



Annual Report 2023

Deutsche Bank

Financial Summary

	2023	2022
Group financial targets		
Post-tax return on average tangible shareholders' equity ¹	7.4%	9.4%
Compound annual growth rate of revenues from 2021 ²	6.6%	7.1%
Cost/income ratio ³	75.1%	74.9%
Common Equity Tier 1 capital ratio	13.7%	13.4%
Statement of Income		
Total net revenues, in € bn	28.9	27.2
Provision for credit losses, in € bn	1.5	1.2
Total noninterest expenses, in € bn	21.7	20.4
Nonoperating costs, in € bn	1.1	0.5
Adjusted costs, in € bn ⁴	20.6	19.9
Pre-provision profit, in € bn ⁵	7.2	6.8
Profit (loss) before tax, in € bn	5.7	5.6
Profit (loss) before tax excluding nonoperating costs, in € bn	6.8	6.1
Profit (loss), in € bn	4.9	5.7
Profit (loss) attributable to Deutsche Bank shareholders, in € bn	4.2	5.0
Balance Sheet⁶		
Total assets, in € bn	1,312	1,337
Net assets (adjusted), in € bn ⁴	1,029	1,019
Average interest earning assets, in € bn	971	983
Loans (gross of allowance for loan losses), in € bn	479	489
Average loans (gross of allowance for loan losses), in € bn	483	489
Deposits, in € bn	622	621
Allowance for loan losses, in € bn	5.2	4.8
Shareholders' equity, in € bn	64	62
Sustainable finance volume (per quarter/year), in € bn ⁷	64	58
Resources⁶		
Risk-weighted assets, in € bn	350	360
of which: operational risk RWA, in € bn	57	58
Leverage exposure, in € bn	1,240	1,240
Tangible shareholders' equity (tangible book value), in € bn ⁴	58	56
High-quality liquid assets (HQLA), in € bn	219	219
Liquidity reserves, in € bn	261	256
Employees (full-time equivalent)	90,130	84,930
Branches	1,432	1,536
Ratios		
Post-tax return on average shareholders' equity ¹	6.7%	8.4%
Provision for credit losses as bps of average loans	31.1	25.1
Operating leverage ⁸	(0.3)%	12.3%
Net interest margin	1.4%	1.4%
Loan-to-deposit ratio	77.0%	78.6%
Leverage ratio	4.5%	4.6%
Liquidity coverage ratio	140%	142%
Share-related information		
Basic earnings per share	€ 2.07	€ 2.42
Diluted earnings per share	€ 2.03	€ 2.37
Book value per basic share outstanding ⁴	€ 31.64	€ 29.74
Tangible book value per basic share outstanding ⁴	€ 28.41	€ 26.70
Dividend per share (with respect to previous financial year)	€ 0.30	€ 0.20

¹ Based on profit (loss) attributable to Deutsche Bank shareholders after AT1 coupon; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report

² Twelve months period until the end of the respective reporting period compared to full year 2021

³ Total noninterest expenses as a percentage of net interest income before provision for credit losses, plus noninterest income

⁴ For further information please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report

⁵ Defined as net revenues less noninterest expenses

⁶ At period end

⁷ Sustainable financing and investment activities are defined in the "Sustainable Financing Framework – Deutsche Bank Group" which is available at investor-relations.db.com; in cases where validation against the Framework cannot be completed before the end of the reporting quarter, volumes are disclosed upon completion of the validation in subsequent quarters

⁸ Operating leverage is calculated as the difference between year-on-year change in percentages of reported net revenues and year-on-year change in percentages of reported noninterest expense

Content

Deutsche Bank Group

II	Letter from the Chief Executive Officer
V	Management Board
VI	Letter from the Chairman of the Supervisory Board
VIII	Report of the Supervisory Board
XVII	Supervisory Board
XVIII	Committees
XXI	Strategy

1 — Combined Management Report

2	Operating and Financial Review
37	Outlook
44	Risks and Opportunities
59	Risk Report
189	Sustainability
191	Employees
195	Internal Control over Financial Reporting
197	Information pursuant to Section 315a (1) of the German Commercial Code and Explanatory Report
201	Corporate Governance Statement pursuant to Sections 289f and 315d of the German Commercial Code
202	Standalone parent company information (HGB)

2 — Consolidated Financial Statements

211	Consolidated Statement of Income
212	Consolidated Statement of Comprehensive Income
213	Consolidated Balance Sheet
214	Consolidated Statement of Changes in Equity
215	Consolidated Statement of Cash Flows
217	Notes to the Consolidated Financial Statements
255	Notes to the Consolidated Income Statement
262	Notes to the Consolidated Balance Sheet
317	Additional Notes
375	Confirmations

3 — Compensation Report

388	Compensation of the Management Board
424	Compensation of members of the Supervisory Board
429	Comparative presentation of compensation and earnings trends
431	Independent auditor's report
433	Compensation of the employees (unaudited)

4 — Corporate Governance Statement according to Sections §289f and §315d of the German Commercial Code/Corporate Governance Report

449	Management Board and Supervisory Board
462	Reporting and Transparency
462	Related Party Transactions
463	Auditing and Controlling
466	Compliance with the German Corporate Governance Code

5 — Supplementary Information (Unaudited)

472	Non-GAAP Financial Measures
480	Declaration of Backing
481	Group Five-Year Record
482	Imprint/Publications

Deutsche Bank Group

- II Letter from the Chief Executive Officer
- V Management Board
- VI Letter from the Chairman of the Supervisory Board
- VIII Report of the Supervisory Board
- XVII Supervisory Board
- XVIII Committees
- XXI Strategy

Letter from the Chief Executive Officer

Dear Shareholders,

For the fourth year in a row, we look back on another year spent in a very challenging environment. In addition to the war in Ukraine, which is being waged with undiminished ferocity, a new war broke out between Israel and Hamas, which threatens to destabilize the entire Middle East and is also causing new economic disruptions.

The resulting complex economic situation is one that confronts our clients with difficult choices. In a world where the balance of power is shifting and protectionism is on the rise, they need to position themselves correctly. They need to make urgent investments in the future at a time when interest rates and, consequently, financing costs have risen significantly. And they need to hedge against heightening risks.

As a *Global Hausbank*, it is our task to support our clients at this time, shoulder to shoulder. Together, we want to find the right solutions and set the course for their successful future. With our strategic reorganisation in 2019 and the subsequent transformation, we are ideally positioned to deliver on this in the best possible way.

The results for the past year are further proof that this strategy is working. As our clients are doing more business with us, our revenues have increased by 6% to almost € 29 billion. At the same time, we remained disciplined in our spending, with adjusted costs growing at 3%, which was slower than inflation. Thanks to this operational strength, we were able to increase our pre-tax profit once again. At € 5.7 billion, it was 2% higher than the previous year's figure, the highest level in 16 years.

The rating agency S&P Global recognised our renewed progress in December with a further rating upgrade. This should also have a positive impact on our future earnings.

We want you to benefit from this success as well. We will propose a dividend of € 0.45 per share for the financial year 2023 to the Annual General Meeting in May 2024. As in the previous year, this corresponds to an increase of 50%. In addition, we will buy back treasury shares worth € 675 million in the first half of the year, after having already invested € 450 million in share buybacks in 2023.

Demonstrating resilience in an uncertain environment

2023 was also a very successful year for us because we underpinned Deutsche Bank's stability and resilience when they were put to the test. In March, following bankruptcies at a number of regional banks in the United States and the takeover of Credit Suisse, our bank also came under pressure for a short time. But we withstood this pressure and quickly made it clear that there can be no doubt about our solidity.

The full figures for the year are proof that these tumultuous days left no lasting marks. At the end of 2023, our deposits at € 622 billion were back above the level at the end of 2022, after having fallen slightly during the market turbulences.

We experienced equally little disruption to our business as a result of the difficult economic environment of the past year. Our risk managers have once again lived up to their first-class reputation. Building on our high-quality and well-diversified loan book, we were able to limit loan losses and loan loss provisions. The latter was € 1.5 billion, or 31 basis points of average loans. This was only slightly above the forecast announced at the beginning of the year.

Our capital base is also extremely robust: the common equity tier 1 (CET1) capital ratio was 13.7% at the end of the year, compared to 13.4% at the end of 2022. This was significantly higher than our target of around 13% for the period up to 2025. We owe this on the one hand to our continued capital discipline, which is reflected in the renewed reduction of risk-weighted assets; on the other, we are now operating so profitably that we are creating additional capital despite rising dividends.

Stable earnings mix shows strength of business model

We owe this operational strength to all of our business divisions. As part of our strategic reorganization, we set ourselves the goal of aligning our bank around four strong pillars that complement each other and give us stability in different market phases.

Our revenue mix last year shows how far we have come in this area, with almost four-fifths of our revenues coming from businesses that provide reliable returns. And these were very well distributed across all four divisions. Of course, our Corporate Bank and Private Bank in particular benefited from higher global interest rates. However, the bank's strong full-year figures would not have been possible if the Investment Bank and our Asset Management had not also made a lot out of a difficult market environment.

Specifically, our divisions have developed as follows:

The **Corporate Bank** increased its revenues by 22%, up to € 7.7 billion. All businesses achieved double-digit growth. In addition to net interest income, we also owe this to product innovations and investments in customer service in core markets and growth areas.

At € 9.2 billion, revenues in the **Investment Bank** were 9% lower than in the very strong previous year. Significant revenue growth in the Origination & Advisory business did not offset the declines in the Fixed Income & Currency business. By the end of the year, however, there were already clear signs of recovery, with the Investment Bank's revenues increasing by 10% year on year in the final quarter.

The **Private Bank** generated revenues of € 9.6 billion, an increase of 5% compared to the previous year. This growth would have been twice as strong if adjusted for one-off effects such as the sale of Deutsche Bank Financial Advisors in Italy. The largest increases were recorded in the deposits business, particularly in the Private Bank Germany, which also accounted for a significant part of the high net inflows of € 29 billion. However, the positive result here was clouded by what were, in part, considerable delays and restrictions for some clients following the migration of Postbank's IT environment to a common platform. Here, we failed to meet our clients' expectations. In recent months, we have significantly reduced the backlog, for instance with the help of additional staff. At the same time, we have revised and partially automated various processes to prevent something similar from happening in the future.

In our **Asset Management** business, revenues declined by 9% to € 2.4 billion. This was mainly due to reduced management fees as a result of market value losses and slightly lower margins. At the same time, assets under management grew by € 75 billion, including € 28 billion in net inflows. This creates the basis for future fee income.

Increased investments lay the foundation for future success

As a result, we have established a strong market position in all four business divisions. And we see potential to expand it further. That is why we made more investments in 2023 to accelerate our growth trajectory and take advantage of market opportunities.

To this end, we have driven product innovations and hired personnel in some key areas to improve our market coverage, especially in areas where we can score points with clients with our high-quality expertise and advice. This includes our Wealth Management business, Client Coverage in the Corporate Bank and Origination & Advisory in the Investment Bank. We have decisively strengthened the latter with the acquisition of the leading British corporate broker Numis.

At the same time, we have continued to invest in technology, stringent processes and platforms, and our controls. In recent years, we have focused our investments here in order to meet the regulatory requirements and to effectively protect the bank. After investing more than € 1 billion again in improvements to our controls in 2023, we now assume that the remediation work on our most important regulatory programmes is now nearing completion.

In terms of costs, we are also at a turning point. In 2023, we deliberately put some major cost items behind us. In addition to investments in business, technology and controls, this included restructuring and severance costs related to the transformation strategy and extraordinary items such as amortization of goodwill at Numis. A large part of these costs will not repeat from 2024, which is why noninterest expenses should have reached their peak last year at € 21.7 billion.

Outlook: on track to hit return target, with greater ambition for revenues

For the coming years, we expect a clear decline in costs. On the one hand, investments in technology, processes and controls will increasingly translate into savings; on the other, savings from efficiency measures will reduce our cost base. In 2023, we further optimized our branch network. In addition, we launched a program to cut around 3,500 jobs by means of automation and the elimination of duplicate functions, especially for non-client-facing roles.

Our goal is to arrive at a cost level that means the bank is protected against external influences in an uncertain environment. We see this level at around € 20 billion per year, and we want to reach it in 2025. Cost discipline is a top priority, and it is a prerequisite for us to achieve our goals. By the end of 2025, we aim to achieve a cost/income ratio of below 62.5% and a post-tax return on tangible equity at above 10%. And we have a clear path towards these goals.

Another important factor in this is our improved revenues outlook. Our original target was to achieve compound annual revenue growth of 3.5 to 4.5% for the years 2021 to 2025. In recent years, averaging around 7%, we have far exceeded this target and we are confident that we will continue to grow at a stronger pace. We have therefore raised our target for 2021 to 2025 to compound annual revenue growth of 5.5 to 6.5%. By the end of 2025, this would translate to annual revenues of around € 32 billion.

In line with our ambitious financial targets, we expect to be able to further increase capital distributions to you, our shareholders, in the coming years. We have set ourselves a capital distribution goal of 8 billion euros in respect of the financial years 2021 to 2025, paid in 2022 to 2026, and we believe we are in a good position to exceed this objective based on the achievement of our financial targets. For the 2025 financial year, we are aiming for a dividend of € 1.00 per share, subject to it being consistent with a 50% payout ratio.

That said, we are aware that the economic environment will remain difficult for the time being. With our diversified business model, however, we believe we are well positioned for further growth, even in a challenging environment. At the core of our strategy as a Global Hausbank is our ambition to accompany our clients at all stages, as a strong partner, who gives them financial security and works with them to achieve their long-term success. Our clients' response to this and the growing demand for our products and services reinforce our belief that we are on the right track with this strategy. This gives us the strength and confidence to focus our plans on Deutsche Bank's future. We have a clear ambition: to continue our growth trajectory and be a leading European bank.

Knowing that you are at our side is both a pleasure and an incentive for us.

Thank you for placing your trust in Deutsche Bank.

Kind regards,



Christian Sewing

Management Board

Christian Sewing, *1970

since January 1, 2015
Chief Executive Officer

Management Board in the reporting year:

Christian Sewing
Chief Executive Officer

James von Moltke *1969

since July 1, 2017
President
Chief Financial Officer and
responsible for the Asset Management
(since July 1, 2023)

James von Moltke
President

Karl von Rohr
President
(until October 31, 2023)

Fabrizio Campelli

Bernd Leukert

Alexander von zur Mühlen

Fabrizio Campelli, *1973

since November 1, 2019
Head of Corporate Bank and Investment Bank

Christiana Riley
(until May 17, 2023)

Claudio de Sanctis
(since July 1, 2023)

Rebecca Short

Stefan Simon

Olivier Vigneron

Bernd Leukert, *1967

since January 1, 2020
Chief Technology, Data and Innovation Officer

Alexander von zur Mühlen, *1975

since August 1, 2020
Regional CEO for Asia (until June 30, 2023)
Chief Executive Officer Asia-Pacific, Europe,
Middle East & Africa (EMEA) and Germany
(since July 1, 2023)

Claudio de Sanctis, *1972

since July 1, 2023
Head of Private Bank

Rebecca Short, *1974

since May 1, 2021
Chief Transformation Officer (until May 30, 2023)
Chief Operating Officer (since June 1, 2023)

Stefan Simon, *1969

since August 1, 2020
Chief Administrative Officer and
Head of the Americas
(since May 17, 2023)

Olivier Vigneron *1971

since May 20, 2022
Risk Officer

Letter from the Chairman of the Supervisory Board

Dear Shareholders,

Last year, Deutsche Bank proved its resilience in a volatile environment, further increasing revenues and delivering its best pre-tax profit in 16 years. Thanks to its prudent risk management, the bank has a strong and stable balance sheet and has further strengthened its capital base. As a result, we are this year once again in a position to substantially increase capital distributions to shareholders and we are pleased that the Supervisory Board and Management Board will propose to you a 50% increase in the dividend to € 0.45 per share at this year's Annual General Meeting.

In this economic environment, the resilience and sustainable profitability of our bank were also focus topics for the Supervisory Board. It was the Risk Committee's task to keep an eye on our capital adequacy as well as to oversee the bank's risk management and the development of non-financial risks. Another priority was to set the course for future growth. The Supervisory Board closely monitored the strategic development of the bank's culture and business model together with its financial targets and capital objectives up to 2025. The Supervisory Board expressly supports the bank's even sharper focus on its role as a Global Hausbank. Part of this is supporting clients in their sustainable and digital transformation. This strategy not only enables the bank to play its role within the German and European economy but also – of this the Supervisory Board is convinced – it is the right way to generate sustainable profits and returns for you as shareholders. In this context, the Supervisory Board welcomes and supports the Management Board's work on clearly defining the bank's purpose, its vision and aspirational culture, guided by the conviction that our top priority must be an even stronger focus on placing our clients at the center of everything we do.

Effective controls protect both our bank and our clients. Further improving these controls was another important topic last year. The Supervisory Board regularly discussed significant regulatory issues as well as progress in the processing of material litigation cases. We are aware that there is still more to do. The Management Board and Supervisory Board are in close dialogue with regulators and are focused on delivering the necessary improvements. To achieve this, the bank spent about € 1.2 billion on controls in 2023 and hired around 1,000 dedicated professionals across all regions. More details on these important issues can be found in Deutsche Bank's Non-Financial Report, which is published in parallel with this Annual Report.

