normalisation of the interest rates. In light of the growing uncertainty surrounding future economic trends and a possible recession, market volatility, as measured by the VSTOXX, stood 50 per cent higher on average in the first six months of 2022 than in the same period of the previous year. In addition, the US dollar gained strength significantly year-on-year compared to the Euro due to the tightening in US monetary policy.

Against the backdrop of the economic environment described above, the International Monetary Fund (IMF) also revised its outlook for 2022 downwards in its April report, in some cases significantly, compared to the January forecast. It is now forecasting global economic growth of 3.6 per cent (– 0.8 percentage points). It expects the euro area to grow by 2.8 per cent (–1.1 percentage points) and Germany by 2.1 per cent (–1.7 percentage points). Further declines in its forecasts are likely when it issues its next update in July.

Beyond the effects described above, the macroeconomic and industry-specific framework conditions have not changed significantly compared to what was presented in the Annual Report 2021 (page 45).

Business operations and the Group structure have not changed significantly compared to what was presented in the Annual Report 2021 (on pages 23–26).

Results of operations

Key figures on results of operations of Deutsche Börse Group

	Second Quarter 01 Apr – 30 Jun			First Half-year 01 Jan – 30 Jun		
	2022 €m	2021 €m	Change %	2022 €m	2021 €m	Change %
Sales revenue	1,151.7	1,031.0	12%	2,339.3	2,054.8	14%
Treasury result from banking and similar business	78.2	32.6	140%	138.5	67.2	106%
Other operating income	23.6	49.3	–52%	79.8	68.6	16%
Total revenue	**1,253.5**	**1,112.9**	**13%**	**2,557.6**	**2,190.6**	**17%**
Volume related costs	–235.7	–231.2	2%	–478.2	–453.8	5%
Net revenue	**1,017.8**	**881.7**	**15%**	**2,079.4**	**1,736.8**	**20%**
Staff	–299.1	–257.1	16%	–584.4	–485.6	20%
Other operating expense	–133.0	–126.1	5%	–254.4	–244.1	4%
Operating costs	**–432.1**	**–383.2**	**13%**	**–838.8**	**-729.7**	**15%**
Net inc. financial investments	–0.8	19.5	–104%	31.7	32.1	–1%
EBITDA	**584.9**	**518.0**	**13%**	**1,272.3**	**1,039.2**	**22%**
Depreciation, amortisation and impairment losses	–81.6	–70.8	15%	–166.0	–132.5	25%
EBIT	**503.3**	**447.2**	**13%**	**1,106.3**	**906.7**	**22%**
Financial result	–25.7	–11.3	127%	–34.5	–25.2	37%
EBT	**477.6**	**435.9**	**10%**	**1,071.8**	**881.5**	**22%**
Tax	–124.1	–113.4	9%	–278.7	–229.2	22%
Net Income	**353.5**	**322.5**	**10%**	**793.1**	**652.3**	**22%**
thereof attributable to Deutsche Börse AG shareholders	341.1	310.9	10%	761.9	628.2	21%
thereof attributable to non-controlling interests	12.4	11.6	7%	31.2	24.1	29%
Earnings per share (€)	1.86	1.69	10%	4.15	3.42	21%
Earnings per share before purchase price allocation (Cash EPS) (€)	1.98	1.79	11%	4.38	3.60	22%

Against the background of the economic environment previously described in the report on our economic position, the results of our Group's operations in the second quarter of 2022 were comparable to those of the first quarter. Geopolitical risks, rising inflation rates and a rapid increase in key interest rates led to significant trading activity in the financial markets across all asset classes, which had a particular positive impact on the Trading & Clearing segment. In the Securities Services segment, it led to an increase in net interest income from banking business.

In the second quarter of 2022, we generated net revenue of €1,017.8 million (Q2/21: €881.7 million), an increase of 15 per cent compared to the same quarter last year. Cyclical factors contributed 6 per cent to net revenue growth. These were driven primarily by an increase in volume in index and interest rate derivatives, gas products and in net interest income from banking business. Secular net revenue growth came to 8 per cent. The acquisition of new customers in the ESG area, but also higher demand for Market Intelligence products in the Data & Analytics segment, were among the main contributors. The deconsolidation of Tradegate Exchange GmbH resulted in a positive one-time effect of €13 million in the Trading & Clearing segment. Furthermore, net revenue in the second quarter of the previous year included a positive valuation effect of approximately €40 million from the acquisition of the remaining shares in Clearstream Fund Centre, which was recognised in the Fund Services segment. The previous year's net revenue also included a positive effect of approximately €7 million, which resulted in connection with the sale of the Regulatory Reporting Hub in the Trading & Clearing segment. Further there was M&A-related growth of around one per cent primarily stemming from the acquisitions of Discovery Data and Kneip.

Operating costs of €432.1 million (Q2/21: €383.2 million) increased by 13 per cent. Of this amount, around half is attributable to M&A-related cost effects as well as exchange rate effects from a stronger US dollar. The other half represents organic cost growth mainly related to inflationary effects as well as an increase of share-based and variable payments.

Thus, earnings before interest, taxes, depreciation and amortisation (EBITDA) increased by 13 per cent to €584.9 million (Q2/21: €518.0 million). The result from financial investments included in EBITDA contained, among other things, a negative effect from a revaluation of minority interests resulting from a sale in the Trading & Clearing segment (asset class Commodities). The previous year's figure included the distinctly positive performance of various minority holdings.

Depreciation, amortisation and impairment expenses increased to €81.6 million (Q2/21: €70.8 million), stemming mainly from effects of purchase price allocation for acquired companies. These came to a total of €29.3 million. The financial result came to –€25.7 (Q2/21: –€11.3 million), whereby the increase was amongst others due to the formation of interest provisions for expected tax payments.

In the second quarter of 2022, net profit for the period attributable to Deutsche Börse AG shareholders thus stood at €341.1 million (Q2/21: €310.9 million), a year-on-year increase of 10 per cent. Earnings per share were €1.86 (Q2/21: €1.69) for an average of 183.6 million shares. Earnings per share before the effects of purchase price allocation (cash EPS) were €1.98 (Q2/21: €1.79).

Gregor Pottmeyer, CFO of Deutsche Börse AG, commented on the results as follows: "Inflation, interest rates, volatility – the financial market environment is still characterised by a high degree of uncertainty. For this reason also the second quarter clearly exceeds our expectations. In addition to strong secular growth, the rising interest rate environment, in particular, is having an increasingly positive effect on net revenue. We expect volatility to remain high in most asset classes and cyclical tailwind thus to be an additional growth engine for our company. We should therefore significantly exceed the initial targets for 2022."

Data & Analytics segment

Key indicators Data & Analytics segment

	Second Quarter 01 Apr – 30 Jun			First Half-year 01 Jan – 30 Jun		
	2022 €m	2021 €m	Change %	2022 €m	2021 €m	Change %
Net revenue[1]	155.2	117.5	32%	300.2	202.0	49%
Index	50.4	42.4	19%	99.7	88.4	13%
Analytics	18.9	15.2	24%	35.7	32.4	10%
ESG[1]	54.9	43.3	27%	106.0	58.0	83%
Other[1,2]	31.0	16.6	87%	58.8	23.2	153%
Operating costs	–98.6	–72.9	35%	–187.5	–118.9	58%
EBITDA	59.0	54.2	9%	113.5	92.4	23%

1) Institutional Shareholder Services, Inc. was fully consolidated as of 25 February 2021.
2) Includes amongst other the consolidation of Discovery Data, Inc. and Rainmaker Information Pty Ltd.

In the second quarter, the segment benefited significantly from continued high demand for ESG products such as Climate (solutions to manage climate-related risks in portfolios), ESG Ratings and Research. Similarly, also contributing to the “ESG” line, we saw strong growth in Corporate Solutions, which provides corporate governance and corporate sustainability solutions, and in Governance Solutions through the expansion of its proxy solutions business. Growth in the “Other” net revenue was attributable, on the one hand, to the acquisitions of Discovery Data and Rainmaker. On the other hand, the existing range of Market Intelligence products also recorded strong growth. In addition, currency effects had a positive impact on net revenue.

In the Index field, while equity indices generally recorded a strong upward trend in the first half of the previous year, they declined noticeably in the first half of 2022. Both the DAX and the leading European index, Euro STOXX 50, have lost around 20 per cent of their value since the beginning of the year. Nevertheless, assets under management in exchange-traded index funds (ETFs) on STOXX and DAX indices remained relatively stable during this period. Due to the significantly increased market volatility, business with stock exchange licences also rose significantly. In the analytics business, net revenue increased in the second quarter compared to the previous year. This was due, on the one hand, to a higher level of recurring fees from new customers and, on the other hand, to higher net revenue, which is linked to the timing of the transaction.

Trading & Clearing segment

Key indicators Trading & Clearing segment

	Second Quarter 01 Apr – 30 Jun			First Half-year 01 Jan – 30 Jun		
	2022 €m	2021 €m	Change %	2022 €m	2021 €m	Change %
Net revenue	537.1	439.8	22%	1,093.3	900.9	21%
Financial derivatives	307.8	243.7	26%	622.8	505.7	23%
Equities	129.6	108.1	20%	278.1	226.8	23%
Interest rates	93.2	68.1	37%	183.9	143.0	29%
Margin fees	27.2	16.8	62%	48.4	35.2	38%
Other	57.8	50.7	14%	112.4	100.7	12%
Commodities	102.2	76.6	33%	214.7	156.1	38%
Power	43.5	43.2	1%	97.1	88.5	10%
Gas	20.9	12.0	74%	40.5	27.0	50%
Other	37.8	21.4	77%	77.1	40.6	90%
Cash equities	94.7	93.9	1%	192.2	187.1	3%
Trading	55.0	44.4	24%	109.8	98.4	12%
Other	39.7	49.5	–20%	82.4	88.7	–7%
Foreign exchange	32.4	25.6	27%	63.6	52.0	22%
Operating costs	–202.1	–181.8	11%	–399.9	–362.6	10%
EBITDA	332.5	267.9	24%	725.6	561.6	29%

In the Trading & Clearing segment, the second quarter was significantly impacted by the geopolitical situation and the resulting risks, rising inflation and the increase in key interest rates by the central banks. The resulting uncertainty on the part of market participants manifested itself in higher market volatility and a correspondingly higher need for trading and hedging activities across all asset classes.

In the case of financial derivatives, these factors were particularly reflected in higher trading volumes in index and interest rate derivatives, which led to a strong increase in net revenue generated by these products. Clearing of interest rate derivatives denominated in euros also had a positive impact on earnings from interest rate derivatives, as the outstanding notional volume at the end of the reporting period rose year-on-year by 21 per cent to €27.2 trillion. This corresponds to a market share of approximately 20 per cent in euro-denominated OTC interest rate derivatives worldwide. In the wake of higher market volatility, the collateral deposited for trading in financial derivatives also increased, resulting in higher margin fee net revenue.

In commodities, trading volumes in gas products almost tripled compared to the same period in the previous year, driven primarily by the supply uncertainty on the part of Russia, and thus contributed to the positive result of this asset class with exceptionally high net revenue. The increased trading activity on the power markets, which could still be observed in the first quarter of this year, decreased again over the course of the reporting period, but resulted in slightly positive net revenue overall compared to the previous year. Net interest income on collateral deposited for commodities trading also increased as a result of increased market volatility and thus made a positive contribution to other net revenues in this asset class.

In the cash equities business, fears of recession and the possibility that central banks might implement their monetary policy measures faster than expected exerted pressure on global equity markets. As a result, trading volumes on the cash market fluctuated around the same level as in the same period of the previous year. The deconsolidation of Tradegate Exchange GmbH led to a positive one-time effect of €13 million. In addition, the previous year's net revenue included a positive effect of approximately €7 million, which occurred as a consequence of the sale of the Regulatory Reporting Hub.

With regard to foreign exchange trading, the increased FX volatility, measured in terms of the euro/US dollar volatility, had a positive effect on the average daily trading volumes and was thus also reflected in the net revenue generated in this area.

Fund Services segment

Key indicators Fund Services segment

	Second Quarter 01 Apr – 30 Jun			First Half-year 01 Jan – 30 Jun		
	2022 €m	2021 €m	Change %	2022 €m	2021 €m	Change %
Net revenue	94.2	122.9	–23%	186.7	205.6	–9%
Fund processing	52.2	49.6	5%	106.2	98.9	7%
Fund distribution	22.4	19.5	15%	43.4	36.0	21%
Other	19.6	53.8	–64%	37.1	70.7	–48%
Operating costs	–40.9	–31.5	30%	–72.6	–61.5	18%
EBITDA	52.9	91.1	–42%	113.6	143.7	–21%

The Fund Services segment recorded further gains in the second quarter of 2022 in both fund processing and fund distribution, albeit to a lesser extent than in the first quarter of 2022 due to lower market index levels. Nevertheless, the volume of assets under custody increased by around 2 per cent compared to the same period in the previous year and the number of transactions from the settlement business rose by around 9 per cent.

Secular growth, including the acquisition of new customers for the fund distribution business, once again contributed to the positive performance of the fund distribution business in this quarter. Deutsche Börse Group's centre of competence for global fund distribution services is one of the leading distribution platforms in the European market.

At the end of March 2022, Deutsche Börse AG acquired Kneip Communication S.A. to expand the Group's range of data services in the fund space. Under the terms of the deal, Deutsche Börse AG acquired 100 per cent of the shares in the Luxembourg-based fund data manager. The revenue generated by Kneip Communication S.A. is recognised in the Fund Services segment's other net revenue. In the second quarter of the previous year, this also included a positive valuation effect of around €40 million from the acquisition of the remaining shares in Clearstream Fund Centre.

Securities Services segment

Key indicators Securities Services segment

	Second Quarter 01 Apr – 30 Jun			First Half-year 01 Jan – 30 Jun		
	2022 €m	2021 €m	Change %	2022 €m	2021 €m	Change %
Net revenue	231.3	201.5	15%	499.2	428.3	17%
Custody	150.0	130.8	15%	289.8	256.8	13%
Settlement	25.8	28.0	–8%	56.6	66.2	–15%
Net interest income from banking business	28.9	11.9	143%	47.5	24.8	92%
Other	26.6	30.8	–14%	105.3	80.5	31%
Operating costs	–90.5	–97.0	–7%	–178.8	–186.7	–4%
EBITDA	140.5	104.8	34%	319.6	241.5	32%

In the second quarter of 2022, issuing activities in the corporate and public bond markets continued unabated. This resulted, among other things, in a 3.5 per cent increase in the average value of assets under custody held by the national Central Securities Depository (CSD) and the International Central Securities Depository (ICSD). The average outstanding volume in the collateral management and securities lending business increased by around 9 per cent in the reporting period. Coupled with the more restrictive monetary policy measures, this led to an increase in net revenue from this area.

The number of settled transactions came in slightly below the figure for the same period in the previous year. This was related to the macroeconomic situation which, in light of an impending recession, led to less trading on the stock markets and thus less need for settlement services. Accordingly, net revenue also declined slightly.

Net interest income from banking business generated in the Securities Services segment on cash deposits benefited strongly from the increase in key interest rates in the current market environment during the reporting period. The average increase in cash balances of around 25 per cent also made a positive contribution, especially with regard to US dollar deposits.

Financial position

Cash flow

Deutsche Börse Group generated a positive cash flow of €284.8 million in the first half of 2022 (H1/2021: negative cash flow of €801.0 million)

Cash flow from operating activities amounted to €1,119.1 million (H1/2021: €649.6 million) before changes in CCP positions as at the reporting date and resulted primarily from the net income for the period of €793.1 million (H1/2021: €652.3 million) and the change in working capital. In the first half of 2022, cash outflows from investing activities amounted to €1,049.6 million (H1/2021: €1,900.9 million) and were primarily related to the acquisition of Kneip, which resulted in a cash outflow of €151.2 million. At €134.8 million (H1/2021: €81.9 million), investments in intangible assets and property, plant and equipment stood significantly higher than in the previous year and particularly resulted from increased investments in self-developed and acquired software. Cash flow from financing activities resulted in cash inflows of €41.6 million and mainly includes the distribution of a dividend for the 2021 financial year totalling €587.6 million (H1/2021: €550.6 million), the issuance of two refinancing bonds with a total value of €1,084.0 million and the net repayment of commercial papers valued at €401.0 million.

Cash and cash equivalents thus amounted to €2,250.0 million on 30 June 2022 (30 June 2021: 1,675.1 million). Cash on hand and bank balances totalled €793.0 million (30 June 2021: €904.1 million).

Capital management

Our clients generally expect us to maintain conservative interest coverage and leverage ratios, and hence to achieve a good credit rating. In order to achieve the minimal financial risk profile in accordance with the S&P methodology that is consistent with an AA rating, we aim for a ratio of Free Funds from Operations (FFO) to net debt of at least 50 per cent, a ratio of net debt to EBITDA of no greater than 1.75 and an interest coverage ratio of at least 14. Due to the acquisitions in 2021, especially the acquisition of a majority interest in ISS and the acquisition of the remaining shares of Clearstream Fund Centre, the ratio FFO to net debt temporarily fell below and the net debt to EBITDA ratio temporarily exceeded the thresholds in 2021. At year-end 2022, in the absence of any further major acquisition, we expect to be back in line again with the thresholds. Furthermore, we endeavour to maintain the strong AA credit rating of our subsidiaries Clearstream Banking S.A. and Clearstream Banking AG, in order to ensure the long-term success in settlement and custody.

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

For the 2021 financial year, Deutsche Börse AG paid a dividend of €3.20 per no-par value share on 23 May 2022 (2021 for the 2020 financial year: €3.00). Thus, the payout ratio stood at 49 per cent (2021 for the 2020 financial year: 51 per cent based on reported figures). Given 183.6 million no-par shares bearing dividend rights, this resulted in a total dividend payment of €587.6 million (2021 for the 2020 financial year: €550.6 million).

Net assets

The following section shows excerpts from the consolidated statement of financial position, describing material changes to net assets. The full consolidated balance sheet is shown in the condensed consolidated financial statements.

The increase in the balance sheet total compared to 31 December 2021 is shown by the volatility of trading activity on the cash and derivatives markets. This results in fluctuations in the financial instruments of the central counterparties, receivables and liabilities from banking business as well as the cash deposits of market participants. The amount of these positions changes daily according to the needs and actions of our clients.

Consolidated balance sheet (extract)

	30 Jun 2022 €m	31 Dec 2021 €m
ASSETS	293,150.5	222,919.3
Non-current assets	21,720.1	20,462.4
thereof intangible assets	8,669.2	8,162.9
thereof goodwill	5,964.9	5,596.0
thereof other intangible assets	1,995.4	1,913.6
thereof financial assets	12,233.0	11,460.4
thereof strategic investments	380.3	224.3
thereof financial assets measured at amortised cos	2,122.9	1,634.7
thereof financial instruments held by central counterparties	9,560.4	9,442.4
Current assets	271,430.4	202,457.0
thereof financial instruments held by central counterparties	137,263.9	103,195.7
thereof restricted bank balances	105,726.0	78,542.0
thereof other cash and bank balances	793.0	1,029.6
EQUITY AND LIABILITIES	293,150.5	222,919.3
Equity	8,479.1	7,742.4
Liabilities	284,671.4	215,177.0
thereof non-current liabilities	14,770.7	13,623.0
thereof financial instruments held by central counterparties	9,560.4	9,442.4
thereof financial liabilities measured at amortised cost	4,641.5	3,539.9
thereof deferred tax liabilities	374.5	338.5
thereof current liabilities	269,900.8	201,554.0
thereof financial instruments held by central counterparties	136,468.9	103,267.7
thereof financial liabilities measured at amortised cost	25,677.4	17,218.1
thereof cash deposits by market participants	105,474.8	78,292.5

Report on post-balance sheet date events

There have been no events after the balance sheet date.

Risk report

On pages 73 to 109 of its Annual report 2021, Deutsche Börse Group comprehensively outlines the framework, strategy, principles, organisation, processes, methods and concepts behind its risk management, as well as measures it implements to manage or reduce risks.

Operational risks to Deutsche Börse Group exist with regard to availability, processing of material goods as well as from legal disputes and business practices. Details on operational risks and the measures taken to mitigate them are presented on pages 82 to 89 of Deutsche Börse Group's Annual report 2021. In general, the Group's risk profile with regard to operational risks has not changed significantly compared to 2021.