One of the issues that the Supervisory Board addressed intensively last year was the restrictions for our clients following the migration of Postbank's IT to a common platform. The Management Board regularly reported to the Supervisory Board on the progress made in resolving the backlogs that had arisen, which were able to be reduced substantially over the past months. Nevertheless, it is clear that we have not lived up to our service and quality standards here and have disappointed our clients. On behalf of the Supervisory Board I would like to express my sincere apologies for the delays and problems caused to our clients. The Supervisory Board has taken action as a result and reduced the variable compensation of several current and departed Management Board members. Details can be found in our Compensation Report.

There you will also find information on how we intend to develop the Management Board compensation system for 2024 and beyond. In our review, we incorporated feedback from investors and are addressing two main concerns: first, we want to simplify the system, making it more transparent for our external stakeholders, by significantly reducing the number of targets and indicators on which variable compensation depends. Second, we aim to align how we evaluate Management Board members' performance even more closely with the interests of our shareholders. This applies above all to the long-term component of variable compensation, which in future will no longer be measured against past years' results. In the new system, both financial and ESG targets will be forward-looking over a period of three years. In addition, we aim to be more ambitious when it comes to setting targets for certain key performance indicators. We will submit the revised compensation system to you for voting at the Annual General Meeting in May; it is to be applied as early as this year.

In 2023, the Supervisory Board also addressed personnel decisions in the Management Board. At the Annual General Meeting, we bid farewell to Christiana Riley, Americas CEO, and Karl von Rohr, President and Head of Private Bank, who left the bank at the end of October after 25 years of service. Claudio de Sanctis subsequently assumed responsibility for the Private Bank and joined the Management Board in July. He has been with Deutsche Bank since 2018 and has successfully transformed the International Private Bank in recent years and focused it on its strengths in the advisory business. Stefan Simon assumed responsibility for the Americas region – in addition to his global responsibility for Legal, Regulatory Affairs and Anti-Financial Crime. Besides client coverage, the structure of the US market requires significant coordination and dialogue with regulators. Responsible for maintaining closer connections between the regions and our home market is Alexander von zur Mühlen. He assumed responsibility for Germany and Europe, Middle East and Africa (EMEA) in July. He also continues to oversee the Asia-Pacific region. Rebecca Short was given an extended mandate on the Management Board with a view to making the bank more efficient. In addition to her responsibility for Human Resources, she was appointed Chief Operating Officer with overall responsibility for the Group's costs.

As part of personnel reorganization measures, the Management Board was reduced from ten to nine members to make it more efficient. With this new composition, we do, however, fall short of our own commitment regarding the share of women on the Management Board. The Supervisory Board is focused on raising the proportion of women in leadership roles, both at Management Board level and below. As part of the bank's new compensation system, we seek to integrate the latter more firmly into the performance goals of our Management Board members.

On the Supervisory Board, there was a routine change as a result of last year's elections, with Susanne Bleidt, Claudia Fieber, Brigit Laumen, Gerlinde Siebert, Frank Schulze, Stephan Szukalski and Jürgen Tögel being newly elected as employee representatives, while Jan Duscheck, Manja Eifert and Timo Heider were re-elected for a further term of office. In January 2024, Birgit Laumen resigned from her mandate and the court subsequently appointed Florian Hagenmiller as her successor. I would like to once again welcome all those who joined the Supervisory Board. My special thanks go to Frank Schulze, one of my deputies, for the close cooperation and partnership since the very beginning.

On the shareholder side, continuity was the order of the day. Four shareholder representatives, whose term of office expired in 2023, were each re-elected by the Annual General Meeting for another four years. We look forward to continuing our valuable collaboration with Mayree Clark, John Thain, Michele Trogni and Norbert Winkeljohann.

In 2024, our Annual General Meeting will again be held virtually. The experience of the past few years has convinced us to take this step; this inclusive format offers numerous benefits. We have received recognition for the transparent implementation and quality of the answers to shareholder questions, which will again be submitted in advance this year. At the same time, we aim to enable an enhanced dialogue with shareholders on the day of the Annual General Meeting.

Dear shareholders, the Supervisory Board is confident that your Deutsche Bank is on the right track. The bank has the right set-up and a strong management team. We will do everything we can to support them in the next phase of their growth strategy and to put our clients at the heart of everything we do. I am convinced that if we focus on our clients and our strengths, we will continue to create sustainable value for you, our shareholders.

Sincerely,



Alex Wynaedts

Chairman of the Supervisory Board

Report of the Supervisory Board

In the 2023 financial year, the Supervisory Board performed all the tasks assigned to it by law and regulatory requirements as well as those pursuant to the Articles of Association and Terms of Reference.

The Management Board informed us regularly, without delay and comprehensively of all matters with relevance for our bank, and in particular on business policies and strategy, in addition to fundamental issues relating to the company's management and culture, corporate planning and control, compliance and compensation systems. It reported to us on the financial development, earnings and risk situation, the bank's liquidity, capital and risk management, the technical and organizational resources as well as business transactions and events that were of significant importance to the bank. We were involved in decisions of fundamental importance to the bank. As in previous years, the Management Board provided us, in accordance with our requests, with enhanced reporting on several topic areas, for example: The combating of financial crime and the ongoing development of the related controls, the progress in remediating regulatory enforcement actions and the related critical findings, as well as important interactions with various regulators.

In addition to regulatory issues, the Supervisory Board extensively addressed the situation in the Private Bank and the limitations for our clients following the migration of Postbank's IT to one shared platform. The Management Board regularly reported to the Supervisory Board on the progress made in resolving the resulting backlogs, and these have been substantially reduced over the past months.

Promoting diversity on the Management Board of Deutsche Bank is very important to the Supervisory Board, and it will be intensively addressing the topic in the future, too. The Supervisory Board plenum and Nomination Committee deliberated several times on the status and measures in this context and discussed them together with the Management Board. For the selection of suitable members for the Management Board, the Nomination Committee takes into account the balance and diversity of the knowledge, skills and experience of all the Management Board members. It also actively seeks to foster diversity on the Management Board, for example, with regard to gender, nationality and age, as well as different backgrounds and mindsets. A special focus has been placed in this context on raising the proportion of women in leadership roles, both on the Management Board and at the levels below.

In several meetings, we discussed together with the Management Board the actual and aspired state of the corporate culture, the progress made as well as the actions to achieve the related objectives. The discussion focused on the values and behaviors we would like to promote together in the bank overall. The Management Board established a program clearly defining the bank's purpose, its vision and aspirational culture to further develop the bank's corporate culture that will be launched in 2024.

The Supervisory Board Chairman and the committee chairs regularly had discussions with the Management Board between the meetings. They also consulted each other on the meeting agendas for the respective committees they chair and discussed topics of overarching importance for the Supervisory Board. Furthermore, upcoming decisions were deliberated on and prepared in discussions conducted regularly between the Management Board and the Chairman of the Supervisory Board as well as the chairs of the Supervisory Board committees. In addition, the Management Board invited us to a total of four information events on various current topics. Characteristic for our cooperation with the Management Board was our focus on working together responsibly in a spirit of mutual trust for the successful further development of the company.

There were a total of 55 meetings of the Supervisory Board and its committees. These were conducted as meetings with physical attendance, video conferences or as hybrid meetings (with both on-site and virtual participation). When meetings were convened as video conferences, a room was also available for all members to participate on the bank's premises. Between the meetings, resolutions were adopted, when necessary, through circulation voting procedure.

Meetings of the Supervisory Board

We held a total of eight meetings; seven were as regularly scheduled and one was an extraordinary meeting. Two meetings were conducted with physical attendance and six as hybrid meetings.

Again over the past year, we focused in particular on geopolitical and economic developments and their effects on the bank. We discussed developments in the banking sector both in Europe and in the USA. At several meetings, we had in-depth discussions with the Management Board about the status of processing in the Private Bank. We focused in several meetings on the effective implementation and further development of the bank's strategy and corporate culture. Together with the Management Board, we deliberated on these reports and on the regular progress reports on the individual business divisions, infrastructure areas and regions. Also, we regularly discussed regulatory issues and proceedings that affect our bank around the world, significant litigation cases and the progress made in the remediation of findings. Furthermore, we addressed the appointments of members to the committees as well as the corresponding committee tasks, and adopted the relevant resolutions in this context.

At our first meeting on February 1, we addressed the actual financial results and the planned key figures for the year 2022 as well as analysts' estimates. Deviations were discussed in detail. We confirmed the Management Board's preliminary proposal for the dividend, while also taking into account the regulatory requirements for capital funding, and we addressed the planning for 2023-2025, the investment portfolio 2023, as well as the development of business and management measures with regard to the ongoing investigations at DWS. The Management Board reported to us on the status of the consolidation of the IT platforms of Postbank and Deutsche Bank and the related challenges in this. We noted the draft of the Corporate Governance Statement pursuant to Sections 289f and 315d of the German Commercial Code (HGB) with approval. While taking into account recommendations of the Compensation Control Committee and following consultations with the bank's Compensation Officer and independent external compensation consultants, we determined the level of the variable compensation for the Management Board members for the 2022 financial year. In this context, we also discussed the respective Management Board members' achievement levels for 2022 and the plan rules for the year 2023, and we set long-term objectives for the Management Board along with the relevant measurement criteria for the 2023 performance period. Furthermore, we discussed the annual assessment of the structure, size, composition and performance of the Management Board and the Supervisory Board in accordance with Section 25d (11) of the German Banking Act (KWG).

At our second meeting on March 16, after the Management Board's reporting and a discussion with the auditor, and based on the Audit Committee's recommendation, we approved the Consolidated Financial Statements and Annual Financial Statements for 2022 and agreed to the Management Board's proposal for the appropriation of distributable profit. We addressed the financial accounting system, the system of internal controls and the risk management system and discussed the assessments of the Management Board and auditor of their appropriateness and effectiveness. Based on the Audit Committee's recommendation, we determined that there are no objections to be raised regarding the Group's separate Non-Financial Report in accordance with Section 315c of the German Commercial Code (HGB) in conjunction with Sections 289c to 289e HGB as well as the European Union's (EU) Taxonomy Regulation and the delegated acts adopted in this context, also based on the final results of our own inspections. The Management Board reported to us on market developments and developments in the banking sector both in Europe and in the USA, the ongoing investigations at DWS, as well as the status of remediation of regulatory enforcement actions and the related critical findings. The Management Board presented a report to us on the structure of the compensation systems and the Human Resources Report for 2022. We also discussed and approved the Report of the Supervisory Board. Furthermore, we addressed the topics for the General Meeting and approved the proposals for the agenda. At the proposal of the Compensation Control Committee, we discussed the proposal to adjust the structure of Supervisory Board compensation and a corresponding resolution proposal for the General Meeting. Furthermore, the shareholder representatives on the Supervisory Board adopted the resolutions necessary to exercise the shareholder rights in subsidiaries of Deutsche Bank Aktiengesellschaft in accordance with Section 32 of the Co-Determination Act (MitbestG). We noted the report of the Management Board on changes in the regional advisory councils in Germany in accordance with Section 8 of the Articles of Association.

At our extraordinary meeting on April 26, we addressed Ms. Riley's departure from the bank as of May 31, 2023, and Mr. von Rohr's as of October 31, 2023. We deliberated on the joint proposal of the Nomination Committee and the Chairman's Committee that Mr. Claudio de Sanctis be appointed to the Management Board as the successor to Mr. von Rohr and resolved to approve this. We addressed the size of the Management Board, which was reduced from ten to nine members once the changes at the Management Board level became effective. Furthermore, we approved the proposals for adjustments to the Management Board members' areas of functional responsibility. The Management Board gave us an overview of the results for the first quarter of 2023 and an update on strategy.

On May 16 representatives of the Joint Supervisory Team presented the results of the Supervisory Review and Evaluation Process (SREP 2022) along with key observations and the supervisory priorities for the years 2023-2025 as well as the Joint Supervisory Team's book of work for Deutsche Bank for the year 2023. Subsequently, we discussed these topics with the Joint Supervisory Team and the timeframe for their implementation, and the corporate culture. We also addressed the pending General Meeting and adopted the resolution on the Chair of the General Meeting. The Management Board reported to us on, among other things, market developments and volatility in the market following the developments in connection with Silicon Valley Bank and the effects on the bank, the ongoing investigations at DWS as well as the development and status of the remediation of regulatory enforcement actions and the related critical findings.

At our constitutive meeting on May 17 directly after the General Meeting, we elected Mr. Alexander Wynaedts as Chairman of the Supervisory Board until the expiry of his mandate, Mr. Frank Schulze as first Deputy Chairman of the Supervisory Board and Professor Dr. Norbert Winkeljohann as second Deputy Chairman of the Supervisory Board. Furthermore, we resolved to approve appointments of members to our committees following the personnel changes on the Supervisory Board and the publication of our updated Matrix of Skills. We resolved to issue the audit mandate to EY, who had been elected by the General Meeting as the auditor of the annual and consolidated financial statements.

At our meeting on July 27, we addressed Management Board compensation and carried out the necessary adjustments of the objectives based on a recommendation of the Compensation Control Committee in light of the changed areas of responsibility at the Management Board level. The Management Board reported to us on the reactions of the market and our stakeholders to the publication of the Interim Report and on the measures launched by the Management Board to accelerate the growth trajectory with regard to the targets by the year 2025. The Management Board reported to us on the current developments at DWS, the development of its business, its governance and the measures taken by its management relating to the ongoing investigations. We discussed together with the Management Board the business and IT activities in Russia and the timeline for the orderly downsizing of the business. Furthermore, the shareholder representatives on the Supervisory Board adopted the resolutions necessary to exercise the shareholder rights in subsidiaries of Deutsche Bank Aktiengesellschaft in accordance with Section 32 of the Co-Determination Act (MitbestG). Together with the Management Board, we discussed the corporate culture, regulators' expectations and the program sponsored by the Management Board for the further development of the corporate culture.

Within the framework of our meeting on October 25 and 26, we resolved to approve the Declaration of Conformity pursuant to Section 161 of the German Stock Corporation Act (AktG). Together with the Management Board, we extensively deliberated on Group strategy and the business strategies of the business divisions as well as the corporate culture and the definition of the bank's purpose and its vision. The Management Board reported to us on the operating business model, including the impacts on costs, and the bank's technology strategy aligned to the business strategy. We also addressed the status of the consolidation of the IT platforms of Postbank and Deutsche Bank and the process of working through the resulting delays and limitations for clients.

At our meeting on December 14, representatives of the Joint Supervisory Team presented the results of the Supervisory Review and Evaluation Process (SREP 2023) along with related regulatory proposals and recommendations, which we subsequently discussed together. The Management Board reported to us on the development of business and the strategic priorities for the year 2024 as well as on the progress in remediating the portfolio of open regulatory enforcement measures and critical external findings in 2023. Together with the Management Board, we discussed the corporate culture against the backdrop of the bank's purpose and vision as well as the implementation measures planned in this context for the year 2024. The Management Board reported to us on the preliminary strategy and capital plan for 2024 to 2026 as well as the situation in Postbank and on the progress made in working through the backlogs.

Committees of the Supervisory Board

The members of the individual committees and the changes during the financial year are specified in the Corporate Governance Statement in the Annual Report.

The Chairman's Committee held nine meetings in the reporting period – six meetings were with physical attendance and three were video conferences. Seven ordinary meetings took place and two extraordinary meetings (including one together with the Nomination Committee). The Chairman's Committee addressed Management Board and Supervisory Board matters in depth, in addition to corporate governance and ongoing topics between the meetings of the Supervisory Board as well as the preparations for them. This included addressing the preparations for changes on the Management Board in consultation with the Nomination Committee, the preparation of the revised versions of our terms of reference and Supervisory Board-internal documents as well as topics in preparation for the General Meeting. The Committee also addressed the topic of the business-related use and monitoring of electronic communications, the state of services within the Private Bank and a series of special topics. Furthermore, the Committee addressed the mandates of the Management Board members and the assumption of costs for (former) members of the Management Board.

In 2023, the Risk Committee met six times – two meetings with physical attendance and four as video conferences. As in previous years, the Risk Committee focused on periodically recurring topics such as the annual appetite statement of the company, the internal process to ensure capital adequacy and the internal process to ensure an appropriate liquidity position. A key focus of the Committee at several meetings last year was on the topic of Non-Financial Risk in general, but also in particular with regard to specific risk types. As a regular item, the business division-specific risk appetites were assessed, in particular those of the Private Bank and DWS. In addition, the Committee obtained reports on significant political and economic developments such as the Israel-Gaza conflict, tensions between China and Taiwan as well as developments in the commercial real estate sector. Furthermore, the Committee addressed the bank's core transformation initiatives relating to the Risk function. With regard to the regulators' priorities, the Committee focused, for example, on the bank-internal risk management in general, the framework for recognizing provisions, non-financial risks and the topic of sustainability. Finally, the Committee addressed the general framework with regard to product structure, the capital planning for the individual business divisions and changes in the credit models and the respective effects on the bank's capital.

The Audit Committee met five times in 2023. Five meetings were conducted with attendance on-site and four were held as video conferences. The areas of focus included addressing the impacts of the developments in the banking sector both in Europe and in the USA for the bank's accounting statements and the new requirements for Environmental, Social and Governance (ESG) reporting. Furthermore, the Committee regularly addressed the monitoring of the effectiveness of the control functions (in particular, Compliance, Anti-Money Laundering function, Group Audit). The monitoring of the Management Board in the remediation of findings related to the Know-Your-Customer (KYC) processes was another focal point of the Committee's work, in addition to the Findings Management program for the accelerated reduction of critical findings. In addition, the Committee addressed, against the backdrop of Wirecard's insolvency, the potential implications for the auditor of our annual and consolidated financial statements, in particular with regard to the auditor's independence.