In response to the COVID-19 pandemic, Deutsche Börse Group's business continuity plans remained in effect up to and including May 2022. The continuity solutions proved effective and enabled the Group to operate in a stable manner with minimal on-site presence. Upon the return to the regular operations with increased on-site presence, continuity checks of the business continuity plans were also resumed.

In light of the Russian invasion of Ukraine and the measures taken in this context (e.g., suspension of trading Russian securities as part of sanctions implementation as well as certain services for customers related to Ukrainian and Russian currencies), the overall risk situation, apart from the group's clearing houses' higher collateral holdings, has changed as follows: In terms of operational risk, the focus is on the implementation of the full scope of sanctions and further political measures to isolate Russia, which increase cyber risk. No threats have been identified, but the Group is actively managing this risk through increased monitoring and awareness. Financial risks arise both from capital controls by the Ukrainian central bank, among other things in relation to cross-border payments, and from comparable countermeasures by the Russian government in response to European and non-European sanctions. All known effects are actively managed within the Group and potential new risks are analysed on an ongoing basis.

The geopolitical situation, as well as supply and demand effects, caused significant increases in price and volatility for many of the gas and power contracts cleared by European Commodity Clearing AG in the first half of 2022. This has an impact on the risk situation of European Commodity Clearing AG, for example with regard to the business risk due to a potentially lower trading volume in the future. There were no defaults by clearing members or other material disruptions to operations.

With regard to litigation, the following change occurred in the first half of 2022:

Since 2017 Deutsche Börse Group has been aware that the Public Prosecutor's Office in Cologne is investigating a Clearstream Banking AG employee for his possible involvement in the implementation of unlawful cum-ex transactions by market participants. In the meantime, the Public Prosecutor's Office has extended the list of accused persons (Beschuldigte) in several stages, most recently in May 2022, to include additional former and current employees as well as members of the Executive Boards of Deutsche Börse Group companies.

Due to the early stage of the proceedings, it is still not possible to make any statements on the expected further developments, in particular regarding future authorities' decisions and their consequences. Furthermore, we do not expect Group companies to be successfully held liable in the context of cum-ex transactions.

For a detailed description of the current status of other legal disputes, see pages 84 to 87 of the annual report 2021 of Deutsche Börse Group.

In addition to the matters mentioned in previous disclosures, Deutsche Börse Group is, from time to time, involved in various legal disputes arising from the course of its ordinary business. The Group recognises provisions for legal disputes and regulatory matters when it 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. In such cases, a risk of losses may arise that is higher than the corresponding provisions. If the above conditions are not met, the Group does not recognise provisions. When a legal dispute or regulatory matter arises, the Group assesses, on an ongoing basis, whether the conditions for the recognition of a provision are met. The Group may not be able to predict what the potential loss or range of loss will be in respect of these matters. Based on the information currently available, Deutsche Börse Group as a whole does not expect the outcome of any of these proceedings to have a material adverse effect on its financial figures.

Financial risks manifest themselves within Deutsche Börse Group in the form of credit, market and liquidity risk across the financial institutions of the Clearstream Holding Group and Eurex Clearing AG. In addition, the Group's financial investments and receivables are subject to credit risk. Financial investments are predominantly realised through short-term collateralised transactions. This minimises liquidity risks as well as market price risks from the investment of funds. In terms of financial risks, the Group's risk profile has not changed significantly compared to 2021. The share of credit and market risks in the Group's total capital requirements stands at 31 per cent, which corresponds to a reduction of around five percentage points compared to the corresponding figure at the end of 2021. While the capital requirements for credit risks remained roughly stable, the capital requirements for market risks decreased slightly, driven primarily by a lower price level and by the adjusted investment strategies resulting from macroeconomic developments, both with regard to the general financial investments and the managed pension portfolios for the Group companies. Details on the Group's financial risks are presented on pages 89 to 96 of the Annual report 2021.

Business risk describes the unexpected residual loss that would occur if earnings at risk exceed the forecast net profit after tax, which can be due to the competitive environment (e.g. customer action, investment loss, sector developments), macroeconomic and geopolitical developments or strategic management errors. Factors influencing this residual loss include lower revenue or higher costs than originally planned. Business risk is reported when the value at risk is higher than the net profit planned for the next four quarters. In terms of business risks, Deutsche Börse Group's risk profile has not changed significantly compared to 2021. Business risks are continuously monitored by the business units. Details on the Group's business risks are presented on pages 96 to 99 of the Annual report 2021.

The Group continuously assesses and monitors its risk situation. The main tool it uses to quantify risk is the value at risk (VaR) model. The purpose of the VaR model is to determine the amount of capital – given a confidence interval defined ex ante – required to cover potential losses incurred within twelve months. In addition, the Group conducts stress tests to simulate extreme but plausible events and their impact on its risk-bearing capacity. Complementary risk metrics are other risk-monitoring methods used by the Group.

Due to various factors in different risk classes, Deutsche Börse Group's Required Economic Capital (REC) (based on a confidence level of 99.9 per cent) increased by five per cent from €1,827 million as at 31 December 2021 to €1,928 million as at 30 June 2022.

Taking into account all of the risk quantification instruments mentioned above and the risk management system that it considers to be effective, the Executive Board of Deutsche Börse AG concludes that the risk cover amount is sufficient. Therefore, the Executive Board is currently not aware of any significant change in the Group's risk situation as described in the Annual Report 2021.

Report on opportunities

Our opportunities management aims to identify, evaluate and assess opportunities for our Group as early as possible and to turn them into commercial success. A detailed description of opportunities and opportunity management can be found in the Annual Report 2021 on pages 110 to 113.

We have a very broad portfolio of products and services with which we cover all areas of a market infrastructure provider's value chain. This makes us one of the most broadly based stock exchange organisations in the world. In order to maintain and expand this position, we are pursuing a medium-term growth strategy called Compass 2023. Among other things, we are focusing on organic growth opportunities in order to achieve our strategic goals. We make a basic distinction between secular and cyclical opportunities: secular opportunities arise, for example, as a result of regulatory changes, new client requirements (such as the growing demand for exchange-traded solutions to over-the-counter (OTC) transactions) or from the trend to allocate an increasing portion of assets to passive investment strategies (e.g. index funds). We exploit these opportunities in a focused and active way. Cyclical opportunities, on the other hand, cannot be influenced directly by us and are driven by macroeconomic changes. In addition, we see long-term opportunities arising for our Group as a result of the technological transformation. In particular, they include distributed ledger technology (DLT) and public cloud solutions for the operation of IT infrastructure.

Inorganic growth is an equally important part of Compass 2023. We focus on areas that are closely related to our strategic growth areas, which include the index and analytics business, ESG, commodities, foreign exchange trading, fixed income trading and fund services. The aim is to accelerate growth in these areas by means of mergers and acquisitions and make our businesses even more scalable.

Report on expected developments

In light of the developments in the financial markets in the first half of 2022, we continue to expect cyclical net revenue growth for the 2022 financial year to be significantly stronger than initially expected. As already explained in the report on expected developments for the first quarter of 2022, and in comparison to the outlook presented in the Annual Report 2021, we meanwhile expect net revenue to increase to significantly more than €3.8 billion and earnings before interest, taxes, depreciation and amortisation (EBITDA) to grow to significantly more than €2.2 billion in the 2022. In the first half of 2022, net revenue exceeded the originally expected amount by approximately €150 million.

Consolidated income statement

for the period 1 January to 30 June 2022

		First Half-year 01 Jan – 30 Jun	
	Note	2022 €m	2021 €m
Sales revenue	5	2,339.3	2,054.8
Treasury result from banking and similar business	6	138.5	67.2
Other operating income		79.8	68.6
Total revenue		**2,557.6**	**2,190.6**
Volume-related costs		– 478.2	– 453.8
Net revenue (total revenue less volume-related costs)		**2,079.4**	**1,736.8**
Staff costs		– 584.4	– 485.6
Other operating expenses	7	– 254.4	– 244.1
Operating costs		**– 838.7**	**– 729.7**
Net income from financial investments		31.7	32.1
Earnings before interest, tax, depreciation and amortisation (EBITDA)		**1,272.3**	**1,039.2**
Depreciation, amortisation and impairment losses	8	– 166.0	– 132.5
Earnings before interest and tax (EBIT)		**1,106.3**	**906.7**
Financial income		14.9	6.8
Financial expense		– 49.4	– 32.0
Earnings before tax (EBT)		**1,071.7**	**881.5**
Income tax expense		– 278.7	– 229.2
Net profit for the period		**793.1**	**652.3**
thereof attributable to Deutsche Börse AG shareholders		**761.9**	**628.2**
thereof attributable to non-controlling interests		31.2	24.1
Earnings per share (€)		**4.15**	**3.42**
Earnings per share (diluted) (€)		**4.14**	**3.42**

Consolidated statement of comprehensive income

for the period 1 January to 30 June 2022

	Note	First Half-year 01 Jan – 30 Jun 2022 €m	2021 €m
Net profit for the period reported in consolidated income statement		**793.1**	**652.3**
Items that will not be reclassified to profit or loss:			
Changes from defined benefit obligations		126.6	55.8
Equity investments measured at fair value through OCI		159.4	– 1.4
Deferred taxes		– 37.4	– 14.8
		248.6	**39.6**
Items that may be reclassified subsequently to profit or loss:			
Exchange rate differences		284.4	72.0
Other income from investments accounted for using the equity method		– 0.3	– 0.3
Remeasurement of cash flow hedges		55.0	40.2
Deferred taxes		– 17.2	0.0
		321.9	**111.9**
Other comprehensive income after tax		**570.5**	**151.5**
Total comprehensive income		**1,363.6**	**803.8**
thereof attributable to Deutsche Börse AG shareholders		1,291.2	766.7
thereof attributable to non-controlling interests		72.4	37.1

Consolidated balance sheet

as at 30 June 2022

Assets

	Note	30 Jun 2022 €m	31 Dec 2021 €m
NON-CURRENT ASSETS		21,720.1	20,462.4
Intangible assets	8	**8,669.2**	**8,162.9**
Software		547.0	553.2
Goodwill		5,964.9	5,596.0
Payments on account and assets under development		161.8	100.1
Other intangible assets		1,995.4	1,913.6
Property, plant and equipment	8	**622.1**	**593.7**
Land and buildings		467.0	438.0
Fixtures and fittings		44.5	57.0
Computer hardware, operating and office equipment		96.2	90.1
Payments on account and construction in progress		14.4	8.5
Financial assets	9	**12,233.0**	**11,460.4**
Equity investments measured at FVOCI			
Strategic investments		380.3	224.3
Debt instruments		0	2.8
Debt financial assets measured at amortised cost		2,122.9	1,634.7
Financial assets at FVPL			
Financial instruments held by central counterparties		9,560.4	9,442.4
Other financial debt assets at FVPL		169.3	156.2
Investment in associates		112.8	88.9
Other non-current assets		26.3	16.8
Deferred tax assets		56.8	139.8
CURRENT ASSETS		271,430.4	202,457.0
Debt financial assets measured at FVOCI	9	0	1.5
Debt financial assets measured at amortised cost	9		
Trade receivables		1,386.1	969.4
Other financial assets at amortised cost		24,028.3	15,799.6
Restricted bank balances		105,726.0	78,542.0
Other cash and bank balances		793.0	1,029.6
Financial assets at FVPL	9		
Financial instruments held by central counterparties		137,263.9	103,195.7
Other financial assets at FVPL		101.1	116.0
Income tax assets		139.5	115.5
Other current assets		1,992.4	2,675.6
Assets held for sale		0	11.9
Total assets		293,150.5	222,919.3

Equity and liabilities

	Note	30 Jun 2022 €m	31 Dec 2021 €m
EQUITY			
Subscribed capital		190.0	190.0
Share premium		1,360.0	1,359.6
Treasury shares		– 457.9	– 458.2
Revaluation surplus		225.8	– 61.7
Retained earnings		6,579.6	6,163.8
Shareholders' equity		**7,897.5**	**7,193.6**
Non-controlling interests		581.6	548.8
Total equity		**8,479.1**	**7,742.4**
NON-CURRENT LIABILITIES		**14,770.7**	**13,623.0**
Provisions for pensions and other employee benefits	10	34.2	149.0
Other non-current provisions		112.4	127.2
Financial liabilities measured at amortised cost	9	4,641.5	3,539.9
Financial liabilities at FVPL	9		
Financial instruments held by central counterparties		9,560.4	9,442.4
Other financial liabilities at FVPL		30.5	8.4
Other non-current liabilities		17.1	17.5
Deferred tax liabilities		374.5	338.5
CURRENT LIABILITIES		**269,900.8**	**201,554.0**
Income tax liabilities		261.9	244.6
Other current provisions		286.3	335.3
Financial liabilities at amortised cost	9		
Trade payables		1,089.3	704.4
Other financial liabilities at amortised cost		23,988.5	15,914.3
Cash deposits by market participants		105,474.8	78,292.5
Financial liabilities at FVPL	9		
Financial instruments held by central counterparties		136,468.9	103,267.7
Other financial liabilities at FVPL		81.7	4.7
Other current liabilities		2,249.4	2,788.6
Liabilities held for sale		0	1.9
Total liabilities		**284,671.4**	**215,177.0**
Total equity and liabilities		**293,150.5**	**222,919.3**

Consolidated cash flow statement

for the period 1 January to 30 June 2022

	Note	First Half-year 01 Jan – 30 Jun 2022 €m	2021 €m
Net profit for the period		793.1	652.3
Depreciation, amortisation and impairment losses	8	166.0	132.5
Decrease in non-current provisions		– 3.3	– 27.7
Deferred tax income/(expense)		48.3	– 17.0
Cash flows from derivatives		67.1	– 7.1
Other non-cash expense/(income)		76.6	– 18.8
Changes in working capital, net of non-cash items:		31.1	– 64.6
Increase in receivables and other assets		– 475.5	– 176.4
Increase in current liabilities		508.2	112.3
Decrease in non-current liabilities		– 1.6	– 0.5
Net gain on disposal of non-current assets		– 59.8	0.0
Cash flows from operating activities excluding CCP positions		**1,119.1**	**649.6**
Changes in receivables from CCP positions		23.3	– 1,059.4
Changes from liabilities from CCP positions		150.4	762.8
Cash flows from operating activities		**1,292.8**	**353.0**
Payments to acquire intangible assets		– 100.1	– 64.9
Payments to acquire property, plant and equipment		– 34.7	– 17.0
Payments to acquire non-current financial instruments		– 595.3	– 1,189.6
Payments to acquire investments in associates and joint ventures		– 11.7	– 2.0
Payments resulting from business combinations, net of cash acquired		– 171.6	– 1,600.5
Effects of the disposal of (shares in) subsidiaries, net of cash disposed		27.1	0
Net decrease in current receivables and securities from banking business with an original term greater than three months		192.5	603.5
Net decrease in current liabilities from banking business with an original term greater than three months		– 615.7	– 2.4
Proceeds from disposals of financial instruments		258.7	372.0
Proceeds from disposals of intangible assets		1.2	0.0
Cash flows from investing activities		**– 1,049.6**	**– 1,900.9**

	Note	First Half-year 01 Jan – 30 Jun 2022 €m	2021 €m
Purchase of treasury shares		0	0
Payments to non-controlling interests		– 16.9	– 16.6
Repayment of long-term financing		0	– 356.0
Proceeds from long-term financing		1,084.0	998.0
Repayment of short-term financing		– 1,308.0	0
Proceeds from short-term financing		907.0	701.0
Payments of lease liabilities according to IFRS 16		– 36.9	– 28.9
Dividends paid		– 587.6	– 550.6
Cash flows from financing activities		**41.6**	**746.9**
Net change in cash and cash equivalents		284.8	– 801.0
Effect of exchange rate differences		– 69.8	– 30.6
Cash and cash equivalents as at beginning of period		2,040.0	2,506.7
Cash and cash equivalents as at end of period	11	**2,255.0**	**1,675.1**
Additional information to payments reflected within cash flows from operating activities:			
Interest income and other similar income		379.0	194.5
Dividends received		30.4	10.0
Interest paid		– 277.2	– 121.2
Income tax paid		– 237.9	– 281.7

Consolidated statement of changes in equity

for the period 1 January to 30 June 2022

	Attributable to owners of Deutsche Börse AG							
	Subscribed Capital €m	Share premium €m	Treasury shares €m	Revaluation surplus €m	Retained earnings €m	Shareholders' equity €m	Non-controlling interests €m	Total equity €m
Balance as at 1 January 2021	**190.0**	**1,352.4**	**– 465.2**	**– 196.3**[1]	**5,287.4**[1]	**6,168.3**	**387.8**	**6,556.1**
Net profit for the period	0	0	0	0	628.2	628.2	24.1	652.4
Other comprehensive income after tax	0	0	0	79.8	58.7	138.5	13.0	151.5
Total comprehensive income	**0**	**0**	**0**	**79.8**	**686.9**	**766.7**	**37.1**	**803.9**
Exchange rate differences and other adjustments	0	0	0	0	– 4.6	– 4.6	0	– 4.6
Increase in share-based payments	0	0	0	0	1.5	1.5	0	1.5
Changes due to capital increases/decreases	0	0	0	0	0	0	0.4	0.4
Changes from business combinations	0	0	0	0	0	0	64.1	64.1
Dividends paid	0	0	0	0	– 550.6	– 550.6	– 17.0	– 567.6
Transactions with shareholders	**0**	**0**	**0**	**0**	**– 553.7**	**– 553.7**	**47.5**	**– 506.2**
Balance as at 30 June 2021	**190.0**	**1,352.4**	**– 465.2**	**– 116.5**	**5,420.6**	**6,381.3**	**472.4**	**6,853.8**
Balance as at 1 January 2022	**190.0**	**1,359.6**	**– 458.2**	**– 61.7**	**6,163.8**	**7,193.6**	**548.8**	**7,742.4**
Profit for the period	0	0	0	0	761.9	761.9	31.2	793.1
Other comprehensive income	0	0	0	286.2	243.1	529.3	41.2	570.5
Total comprehensive income	**0**	**0**	**0**	**286.2**	**1,005.0**	**1,291.2**	**72.4**	**1,363.6**
Exchange rate differences and other adjustments	0	0	0	0	– 1.7	– 1.7	0	– 2.6
Increase in share-based payments	0	0	0	1.3	0	0	0	0
Changes from business combinations	0	0.4	0.3	0	0	0.7	– 24.2	– 22.6
Dividends paid	0	0	0	0	– 587.6	– 587.6	– 15.4	– 603.0
Transactions with shareholders	**0**	**0.4**	**0.3**	**1.3**	**– 589.3**	**– 587.3**	**– 39.6**	**– 626.9**
Balance as at 30 June 2022	**190.0**	**1,360.0**	**– 457.9**	**225.8**	**6,579.5**	**7,897.5**	**581.6**	**8,479.1**

1) The position recognition of hidden reserves from fair value measurement in the amount of €103.7 million, which was included in the previous year, was retroactively allocated to the retained earnings.

Notes to the condensed interim consolidated financial statements

Basis of preparation

1. General principles

Company information

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

Sales revenues depend more on volatility and the volume of transactions on capital markets than on seasonal factors. The concentration of projects costs that are only completed in the fourth quarter means that the costs are generally higher in the fourth quarter than in the first three quarters of the year. Changes in total assets stem mainly from the financial instruments of the central counterparties, assets and liabilities from the banking business and cash deposits from market participants. These items therefore vary on a daily basis due to market volatility and the needs and activities of clients.

Basis of reporting

The consolidated interim financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS) and the related interpretations issued by the International Financial Reporting Interpretations Committee (IFRIC), as adopted by the European Union in accordance with Regulation No. 1606/2002 of the European Parliament and of the Council on the application of international accounting standards. These consolidated interim financial statements were prepared pursuant to the provisions of the German Securities Trading Act (Wertpapierhandelsgesetz; WpHG) as well as in accordance with International Accounting Standard IAS 34 "Interim Financial Reporting" and are subject to a review by external auditors. In accordance with IAS 34, a condensed scope of reporting was selected as compared with the consolidated financial statements as at 31 December 2021.

The interim financial statements should be read in conjunction with the audited and published consolidated financial statements as at 31 December 2021 and the disclosures published in the notes.