The Nomination Committee met a total of six times during the reporting period, including one extraordinary meeting together with the Chairman's Committee. Four meetings were conducted on-site, and two meetings were held as video conferences. The Nomination Committee extensively addressed succession planning for the Management Board and Supervisory Board in consideration of the statutory and regulatory requirements and diversity principles. In this context, the Nomination Committee addressed in consultation with the Chairman's Committee the changes on the Management Board resulting from the departure from the Management Board of Ms. Riley and Mr. von Rohr. Furthermore, the Committee resolved to recommend that the Supervisory Board nominate Ms. Mayree Clark, Mr. John Thain, Ms. Michele Trogni and Professor Dr. Norbert Winkeljohann for re-election to the Supervisory Board at the General Meeting. In addition, the Committee addressed the composition of the Supervisory Board committees, the induction of new members of the Supervisory Board and of the Management Board, the Management Board's training measures, the regular review of our internal policies and procedures, as well as topics related to the ("fit and proper") suitability of members of the Supervisory Board and Management Board. Other topics included the annual assessment of the Supervisory Board and Management Board in accordance with Section 25d (11) of the German Banking Act (KWG) and the advancement of diversity.

The Compensation Control Committee met seven times in 2023. Two meetings were conducted on-site, four meetings were video conferences, and one was held as a hybrid meeting. At its meetings, the Committee focused in particular on monitoring the structure of the compensation systems for the Management Board and for employees. The Committee submitted proposals for the objectives for the year 2023 and for determining the variable compensation of the Management Board for the year 2022. The Committee also addressed personnel-related changes on the Management Board with a corresponding adjustment of the individual objectives. Furthermore, it dealt with the regulatory developments and regulatory findings on compensation topics and addressed, also with the support of external advisors, the examination of the existence of the preconditions for the suspension, forfeiture or claw-back of elements of variable compensation of (former) members of the Management Board. To the extent required, it adopted resolutions and developed recommendations on resolution proposals for the Supervisory Board plenum. Another focal point was addressing the Compensation Report on the compensation of the Management Board and Supervisory Board, which, pursuant to Section 162 of the German Stock Corporation Act (AktG), was to be submitted for approval by the General Meeting and subsequently published along with the auditor's opinion. Furthermore, the Committee monitored the identification of Material Risk Takers and the determination of the total amount of variable compensation for the 2022 financial year as well as the decisions on the compensation for the heads of the Compliance and Risk functions. The Compensation Control Committee also addressed the revision of the compensation system for the Management Board, which is to be submitted for approval to the General Meeting 2024. The new system is intended to align the basis for the Management Board members' performance assessment more closely to shareholders' interests. Starting 2024, the long-term variable compensation component will therefore no longer be measured on the basis of the business performance in preceding years, but on how financial and Environmental, Social and Governance (ESG) goals develop in each following three-year period.

The Regulatory Oversight Committee met six times in 2023. One meeting was conducted on-site, two meetings were video conferences, and three meetings were held as hybrid meetings. The Regulatory Oversight Committee was informed by the Management Board on an ongoing basis about contacts with regulators with a significant relevance for the business activity and especially about special audits, substantial complaints and other exceptional measures on the part of German and foreign bank regulatory authorities, to the extent they do not relate to financial reports or audit matters. The Management Board reported in every meeting on the status of the remediation of regulatory enforcement actions and the related critical findings. In addition, reports were given to the Committee at its meetings on significant internal investigations and their progress. In parallel, the Regulatory Oversight Committee continues to deal with preventive compliance controls and litigation cases with the highest risks from the bank's perspective.

The Strategy and Sustainability Committee met four times. Two meetings were conducted on-site and two as video conferences. At its meetings, the Committee intensively addressed the bank's strategic transformation and regularly obtained reports on this from the Management Board. A special focus was therefore placed on the bank's strategic and financial planning up to 2025 with the aim of its positioning as "Global Hausbank". In this context, the Committee addressed the progress made in the bank's key deliverables to achieve operational efficiency increases as well as the portfolio of key business units. Another focal point of the Committee's work was on addressing the bank's implementation of its sustainability strategy and the progress made in achieving its sustainability objectives. Other topics of reporting and discussion were the bank's digital strategy and the range of offers to digitally affine client segments, the strategy of the Technology, Data and Innovation area, the Corporate Bank and Investment Bank client strategies, regional strategies, the bank's operating model and macroeconomic developments.

The Technology, Data and Innovation Committee met four times. Two meetings were conducted on-site and two meetings were held as video conferences. Focus areas in 2023 were the Group-wide technology strategy, the topic of data management, the implementation of key bank-wide technology programs, cyber and information security as well as innovations in the area of artificial intelligence and machine learning. Furthermore, in 2023 the Committee extensively addressed the migration of the retail banking platform and received updates on the bank's corresponding program, including details on incident management and decommissioning measures. In addition, the Committee received detailed reporting on the IT strategies and roadmaps of the business divisions as well as reports on the migration to the cloud, the remediation of regulatory findings and the implementation of the bank's front-to-back programs. With regard to cyber and information security, the Committee discussed the current security situation and the metrics for its assessment, as well as the risks and actions resulting from the geopolitical situation in China and Russia. In order to support the Risk Committee with regard to the overall risk strategy, the Technology, Data and Innovation Committee addressed risk and control management within the Technology, Data and Innovation area as well as the related key deliverables.

Meetings of the Mediation Committee, established pursuant to the provisions of Germany's Co-Determination Act (MitbestG), were not necessary.

Participation in meetings

During the reporting period, the Supervisory Board members participated in the meetings of the Supervisory Board and of the committees in which they were members as shown in the following. Participation was either in person or per video conference. There was no case of participation by telephone.

No. of meetings / participation in %	Supervisory Board			Chairman's Committee		Risk Committee		Audit Committee		Nomination Committee	
Wynaendts, Alexander (Chairman)	8 / 8	100%		9 / 9	100%	6 / 6	100%	3 / 3	100%	6 / 6	100%
Bleidt, Susanne (since May 17, 2023)	4 / 4	100%						2 / 2	100%		
Blomeyer-Bartenstein, Ludwig (until May 17, 2023)	4 / 4	100%				3 / 3	100%				
Clark, Mayree	8 / 8	100%				6 / 6	100%			6 / 6	100%
Duscheck, Jan	8 / 8	100%				6 / 6	100%				
Manja Eifert	8 / 8	100%						5 / 5	100%		
Fieber, Claudia (since May 17, 2023)	4 / 4	100%									
Gabriel, Sigmar	8 / 8	100%									
Heider, Timo	8 / 8	100%	5 / 5	100%						2 / 2	100%
Klee, Martina (until May 17, 2023)	3 / 4	75%									
Laumen, Birgit (since May 17, 2023)	4 / 4	100%						0 / 2	0%		
Platscher, Gabriele (until May 17, 2023)	4 / 4	100%						3 / 3	100%		
Polaschek, Detlef (until May 17, 2023)	4 / 4	100%	4 / 4	100%				3 / 3	100%	4 / 4	100%
Rose, Bernd (until May 17, 2023)	4 / 4	100%						3 / 3	100%		
Schulze, Frank (since May 17, 2023)	4 / 4	100%	5 / 5	100%						2 / 2	100%
Siebert, Gerlinde (since May 17, 2023)	4 / 4	100%				3 / 3	100%	2 / 2	100%		
Slyngstad, Yngve	8 / 8	100%									
Szukalski, Stephan (since May 17, 2023)	4 / 4	100%				3 / 3	100%				
Thain, John	7 / 8	88%									
Tögel, Jürgen (since May 17, 2023)	4 / 4	100%									
Trogni, Michele	8 / 8	100%				6 / 6	100%				
Valcárcel, Dagmar	7 / 8	88%						5 / 5	100%		
Viertel, Stefan (until May 17, 2023)	4 / 4	100%				3 / 3	100%	3 / 3	100%		
Weimer, Theodor	7 / 8	88%						5 / 5	100%		
Werneke, Frank (until May 17, 2023)	4 / 4	100%	3 / 4	75%						4 / 4	100%
Winkeljohann, Norbert	8 / 8	100%	9 / 9	100%	6 / 6	100%	5 / 5	100%	6 / 6	100%	
Witter, Frank	8 / 8	100%						5 / 5	100%		
Total		98%		97%		100%		96%		100%	

No. of meetings / participation in %	Compensation Control Committee			Regulatory Oversight Committee		Strategy and Sustainability Committee		Technology, Data and Innovation Committees		Total	
Wynaendts, Alexander (Chairman)	7 / 7	100%		6 / 6	100%	4 / 4	100%	4 / 4	100%	53 / 53	100%
Bleidt, Susanne (since May 17, 2023)								3 / 3	100%	9 / 9	100%
Blomeyer-Bartenstein, Ludwig (until May 17, 2023)				3 / 3	100%					10 / 10	100%
Clark, Mayree						4 / 4	100%			24 / 24	100%
Duscheck, Jan	3 / 3	100%	2 / 3	67%				1 / 1	100%	20 / 21	95%
Manja Eifert								4 / 4	100%	17 / 17	100%
Fieber, Claudia (since May 17, 2023)						2 / 2	100%	3 / 3	100%	9 / 9	100%
Gabriel, Sigmar				5 / 6	83%					13 / 14	93%
Heider, Timo	3 / 3	100%	6 / 6	100%	2 / 2	100%				26 / 26	100%
Klee, Martina (until May 17, 2023)								0 / 1	0%	3 / 5	60%
Laumen, Birgit (since May 17, 2023)						1 / 2	50%			5 / 8	63%
Platscher, Gabriele (until May 17, 2023)				3 / 3	100%					10 / 10	100%
Polaschek, Detlef (until May 17, 2023)	4 / 4	100%				2 / 2	100%			21 / 21	100%
Rose, Bernd (until May 17, 2023)	3 / 4	75%						1 / 1	100%	11 / 12	92%
Schulze, Frank (since May 17, 2023)						2 / 2	100%			13 / 13	100%
Siebert, Gerlinde (since May 17, 2023)										9 / 9	100%
Slyngstad, Yngve								4 / 4	100%	12 / 12	100%
Szukalski, Stephan (since May 17, 2023)				3 / 3	100%					10 / 10	100%
Thain, John						4 / 4	100%			11 / 12	92%
Tögel, Jürgen (since May 17, 2023)	3 / 3	100%				2 / 2	100%			9 / 9	100%
Trogni, Michele						4 / 4	100%	4 / 4	100%	22 / 22	100%
Valcárcel, Dagmar	7 / 7	100%	6 / 6	100%						25 / 26	96%
Viertel, Stefan (until May 17, 2023)						2 / 2	100%			12 / 12	100%
Weimer, Theodor										12 / 13	92%
Werneke, Frank (until May 17, 2023)	4 / 4	100%				2 / 2	100%			17 / 18	94%
Winkeljohann, Norbert	7 / 7	100%								41 / 41	100%
Witter, Frank										13 / 13	100%
Total		98%		94%		97%		96%		97%	

Corporate Governance

The composition of the Supervisory Board and its committees is in accordance with the legal requirements as well as regulatory governance standards. The European Central Bank reviewed and confirmed the professional qualifications and the personal reliability of our members within the framework of its suitability assessment. The suitability assessment covers the expertise, reliability and time available of each individual member. In addition, there was an assessment of the entire Supervisory Board's knowledge, skills and experience that are necessary for the performance of its tasks (collective suitability). The European Central Bank's Joint Supervisory Team and the Nomination Committee continually monitor the suitability of the Supervisory Board members.

The Chairman of the Supervisory Board and the chairpersons of all the committees coordinated their work continually and consulted each other regularly and – as required – on an ad hoc basis between the meetings in order to ensure the exchange of information necessary to capture and assess all relevant matters and risks in the performance of their tasks. The cooperation in the committees was marked by an open and trustful atmosphere.

The committee chairpersons reported regularly at the meetings of the Supervisory Board on the work of the individual committees. Regularly before the meetings of the Supervisory Board, the representatives of the employees and the representatives of the shareholders conducted preliminary discussions separately. At the beginning or end of the meetings of the Supervisory Board and its committees, discussions were regularly held in "Executive Sessions" without the participation of the Management Board.

The Chairman of the Supervisory Board and the chairpersons of the committees engaged regularly in discussions with representatives of various regulators and informed them about the work of the Supervisory Board and its committees and about the cooperation with the Management Board.

Together with the bank's Investor Relations Department, the Supervisory Board Chairman conducted discussions with investors, proxy advisors and shareholders' associations. The subjects of the discussions were governance and strategy topics from the Supervisory Board's perspective, questions related to appointments of personnel and succession planning, the bank's control processes, Management Board compensation, and the Supervisory Board's view of the bank's Environmental, Social and Governance (ESG) strategy.

At several meetings of the Nomination Committee and of the Supervisory Board in plenum, we addressed the assessment prescribed by law of the Management Board and the Supervisory Board for the 2023 financial year, which also comprises the self-assessment according to the German Corporate Governance Code. The final discussion of the results took place at a meeting of the Supervisory Board plenum on January 31, 2024, and the results were set out in a final report.

For further information, for example, on the Audit Committee financial experts, the compensation experts and the independence of the individual members, we refer to the "Supervisory Board" section in the Corporate Governance Statement.

The Declaration of Conformity pursuant to Section 161 of the Stock Corporation Act (AktG), which we had last issued with the Management Board in October 2022, was reissued in October 2023. The text of the Declaration of Conformity, along with a comprehensive presentation of the bank's corporate governance, can be found in the Annual Report and on the bank's website at <https://www.db.com/ir/en/documents.htm>. Our Declarations of Conformity and Corporate Governance Statements from the past five years are also available there, in addition to the currently applicable versions of the Terms of Reference for the Supervisory Board and its committees as well as for the Management Board.

Training and further education measures

We held several training sessions in 2023, as in prior years. They were conducted in most cases by external subject matter experts, but also by internal experts. The training focused on topics such as artificial intelligence, climate and environmental risks as well as macroeconomic developments and their effects on the bank. Furthermore, we received an outlook for the global and regulatory environment in the financial services sector for the year 2023 (including topic areas such as geopolitics and regulatory fragmentation, economic conditions and impacts on clients, digital assets, the digitalization of financial services, Environmental, Social and Governance (ESG) issues, combating financial crime, strategic agility and operational resilience, and regulatory requirements).

For the new members that joined the Supervisory Board, extensive induction courses tailored to them individually were developed and carried out to facilitate their induction into office.

Conflicts of interest and their handling

We continually strive to identify and prevent potential conflicts of interest on the part of our members as early as possible and arrange for their mitigation.

Following the election of the employee representatives to the Supervisory Board on April 5, 2023, Ms. Gerlinde Siebert informed us that her role as Global Head of Governance may overlap with tasks of the Regulatory Oversight Committee. Through in-depth discussions, the Supervisory Board was able to ensure itself that any resulting conflict of interest does not stand in the way of an unrestricted participation on the Supervisory Board. Ms. Gerlinde Siebert did not become a member of the Regulatory Oversight Committee, so no potential conflict of interest exists.

Also, the performance of external mandates by our Supervisory Board members at other companies and management bodies is regularly reviewed for potential conflicts of interest.

Annual Financial Statements, Consolidated Financial Statements, and the combined separate Non-Financial Report and Compensation Report

EY GmbH & Co. KG Wirtschaftsprüfungsgesellschaft (EY) audited the Annual Financial Statements, including the accounting and the Combined Management Report for the Annual Financial Statements and Consolidated Financial Statements for the 2023 financial year and issued in each case an unqualified audit opinion on March 11, 2024. The Auditor's Reports were signed jointly by the Auditors Mr. Mai and Mr. Löskens.

Furthermore, EY performed a limited assurance review in the context of the combined separate Non-Financial Report as well as the Non-Financial Statement (Non-Financial Reporting) and in each case issued an unqualified opinion. EY issued a separate unqualified opinion for the Compensation Report.

The Audit Committee examined the documents for the Annual Financial Statements and Consolidated Financial Statements 2023 as well as the Non-Financial Reporting 2023 at its meeting on March 12, 2024. Representatives of EY provided the final report on the audit results. The Chairman of the Audit Committee reported to us on this at the meeting of the Supervisory Board. Based on the recommendation of the Audit Committee, and after inspecting the Annual Financial Statements and Consolidated Financial Statements documents as well as the documents for the Non-Financial Reporting and following an extensive discussion on the Supervisory Board as well as with the representatives of the auditor, we noted the results of the audits with approval. We determined that, also based on the final results of our inspections, there are no objections to be raised.

Today, we approved the Annual Financial Statements and Consolidated Financial Statements prepared by the Management Board. The Annual Financial Statements are thus established. We agree to the proposal for the appropriation of distributable profit.

Personnel issues

The term of office of Ms. Mayree Clark, Mr. John Thain, Ms. Michele Trogni and Professor Dr. Norbert Winkeljohann ended as scheduled with the conclusion of the General Meeting on May 17, 2023. In accordance with our proposal, the General Meeting re-elected all four of these shareholder representatives to the Supervisory Board, in each case for a term of office of around four years.

With the conclusion of the General Meeting on May 17, 2023, the term of office of the employee representatives on the Supervisory Board came to an end. Mr. Jan Duscheck, Ms. Manja Eifert and Mr. Timo Heider were re-elected to the Supervisory Board. Newly elected as employee representatives to the Supervisory Board were Ms. Susanne Bleidt, Ms. Claudia Fieber, Ms. Birgit Laumen, Ms. Gerlinde Siebert, Mr. Frank Schulze, Mr. Stephan Szukalski (elected for the third time to the Supervisory Board) and Mr. Jürgen Tögel.

Ms. Birgit Laumen stepped down from her office with effect from January 12, 2024. Mr. Florian Haggenmiller was appointed by the court as her successor with effect from January 16, 2024.

Mr. Karl von Rohr's term of office as Management Board member ended on October 31, 2023. Mr. Karl von Rohr had informed us that he would not be seeking to renew his Management Board Service Contract beyond the intended expiry on October 31, 2023. Ms. Christiana Riley decided to take up a challenge outside of the bank and stepped down from her Management Board mandate with effect from May 17, 2023, and left the bank with effect from May 31, 2023. We appointed Mr. Claudio de Sanctis with effect from July 1, 2023, to the Management Board as Mr. Karl von Rohr's successor, to ensure an orderly transition in the position. On October 25, 2023, we resolved to extend Ms. Rebecca Short's Management Board appointment by three years to April 30, 2027.

All resolutions were based on the recommendations of the Nomination Committee and the Chairman's Committee.

We sincerely thank the members of the Management Board and the Supervisory Board as well as the members who left last year for their dedicated work and their constructive assistance to the company during the past years.

Furthermore, we would also like to express our deep appreciation and thanks to the bank's employees for their great personal dedication.

Frankfurt am Main, March 13, 2024

The Supervisory Board

Alexander Wynaedts

Chairman

Supervisory Board

Alexander Wynaedts

– Chairman
The Hague
Netherlands

Detlef Polaschek*

– Deputy Chairman
until May 17, 2023
Essen
Germany

Professor Dr. Norbert Winkeljohann

– Deputy Chairman
Osnabrück
Germany

Frank Schulze*

– Deputy Chairman
since May 17, 2023
Hanau
Germany

Susanne Bleidt*

since May 17, 2023
Bell
Germany

Ludwig Blomeyer-Bartenstein*

until May 17, 2023
Bremen
Germany

Mayree Clark

New Canaan
USA

Jan Duscheck*

Berlin
Germany

Manja Eifert*

Berlin
Germany

Claudia Fieber*

since May 17, 2023
Berlin
Germany

Sigmar Gabriel

Goslar
Germany

Florian Haggenmiller*

since January 16, 2024
Kempten (Allgäu)
Germany

Timo Heider*

Emmerthal
Germany

Martina Klee*

until May 17, 2023
Frankfurt am Main
Germany

Birgit Laumen*

from May 17, 2023 until
January 12, 2024
Alfter
Germany

Gabriele Platscher*

until May 17, 2023
Braunschweig
Germany

Bernd Rose*

until May 17, 2023
Menden
Germany

Gerlinde Siebert*

since May 17, 2023
Frankfurt am Main
Germany

Yngve Slyngstad

Oslo
Norway

Stephan Szukalski*

since May 17, 2023
Ober-Mörlen
Germany

John Alexander Thain

Rye
USA

Jürgen Tögel*

since May 17, 2023
Horgau
Germany

Michele Trogni

Riverside
USA

Dr. Dagmar Valcárcel

Madrid
Spain

Stefan Viertel*

until May 17, 2023
Kelkheim im Taunus
Germany

Dr. Theodor Weimer

Wiesbaden
Germany

Frank Werneke*

until May 17, 2023
Berlin
Germany

Frank Witter

Braunschweig
Germany

Committees

Chairman's Committee

Alexander Wynaedts
– Chairman

Timo Heider*
(since May 17, 2023)

Detlef Polaschek*
(until May 17, 2023)

Frank Schulze*
(since May 17, 2023)

Frank Werneke*
(until May 2023)

Professor Dr. Norbert Winkeljohann

Nomination Committee

Alexander Wynaedts
– Chairman

Mayree Clark

Timo Heider*
(since May 17, 2023)

Detlef Polaschek*
(until May 17, 2023)

Frank Schulze*
(since May 17, 2023)

Frank Werneke*
(until May 17, 2023)

Professor Dr. Norbert Winkeljohann

Audit Committee

Frank Witter
– Chairman

Susanne Bleidt*
(since May 17, 2023)

Manja Eifert*

Claudia Fieber*
(since January 31, 2024)

Birgit Laumen*
(from May 17, 2023 until
January 12, 2024)

Gabriele Platscher*
(until May 17, 2023)

Detlef Polaschek*
(until May 17, 2023)

Bernd Rose*
(until May 17, 2023)

Gerlinde Siebert*
(since May 17, 2023)

Dr. Dagmer Valcárcel

Stefan Viertel*
(until May 17, 2023)

Dr. Theodor Weimer

Professor Dr. Norbert Winkeljohann

Alexander Wynaedts
(until May 17, 2023)

Risk Committee

Mayree Clark
– Chairman

Ludwig Blomeyer-Bartenstein*
(until May 17, 2023)

Jan Duscheck*

Gerlinde Siebert*
(since May 17, 2023)

Stephan Szukalski*
(since May 17, 2023)

Michele Trogni

Stefan Viertel*
(until May 17, 2023)

Professor Dr. Norbert Winkeljohann

Alexander Wynaedts

Regulatory Oversight Committee

Dr. Dagmar Valcárcel
– Chairman

Ludwig Blomeyer-Bartenstein*
(until May 17, 2023)

Jan Duscheck*
(since May 17, 2023)

Sigmar Gabriel

Timo Heider*

Gabriele Platscher*
(until May 17, 2023)

Stephan Szukalski*
(since May 17, 2023)

Alexander Wynaedts

Compensation Control Committee

Prof. Dr. Norbert Winkeljohann – Chairman
Jan Duscheck*
(since May 17, 2023)
Timo Heider*
(since May 17, 2023)
Detlef Polaschek*
(until May 17, 2023)
Bernd Rose*
(until May 17, 2023)
Jürgen Tögel*
(since May 17, 2023)
Dr. Dagmar Valcárcel
Frank Werneke*
(until May 17, 2023)
Alexander Wynaedts

Strategy and Sustainability Committee

John Alexander Thain – Chairman
Mayree Clark
Claudia Fieber*
(since May 17, 2023)
Florian Hagenmiller*
(since January 31, 2024)
Timo Heider*
(until May 17, 2023)
Birgit Laumen*
(from May 17, 2023 until
January 12, 2024)
Detlef Polaschek*
(until May 17, 2023)
Frank Schulze*
(since May 17, 2023)
Jürgen Tögel*
(since May 17, 2023)
Michele Trogni
Stefan Viertel*
(until May 17, 2023)
Frank Werneke*
(until May 17, 2023)
Alexander Wynaedts

Technology, Data and Innovation Committee

Michele Trogni
– Chairman
Susanne Bleidt*
(since May 17, 2023)
Jan Duscheck*
(until May 17, 2023)
Manja Eifert*
(since May 17, 2023)
Claudia Fieber*
(from May 17, 2023 until
January 31, 2024)
Florian Hagenmiller*
(since January 31, 2024)
Martina Klee*
(until May 17, 2023)
Bernd Rose*
(until May 17, 2023)
Yngve Slyngstad
Alexander Wynaedts

Mediation Committee

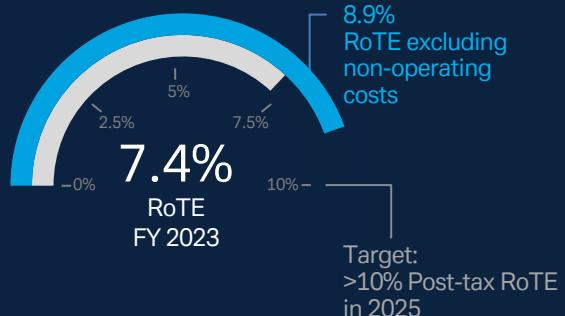
Alexander Wynaedts
– Chairman
Timo Heider*
(since May 17, 2023)
Detlef Polaschek*
(until May 17, 2023)
Frank Schulze*
(since May 17, 2023)
Frank Werneke*
(until May 17, 2023),
Professor Dr. Norbert Winkeljohann

Results reflect the strength of *Global Hausbank* strategy



Profitability

- Achieved revenue CAGR of close to 7% since 2021 supports updated target of 5.5-6.5%¹ between 2021 and 2025
- Invested in 2023 to further develop the bank's franchise to drive business growth, strengthen controls and improve operational efficiency; expect forward quarterly run-rate of € 5bn of adjusted costs from 2024 onwards



Resilience

CET1 Ratio

- Resilient capital due to strong organic capital generation
- Aim to maintain a Common Equity Tier 1 (CET1) capital ratio of around 13%, i.e., to operate with a buffer of 200 basis points (bps) above the bank's expected maximum distributable amount (MDA) threshold



Liquidity Coverage Ratio

- Sound liquidity and funding base, with LCR at 140% and NSFR at 121% by the end of 2023



Capital distribution

- Plan to sustainably grow cash dividends and, over time, return to shareholders through share buybacks excess capital
- Intend to propose to the Annual General Meeting 2024 a dividend of € 0.45 per share, or approximately € 900 million, up from € 0.30 per share for 2022
- Received supervisory approval for a share repurchase of € 675 million, which the bank aims to materially complete in the first half of 2024, after having completed € 450 million in share repurchases in 2023



Sustainability

- Continued increase in Sustainable Finance volumes by € 14bn in 2023 to € 279bn total (cumulative since 2020)



¹ Compound annual growth rates of the total of net revenues between full year 2021 and full year 2025

Strategy

Global Hausbank

Deutsche Bank's strategic and financial roadmap through 2025 aims to position Deutsche Bank as a *Global Hausbank*, and to achieve the bank's 2025 financial targets and capital objectives. The *Global Hausbank* strategy is underpinned by three key themes: risk management, sustainability and technology, which have become even more important considering the ongoing geopolitical and macro-economic challenges. In this environment, Deutsche Bank aims to leverage a more favorable interest rate environment, deploy risk management expertise to support clients, and allocate capital to high-return growth opportunities. As sustainability becomes ever more important, the bank aims to deepen its dialogue with and support for clients and broaden the agenda in respect of the bank's own operations. As technology continues to evolve, Deutsche Bank aims to achieve further cost savings, accelerate the transition to a digital bank and expand upon strategic partnerships, which are already creating substantial value. At the same time, Deutsche Bank continues to work towards a long-term set-up that will enable a future of sustainable growth. This includes a clear definition of its purpose, vision and culture.

Deutsche Bank's key performance indicators 2025

Financial targets and capital objectives for 2025

Financial targets:

- Post-tax Return on Average Tangible Equity of above 10% for the Group
- Compound annual growth rate of revenues between 2021 and 2025 of 5.5 to 6.5% (raised from 3.5 to 4.5%)
- Cost/income ratio of less than 62.5%

Capital objectives:

- Common Equity Tier 1 capital ratio of approximately 13%
- 50% Total payout ratio from 2025

Deutsche Bank reaffirms its financial targets, including the compound annual growth rate of revenues target which it has raised from 3.5–4.5% to 5.5–6.5% at the beginning of 2024, as well as its capital objectives for 2025.

Post-tax Return on Average Tangible Equity and adjusted costs are non-GAAP financial measures. Please refer to "Supplementary financial information (Unaudited): Non-GAAP financial measures" of this report for the definitions of such measures and reconciliations to the IFRS numbers on which they are based.

Progress on strategy implementation

In 2023, Deutsche Bank made further progress in accelerating the execution of its *Global Hausbank* strategy on all dimensions: revenue growth, operational and capital efficiency.

Revenues grew to around € 29 billion, and the revenue growth rate was close to 7% per year since 2021 as benefits of the sharpened business model came through. The bank made conscious investment decisions in 2023 to further develop its franchise, mainly to drive business growth, strengthen controls and improve operational efficiency. Deutsche Bank believes that the bank has reached an inflection point on costs with these investments approaching completion. Furthermore, the bank demonstrated resilience, with high-quality risk management and a strong capital and balance sheet, resulting in both dividends and share buybacks increased by 50% compared to 2022.

Revenue growth

On revenue growth, Deutsche Bank believes that the bank delivered sustained growth from a well-balanced business mix. For example, the bank took advantage of rising interest rates, notably in the Corporate Bank and Private Bank, but also focused on increasing the bank's fee income across all fee-generating businesses. Corporate Bank developed innovative products, hired relationship managers in strategic areas, and deepened relationships with key clients. Investment Bank continued to execute against its strategic priorities, including completing the acquisition of Numis to enhance its ability to deliver its service offering to its clients. Furthermore, Investment Bank and International Private Bank added senior bankers in client-facing areas. The bank also attracted net inflows of € 57 billion across the Private Bank and Asset Management, which has helped grow Assets under Management by € 115 billion to € 1.5 trillion across these businesses.

Given the progress achieved, Deutsche Bank raised its compound annual growth target for the period between 2021 and 2025 from 3.5 - 4.5% to 5.5 - 6.5% at the beginning of 2024, after outperforming the bank's original target in both 2022 and 2023. The bank's expectation is that the achievement of the revised target will be supported by growth of noninterest income from a growing market share in Corporate Bank, reaping the benefits of investments in Origination & Advisory, building on the bank's recent strong relative performance in the Fixed Income and Currencies (FIC) business, growing fees from investment products in Private Bank and expanding certain lending businesses. In Asset Management, the bank plans to take full advantage of the market recovery that started at the end of 2023 to grow further in Passive and Alternatives. Additionally, Private Bank and Asset Management aim to convert 2023's net inflows and growth in assets under management into revenues.

Operational efficiency

Deutsche Bank made further progress on its € 2.5 billion operational efficiency program during 2023 and already realized savings from completed efficiency measures. The bank expects the remaining savings to result from the execution of measures relating to infrastructure and technology efficiencies, including application decommissioning and operating model improvements, optimization of the bank's platform in Germany and front-to-back process redesign, including simplified workflows and automation. These measures are also expected to lead to a reduction of approximately 3,500 roles, mainly in non-client-facing areas, of which some have already left the platform. The bank aims for a quarterly run-rate of adjusted costs of € 5 billion in 2024 and aims to operate with total noninterest expenses of around € 20 billion in 2025.

Deutsche Bank's 2023 cost base was impacted by inflation, business growth and investments to accelerate execution of the bank's *Global Hausbank* strategy. Some of the investments to accelerate strategy execution are non-recurring and mainly related to improvements of the bank's operational efficiency as outlined above and real estate one-offs. The bank also recognized an impairment of goodwill related to Numis in 2023. In addition, Deutsche Bank made investments that are expected to continue to impact the bank's cost base. On business growth, the bank has invested in businesses which are less capital intensive and on controls, it further strengthened key functions.

Investment in innovation and digitalization remains a key focus area of Deutsche Bank's operational efficiency targets. In 2023, the bank has broadened its technological reach with a focus on artificial intelligence (AI) including with the testing of Google Cloud's AI tools. Opportunities from AI are expected in operations and process automation to enable investments in client solutions and fuel revenue growth.

Capital efficiency

With respect to capital efficiency, Deutsche Bank reduced risk-weighted assets (RWA) in 2023, already putting the bank on track regarding its ambition for RWA reductions of € 25 to 30 billion by 2025. These measures, together with strong organic capital generation, enabled Deutsche Bank to increase its CET1 ratio to 13.7% as of year end 2023, up from 13.4% at year end 2022. Deutsche Bank aims to maintain a Common Equity Tier 1 capital ratio of around 13%, i.e., to operate with a buffer of 200 basis points above the bank's expected maximum distributable amount (MDA) threshold, also after the impacts from the adoption of CRR 3, which is expected to become effective on January 1, 2025.

Deutsche Bank plans to sustainably grow cash dividends and, over time, return to shareholders through share buybacks excess capital over and above the requirements to support profitable growth and upcoming regulatory changes. For the financial year 2023, the Management Board intends to propose to the Annual General Meeting a dividend of € 0.45 per share, after having paid a dividend of € 0.30 per share for 2022 and € 0.20 per share for 2021. For the financial year 2024 and subsequent years, the bank targets a payout ratio of 50% of net income attributable to Deutsche Bank shareholders, delivered through a combination of cash dividends and share buybacks. These distributions to shareholders are subject to shareholder authorization and German corporate law requirements, and in the case of share buybacks additionally require prior regulatory approval. Deutsche Bank plans to increase both share repurchases and dividends by at least 50% year on year in 2024. The bank has received supervisory approval for a share repurchase of € 675 million, which it aims materially to complete in the first half of 2024, having completed € 450 million in share repurchases in 2023; and Deutsche Bank plans to propose a dividend in respect of the 2023 financial year of € 0.45 per share, or approximately € 900 million, up from € 0.30 per share for 2022, at the bank's Annual General Meeting in May 2024. For the financial years 2024 and 2025, Deutsche Bank aims for cash dividends of € 0.68 and € 1.00 per share, respectively, subject to a 50% payout ratio limitation relative to net income attributable to Deutsche Bank shareholders. The bank has set a capital distribution goal of € 8 billion in respect of the financial years 2021-2025, paid in 2022-2026, and believes that it is positioned to exceed this objective based on the achievement of the bank's financial targets.

The rating agencies recognized the continued progress the bank has made over the course of 2023, specifically further improvements in profitability. This was reflected in upgrades by S&P, Fitch and Morningstar DBRS during the year. In May, S&P raised its outlook on the bank to positive. DBRS Morningstar upgraded all Deutsche Bank's long-term ratings by one notch in June. Fitch upgraded the bank's ratings by one notch in July. Towards the end of 2023, S&P upgraded Deutsche Bank's credit ratings, the fourth successive upgrade of Deutsche Bank's credit ratings by a leading rating agency during 2023. S&P highlighted the bank's progress in growing the franchise, strengthening earnings, and maintaining solid capital and liquidity profiles.

Sustainability

Deutsche Bank has the strong intention to support and accelerate the historic transformation towards a more sustainable society and economy. Consequently, Deutsche Bank's Management Board made sustainability a management priority in 2019.