Disclosures on operational risks are included in the risk section of the consolidated interim management report and form an integral part of the consolidated interim financial statements.

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

Income tax expense in the interim reporting period was determined using a forecast effective Group tax rate of 26 per cent. The nominal tax rates used to determine the Group tax rate range from 10 to 34.6 per cent. 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.

Accounting policies

The accounting policies applied by the Group in these interim financial statements are the same as those applied and presented in the consolidated financial statements for 2021.

Amended accounting standard – applied in the period under review

All the mandatory standards and applications endorsed by the European Commission were applied.

Standard/Amendment/Interpretation

		Application date	Effects at Deutsche Börse Group
IFRS 3	Amendments to IFRS 3 relate to a reference in IFRS 3 to the Framework Concept	01 Jan 2022	none
IAS 16	Amendments to IAS 16: Clarifications	01 Jan 2022	none
IAS 37	Amendments regarding Onerous Contracts – Cost of Fulfiling a Contract	01 Jan 2022	none
Annual Improvement Cycle 2018 – 2020	The annual improvements resulted in amendments to IFRS 1, IFRS 9, IAS 41 and IFRS 16	01 Jan 2022	none

New accounting standards – not yet implemented

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

Standard/Amendment/Interpretation

		Application date	Effects at Deutsche Börse Group
IAS 1	Amendment to the Classification of Liabilities as Current or Non-current	01 Jan 2023	See consolidated financial statements 2021
IAS 1	Amendments to IAS 1 and IFRS Practice Statement 2 regarding Materiality	01 Jan 2023	See notes under this table
IAS 8	Amendments regarding accounting estimates	01 Jan 2023	None
IAS 12	Amendments tregarding Deferred Tax related to Assets and Liabilities arising from a Single Transaction	01 Jan 2023	See notes under this table
IFRS 17	Insurance Contracts	01 Jan 2023	See consolidated financial statements 2021
IFRS 17, IFRS 9	Amendments to IFRS 17: Initial Application of IFRS 17 and IFRS 9	01 Jan 2023	none

The amendment to IAS 1 supplements guidelines for determining disclosures on accounting methods in an entity’s financial statements and explains how an entity can identify material accounting policies. The Group does not expect it to have any effect on our financial position and financial performance and is currently analysing potential additions to the disclosures in the notes.

The amendment to IAS 12 clarifies that the exemption from recognising deferred taxes on the initial recognition of an asset or liability outside a business combination does not apply to transactions in which equal amounts of deductible and taxable temporary differences arise on initial recognition. The change is generally in line with Deutsche Börse Group’s approach. Potential effects on the financial performance and financial position of the Group are being analysed, however.

2. Adjustments

Segment reporting

To reduce the complexity of its financial reporting and emphasise the Group’s growth areas more clearly, the segment reporting was adjusted in accordance with the Group's management structure as of the first quarter of 2022. The eight existing segments will from now on be condensed to four: Data & Analytics (including the Qontigo and ISS segments), Trading & Clearing (Eurex, EEX, 360T and Xetra segments), Fund Services (IFS segment) and Securities Services (Clearstream segment). The previous year’s figures were adjusted accordingly.

3. Change in the basis of consolidation

Acquisition of Institutional Shareholder Services Inc., Rockville, USA (ISS)
The acquisition of Institutional Shareholder Services Inc., Rockville, MD, USA (ISS) in the first quarter of 2021 will result in the following effects after the final purchase price allocation:

Goodwill from the business combination with Institutional Shareholder Services Inc., Rockville, USA (ISS)

	Final goodwill calculation 25 Feb 2021 €m
Consideration transferred	
Purchase price in cash	903.4
Settlement of option programmes	66.8
Escrow payment[1]	22.9
Transaction costs for seller[2]	25.9
Debt repayment	584.5
Fair value linked purchase price component	26.5
Sponsor Call Right 1[3]	-8.7
Cash flow hedge[4]	32.0
Total consideration	**1,653.3**
Acquired assets and liabilities	
Customer relationships	476.9
Trade names	107.6
Software	30.2
Software in development	2.2
Property, plant and equipment	89.9
Other non-current assets	5.4
Deferred tax assets	2.3
Other current assets	9.1
Accounts Receivable	35.5
Acquired bank balances	199.7
Deferred tax liabilities	– 77.2
Miscellaneous non-current liabilities	– 69.5
Contract liabilities	– 103.8
Miscellaneous current liabilities	– 225.8
Non-controlling interests[5]	-68.0
Total assets and liabilities acquired	**414.5**
Goodwill (not tax-deductible)[6]	**1,238.8**

1) Purchase price payments to an escrow account until final settlement.
2) Original costs of seller.
3) A call right was purchased for €8.7 million that is recognised as a financial instrument in accordance with IFRS 9 rather than in accordance with IFRS 3.
4) Reclassification of effective portion of cash flow hedge for the purchase price to acquisition cost of the investment.
5) Non-controlling interests (based on the acquired net assets excluding goodwill) are calculated based on the consideration transferred.
6) The opening blance sheet was adjusted after the 12-month adjustment period. This resulted in a decrease in goodwill of €6.1 million.

Acquisition of Crypto Finance AG, Zug, Switzerland (Crypto Finance)

The principal changes in the purchase price allocation for Crypto Finance compared to 31 December 2021 were as follows: In addition to an adjustment of the consideration transferred in the amount of €2.3 million (adjustment of the effective portion of the cash flow hedge), other immaterial adjustments were made in the valuation of intangible assets and resulting adjustments in the non-controlling interests. These were recognised on the opening balance sheet as at the acquisition date as follows:

Goodwill from the business combination with Institutional Crypto Finance AG, Zurich, Switzerland (Crypto Finance)

	Preliminary goodwill calculation 15 Dec 2021 €m
Consideration transferred	
Purchase price in cash	89.4
Settlement of option programmes[1]	– 5.7
Cash flow hedge[2]	– 4.2
Total consideration	**79.5**
Acquired assets and liabilities	
Customer relationships	16.2
Trade names	2.6
Software	4.4
Property, plant and equipment	0.2
Deferred tax assets	1.0
Accounts Receivable	18.8
Acquired bank balances	23.5
Deferred tax liabilities	– 2.9
Miscellaneous non-current liabilities	– 2.2
Miscellaneous current liabilities	– 14.4
Non-controlling interests[3]	– 20.1
Total assets and liabilities acquired	**27.1**
Goodwill (not tax-deductible)	**52.4**

1) Within the scope of the acquisition, a call option was purchased for €5.7 million that is recognised as a financial instrument in accordance with IFRS 9 rather than in accordance with IFRS 3.
2) Reclassification of effective portion of cash flow hedge for the purchase price to acquisition cost of the investment.
3) The non-controlling interests are calculated on the basis of the acquired net assets, without goodwill.

The purchase price allocation was based on a preliminary basis, as it was not yet possible to make a final determination, particularly with regards to taxes and the valuation of intangible assets.

Acquisition of Kneip Communication S.A., Luxembourg (Kneip)
In the first quarter of 2022, Deutsche Börse AG completed the acquisition of 100 per cent of the shares in Kneip Communication S.A. (Kneip) for a purchase price of €188.7 million, thereby assuming control. Upon completion of the transaction on 31 March 2022, Kneip will be allocated to the IFS segment. Initial recognition of Kneip, a provider of fund data and services, in the consolidated financial statements of Deutsche Börse Group took place using the purchase method.

Kneip will grow its business as part of Deutsche Börse Group and expand its range of services, including data and post-trade services provided by Clearstream. Furthermore, Deutsche Börse Group intends to link Kneip's services with its existing fund service platforms. Significant synergies are expected from the transaction, particularly in revenue, which is reflected in the goodwill resulting from the transaction.

The identifiable assets and liabilities of Kneip are recognised at fair value on the acquisition date. 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. The preliminary purchase price allocation as at the acquisition date was as follows:

Goodwill from the business combination with Kneip Communication S.A., Luxembourg (Kneip)

	Preliminary goodwill calculation 31 Mar 2022 €m
Consideration transferred	
Purchase price in cash	151.2
Settlement of option programmes	12.6
Debt repayment/ /transaction costs for seller	25.0
Total consideration	**188.7**
Acquired assets and liabilities	
Customer relationships	24.5
Trade names	12.0
Software	3.5
Software in development	3.6
Property, plant and equipment	5.4
Other current assets	0
Acquired bank balances	13.5
Deferred tax liabilities	2.4
Miscellaneous non-current liabilities	– 11.2
Contract liabilities	– 12.2
Miscellaneous current liabilities	– 12.6
Total assets and liabilities acquired	**24.5**
Goodwill (not tax-deductible)	**164.2**

The full consolidation of Kneip resulted in an increase in net revenues of €5.3 million as well as in a decrease in profit after tax of €–1.4 million. If the company had been fully consolidated as at 1 January 2022, this would have resulted in an increase in net revenues of €11.0 million as well as in a decrease in profit after tax of €–2.7 million.

The purchase price allocation was based on a preliminary basis, as it was not yet possible to make a final determination, particularly with regards to taxes and the valuation of intangible assets.

Otherwise there were no material business combinations in the Deutsche Börse Group in the first half of 2022.

Sale of shares in REGIS–TR
As at 3 September 2021, Clearstream International S.A. and Clearstream Holding AG have entered into binding agreements to sell their shares in REGIS–TR S.A. and REGIS–TR UK to Sociedad de Gestión de los Sistemas de Registro, Compensación y Liquidación de Valores, S.A. Unipersonal (SIX Group). The transaction was completed in the first quarter of 2022 and the deconsolidation resulted in a one-off income effect of €48.7 million, which was recognised in other operating income.

Loss of control over Tradegate Exchange GmbH, Berlin, Germany (Tradegate) and Börse Berlin AG, Berlin, Germany (Börse Berlin)
In course of a capital restructuring at Tradegate Exchange GmbH on 17 June 2022, Deutsche Börse AG's voting rights in the company were reduced from 60.0 per cent to around 42.8 per cent. As a result, Deutsche Börse AG is no longer able to control Tradegate Exchange GmbH and its subsidiary Börse Berlin AG and has deconsolidated both companies. Tradegate Exchange GmbH will in future be accounted for as an associated company using the at-equity method. The deconsolidation resulted in a profit of around €12.5 million, which is reported in “other operating income”.