To underpin this, the bank hosted its 2nd Sustainability Deep Dive in March 2023, where senior leaders reported on the progress in implementing the bank's sustainability strategy in the specific business and infrastructure areas. The focus was on how the bank plans to embed environmental, social and governance aspects into products, policies, and processes. The sustainability strategy focuses on the following four pillars:

- **Sustainable finance:** navigating the bank's clients on their sustainability journey by being deeply embedded in their decision making and processes, supported by an innovative and data-driven offering
- **Policies and commitments:** maintaining and developing dedicated control frameworks and processes to turn regulatory challenges into business opportunities and steer decision-making based on impact measurement
- **People and own operations:** building a sustainability-led organization driven by value-based leadership, empowered employees – embedding environmental and social aspects deeply in the bank's processes
- **Thought leadership and stakeholder engagement:** playing a pivotal role for government agencies, academia and interest groups to accelerate standard setting locally and internationally

By implementing this strategy, the bank aims to maximize its contribution to the Paris Climate Agreement and the United Nations' Sustainable Development Goals. Deutsche Bank has endorsed multiple universal sustainability frameworks and initiatives, such as the UN's Environment Programme Finance Initiative, the UN Global Compact, and the Principles for Responsible Banking.

To measure and report transparently about the progress, Deutsche Bank has set the following targets and goals:

- The bank wants to achieve cumulative sustainable financing and ESG investment volumes of € 500 billion in the period from January 2020 to end of 2025 (excluding DWS); which transactions can be classified as sustainable is documented in Deutsche Bank's Sustainable Finance Framework and published on Deutsche Bank's website
- It wants to achieve the bank's net-zero commitment by 2050 and has, therefore, published net-zero targets for seven carbon-intensive sectors in the bank's corporate loan book by end of 2030 (interim) and end of 2050 (final)
- The bank plans to ensure that at least 35% of Managing Director, Director and Vice President roles are held by women by 2025
- It wants to reduce emissions in the bank's own operations and supply chain (Scope 1, Scope 2 and disclosed Scope 3: Category 1 to 14) by 46% by the end of 2030 compared to the 2019 baseline

In 2023, Deutsche Bank continued to deliver on the targets, goals and pillars of the bank's sustainability strategy. For example, the bank:

- Published its initial Transition Plan summarizing the bank's decarbonization strategy and actions along three dimensions: own operations (Scope 1 and 2), supply chain (disclosed Scope 3: Category 1 to 14); and the financing the bank provides to its clients (Scope 3: Category 15)
- Announced three additional sectoral emission reduction targets in the corporate loan portfolio for Shipping, Cement and Coal Mining after having published pathway targets for four sectors in the previous year (i.e., Oil & Gas, Automotive, Power Generation and Steel)
- Updated the bank's thermal coal guideline by tightening the criteria on when a company is deemed a thermal coal company and in scope of the guideline, as well as specifying the requirements to be applied to clients in scope of the updated guideline
- Rolled out a "Sustainable Finance" training for client facing staff, and funded community conservation projects in several Asia-Pacific countries by partnering with The Nature Conservancy
- Further enhanced the bank's risk management and related processes to prevent human rights violations in the supply chain in accordance with the German Supply Chain Due Diligence Act

To reinforce Deutsche Bank's sustainability strategy, the transformation of the bank with regards to sustainability-related targets and goals is a component for the bank's top executives' performance-based compensation.

This section does not cover DWS which sets its own sustainability strategy. Please refer to the section Asset Management in this chapter.

Strong revenue trajectory supported by resilient and diversified franchise positioning



Corporate Bank

- Investing into fee-generating payment platforms and enhanced industry coverage teams
- Expansion of fee-based institutional business and increasing intensity in cross-divisional solutions
- Accelerated development of new business with future revenue potential, including Merchant Solutions and Digital Asset Custody

Investment Bank

- Investments and selective hiring in Origination & Advisory to drive future revenue growth as industry recovers
- Completed the acquisition of Numis to create a leading corporate broker in the UK
- Consolidation of performance in FIC Sales & Trading in 2023, with deeper client penetration and focused product diversification expected to drive revenue growth in 2024 and beyond

Net revenues



Noninterest expenses



Profit before tax



Private Bank

- Strong foundation for growth with year end assets under management of € 559bn, up 8% year on year
- Digital channel enhancement and shift towards internal portfolio solutions
- Higher investment fee revenues in International Private Bank

Asset Management

- Strong step-off for future growth with year end assets under management of € 896bn, up 9% year on year
- Growing Xtrackers through product innovation and regional expansion
- Focus on Alternatives Credit Europe and Real Estate Debt in the US
- Strengthening Fixed Income and Multi Asset capabilities to increase potential for scaling

Deutsche Bank Business segments

Corporate Bank

Corporate banking is an integral part of Deutsche Bank's business. Corporate Bank's capabilities in Cash Management, Trade Finance and Lending in close collaboration with Foreign Exchange in the Investment Bank enable the division to serve the core needs of corporate clients. As a leading bank serving multinational and German corporates domestically and abroad, the Corporate Bank helps clients in optimizing their working capital and liquidity, securing global supply chains and distribution channels and managing their risks (source: EUROMONEY). Furthermore, Corporate Bank acts as a specialized provider of services to financial institutions, offering Correspondent Banking, Trust and Agency Services as well as Securities Services. Finally, the division provides Business Banking services to small corporate and entrepreneur clients in Germany through a standardized product suite.

Corporate Bank has defined a number of specific initiatives to capitalize on its core competencies across these different areas to grow revenues to achieve its targets. In particular, the division's investments in new initiatives and experience in managing complex situations for clients, such as uncertainties associated with increasing geopolitical tensions, lower economic growth in the major operating countries from ongoing supply chain disruptions, higher energy and commodity prices as well as uncertainty around central bank policies, allow Corporate Bank to prove its advisory and solution capabilities.

In 2023, Corporate Bank continued to make progress on the business segment's strategic objectives, benefiting from rising interest rates and a strong pricing discipline. In July 2023, Deutsche Bank was selected as the new issuing partner for the Lufthansa Miles & More Credit Card, Europe's leading loyalty program, from mid-2025. In addition, the segment intends to further expand its digital offerings, for example Corporate Bank applied to the German Federal Financial Supervisory Authority (BaFin) in the second quarter of 2023 to obtain a license for the custody of digital assets.

Looking ahead, Corporate Bank is expected to continue to act as an integral part of the *Global Hausbank* strategy and contribute to Deutsche Bank's 2025 objectives. The segment sees growth opportunities across all core client groups Corporate, Institutional, Business Banking, both from existing Corporate Bank strengths and from new products. The segment's global network across 140 countries combined with profound local knowledge, a comprehensive product suite and tailored client offering, should continue to offer competitive advantages versus the division's peers. Corporate Bank continues working towards its strategic ambitions, leveraging its strong brand and deep client relationships and aiming to offer a full range of advisory and financing solutions for corporate treasurers. The segment wants to remain the trusted partner for the German economy and build on its standing as the leading Corporate Bank in its home market. The segment is also committed to connect financial institutions worldwide, a business where it is one of the market leaders (source: SWIFT Euro peer benchmarking).

Corporate Bank's initiatives will target revenue growth with corporate clients across cash management and payments, including growing its fee-based business with institutional clients and expanding lending.

As the segment seeks to grow its business with clients globally, Corporate Bank commits to apply sound risk management principles to maintain its high-quality loan portfolio and strict lending standards. Equally, the segment sees further potential to reduce its cost base from technology and front-to-back process optimization as well as automation and location strategy.

Moreover, as a transition partner, Corporate Bank helps its clients across sector value chains to achieve their strategic goals by offering a broad suite of sustainable finance solutions and sector aligned ESG industry expertise. Also, Corporate Bank aims to enable the accelerated renewables and infrastructure build-out through asset and project finance capabilities including new technologies like storage solutions, hydrogen and carbon management.

Investment Bank

The Investment Bank is a key pillar of Deutsche Bank's business. Across FIC and Origination and Advisory, corporate and institutional clients access a comprehensive range of services, encompassing, financing, market making/liquidity provision, risk management solutions, advisory, and debt and equity issuance. The segment regionally encompasses EMEA, Americas and APAC across both Investment Bank businesses and client footprint.

In 2023, underlying markets were less conducive to client flows versus a very strong 2022 and the resulting uncertainty continued to depress levels of capital market and advisory activity. Despite this, the Investment Bank continued to execute against its strategic priorities, delivering an enhanced service offering to its clients and building on the progress made since the formation of the business in 2019.

The development of the Investment Bank's FIC business has been pronounced, with the long-term growth in revenue and market share reflecting the successful delivery against strategic objectives across multiple areas of the business. This success has been driven by a wide range of factors. A strong and stable management team is in place, with the segment demonstrating its ability to attract leading talent via a number of specific and targeted senior hires into sub-business leadership positions through 2023. A defined technology strategy is delivering simplified and sustainable capability – with over 175 applications decommissioned in the past two years – and investment into areas across the business is enabling product enhancements and the development of new capability for the division's clients. This has been demonstrated by workflow solutions, which provide clients access to Deutsche Bank's product suite in a simplified and operationally efficient manner. The continued focus on the division's clients has been enhanced via the creation of dedicated relationship management and client enablement functions within the Institutional Coverage Group. This ensures deeper strategic relationships with clients, whilst providing them with the most efficient ways of working with Deutsche Bank. This is further enhanced by the significant increase in client engagement following the recent rating upgrades. The continued success has also been recognized externally. As an example, Euromoney recognized Deutsche Bank as the leading global FX provider for a second year in a row.

In an environment where fee pools continued to be restricted, the focus of Origination & Advisory has been building the platform to ensure the business is positioned to benefit when activity is expected to return in 2024. A significant number of targeted senior hires have been made, with a focus upon sectors and regions where Deutsche Bank is able to compete but is currently underweight. Alongside this organic growth, the acquisition of Numis will further enhance Origination & Advisory's depth of offering in the UK, the largest EMEA fee pool, whilst also enabling the cross-sell of other segmental products into the client base. To ensure that strong relationships are maintained with clients, the business has established a Client Strategy and Analytics team which will drive the depth of relationships with its client base and ensure close monitoring of performance at the most granular level.

In 2024, the strategy of the Investment Bank is focused on working towards its vision of being the leading non-U.S. global investment bank and delivering upon the segment's growth and return targets. This is aimed to be achieved via targeted growth investments and the continued development of its client strategy, combined with a focus on technology, data enabled capability, capital efficiency and control.

The investments made into the Origination & Advisory franchise are expected to increase the weighting of strategic advisory revenues as a percentage of total revenues over time. Within FIC, investment into existing businesses in areas where the division has a competitive advantage will continue. This will be complemented by the expansion into a small number of adjacent businesses where the existing platform and client base can be leveraged to enable growth at low marginal costs. The result of each of these will be a further diversification of revenue streams, whilst also ensuring an enhanced and relevant product offering for the client base.

Finally, ESG remains a priority across the Investment Bank as the segment continues supporting its clients globally. Deutsche Bank held its second Sustainability Deep Dive in March 2023, providing insight into the different approaches that the bank has developed with clients across the globe. From a transaction perspective there were a number of key events in 2023 including completing a bespoke deal-contingent interest rate hedge and a tailored financing for Hai Long, Taiwan's largest offshore wind project to date, and acting as global coordinator and joint active bookrunner on Air France-KLM's € 1 billion inaugural sustainability-linked long 3-year and long 5-year bond offering.

Private Bank

Private Bank is structured along two core businesses: Private Bank Germany and International Private Bank. Private Bank serves personal and private clients, wealthy individuals, entrepreneurs and families. Within the segment, the international businesses also focus on commercial clients. With over 20 million clients and a broad range of financial services in 19 countries, Private Bank significantly contributes to Deutsche Bank's global businesses. The segment continued to drive a disciplined approach towards achieving its strategic and financial objectives. The achievements throughout 2023 enabled Private Bank to further close the gap towards its 2025 targets. Private Bank's progress in evolving its businesses was also in line with the Group's ambition across growth, operational and capital efficiency.

Private Bank Germany is positioned as the market leading private bank in Germany and serves 19 million customers with its two major brands Deutsche Bank and Postbank. While Deutsche Bank continues to offer private customers high-quality advisory services with outstanding individual product solutions, the customers of the Postbank brand benefit from non-complex and standardized product offerings alongside postal and parcel services in cooperation with Deutsche Post DHL. Across its omni-channel offerings, Private Bank customers not only have access to a nationwide branch network but also to diverse banking solutions via direct sales, mobile sales and distribution partners.

In 2023, Private Bank Germany increased its revenues materially versus the prior year, supported by robust growth in deposits and successful campaigns for fixed rate products. While mortgage lending business remained at a stable level, Private Bank Germany's assets under management in the investment business increased compared to the prior year, driven by high inflows as a result of the positive market development. Furthermore, Private Bank Germany continued to work on its strategic transformation. This included the continued transformation of the sub-division's go-to-market model including the reduction of Postbank branches to approximately 550 at year end 2023 and the implementation of new branch concepts. In the upcoming years, Private Bank Germany plans to further adjust its go-to-market model and strengthen its digital proposition. Additionally, Private Bank Germany completed one of the largest customer migrations in the European banking market in 2023. Twelve million customers with 19 million contracts were migrated to a unified platform for all customers in Germany paving the way for decommissioning all former Postbank Group legacy applications and enabling the bank to further drive its digital transformation. The migration resulted in a higher number of client requests leading to a backlog of unresolved requests. Private Bank Germany is prioritizing a remediation plan to improve capacities, address client concerns and to return to the target operational service levels.

International Private Bank has a well-diversified revenue mix across regions with client segments focused on Wealth Management, Bank for Entrepreneurs and Premium Banking. The business targets ultra-high net worth family entrepreneurs globally and affluent clients across Europe focused on a digitally led model, with a larger ambition to be the global house of choice for entrepreneurs.

International Private Bank maintained its strong momentum in attracting client inflows with positive net inflows in assets under management in each quarter for four consecutive years despite difficult market conditions in 2023. International Private Bank's flagship strategic asset allocation and innovative private market/ultra-high net worth focused solutions have significantly contributed towards the International Private Bank's net new assets growth. Furthermore, the business continued its progress on several targeted initiatives to fulfil its strategic agenda, e.g., strengthening wealth management coverage and product teams in key markets supported by entrepreneur-focused strategic hires. The business has also applied strict cost discipline, thereby successfully managing costs in an inflationary environment. The benefits of both OneBank and Bank for Entrepreneurs approaches were reflected in the business successfully addressing the complex needs of wealthy entrepreneur clients. Furthermore, in Premium Banking, the business continued its strategic transformation journey toward digital-first remote advisory and client engagement services, while optimizing and innovating the branch footprint.

In ESG, Private Bank announced its strategy for the upcoming years at Deutsche Bank's Sustainability Deep Dive in March 2023, further substantiating its overall ESG value proposition through product portfolio enhancements, strategic thematic collaborations and focused inhouse ESG enablement efforts. This was aimed at supporting clients in their overall sustainable transition journeys.

In July 2023, Private Bank announced a new organizational set-up to further enhance the segment's capabilities and to achieve its 2025 targets. Commencing from the first quarter of 2024, the Private Bank will follow a customer-focused approach with two client sub-segments: 'Wealth Management & Private Banking' and 'Personal Banking'. Wealth Management & Private Banking will combine Private Banking, high-net-worth and ultra-high-net-worth clients globally. 'Personal Banking' includes all retail and affluent customers as well as commercial banking clients across specific international regions. These commercial banking clients consist of small business clients and small-sized corporate clients that are not covered by the Wealth Management & Private Banking sub-segment.

Asset Management

Asset Management principally consists of DWS Group GmbH & Co., a global asset manager with diverse investment capabilities that spans traditional active and passive strategies, as well as alternative bespoke solutions.

DWS operates in an ever-changing market environment and faces a variety of economical, fiscal, political and environmental challenges. DWS strategy consists of the four strategic clusters; Growth, Value, Build and Reduce, and are aligned to its capabilities and the growth prospects of the market. The aim is to maintain market leadership in Germany, building on expertise and customer relationships, in addition to expanding existing partnerships and developing new distribution channels, to gain additional market share. DWS sees additional market potential especially in Alternatives investments and Passive funds, represented by the Xtrackers brand. The overall strategy also takes account of sustainability and in 2023, DWS updated its sustainability strategy to clearly define its priorities.

The Growth strategy is built on the strength in Passive and Alternatives businesses. The Passive business, with the Xtrackers brand, in the division's view offers sustained and profitable growth potential, which provides sufficient scalability. Building on the franchise and European business, DWS has decided to invest in a US growth plan including sustainability, thematic and Active ETFs. Further, DWS sees a strong demand for mandates in Asia Pacific, and therefore plans to expand its customized mandates business. In addition to regional growth potential, DWS continues to see opportunities for bespoke Passive solutions to outperform broad index replication.

In Alternatives, investor interest in real estate slowed down in 2023, while demand in the infrastructure sector remained strong. However, DWS expects an increase in demand within Alternatives, and aims to facilitate closing the gap between capital demand and supply with private capital investment solutions in Europe. DWS continues to focus on its real estate and infrastructure investment platforms and positioning the division for growth in the private debt space.

The Value strategy aims to maintain leadership in mature markets for Active investment strategies, specifically Equity, Fixed Income and Multi Asset. In Equity, DWS intends to further grow the platform for Thematic Equities and make progress on offerings towards sustainability. Given the changing market environment and higher interest rates, DWS will further focus on Fixed Income and institutional investors. In Multi-Asset, the aim is to further strengthen solutions capabilities and enhance the modular investment platform to achieve more scale.