4. Impact of the Russia-Ukraine war

Due to the ongoing war between Russia and Ukraine and its economic impact, an accurate foreign currency exchange rate for Ukrainian hryvnia was not available as at the reporting date of 30 June 2022. In order to convert the balance sheet balances relating to receivables from and payables to customers in the amount of 6.8 billion Ukrainian Hryvnia (UAH), which currently cannot be transferred out of Ukraine, each into the group currency Euro, the foreign currency exchange rate was adjusted for this reason on the basis of a management decision, as the last officially available foreign currency rate of 73.5722 Hryvnia per Euro was dated 24 February 2022 and was therefore not reflective of prevailing market conditions at the end of the reporting period. The foreign currency rate based on the adjustment came to 30.9739 Hryvnia/Euro (UAH/EUR) and includes an adjustment factor of 57.9 per cent to approximate a foreign currency rate consistent with market conditions as at the reporting date.

If the adjustment factor had been 10.0 per cent lower, it would have lead to an increase in the balance sheet total of €13.1 million; a 10.0 per cent higher discount would have led to a decrease in the balance sheet total of €13.1 million.

Clearstream Banking S.A., Luxembourg (CBL) has fully written off receivables from the Russian National Settlement Depository (NSD) in the amount of €184 million as at 30 June 2022, as CBL no longer expects repayment from NSD.

CBL’s inability to monitor its assets held with NSD and to execute its clients’ instructions constitutes a force majeure event. Accordingly, by virtue of the application of its general terms and conditions and the applicable laws of Luxembourg, CBL is released from its obligation to repay the rouble funds to its clients by reason of its inability to dispose of such funds due to force majeure. The reduction of these liabilities resulted in income of €184 million, which fully compensated for the funds written off.

The war did not have any other direct impact on these consolidated interim financial statements.

Consolidated income statement disclosures

5. Sales revenue

Deutsche Börse Group reports its sales revenue on the basis of segments. As at the first quarter of 2022, segment reporting was adjusted in accordance with the Group's management structure. As such, the previous eight segments have now been combined into four segments: Data & Analytics (Qontigo and ISS), Trading & Clearing (Eurex, EEX, 360T and Xetra), Fund Services (IFS) and Securities Services (Clearstream). The figures for the previous year have been altered accordingly.

Revenue recognition for the segments' main product lines, as broken down and reported by the Group, are described as follows:

Data & Analytics

The customer simultaneously receives and consumes the benefits provided by the entity's performance during the contract term. The recognition of revenue for index licences is based on fixed payments, variable payments (usage-based volumes; mostly assets under management), or a combination of the two. For variable payments, customers report their usage, and fees are invoiced in the quarter after usage; monthly estimates are recognised. This is determined either based on the customer's average usage over the previous twelve months, adjusted to take into account current developments in the markets, or based on the real data in the markets on a customer level.

Revenue estimates are revised when warranted by the circumstances. Increases and decreases in estimated revenue are reflected in the consolidated income statement in the period in which the circumstances that give rise to the revision become known by the management. For two fee components (minimum fee and usage-based fee), a contract liability is recognised and reduced each month based on the usage that has been recognised each month. Customers are invoiced on a quarterly basis, and consideration is payable when invoiced.

Analytics offers its clients risk-analytics and portfolio-construction tools.
Customers either receive the right to access the intellectual property, or receive the right to use the intellectual property. The intellectual property licences are granted for software products, which are subsequently referred to as "SaaS Front Office" and "SaaS Middle Office". Revenue generated from SaaS Front Office fees is recognised at a specific point in time, as all contractual obligations are fulfilled when the licence key is transferred to the customer and the customer obtains control over the software. SaaS Middle Office fees are recognised over time, i.e. the contractual term. Fees are also charged for the maintenance and servicing (summarized as "Maintenance") of the software products, which are realized over the contract term.

For this purpose, the transaction price for maintenance is calculated and allocated according to the "expected cost plus a margin" approach. For multi-year contracts, additional costs of obtaining a contract are capitalised.

ESG's product portfolio includes Corporate Solutions, ESG Analytics and Governance Solutions. Most of this revenue stems from fixed-term contracts and recurring services. Revenue is recognised on a pro rata basis over the term of the contracted services to customers. Fees are generally charged in advance, either before the licence starts or periodically over the term of the licence. Proxy voting services are provided at a specific point in time and revenue is recognised when the contractually agreed service is provided to clients. Fees for exceeding the minimum volumes for proxy research and services in connection with the exercise of voting rights are also variable consideration. Since neither the volume that will be used nor the price of these services can be determined with reasonable certainty when the contract starts, the variable portion of the consideration is restricted up to the date of full performance and only recognised when the transaction price can be determined. Consideration is generally due 30 days after the invoice date. Upon commencement of the contract, there is an expectation that the period between providing the service and receiving the consideration from the client will be no more than one year, so there is no significant financing component. For multi-year contracts, additional costs of obtaining a contract are capitalised.

Trading & Clearing

Financial derivatives

Revenue in the financial derivatives business is generated from fees that are charged for transactions with regard to the matching/registration, administration and regulation of order book and off-book transactions on Eurex Germany. Revenue is also generated with clearing and settlement services for over-the-counter (OTC) transactions. This mainly comes in the form of booking and management fees. Fees, as well as any reductions are specified in price lists and circulars. Rebates depend mainly on monthly volumes or the monthly fulfilment of liquidity provisioning obligations in certain products or product groups.

Revenue for transactions in listed derivatives is recognised as soon as contracts are matched/registered and there is no unfulfilled obligation towards the customer. In the case of OTC transactions, posting fees are recognised at novation on a monthly basis. These fees are recognised at a specific point in time; namely, when the promised service is transferred at a specific point in time, and the entitlement to consideration depends solely on the passage of time. Fees for the administration of financial derivative positions are recognised over time as the service is provided until the transaction has been closed, terminated or has matured.

Receivables are recognised when the agreed service is provided at a specific point in time or monthly based on the utilisation in the corresponding month – provided that the items are still outstanding at the end of the month and the entitlement to consideration depends solely on the passage of time. Fees are invoiced on a monthly basis and are payable when invoiced. As discounts are generally granted on a monthly basis, the recognition of a contractual liability is not necessary. Payments are generally debited directly from the clearing member immediately after invoicing.

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

Securities
Contracts for trading and clearing of cash market products in securities are accounted for in the same way as described in the Financial derivatives section. As a general rule, securities intended for trading on the regulated market of Frankfurter Wertpapierbörse (FWB, the Frankfurt Stock Exchange) are subject to the admission and listing, or inclusion, resolved by FWB's Exchange Management. Deutsche Börse AG, as the operator of the public-sector exchange, charges fees for the admission, listing, inclusion and quotation of securities on the regulated market. Fees charged for the admission and inclusion of securities with definite maturities on the regulated market are realised using the projected useful lives of the underlying securities. Accordingly, the fees charged for the listing of securities on the regulated unofficial market are realised using the projected useful lives of the underlying securities. The method for measuring the percentage of completion of the performance obligation on the basis of projected useful lives is considered appropriate. Invoicing is carried out on a quarterly basis, and receivables are payable upon receipt of invoice. Listing fees are levied for the activity of all bodies of FWB, which supervise the trading and the settlement of trades as well as ensure the proper functioning of all trading activities (permanent possibility to make use of exchange facilities). Listing fees are recurring fees, which are charged for a service that is delivered over time. Accordingly, revenue is realised on a pro-rata basis. Revenue from fees for listings on the regulated unofficial market is realised in a similar manner.

Foreign exchange
In the foreign exchange business, revenue is recognised for the entire trading process of foreign-exchange products and the commissions generated from this in the form of trading fees. Revenue is recognised when the contractually agreed service is provided to customers. The fees include discounts on a monthly basis. Such discounts are considered accordingly in the month in which the services are rendered and reduce the sales revenue of such period. They are invoiced on a monthly basis.

Fund Services

Fund services provides services to standardise fund processing and to increase efficiency and safety in the investment fund sector. The services offered include order routing, settlement, asset management, custody services and distribution and placement of investments. Settlement fees related to the custody of funds and the management of distribution contracts are recognised over time, as clients simultaneously receive and consume the benefit of the service provided over the term of the contract. Transaction-related fees are recognised at the time the agreed service is provided. This occurs when instructions are received and the transactions are processed. The service has been fulfilled at this point in time. Revenue is recognised based on the price specified in the price list and reduced by the corresponding rebates. Receivables are recognised when the agreed service is provided at a specific point in time or monthly based on the utilisation in the corresponding month and when the entitlement to consideration depends solely on the passage of time. The majority of all clients receive an invoice on a monthly or quarterly basis and the consideration is payable upon invoicing.

Securities Services

The Group generates revenues from infrastructure services and post-trading services for the settlement of securities transactions as well as the custody and administration of securities. The fees are calculated in accordance with the prices set in the price list as well as with any relevant discounts granted. Customers in the custody business receive the benefit from the service provided and consume it at the same time as the performance is fulfilled during the contract period. The revenue generated from this is generally realised on a monthly basis upon invoicing. Fees collected for administrative services such as corporate events for securities are recognised when the agreed service is provided to clients. This occurs when instructions are received and the transactions are processed. The service has been fulfilled at this point in time. In accordance with the general terms and conditions, customers authorise direct debiting and consequently no financing component has been identified.