The Build strategy's emphasis on digitization trends aims to focus on asset management as-a-service and digital assets. DWS plans to build a respective modular offering which is scalable and integrated via application programming interfaces into offerings of new and existing distribution partners. DWS expects increasing tokenization of the economy, with resulting changes in market structure, and aims to utilize new blockchain infrastructure, develop new products and reach digital native clients. In December 2023, DWS agreed to establish a joint venture with Galaxy Digital and Flow Traders, to bring together traditional asset management expertise with digital asset know-how, with the aim of issuing a fully collateralized euro-denominated stablecoin in a regulated environment.

The Reduce strategy intends to reallocate financial resources to fund investments in the Build and Growth areas. DWS will continuously analyze measures to increase efficiency, including divesting from sub-scale businesses and reduction of management layers, thereby ensuring these measures do not have a negative impact on the ongoing business. In 2023, DWS completed the sale of its Private Equity solutions business unit. Additionally, DWS reduced management levels within the business as part of a broader efficiency program.

Based on its strategy, DWS remains committed to deliver on its medium-term financial targets until 2025 of; earnings per share target of € 4.50 in 2025, adjusted cost/income ratio of below 59% by 2025 and AuM growth in Passive, including Xtrackers, and Alternatives of 12% and 10% respectively (compound annual growth rate 2022-2025).

In 2023, DWS updated its sustainability strategy and refined its sustainability priorities. The ambition is to enable clients to navigate the sustainable transformation of the real economy by providing them with investment expertise and solutions. The topic of climate change remains the core theme of the updated sustainability strategy, built around three priorities: focus on climate related investing, strengthen engagement with investees and other relevant stakeholders, and advance DWS' own corporate transformation to achieve commitment to net zero.

1

Combined Management Report

2	Operating and Financial Review
6	Deutsche Bank Group
12	Results of operations
33	Financial position
35	Liquidity and capital resources
37	Outlook
44	Risks and Opportunities
59	Risk Report
61	Risk and capital overview
64	Risk and capital framework
75	Risk and capital management
136	Risk and capital performance
189	Sustainability
191	Employees
195	Internal Control over Financial Reporting
197	Information pursuant to Section 315a (1) of the German Commercial Code and Explanatory Report
201	Corporate Governance Statement pursuant to Sections 289f and 315d of the German Commercial Code
202	Standalone parent company information (HGB)

Operating and financial review

The following discussion and analysis should be read in conjunction with the consolidated financial statements and the related notes. Deutsche Bank's Operating and financial review includes qualitative and quantitative disclosures on Segment results of operations and entity-wide disclosures on net revenue components as required by International Financial Reporting Standard (IFRS) 8, "Operating Segments". For additional business segment disclosure under IFRS 8 please refer to Note 4 "Business Segments and related information" of the consolidated financial statements. Forward-looking statements are disclosed in the section "Outlook" in this report.

Executive summary

Global economy

Economic growth (in %) ¹	2023 ²	2022 ³	Main driver
Global Economy	3.1	3.4	The global economy lost some momentum in 2023. Although the bank believes inflation has passed its peak, the high price level continued to weigh on demand from private households. The tighter monetary policy to combat inflation also slowed down the global economy
Of which: Developed countries	1.6	2.6	Developments in the developed countries varied. While the U.S. economy remained resilient at the end of 2023, the Eurozone economy was already slowing down noticeably. Central banks maintained peak interest rates and signaled their intention to continue their data-driven monetary policy. Inflation rates continued to fall but remained above the central banks' targets at the end of the year
Emerging markets	4.2	3.9	Developments in the emerging markets varied from region to region at the end of 2023. Asian countries benefited from the momentum in China, while focus in Latin America was on combating inflation. High energy prices and the spillovers of geopolitics continued to be a burden for countries in Central and Eastern Europe
Eurozone Economy	0.5	3.4	The Eurozone economy weakened in the second half of 2023. Private consumption continued to be negatively impacted by the loss of purchasing power, even though inflation eased significantly. The labor market was stable, as a result of companies holding on to staff. The ECB kept its key interest rates unchanged in the fourth quarter 2023
Of which: German economy	(0.3)	1.8	The German economy continued to weaken until end of 2023, having previously more or less stagnated. Private consumption remained weak, although the impact of inflation has eased. The labor market remained robust and wage growth has already compensated for some loss of purchasing power
U.S. Economy	2.5	1.9	The U.S. economy slowed somewhat towards the end of 2023, with the labor market becoming more balanced and inflationary pressure easing. Private household consumption remained robust. The Fed left its key interest rates unchanged at a high level
Japanese Economy	2.0	0.9	The Japanese economy regained some momentum towards the end of the year. Private consumption benefited from strong wage growth, while inflation did not weaken noticeably. The Bank of Japan's key interest rates remained unchanged at their accommodative level
Asian Economy ⁴	5.1	4.1	The Asian economies benefited from China's recovery. Inflation trends varied regionally and were driven not least by food prices. The weakening of global trade had a negative impact on exports
Of which: Chinese Economy	5.2	3.0	As a result of fiscal and monetary policy support, the Chinese economy gained additional momentum in the final quarter of 2023. Nevertheless, the property sector dampened the recovery in private consumption. Inflation rates turned negative in the second half of 2023

¹ Annual Real GDP Growth (% YoY). Sources: National Authorities unless stated otherwise

² Sources: Deutsche Bank Research

³ Some economic data for 2022 were revised by public statistics authorities due to the economic effects of the pandemic. As a result, this data may differ from that previously published

⁴ Includes China, Hong Kong, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, South Korea, Thailand and Vietnam; excludes Japan

Banking Industry

Dec 31, 2023

Growth year-over-year (in %)	Corporate Lending	Retail Lending	Corporate Deposits	Retail Deposits	Main driver
Eurozone	(0.1)	0.2	(0.5)	1.2	Following the previous boom, lending and deposit-taking with both corporates and households essentially slowed to a standstill as a result of significantly higher interest rates, with volumes largely flat over the course of the year. Corporate deposits were slightly more volatile than the other categories
Of which: Germany	1.0	0.7	1.4	2.2	Mortgage lending slowed strongly, to the weakest level since 2012, but remained moderately positive despite the surge in rates. This also pulled down total retail lending. Similarly, loan growth with non-financial corporations fell to a multi-year low, with volumes almost flat year over year. Likewise, outstanding private-sector deposits largely stagnated during the year
U.S.	0.9	3.6	(1.7) ¹	(1.7) ¹	Loan growth with households moderated from the strong dynamics in the previous year, but remained solid. Corporate credit volumes were nearly constant throughout the year, following even greater momentum in 2022. Total deposits contracted until spring and then flattened out, leading to a moderate shrinkage for the full year. It is only the second time this has happened since records began in 1973, and the second time in a row after the mild contraction in 2022, which followed the pandemic boom in 2020/2021
China	14.4	6.9	4.9	13.7	Corporate loans boomed, while retail loans expanded at less than half that pace. Deposit developments were quite the opposite, buoyant inflows from households stood in contrast to a subdued increase from companies

¹ Total U.S. deposits as segment breakdown is not available

In 2023, Commercial Real Estate (CRE) markets continued to face headwinds due to the impacts of higher interest rates, decreasing market liquidity combined with tightened lending conditions, and structural changes in the office sector. The market stress has been more pronounced in the U.S., where property price indices point to a greater decline of CRE asset values from recent peaks compared to Europe and APAC. Especially within the office segment, the market weakness is most evident in the U.S., reflected in subdued leasing activity and higher vacancy rates compared to Europe.

The global Origination & Advisory industry fee pool in 2023 fell a further 16%, following a 35% drop in 2022 from record highs in 2021, driven by a subdued Mergers & Acquisitions market, challenging primary credit markets, and largely inactive sponsors. Mergers & Acquisitions in 2023 fell 23% but was still higher than the pre-COVID-19 pandemic fee pool of € 26 billion, while the fourth quarter 2023 had strong volumes. Equity Capital Markets issuance increased in 2023 as equity markets bounced back and volatility was low. The high yield market was up over 60% from a decade-long low, while leveraged loan issuance fell 17% with sponsors choosing to continue their pause on acquisitions. The investment grade bond market remained relatively robust with issuance down 3% in 2023 and has had a strong start to 2024. Within Fixed Income, revenue pools remained at elevated levels compared to historical averages, although below the levels seen in 2022. Foreign exchange activity decreased across the ten most traded currencies globally, with Rates and Emerging Markets each declining from strong levels in the prior year. Conversely within Credit, an increase year on year was driven by a more favorable environment for secondary trading with the general trend of tightening spreads, while in Financing client demand remained stable and broadly aligned to prior year.

Deutsche Bank performance

Deutsche Bank reported a net profit of € 4.9 billion for the full year 2023, down 14% year on year, reflecting higher income tax expense compared to 2022. In 2023, income tax expense included positive year end deferred tax asset (DTA) valuation adjustments of € 1.0 billion, largely reflecting continuously strong performance in the UK. This compared to a positive year end DTA valuation adjustment of € 1.4 billion in 2022 which related to the bank's U.S. operations. Provision for credit losses was € 1.5 billion in 2023, up from € 1.2 billion in 2022, or 31 basis points of average loans, slightly above the bank's guidance, reflecting the continued challenging impact of macroeconomic and interest rate conditions on parts of the credit portfolio during 2023. Deutsche Bank published further details of its plans for distributions to shareholders, following raising its capital outlook by € 3 billion in October 2023. The bank plans to increase both share repurchases and dividends by 50% in 2024. The bank has received supervisory approvals for share repurchases of € 675 million in 2024, having completed its € 450 million 2023 repurchase program, and plans to recommend a dividend of € 0.45 per share for 2023, up from € 0.30 per share for 2022, at the Annual General Meeting in May 2024.

Profit before tax was € 5.7 billion for the full year 2023, up 2% over 2022. Revenues grew by 6% to € 28.9 billion, and by 8% excluding specific items. Noninterest expenses were € 21.7 billion, up 6%, with growth driven primarily by nonoperating costs of € 1.1 billion, up from € 474 million in 2022. Adjusted costs, which exclude these nonoperating items, rose 3% to € 20.6 billion, as savings from efficiency measures partly offset costs relating to investments. The cost/income ratio was 75% in 2023, stable compared to 2022. Post-tax return on average shareholders' equity (RoE) was 6.7% compared to 8.4% in the prior year. Post-tax return on average tangible shareholders' equity (RoTE) was 7.4%, compared to 9.4% in 2022. The year-on-year development in both ratios partly reflects increased total equity due to organic capital generation and the higher income tax expense compared to 2022.

Key Performance Indicators

	Financial targets and capital objectives 2025	Status end of 2023	Status end of 2022
Financial targets			
Post-tax return on average tangible shareholders' equity ¹	Above 10%	7.4%	9.4%
Compound annual growth rate of revenues from 2021 ²	3.5 to 4.5% ³	6.6%	7.1%
Cost/income ratio ⁴	Less than 62.5%	75.1%	74.9%
Capital objectives			
Common Equity Tier 1 capital ratio ⁵	~ 13% ⁶	13.7%	13.4%
Total payout ratio ⁷	50% ⁸	21%	36%

¹ Based on profit (loss) attributable to Deutsche Bank shareholders after AT1 coupon; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report

² Twelve months period until the end of the respective reporting period compared to full year 2021

³ Target ratio until December 31, 2023; raised at the beginning of 2024 to 5.5 to 6.5% between 2021 and 2025

⁴ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

⁵ Further details on the calculation of this ratio is provided in the Risk Report in this report

⁶ Target ratio while maintaining a buffer of 200 basis points above the bank's expected maximum distributable amount (MDA) threshold

⁷ Distributions in form of common share dividend paid and share buybacks for cancellation executed in the reporting period in relation to prior period net income attributable to Deutsche Bank shareholders

⁸ In respect of financial year 2024 onwards

Net revenues were € 28.9 billion in 2023, up 6% year on year, and up 8% if adjusted for specific items. These items included a prior year gain on the sale of Deutsche Bank Financial Advisors in Italy of approximately € 310 million and € 125 million from workout activities related to Sal. Oppenheim in 2022, neither of which recurred in 2023. Both of these items arose in the Private Bank. Additionally, debt valuation adjustments in the Investment Bank had a € 47 million negative impact in 2023 versus a € 49 million benefit in 2022. Compound annual revenue growth since 2021 for the Group was 6.6%, well above the bank's original target of between 3.5% and 4.5% between 2021 and 2025. Given the progress achieved, the bank raised its target of a compound annual growth rate of revenues to 5.5 to 6.5% between 2021 and 2025 at the beginning of 2024.

Provision for credit losses was € 1.5 billion in 2023, or 31 basis points of average loans, slightly above the bank's previously announced guidance, reflecting the continued challenging impact of macro-economic and interest rate conditions on parts of the credit portfolio during the year. In 2022, provision for credit losses was € 1.2 billion, or 25 basis points of average loans.

Noninterest expenses were € 21.7 billion in 2023, up 6% year on year. This development largely reflected a rise in nonoperating costs to € 1.1 billion, up from € 474 million in 2022, largely related to the execution of the bank's Global Hausbank strategy. 2023 nonoperating costs included restructuring and severance expenses of € 566 million, compared to a release of € 8 million in 2022, and impairments of goodwill and other intangible assets of € 233 million, up from € 68 million in 2022, driven by the goodwill impairment charge related to Numis. Adjusted costs were € 20.6 billion, up 3%. Investments in business growth, controls and efficiency measures were partly offset by the aforementioned realized savings from the bank's efficiency programs.

Income tax expense was € 787 million in 2023, compared to an income tax benefit of € 64 million in the prior year. The effective tax rate in 2023 of 14% benefited from the abovementioned positive year-end DTA valuation adjustments of € 1.0 billion, largely reflecting continuously strong performance in the UK.

Common Equity Tier 1 capital ratio was 13.7% at the end of 2023, up from 13.4% at the end of 2022. Organic capital generation more than offset the combined impacts of dividends, share buybacks, regulatory risk weighted asset inflation and business growth during the year. Capital efficiency measures, which form part of Deutsche Bank's accelerated execution of its *Global Hausbank* strategy, delivered RWA reductions of € 13 billion during 2023.

Revenues excluding specific items, Adjusted costs, Post-tax return on average tangible shareholders' equity and Net Assets (adjusted) are Non-GAAP financial measures. Please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this Annual Report for the definitions of such measures and reconciliations to the IFRS measures on which they are based.

Deutsche Bank Group

Deutsche Bank's organization

Headquartered in Frankfurt am Main, Germany, Deutsche Bank is the largest bank in Germany and one of the largest financial institutions in the world, as measured by total assets of € 1,312 billion as of December 31, 2023. As of that date, the bank had 90,130 full-time equivalent internal employees and operated in 57 countries with 1,432 branches, of which 66% were located in Germany. The bank offers a wide variety of investment, financial and related products and services to private individuals, corporate entities and institutional clients around the world.

As of December 31, 2023, the bank was organized into the following segments:

- Corporate Bank
- Investment Bank
- Private Bank
- Asset Management
- Corporate & Other

As announced in the Annual Report 2022, having fulfilled the Capital Release Unit's de-risking and cost reduction mandate from 2019 through year end 2022, the Capital Release Unit ceased to be reported as a separate segment with effect from the first quarter of 2023. The remaining portfolio, resources and employees are reported within the Corporate & Other segment. In line with the change, the Core Bank, which previously represented the Group excluding the Capital Release Unit, ceased to be reported as of the first quarter of 2023. Prior years comparatives have been aligned to the presentation in the current year.

In addition, Deutsche Bank has a country and regional organizational layer to facilitate a consistent implementation of global strategies.

The bank has operations or dealings with existing and potential customers in most countries in the world. These operations and dealings include working through:

- Subsidiaries and branches
- Representative offices
- One or more representatives assigned to serve customers

Capital expenditures or divestitures related to the divisions are included in the respective corporate division overview.

Management Structure

The Management Board has structured the Group as a matrix organization, comprising corporate divisions and infrastructure functions operating in legal entities and branches across geographic locations.

The Management Board is responsible for the management of the company in accordance with the law, the Articles of Association and the Terms of Reference for the Management Board with the objective of creating sustainable value in the interests of the company. It considers the interests of shareholders, employees and other company-related stakeholders. The Management Board manages Deutsche Bank Group in accordance with uniform guidelines; it exercises general control over all entities and branches.

The Management Board decides on all matters prescribed by law and the Articles of Association and ensures compliance with the legal requirements and internal guidelines (compliance) and also takes the necessary measures to ensure that adequate internal guidelines are developed and implemented. The Management Board's responsibilities include the bank's strategic management and direction, the allocation of resources, financial accounting and reporting, control and risk management, as well as corporate control and a properly functioning business organization. The members of the Management Board are collectively responsible for managing the bank's business.

The allocation of functional responsibilities to the individual members of the Management Board is described in its Business Allocation Plan, which sets the framework for the delegation of responsibilities to senior management below the Management Board. The Management Board endorses individual accountability of senior position holders as opposed to joint decision-taking in committees. At the same time, the Management Board recognizes the importance of having comprehensive and robust information across all businesses in order to take well informed decisions and established the "Group Management Committee", which aims to improve the information flow across the corporate divisions and between the corporate divisions and the Management Board along with the Infrastructure Committees, Business Executive Committees and Regional Committees. The Group Management Committee, which is not required by the German Stock Corporation Act, is a senior committee that is composed of all Management Board members and the most senior business representatives to exchange information and to discuss business, growth and profitability.