Composition of sales revenue

	First Half-year 01 Jan – 30 Jun 2022 €m	2021 €m
Data & Analytics		
Index	109.0	99.2
Analytics	44.0	39.4
ESG	111.7	61.6
Other	63.0	28.3
	327.7	**228.5**
Trading & Clearing		
Financial derivatives	**620.9**	**517.9**
Equities	317.0	262.7
Interest rates	180.6	144.8
Margin fees	15.9	10.6
Other	107.4	99.8
Commodities	**187.3**	**168.1**
Power	98.5	94.4
Gas	41.2	33.4
Other	47.6	40.3
Cash equities	**207.4**	**212.6**
Trading	114.0	118.2
Other	93.4	94.4
Foreign exchange	**66.6**	**54.7**
	1,082.2	**953.3**
Fund Services		
Fund processing	112.9	104.8
Fund distribution	271.1	249.0
Other	40.1	31.7
	424.1	**385.5**
Securities Services		
Custody	377.0	343.9
Settlement	93.8	102.8
Other	74.4	76.3
	545.2	**523.0**
Total	**2,379.2**	**2,090.3**
Consolidation of internal revenue	**– 39.9**	**– 35.5**
thereof Data & Analytics	– 31.0	– 28.6
thereof Trading & Clearing	– 2.9	– 2.8
thereof Fund Services	– 0.2	– 0.2
thereof Securities Services	– 5.8	– 3.9
Group	**2,339.3**	**2,054.8**

6. Result of treasury activities in banking and similar business

The treasury result of banking and similar business stems mainly from investing surplus liquidity and from the fair value measurement of foreign exchange transactions. It also includes income from exchange rate differences resulting from finance instruments in the banking business. In addition, impairment losses from financial instruments as well as income from the reduction of liabilities relating to the banking business are recognised in this item.

In the first half of 2022, the Group recognised expenses from impairments in the amount of €184 million and income from the reduction of liabilities in the amount of €184 million, see note 4.

7. Other operating expenses

Composition of other operating expenses

	First Half-year 01 Jan – 30 Jun	
	2022 €m	2021 €m
Costs for IT service providers and other consulting services	80.4	92.2
IT costs	77.3	74.6
Premises expenses	17.2	16.7
Non-recoverable input tax	28.8	20.2
Travel, entertainment and corporate hospitality expenses	4.6	0.5
Advertising and marketing costs	9.9	5.5
Non-wage labour costs and voluntary social benefits	2.6	2.0
Insurance premiums, contributions and fees	12.4	15.1
Cost of agency agreements	0.1	0.2
Supervisory Board remuneration	2.0	2.0
Short-term leases	1.3	1.8
Miscellaneous	17.7	13.2
Total	**254.4**	**244.1**

The costs of IT service providers and other consulting services mainly relate to expenses in connection with software development. These costs also include expenses for strategic consultancy and legal advice, as well as for auditing.

Consolidated balance sheet disclosures

8. Intangible assets and property, plant and equipment

Intangible assets consist mainly of goodwill of €5,964.9 million (31 December 2021: €5,596.0 million), other intangible assets (licences, trademarks and customer relationships) of €1,995.4 million (31 December 2021: €1,913.6 million) and internally developed software of €547.0 million (31 December 2021: €553.2 million).

Property, plant and equipment as at 30 June 2022 came to €622.1 million (31 December 2021: €593.7 million). Deutsche Börse Group leases a large number of different assets. These mainly include buildings and cars. The corresponding carrying amounts are presented in the table below:

Right-of-Use Assets

	30 Jun 2022 €m	31 Dec 2021 €m
Land and Buildings	467.0	438.0
Computer hardware, operating and office equipment, car pool	4.7	5.8
Total	**471.7**	**443.8**

As lessor under a lease agreement, the Group recognises the leased asset as an asset at amortised cost in property, plant and equipment.

Due to the European Commission’s Regulatory Fitness and Performance (REFIT) programme, the business operations of Eurex Securities Transactions Services GmbH (Eurex STS) were discontinued as of 30 June 2022. This lead to an extraordinary depreciation of internally developed software in the first quarter of 2022 in the amount of €6.5 million (2021: €11.8 million).

An unscheduled impairment test carried out at the end of the first half of the year, in particular due to an increase in the cost of capital, did not result in a need for depreciation in accordance with IAS 36.

9. Financial instruments

Financial assets

Financial investments (not including financial instruments of the central counterparties) as at 30 June 2022 amounted to €12,233.0 million (31 December 2021: €11,460.4 million). The increase in debt instruments measured at amortised cost resulted mainly from purchases of fixed-income securities amounting to €586.7 million. Further effects can be seen in the table entitled “Changes in level 3 financial instruments”.

Financial liabilities measured at amortised cost

Deutsche Börse issued two corporate bonds in the first half of 2022. One of these was a hybrid bond in the amount of €500 million, the proceeds of which will be used to refinance corporate transactions of the past year. The hybrid bond has a maturity of 26.25 years with a first optional call date after six years and an annual interest rate of 2.0 per cent. The other corporate bond with a nominal volume of €600 million will serve to refinance a corporate bond maturing in October 2022. This bond has a term of ten years and an annual interest rate of 1.5 per cent.

The lease liabilities held by Deutsche Börse Group came to €506.2 million (31 December 2021: €486.7 million).

Fair value hierarchy

The financial assets measured at fair value include financial assets and liabilities on the following three hierarchy levels:

- Level 1: Financial instruments with a quoted price for identical assets and liabilities in an active market.
- Level 2: Financial instruments with no quoted prices for identical instruments on an active market and whose fair value is determined using valuation methods based on observable market parameters (e.g. OTC derivatives).
- Level 3: Financial instruments where the fair value is determined using one or more unobservable significant inputs. This does apply to non-listed equity instruments, for instance.

There were no transfers between levels for recurring fair value measurements of assets or liabilities during the first half of 2022.

Fair value hierarchy

	Fair value as at 30 Jun 2022	thereof attributable to:		
		Level 1	Level 2	Level 3
	€m	€m	€m	€m
ASSETS				
Financial assets measured at fair value through other comprehensive income (FVOCI)				
Strategic investments	380.3	0	0	380.3
Total	380.3	0	0	380.3
Financial assets measured at fair value through profit or loss (FVPL)				
Non-current financial instruments held by central counterparties	9,560.4	0	9,560.4	0
Non-current financial assets measured at fair value through profit or loss	169.3	10.1	0	159.2
Current financial instruments held by central counterparties	137,263.9	0	137,263.9	0
Other current financial assets measured at FVPL	101.1	2.1	99.0	0
Total	147,094.7	12.2	146,923.3	159.2
Total assets	147,475.1	12.2	146,923.3	539.5
LIABILITIES				
Financial liabilities measured at fair value through profit or loss (FVPL)				
Non-current financial instruments held by central counterparties	9,560.4	0	9,560.4	0
Non-current financial liabilities ar fair value through profit or loss (FVPL)	30.5	0	29,0	1.6
Current financial instruments held by central counterparties	136,468.9	0	136,468.9	0
Other current financial liabilities	81.7	0	8.3	73.4
Total liabilities	146,141.6	0	146,066.6	75.0

Fair value hierarchy

	Fair value as at 31 Dec 2021	thereof attributable to:		
	€m	Level 1 €m	Level 2 €m	Level 3 €m
ASSETS				
Financial assets measured at fair value through other comprehensive income (FVOCI)				
Stratetic investments	224.3	0	0	224.3
Debt instruments	4.3	4.3	0	0
Total	**228.6**	**4.3**	**0**	**224.3**
Financial asssets measured at fair value through profit or loss (FVPL)				
Non-current financial assets held by central counterparties	9,442.4	0	9,442.4	0
Other non-current financial assets	156.2	17.0	0	139.2
Current financial assets held by central counterparties	103,195.7	0	103,195.7	0
Other current financial assets	116.0	0	102.0	14.0
Total	**112,910.3**	**17.0**	**112,740.1**	**153.2**
Total assets	**113,138.9**	**21.3**	**112,740.1**	**377.5**
LIABILITIES				
Financial liabilities measured at fair value through profit or loss (FVPL)				
Non-current financial instruments held by central counterparties	9,442.4	0	9,442.4	0
Non-current derivatives	8.4	0	6.9	1.5
Current financial instruments held by central counterparties	103,267.7	0	103,267.7	0
Other current financial liabilties	4.8	0	4.2	0.6
Total liabilities	**112,723.3**	**0**	**112,721.2**	**2.1**

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

The following table presents the valuation techniques, including material unobservable inputs, used to determine the fair value of Level 3 financial instruments (FVPL).

Measurement methods and inputs for the fair value hierarchy Level 3

Financial instrument	Measurement Method	Material unobservable inputs	Connection between material unobservable inputs and fair value measurement
Derivates	Internal Black-Scholes option pricing model	Value of equity Risk/free interest rate Volatility Dividend yield	The estimated fair value would go up (down), if: - the expected value of the equity were higher (lower) - the risk-free interest rate would be higher (lower) - the volatility were higher (lower) - the dividend yield would be lower (higher)
Foreign currency derivatives	Discounted-Cashflows	Adjustment factor on UAH spotrate	The estimated fair value would go up (down), if the adjustment factor were higher (lower).
Strategic investments	Discounted cash flow model/multiples	The valuations are carried out using discounted cash flow models (net present value approach) or on the basis of multiples (fair market value approach). In this case, a sensitivity analysis is not applicable.	n.a.
Interests in institutional investment funds	Net Asset Value	These investments include private equity funds and alternative investments held by Deutsche Börse Group They are valued by the fund manager based on net asset value. Net asset value is determined using non-public information from the respective private equity managers. Deutsche Börse Group only has limited insight into the specific inputs used by the fund managers; a descriptive sensitivity analysis is therefore not used here.	n.a.
Contingent purchase price components	Discounted-Cashflow-Modell	Value of equity	The estimated fair value would go up (down), if the expected value of the equity were higher (lower)

The table below presents the reconciliation of the opening balance with the closing balance for Level 3 fair values.

Development of financial instruments in level 3

	Financial assets		Financial liabilities	Total
	Measured at FVOCI €m	Measured at FVPL €m	Measured at FVPL €m	€m
Balance as at 1 Jan 2022	**224.3**	**153.2**	**– 2.1**	**375.4**
Changes in the basis of consolidation	0	– 14.0	– 0.2	–14.2
Additions	0	8.3	– 73.0	– 64.7
Disposals	– 7.3	– 2.0	0.3	– 9.0
Unrealised gains/(losses) recognised in profit or loss	0	8.2	0	8.2
Changes recognised in the revaluation surplus	159.5	0	0	159.5
Gains/(losses) from currency translation recognised in equity	3.8	5.5	0	9.3
Balance as at 30 Jun 2022	**380.3**	**159.2**	**– 75.0**	**464.5**

The unobservable inputs can, in principle, consist of a range of values that are considered probable. The sensitivity analysis determines the fair values of the financial instruments using input factors that lie at the lower or upper limit of the possible range. The fair values of the Level 3 financial instruments would change as follows when using these inputs:

Sensitivity analysis of the financial assets and financial liabilities allocated to Level 3 depending on unobservable input parameters.

	change input paramter[1]	Fair value change	
		Increase €m	Decrease €m
Financial assets			
Options	Expected Value of Equity (10% Change)	3.9	– 2.4
	Volatility (10% Change)	2.0	– 1.8
Foreign currency swaps	Adjustment on spot rate (10% Change)	5.3	– 5.3
Financial liabilities			
Contingent consideration	Expected Value of Equity (10% Change)	– 8.5	17.1

1) A change in one of the significant unobservable inputs that is considered possible would have the effects shown in the table above, with the other inputs remaining unchanged.