Corporate Bank

Corporate Division Overview

Corporate Bank is primarily focused on serving corporate clients, including the German "Mittelstand", larger and smaller sized commercial and business banking clients in Germany as well as multinational companies. The division also provides financial institutions with certain transaction banking services. Corporate Bank reports revenues based on three client categories: Institutional Client Services, Corporate Treasury Services and Business Banking.

There have been no significant capital expenditures or divestitures since January 1, 2021.

Products and Services

Corporate Bank is a global provider of risk management solutions, cash management, lending, trade finance, trust and agency services as well as securities services. Cash management services include integrated payments and FX solutions. Trade finance and lending offering spans from documentary and guarantee business to structured trade finance and lending. Trust and agency services cover depository receipts, corporate trust and document custody. Focusing on the finance departments of corporate and commercial clients and financial institutions in Germany and across the globe, its holistic expertise and global network allows the bank to offer integrated solutions.

In addition to Corporate Bank's product suite, coverage teams provide clients with access to the expertise of Investment Bank.

Distribution Channels and Marketing

The corporate coverage function of Corporate Bank focuses on international mid and large corporate clients and is organized into three units: Global Coverage, MidCorps Coverage and Risk Management Solutions. Coverage includes multi-product generalists covering headquarter level and subsidiaries via global, regional and local coverage teams for multinational companies. MidCorps Coverage includes multi-product generalists with a special focus to medium sized enterprises. Risk Management Solutions includes Foreign Exchange, Emerging Markets and Rates product specialists. This unit is managed regionally in Asia Pacific, Americas and EMEA to ensure close connectivity to clients.

Corporate clients are served out of all three of the Corporate Bank's client categories. Corporate Treasury Services covers mid and large corporate clients across two brands, Deutsche Bank and Postbank, and offers the whole range of solutions across cash, trade financing, lending and risk management for the corporate treasurer. Business Banking covers small corporates and entrepreneur clients and offers a largely standardized product suite and selected contextual-banking partner offerings (e.g., accounting solutions). Institutional Client Services comprises of Cash Management for Institutional clients, Trust and Agency Services, as well as Securities Services.

Investment Bank

Corporate Division Overview

Investment Bank combines Deutsche Bank's Fixed Income & Currencies (FIC) Sales & Trading and Origination & Advisory businesses, as well as Deutsche Bank Research. The Investment Bank focuses on its traditional strengths in these markets, bringing together wholesale banking expertise across risk management, sales and trading, investment banking and infrastructure. This enables the Investment Bank to align resourcing and capital across its client and product perimeter to effectively support the bank's strategic goals.

Commencing from the first quarter of 2024, Investment Bank introduces additional sub-categories to FIC Sales and Trading revenues, entitled "Fixed Income & Currencies: Financing" and "Fixed Income & Currencies: Ex Financing". At the same time, FIC Sales and Trading will be renamed to "Fixed Income & Currencies". Origination & Advisory revenues will continue to be presented in the sub-categories Debt Origination, Equity Origination and Advisory. Additionally, Research revenues will be reported together with Other in the category "Research and Other".

In April 2023, Deutsche Bank announced that it reached an agreement on an all-cash offer for the acquisition of Numis Corporation Plc ("Numis"). On October 13, 2023, Deutsche Bank completed the transaction and acquired a 100% interest in Numis for a cash purchase price of GBP 397 million. The acquisition is intended to allow Deutsche Bank to accelerate its *Global Hausbank* strategy by unlocking a much deeper engagement with corporate clients in the United Kingdom. After the initial purchase price allocation, a goodwill of € 233 million related to the transaction was identified. Deutsche Bank assigned the identified goodwill to the Investment Bank cash-generating unit ("CGU"). Given the value of the Investment Bank CGU, the goodwill was considered impaired and written off in the fourth quarter of 2023.

There have been no significant divestitures since January 1, 2021.

Products and Services

FIC Sales & Trading brings together institutional sales, trading and structuring expertise across Foreign Exchange, Rates, Emerging markets, Credit trading and Financing. The FIC Sales & Trading business operates globally and provides both corporate and institutional clients liquidity, market making services and a range of specialized risk management solutions across a broad range of FIC products, complemented by a comprehensive financing offering. The application of technology and continued innovation of transaction lifecycle processes is enabling Deutsche Bank to increase automation/electronification in order to respond to client and regulatory requirements.

Origination & Advisory is responsible for the division's debt origination business, mergers and acquisitions, and a focused equity advisory and origination platform. It is comprised of regional and industry-focused coverage teams, co-led from the bank's hubs in Europe, the U.S. and Asia Pacific. This facilitates the delivery of a range of financial products and services to the bank's corporate clients.

Distribution Channels and Marketing

Coverage of the Investment Bank's clients is provided principally by three groups working in conjunction with each other: The Institutional Client Group, which houses the debt sales team, Investment Banking Coverage within Origination & Advisory and Risk Management Solutions in Corporate Bank, which covers capital markets and treasury solutions. The close cooperation between these groups helps to create enhanced synergies leading to increased cross selling of products/solutions to clients.

Private Bank

Corporate Division Overview

Private Bank serves personal and private clients, wealthy individuals, entrepreneurs and families. The international businesses also focus on commercial clients in selected markets. Private Bank is organized along the businesses Private Bank Germany and International Private Bank.

Commencing from first quarter of 2024, the Private Bank will follow a customer-focused approach by classifying the existing customer base into two distinct categories: Wealth Management & Private Banking and Personal Banking. This approach reflects the aim to serve clients in a more targeted and effective way across the Private Bank. Wealth Management & Private Banking combines the coverage of private banking, high-net-worth and ultra-high-net-worth clients, as well as business clients in selected international businesses. The client segment Personal Banking includes retail and affluent customers as well as commercial banking clients in specific international businesses (i.e., all small business clients and small sized corporate clients that are not covered as part of the Wealth Management & Private Banking client segment).

In August 2021, Deutsche Bank SpA signed an agreement to sell its Deutsche Bank Financial Advisors business in Italy to Zurich Insurance Group (Zurich Italy). The transaction was closed after regulatory approval on October 17, 2022.

There have been no significant capital expenditures since January 1, 2021.

Products and Services

Private Bank's product range includes payment and account services, credit and deposit products as well as investment advice. These offerings include a range of ESG products, which enable clients to access ESG-compliant lending and investment products in line with ESG values and according to specified ESG strategies, scores and exclusionary criteria.

Private Bank Germany pursues a differentiated, customer-focused approach with two strong and complementary main brands: Deutsche Bank and Postbank. The Deutsche Bank brand focuses on providing their private customers with banking and financial products and services that include sophisticated and individual advisory solutions. The focus of the Postbank brand is on providing its retail customers with standard products and daily retail banking services supported by direct banking capabilities. In cooperation with Deutsche Post DHL AG, Private Bank Germany also offers postal and parcel services in the Postbank brand branches.

International Private Bank also has a differentiated, customer-focused approach with two client categories: Premium Banking and Wealth Management & Bank for Entrepreneurs. International Private Bank provides its clients with banking and other financial services including support in planning, managing and investing wealth, financing personal and business interests and servicing institutional and corporate needs.

Distribution Channels and Marketing

Private Bank pursues an omni-channel approach and customers can flexibly choose between different possibilities to access services and products.

The distribution channels include branch networks, supported by advisory and customer call centers, self-service terminals as well as digital offerings including online and mobile banking. Private Bank also has collaborations with self-employed financial advisors and other sales and cooperation partners, including various cooperations with Business-to-Business-to-Consumer partners in Germany. For the Wealth Management & Bank for Entrepreneurs client category, International Private Bank has a distinct client coverage team approach with relationship and investment managers supported by client service executives assisting clients with wealth management services and open-architecture products. In addition, in Germany, Deutsche Oppenheim Family Offices AG provides family office services, discretionary funds and advisory solutions.

The expansion of digital capabilities remains a strong focus across the businesses as a significant change in client behavior towards digital channels is observed. The Private Bank will continue to optimize the omni-channel mix in the future in order to provide customers with the most convenient access to products and services.

Asset Management

Corporate Division Overview

With € 896 billion of assets under management as of December 31, 2023, the Asset Management division, which operates under the brand DWS, aspires to be a leading asset manager. DWS serves a diverse client base of retail and institutional investors worldwide, with a strong presence in the bank's home market in Germany. These clients include large government institutions, corporations and foundations as well as individual investors. As a regulated asset manager, DWS acts as a fiduciary for clients and is conscious of its societal impact. Responsible investing has been an important part of DWS's heritage for more than twenty years.

Deutsche Bank retains 79.49% ownership interest in DWS, and asset management remains a core business for the Group. The shares of DWS are listed on the Frankfurt stock exchange.

In 2022, DWS completed the transfer of its digital investment platform into a joint venture with Blackfin. DWS holds a 30% stake in the newly established company MorgenFund GmbH.

There have been no significant capital expenditures since January 1, 2021.

Products and Services

DWS offers individuals and institutions access to investment capabilities across all major asset classes in active equity, fixed income, cash, multi asset and systematic and quantitative investments as well as passive investments including Xtrackers range and alternative investments. The alternative investments include real estate, infrastructure, liquid real assets and sustainable investments. In addition, DWS's solution strategies are targeted to client needs that cannot be addressed by traditional asset classes alone. Such services include insurance and pension solutions, asset-liability management, portfolio management solutions and asset allocation advisory.

Distribution Channels and Marketing

DWS product offerings are distributed across EMEA, the Americas and Asia Pacific through a global distribution network. DWS also leverages third-party distribution channels, including other divisions of Deutsche Bank Group.

Infrastructure

The Infrastructure functions perform control and service activities for the businesses, including tasks relating to Group-wide, cross-divisional resource-planning, steering and control, as well as tasks relating to risk, liquidity and capital management.

The Infrastructure functions are organized into the following areas of responsibility linked to a dedicated member of the Management Board:

- Chief Executive Office
- Chief Financial Office
- Chief Risk Office
- Chief Administration Office
- Technology, Data and Innovation
- Chief Operating Office
- CB & IB Operations and Controls

Infrastructure also includes Communications & Corporate Social Responsibility, Chief Sustainability Office, Regional Management, Group Audit, Legal, Business Selection and Conflicts Office, Compliance, Anti Financial Crime, Global Procurement, Global Real Estate and Human Resources.

For 2021 and 2022, costs relating to Infrastructure functions were allocated using an actual to plan approach. From the first quarter of 2023, the bank introduced a Driver-Based Cost Management methodology for the allocation of costs originated in applicable Infrastructure functions. The new approach aims to provide transparency over the drivers of Infrastructure costs and links costs closely to service consumption by segments. Whilst in 2023 the allocations to the corporate divisions continued to be based on planned allocations, except for technology development costs which are charged to divisions based on actual expenditures, from 2024 Infrastructure costs will all be charged to divisions based on actual costs and service consumption in support of the bank's continued focus on cost discipline.

Significant capital expenditures and divestitures

Information on each corporate division's significant capital expenditures and divestitures for the last three financial years has been included in the above descriptions of the corporate divisions.

Since January 1, 2021, there have been no public takeover offers by third parties with respect to Deutsche Bank's shares.

Results of operations

Consolidated results of operations

The following discussion and analysis should be read in conjunction with the consolidated financial statements.

Condensed consolidated statement of income

in € m. (unless stated otherwise)	2023	2022	2021	2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
				in € m.	in %	in € m.	in %
Net interest income	13,602	13,650	11,155	(48)	(0)	2,495	22
Provision for credit losses	1,505	1,226	515	280	23	710	138
Net interest income after provision for credit losses	12,097	12,425	10,640	(328)	(3)	1,785	17
Commissions and fee income ¹	9,206	9,838	10,934	(632)	(6)	(1,096)	(10)
Net gains (losses) on financial assets/liabilities at fair value through profit or loss ¹	4,947	2,999	3,045	1,948	65	(45)	(1)
Net gains (losses) on financial assets at fair value through other comprehensive income	(0)	(216)	237	216	(100)	(453)	N/M
Net gains (losses) on financial assets at amortized cost	(96)	(2)	1	(94)	N/M	(3)	N/M
Net income (loss) from equity method investments	(38)	152	98	(190)	N/M	54	56
Other income (loss)	1,259	789	(58)	469	59	848	N/M
Total noninterest income	15,277	13,560	14,255	1,717	13	(695)	(5)
Memo: Total net revenues²	28,879	27,210	25,410	1,669	6	1,800	7
Compensation and benefits	11,131	10,712	10,418	418	4	294	3
General and administrative expenses	10,112	9,728	10,821	384	4	(1,093)	(10)
Impairment of goodwill and other intangible assets	233	68	5	165	N/M	64	N/M
Restructuring activities	220	(118)	261	338	N/M	(379)	N/M
Total noninterest expenses	21,695	20,390	21,505	1,305	6	(1,115)	(5)
Profit (loss) before tax	5,678	5,594	3,390	84	2	2,205	65
Income tax expense (benefit)	787	(64)	880	851	N/M	(945)	N/M
Profit (loss)	4,892	5,659	2,510	(767)	(14)	3,149	125
Profit (loss) attributable to noncontrolling interests	120	134	144	(14)	(11)	(10)	(7)
Profit (loss) attributable to Deutsche Bank shareholders and additional equity components	4,772	5,525	2,365	(753)	(14)	3,159	134
Profit (loss) attributable to additional equity components	560	500	426	60	12	74	17
Profit (loss) attributable to Deutsche Bank shareholders	4,212	5,025	1,940	(813)	(16)	3,085	159

N/M – Not meaningful

¹ For further details please refer to Note 1 "Material accounting policies and critical accounting estimates" of this report

² Total net revenues defined as net interest income before provision for credit losses plus noninterest income

Net interest income

in € m. (unless stated otherwise)	2023	2022	2021	2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
				in € m.	in %	in € m.	in %
Total interest and similar income	44,074	24,299	16,599	19,775	81	7,700	46
Total interest expenses	30,472	10,649	5,444	19,823	186	5,205	96
Net interest income	13,602	13,650	11,155	(48)	(0)	2,495	22
Average interest-earning assets ¹	970,924	982,709	937,947	(11,785)	(1)	44,762	5
Average interest-bearing liabilities ¹	735,576	725,268	690,656	10,308	1	34,612	5
Gross interest yield ²	4.52%	2.33%	1.56%	2.19ppt	94	0.77ppt	50
Gross interest rate paid ³	4.12%	1.27%	0.50%	2.85ppt	N/M	0.77ppt	155
Net interest spread ⁴	0.40%	1.06%	1.06%	(0.66)ppt	(62)	(0.00)ppt	(0)
Net interest margin ⁵	1.40%	1.39%	1.19%	0.01ppt	1	0.20ppt	17

N/M – Not meaningful

ppt – Percentage points

¹ Average balances for the year calculated based on month-end balances

² Gross interest yield as the average interest rate earned on average interest-earning assets

³ Gross interest rate paid as the average interest rate paid on average interest-bearing liabilities

⁴ Net interest spread as the difference between the average interest rate earned on average interest-earning assets and the average interest rate paid on average interest-bearing liabilities

⁵ Net interest margin as net interest income as a percentage of average interest-earning assets

2023

Net interest income was € 13.6 billion in 2023, a decrease of € 48 million compared to 2022 primarily driven by higher interest rates on deposits, which were partly offset by the benefits of higher interest rates on loans. Net interest income included interest expenses of € 741 million under the Targeted Long-Term Refinancing Operation III (TLTRO III) program in 2023, whereas 2022 included interest income of € 211 million under this program. Overall, the bank's net interest margin was at 1.40% in 2023, up 1 basis point compared to the prior year.

2022

Net interest income was € 13.6 billion in 2022 compared to € 11.2 billion in 2021, an increase of € 2.5 billion or 22%, driven by higher interest rates and strong underlying business performance partly offset by lower benefits from the TLTRO III program. Interest income included € 211 million under the TLTRO III program in 2022, whereas 2021 included € 494 million under this program. Overall, the bank's net interest margin was 1.39% in 2022, an increase of 20 basis points compared to the prior year.

Net gains (losses) on financial assets/liabilities at fair value through profit or loss

in € m. (unless stated otherwise)	2023	2022	2021	2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
				in € m.	in %	in € m.	in %
Trading income	4,878	2,782	1,859	2,096	75	923	50
Net gains (losses) on non-trading financial assets mandatory at fair value through profit or loss	217	(61)	1,106	278	N/M	(1,167)	N/M
Net gains (losses) on financial assets/liabilities designated at fair value through profit or loss	(148)	277	79	(426)	N/M	198	N/M
Total net gains (losses) on financial assets/liabilities at fair value through profit or loss	4,947	2,999	3,045	1,948	65	(45)	(1)

N/M – Not meaningful

2023

Net gains on financial assets/liabilities at fair value through profit or loss were € 4.9 billion in 2023, compared to € 3.0 billion in 2022. The increase of € 1.9 billion, or 65% was driven by positive impacts from interest rate hedges in Corporate & Other and an increase in Asset Management from valuation adjustments on guaranteed funds, which had a corresponding offset in other income. The Investment Bank benefited from the non-recurrence of prior year losses on loan commitments and hedge activities in 2023. These drivers were partly offset by decreases in the Private Bank, mainly due to lower mark-to-market impacts from hedge activities, which had a partial offsetting effect in other income, and revaluation losses in the Corporate Bank compared to gains in the prior year.