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

The financial assets measured at amortised cost held by Deutsche Börse Group include debt instruments with a fair value of €2,245.7 million (31 December 2021: €1,914.7 million). They are recognised as part of debt instruments measured at amortised cost. The fair value of the securities was determined by reference to published price quotations in an active market. The securities were allocated to level 1.

The bonds issued have a fair value of €4,316.9 million (31 December 2021: €3,722.9 million) and are disclosed under financial liabilities measured at amortised cost. Their fair value is based on the bonds' quoted prices. Due to insufficient market liquidity, the bonds were allocated to level 2.

The financial instrument's carrying amount represents a reasonable approximation of fair value for all other positions.

10. Pension provisions

Pension provisions were measured using the projected unit credit method in accordance with IAS 19. As at 30 June 2022, the discount rate for pensions and similar obligations in Germany and Luxembourg was 3.3 per cent (31 December 2021: 1.1 per cent). The actuarial gains and losses of €126.6 million resulting from the revaluation were recognised directly in equity in the item "Revaluation surplus" and are part of other comprehensive income in the statement of comprehensive income.

Other disclosures

11. Reconciliation of cash and cash equivalents

Reconciliation to cash and cash equivalents

	30 Jun 2022 €m	30 Jun 2021 €m
Restricted bank balances	105,726.0	35,827.2
Other cash and bank balances	793.0	904.1
Net position of financial instruments held by central counterparties	795.0	401.3
Current financial instruments measured at amortised cost	24,028.4	19,941.4
less financial instruments with an original maturity exceeding 3 months	– 2,426.2	– 2,557.3
Current financial liabilities measured at amortised cost	– 23,988.5	– 20,039.9
less financial instruments with an original maturity exceeding 3 months	2,802.1	2,761.9
Current liabilities from cash deposits by market participants	– 105,474.8	– 35,563.6
Cash and cash equivalents	**2,255.0**	**1,675.1**

12. 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 are added to the average number of shares.

In order to determine diluted earnings per share, all subscription rights, for which a cash settlement has not been determined are assumed to be settled with equity instruments – regardless of actual accounting in accordance with IFRS 2.

All tranches of the Long-term Sustainability Instrument (LSI) for which a choice between settlement in cash or equity instruments exists were settled in the previous year. All current and future tranches may only be settled in cash. There are therefore no potentially dilutive ordinary shares from the Long-term Sustainability Instrument.

In the context of the acquisition of Institutional Shareholder Services Inc., there are subscription rights valid until 25 February 2024. These subscription rights did not have a material dilutive effect in the reporting year up to the reporting date:

Calculation of earnings per share (basic and diluted)

	First Half-year 01 Jan – 30 Jun	
	2022	2021
Number of shares outstanding as at beginning of period	183,618,782	183,521,257
Number of shares outstanding as at end of period	183,623,126	183,521,257
Weighted average number of shares outstanding	183,618,782	183,521,257
Number of potentially dilutive ordinary shares	397,336	348,882
Weighted average number of shares used to compute diluted earnings per share	184,016,118	183,870,139
Net income for the period (€m)	761.9	628.2
Earnings per share (basic) (€)	4.15	3.42
Earnings per share (diluted) (€)	4.14	3.42

13. Segment reporting

Deutsche Börse divides its business into four segments: This structure is used for internal management purposes and forms the basis for the financial reporting (see Comparability of figures in the Group interim management report Q2/2022). The figures for the previous year have been altered accordingly.

Segment reporting (part 1)

	Data & Analytics First Half-year 01 Jan – 30 Jun		Trading & Clearing First Half-year 01 Jan – 30 Jun	
	2022	2021	2022	2021
Net revenue (€m)	300.2	202.0	1,093.3	900.9
Operating costs (€m)	– 187.5	– 118.9	– 399.9	– 362.6
Result from financial investments (€m)	0.8	9.3	32.2	23.3
thereof result of the equity method measurement of associates (€m)	0	10.5	7.4	14.0
EBITDA (€m)	113.5	92.4	725.6	561.6
EBITDA-Marge (%)	38	46	66	62
Depreciation, amortization and impairment losses (€m)	– 48.6	– 30.5	– 65.6	– 54.5
EBIT (€m)	64.9	61.9	660.0	507.1

Segment reporting (part 2)

	Fund Services First Half-year 01 Jan – 30 Jun		Securities & Services First Half-year 01 Jan – 30 Jun	
	2022	2021	2022	2021
Net revenue (€m)	186.7	205.6	499.2	428.3
Operating costs (€m)	– 72.6	– 61.5	– 178.8	– 186.7
Result from financial investments (€m)	– 0.5	– 0.4	– 0.8	– 0.1
thereof result of the equity method measurement of associates (€m)	0	0	– 1.2	0.4
EBITDA (€m)	113.6	143.7	319.6	241.5
EBITDA-Marge (%)	61	70	64	56
Depreciation, amortization and impairment losses (€m)	– 20.8	– 18.2	– 31.0	– 29.3
EBIT (€m)	92.8	125.5	288.6	212.2

Segment reporting (part 3)

	Group First Half-year 01 Jan – 30 Jun	
	2022	2021
Net revenue (€m)	2,079.4	1,736.8
Operating costs (€m)	– 838.8	– 729.7
Result from financial investments (€m)	31.7	32.1
thereof result of the equity method measurement of associates (€m)	6.2	24.9
EBITDA (€m)	1,272.3	1,039.2
EBITDA-Marge (%)	61	60
Depreciation, amortisation and impairment losses (€m)	– 166.0	– 132.5
EBIT (€m)	1,106.3	906.7

Employees

	30 Jun 2022	31 Dec 2021
Data & Analytics	3,556	3,352
Trading & Clearing	3,864	3,803
Fund Services	1,097	886
Securities Services	2,103	2,159
Total	**10,620**	**10,200**

14. Other risks

Legal risks

Deutsche Börse Group presents details of litigation in the combined management report (see explanations in the risk report).

Tax risks

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

15. Related party disclosures

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

Business relationships with related parties

The following table shows transactions in the course of business relationships with non-consolidated companies of Deutsche Börse AG in the first half-year 2022. All transactions took place on standard market terms in the normal course of business.

Transactions with related parties

	sum of business transactions revenues 01 Jan – 30 Jun		sum of business transactions expenses 01 Jan – 30 Jun		Outstanding balances: receivables as at		Outstanding balances: liabilities as at	
	2022 €m	2021 €m	2022 €m	2021 €m	30 Jun 2022 €m	31 Dec 2021 €m	30 Jun 2022 €m	31 Dec2021 €m
Associates	8.2	9.0	– 14.4	– 13.7	0.5	1.9	– 5.0	– 5.0
Total sum of business transactions	8.2	9.0	– 14.4	– 13.7	0.5	1.9	– 5.0	– 5.0

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 company's activities. The Group defines solely the members of the Executive Board and Supervisory Board of Deutsche Börse AG who were active in the reporting period as key management personnel for the purposes of IAS 24. In the first half-year 2022 there were no material transactions with key management personnel other than the individual remuneration components in connection with the employment relationship.

16. Events after the reporting date

There have been no events after the balance sheet date.

Responsibility statement by the Executive Board

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

Frankfurt / Main, 26 July 2022

Deutsche Börse AG
The Executive Board

Theodor Weimer

Christoph Böhm

Thomas Book

Heike Eckert

Stephan Leithner

Gregor Pottmeyer

Review Report

The following review report is a translation from the authoritative German text which was issued on the German version of the Half-yearly Financial Report of Deutsche Börse Aktiengesellschaft.

To Deutsche Börse Aktiengesellschaft, Frankfurt am Main
We have reviewed the condensed consolidated interim financial statements - comprising the Consolidated balance sheet, the Consolidated income statement, the Consolidated statement of comprehensive income, the Consolidated cash flow statement, the Consolidated statement of changes in equity and Notes to the condensed interim consolidated financial statements - and the interim group management report of Deutsche Börse Aktiengesellschaft, Frankfurt am Main, for the period from 1 January to 30 June 2022 which are part of the half-year financial report pursuant to § (Article) 115 WpHG ("Wertpapierhandelsgesetz": German Securities Trading Act). The preparation of the condensed consolidated interim financial statements in accordance with the IFRS applicable to interim financial reporting as adopted by the EU and of the interim group management report in accordance with the provisions of the German Securities Trading Act applicable to interim group management reports is the responsibility of the parent Company's Board of Managing Directors. Our responsibility is to issue a review report on the condensed consolidated interim financial statements and on the interim group management report based on our review.
We conducted our review of the condensed consolidated interim financial statements and the interim group management report in accordance with German generally accepted standards for the review of financial statements promulgated by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany) (IDW). Those standards require that we plan and perform the review so that we can preclude through critical evaluation, with moderate assurance, that the condensed consolidated interim financial statements have not been prepared, in all material respects, in accordance with the IFRS applicable to interim financial reporting as adopted by the EU and that the interim group management report has not been prepared, in all material respects, in accordance with the provisions of the German Securities Trading Act applicable to interim group management reports. A review is limited primarily to inquiries of company personnel and analytical procedures and therefore does not provide the assurance attainable in a financial statement audit. Since, in accordance with our engagement, we have not performed a financial statement audit, we cannot express an audit opinion.

Based on our review, no matters have come to our attention that cause us to presume that the condensed consolidated interim financial statements have not been prepared, in all material respects, in accordance with the IFRS applicable to interim financial reporting as adopted by the EU nor that the interim group management report has not been prepared, in all material respects, in accordance with the provisions of the German Securities Trading Act applicable to interim group management reports.

Frankfurt am Main, 26 July 2022

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

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