2022

Net gains on financial assets/liabilities at fair value through profit or loss were € 3.0 billion in 2022, a decrease of € 45 million compared to 2021 driven by negative impacts from interest rate hedges in Corporate & Other as well as an unfavorable change in the fair value of guarantees in Asset Management, which had a corresponding offset in other income. The overall decrease was partly offset by positive mark-to-market impacts on derivatives in the Investment Bank driven by the ongoing heightened market activity and strong client flows as well as mark-to-market gains from hedge activities in Private Bank, which had an offsetting effect in other income.

Net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss

The bank's trading and risk management activities include interest rate instruments and related derivatives. Under IFRS, interest and similar income earned from trading instruments and financial instruments at fair value through profit or loss (i.e., coupon and dividend income) and the costs of funding net trading positions are part of net interest income. The bank's trading activities can periodically shift income between net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss depending on a variety of factors, including risk management strategies.

In order to provide a more business focused discussion, the following table presents net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss by corporate division.

in € m. (unless stated otherwise)	2023	2022	2021	2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
				in € m.	in %	in € m.	in %
Net interest income	13,602	13,650	11,155	(48)	(0)	2,495	22
Total net gains (losses) on financial assets/liabilities at fair value through profit or loss	4,947	2,999	3,045	1,948	65	(45)	(1)
Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss	18,549	16,649	14,200	1,899	11	2,450	17
<hr/>							
Breakdown by corporate division:¹							
Corporate Bank	5,065	3,720	2,666	1,344	36	1,055	40
Investment Bank	8,102	8,265	6,891	(163)	(2)	1,374	20
Private Bank	6,382	6,612	4,847	(230)	(3)	1,765	36
Asset Management	(11)	(250)	246	239	(95)	(496)	N/M
Corporate & Other	(988)	(1,698)	(450)	709	(42)	(1,248)	N/M
Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss	18,549	16,649	14,200	1,899	11	2,450	17

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

¹ This breakdown reflects net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss; for a discussion of the corporate divisions' total revenues by product please refer to Note 4 "Business Segments and related information" of this report

2023

Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss were € 18.5 billion in 2023, compared to € 16.6 billion in 2022, an increase of € 1.9 billion. This impact was largely attributable to an overall increase in net interest income and positive impacts from interest rate hedges. In the Corporate Bank, total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss increased by € 1.3 billion, primarily due to higher net interest income driven by an improved interest rate environment and continued pricing discipline. Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss in Investment Bank decreased by € 0.2 billion due to lower net interest income, partly offset by mark-to-market gains on derivatives in FIC Sales & Trading. Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss in the Private Bank decreased by € 0.2 billion compared to prior year, driven by mark-to-market impacts from hedge activities, with an offsetting effect in other income, partly offset by higher interest income from an improved interest rate environment. The overall movement was supported by positive impacts in Corporate & Other amounting to approximately € 0.7 billion, including benefits from interest rate hedges, as well as in Asset Management of € 0.2 billion, mainly from a more favorable change in the fair value of guarantees.

2022

Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss were € 16.6 billion in 2022, compared to € 14.2 billion in 2021, an increase of € 2.4 billion. This was primarily due to higher net interest income driven by an improved interest rate environment and solid underlying business performance. Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss increased by € 1.8 billion in Private Bank. This impact was largely attributable to higher mark-to-market gains from hedge activities which had an offsetting effect in other income. Higher interest rates and continued business growth also had a positive impact on the year-on-year increase; these were also the main drivers for the increase in Corporate Bank by € 1.1 billion. Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss in Investment Bank increased by € 1.4 billion due to higher positive mark-to-market impacts on derivatives in FIC Sales & Trading driven by the ongoing heightened market activity and strong clients flows. These overall positive effects were partially offset by negative impacts of € 1.2 billion in Corporate & Other, mainly from valuation and timing differences on derivatives and interest rate hedges, as well as in Asset Management of € 0.5 billion, mainly from a less favorable change in the fair value of guarantees.

Provision for credit losses

2023

Provision for credit losses was € 1.5 billion in 2023, up from € 1.2 billion in 2022 or 31 basis points of average loans reflecting the continued challenging macro-economic and interest rate conditions for parts of the credit portfolio during the year. In particular, the Commercial Real Estate sector, and specifically the office sector, was affected by a post-COVID-19-pandemic driven change in demand and came under further pressure from interest rate increases, which led to higher refinancing risks. Provision for non-performing loans related to Stage 3 was € 1.5 billion, spread across various regions and segments, including a notable share of € 400 million related to Commercial Real Estate, especially affecting the Investment Bank. Stage 1 and Stage 2 provision for performing loans was a release of € 33 million, driven by an improved macro-economic outlook compared to 2022 and benefits from model-related changes.

2022

Provision for credit losses was € 1.2 billion in 2022, up from € 515 million in 2021. The year-on-year development reflected more challenging macroeconomic conditions during most of 2022 against the backdrop of the war in Ukraine, while 2021 benefited from an economic recovery following the easing of COVID-19 restrictions. Provisions were 25 basis points of average loans. Provisions for non-performing loans related to Stage 3 was € 1.0 billion, spread across regions and segments. Stage 1 and Stage 2 provision for performing loans was € 204 million, driven by deteriorating macro-economic forecasts through most of the year.

The sections "Segment results of operations" and "Risk Report" provide further details on provision for credit losses.

Remaining noninterest income

in € m. (unless stated otherwise)	2023	2022	2021	2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
				in € m.	in %	in € m.	in %
Commissions and fee income ¹	9,206	9,838	10,934	(632)	(6)	(1,096)	(10)
Net gains (losses) on financial assets at fair value through other comprehensive income	(0)	(216)	237	216	(100)	(453)	N/M
Net gains (losses) on financial assets at amortized cost	(96)	(2)	1	(94)	N/M	(3)	N/M
Net income (loss) from equity method investments	(38)	152	98	(190)	N/M	54	56
Other income (loss)	1,259	789	(58)	469	59	848	N/M
Total remaining noninterest income	10,330	10,561	11,210	(231)	(2)	(649)	(6)
¹ includes:							
Commissions and fees from fiduciary activities:							
Commissions for administration	280	300	357	(19)	(6)	(57)	(16)
Commissions for assets under management	3,700	3,792	3,734	(93)	(2)	58	2
Commissions for other securities business	441	490	398	(49)	(10)	91	23
Total	4,421	4,582	4,489	(161)	(4)	92	2
Commissions, broker's fees, mark-ups on securities underwriting and other securities activities:							
Underwriting and advisory fees	1,105	1,283	2,162	(179)	(14)	(879)	(41)
Brokerage fees	366	540	752	(174)	(32)	(212)	(28)
Total	1,471	1,824	2,914	(353)	(19)	(1,091)	(37)
Fees for other customer services	3,314	3,432	3,530	(119)	(3)	(97)	(3)
Total commissions and fee income	9,206	9,838	10,934	(632)	(6)	(1,096)	(10)

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

Commissions and fee income

2023

Commissions and fee income was € 9.2 billion in 2023, a decrease of € 632 million or 6% compared to 2022. The decrease was driven by lower intermediary fees and transactional revenues as well as changes in contractual conditions in the Private Bank and lower fee income in the Investment Bank primarily due to lower M&A activities. In addition, the decrease was also driven by lower management fees from unfavorable market conditions coupled with margin compression in Asset Management.

2022

Commissions and fee income was € 9.8 billion in 2022, a decrease of € 1.1 billion or 10% compared to 2021. The decrease was driven by significantly lower Origination & Advisory revenues in Investment Bank reflecting continued challenging industry environment, lower Leveraged Debt Capital Markets revenues and a materially reduced fee pool relative to the previous year. In addition, commission and fee income in Private Bank declined reflecting a more challenging macroeconomic environment. In Asset Management performance fees were significantly lower than the previous year due to the absence of a large Multi Asset performance fee reported in 2021. These were partly offset by an increase in commissions and fee income in Corporate Bank driven by solid underlying business performance.

Net gains (losses) on financial assets at fair value through other comprehensive income

2023

Net gains (losses) on financial assets at fair value through other comprehensive income were € (0) million in 2023 and € (216) million in 2022, with the result in the prior year driven by a sale of bonds and securities from the strategic liquidity reserve.

2022

Net gains (losses) on financial assets at fair value through other comprehensive income were € (216) million in 2022 and € 237 million in 2021, with the result in both periods driven by the sale of bonds and securities from the strategic liquidity reserve.

Net gains (losses) on financial assets at amortized cost

2023

Net gains (losses) on financial assets at amortized cost were € (96) million in 2023 compared to € (2) million in 2022, driven by realized losses on disposal of loans held in the hold to collect portfolio.

2022

Net gains (losses) on financial assets at amortized cost were € (2) million in 2022 compared to € 1 million in 2021, driven by the hold-to-collect portfolio.

Net income (loss) from equity method investments

2023

Net income (loss) from equity method investments was € (38) million in 2023 compared to € 152 million in 2022, a decrease of € 190 million, mainly related to the downward valuation of the underlying loan assets in Huarong Rongde Asset Management Company Limited as well as a gain on exit in 2022 which did not repeat.

2022

Net income (loss) from equity method investments was € 152 million in 2022 compared to € 98 million in 2021, an increase of € 54 million, or 56%, related to lower impairments in Huarong Rongde Asset Management Company Limited in 2022 as compared to 2021.

Other income (loss)

2023

Other income (loss) was € 1.3 billion in 2023 compared to € 789 million in 2022. The improvement was primarily related to gains in the hedging portfolios and the non-recurrence from gains on disposal of assets held for sale, including a gain from the sale of the Deutsche Bank Financial Advisors business in Italy, as well as from workout activities related to Sal. Oppenheim recognized in other revenues in the prior year. This was partly offset by an unfavorable impact from valuation adjustments on fair value of guarantees in Asset Management, which had a corresponding offset in net gains (losses) on financial assets/liabilities at fair value through profit and loss.

2022

Other income (loss) was € 789 million in 2022 compared to € (58) million in 2021. The improvement was driven by a favorable impact from valuation adjustments on fair value of guarantees in Asset Management, which had a corresponding offsetting effect in net gains (losses) on financial assets/liabilities at fair value through profit or loss, from gains on disposal of assets held for sale, including a gain from the sale of the Deutsche Bank Financial Advisors business in Italy and from workout activities related to Sal. Oppenheim recognized in other revenues. This was partly offset by a decrease in income in Private Bank driven by the contra-effect of the aforementioned positive impacts in net gains (losses) on financial assets/liabilities at fair value through profit or loss.

Noninterest expenses

				2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
in € m. (unless stated otherwise)	2023	2022	2021	in € m.	in %	in € m.	in %
Compensation and benefits	11,131	10,712	10,418	418	4	294	3
General and administrative expenses ¹	10,112	9,728	10,821	384	4	(1,093)	(10)
Impairment of goodwill and other intangible assets	233	68	5	165	N/M	64	N/M
Restructuring activities	220	(118)	261	338	N/M	(379)	N/M
Total noninterest expenses	21,695	20,390	21,505	1,305	6	(1,115)	(5)

N/M – Not meaningful

¹ includes:

Information Technology	3,755	3,680	4,321	76	2	(641)	(15)
Occupancy, furniture and equipment expenses	1,478	1,429	1,727	49	3	(298)	(17)
Regulatory, tax & insurance ²	1,399	1,285	1,395	114	9	(110)	(8)
Professional services ³	899	858	924	41	5	(66)	(7)
Banking Services and outsourced operations ³	964	881	946	82	9	(64)	(7)
Market Data and Research services	374	378	347	(4)	(1)	31	9
Travel expenses	143	110	46	33	30	64	140
Marketing expenses	203	165	178	37	23	(13)	(7)
Other expenses ⁴	899	943	938	(44)	(5)	5	0
Total general and administrative expenses	10,112	9,728	10,821	384	4	(1,093)	(10)

² Includes bank levy of € 528 million in 2023, € 762 million in 2022 and € 553 million in 2021

³ Prior years' comparatives aligned to presentation in the current year

⁴ Includes litigation related expenses of € 311 million in 2023, € 413 million in 2022 and € 466 million in 2021. For more details, please refer to Note 27 "Provisions" of this report

Compensation and benefits

2023

Compensation and benefits increased by € 418 million or 4% to € 11.1 billion in 2023 compared to € 10.7 billion in 2022. The increase was driven mainly by wage growth, an increase in external workforce as well as an increase in severance costs resulting from the accelerated execution of the banks Global Hausbank strategy.

2022

Compensation and benefits increased by € 294 million or 3% to € 10.7 billion in 2022 compared to € 10.4 billion in 2021. The increase was driven primarily by adverse foreign exchange movements, with higher salary costs.

General and administrative expenses

2023

General and administrative expenses increased by € 384 million or 4% to € 10.1 billion in 2023 compared to € 9.7 billion in 2022. The increase was driven by higher expenses in information technology mainly relating to increased vendor and software costs as well as higher operational taxes. This was partly offset by lower litigation expenses which decreased by € 103 million, related to a release of litigation provision and a decrease in bank levies of € 235 million.

2022

General and administrative expenses decreased by € 1.1 billion or 10% to € 9.7 billion in 2022 compared to € 10.8 billion in 2021. The decrease was driven by a significant decline in transformation charges as the bank completed the transformation initiatives announced in 2019. Further reductions were across major cost categories, reflecting the bank's continued cost reduction efforts. Litigation expenses decreased by € 53 million, partly related to a provision release related to the German Federal Court of Justice (BGH) ruling on pricing arrangements. The declines were partly offset by a year-on-year rise in bank levies of € 210 million.

Impairment of goodwill and other intangible assets

2023

Impairment of goodwill and other intangible assets was € 233 million relating to the impaired goodwill of Numis in the Investment Bank in 2023, compared to € 68 million relating to a historic acquisition of an unamortized intangible asset associated with U.S. mutual fund retail contracts in Asset Management in 2022.

2022

Impairment of goodwill and other intangible assets was € 68 million in 2022, relating to the aforementioned historic acquisition in Asset Management, compared to € 5 million in the Corporate Bank in 2021.

Restructuring

2023

Restructuring activities were charges of € 220 million in 2023 compared to a release of € (118) million in 2022. The charges were driven primarily by Private Bank in the context of the execution of strategic initiatives.

2022

Restructuring activities were a release of € (118) million in 2022 compared to charges of € 261 million in 2021. The development in both periods was driven primarily by Private Bank in the context of the execution of strategic objectives.

Income tax expense

2023

Income tax expense was € 787 million in 2023, compared to an income tax benefit of € 64 million in the prior year. The effective tax rate in 2023 of 14% benefited from positive year end deferred tax asset valuation adjustments of € 1.0 billion, largely reflecting continuously strong performance in the UK.

2022

Income tax benefit in 2022 was € 64 million compared to an income tax expense of € 880 million in 2021. The effective tax rate in 2022 of (1)% benefited from a positive year end deferred tax asset valuation adjustment of € 1.4 billion, reflecting continued strong performance in Deutsche Bank's U.S. operations.

Net profit (loss)

2023

Net profit in 2023 was € 4.9 billion, compared to € 5.7 billion in the prior year. The decrease in net profit was primarily driven by the aforementioned increase in income tax expense compared to 2022, including the aforementioned year end deferred tax asset valuation adjustments.

2022

Net profit in 2022 was € 5.7 billion, compared to € 2.5 billion in the prior year. The increase in net profit was primarily driven by strong revenue performance across core businesses, reduced noninterest expenses and the aforementioned tax benefit from a year end deferred tax asset valuation adjustment. Partly offsetting was an increase in provision for credit losses.

Segment results of operations

The following section is a discussion of the results of the business segments. Please refer to Note 4 "Business Segments and related information" to the consolidated financial statements for information regarding:

- Changes in the format of the bank's segment disclosure
- The framework of the bank's management reporting systems

Deutsche Bank's segment reporting follows the organizational structure as reflected in the Group's internal management reporting systems, which are the basis for assessing the financial performance of the business segments and for allocating resources to them. The segmentation is based on the structure of the Group as of December 31, 2023. Prior years comparatives were aligned to the presentation in the current year.

	2023					
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Manage- ment	Corporate & Other	
Net revenues ¹	7,716	9,160	9,575	2,383	45	28,879
Provision for credit losses	266	431	783	(1)	26	1,505
Noninterest expenses						
Compensation and benefits	1,537	2,524	2,806	891	3,372	11,131
General and administrative expenses	2,934	4,136	4,742	934	(2,634)	10,112
Impairment of goodwill and other intangible assets	0	233	0	0	0	233
Restructuring activities	(4)	(3)	228	0	(1)	220
Total noninterest expenses	4,466	6,890	7,777	1,825	738	21,695
Noncontrolling interests	0	3	0	163	(166)	0
Profit (loss) before tax	2,984	1,836	1,015	396	(553)	5,678
Assets (in € bn) ²	264	658	331	10	49	1,312
Loans (gross of allowance for loan losses, in € bn)	117	101	261	0	0	479
Additions to non-current assets	13	89	90	73	1,853	2,118
Deposits (in € bn)	289	18	308	0	7	622
Average allocated shareholders' equity	13,306	27,593	14,477	5,318	2,318	63,011
Risk-weighted assets (in € bn)	69	140	86	15	40	350
of which: operational risk RWA (in € bn)	6	22	8	3	19	57
Leverage exposure (in € bn)	307	546	339	10	39	1,240
Employees (full-time equivalent)	25,520	19,979	38,451	4,962	1,218	90,130
Post-tax return on average shareholders' equity ³	15.2%	3.8%	4.1%	4.9%	N/M	6.7%
Post-tax return on average tangible shareholders' equity ³	16.6%	4.0%	4.5%	11.3%	N/M	7.4%
Cost/income ratio ⁴	57.9%	75.2%	81.2%	76.6%	N/M	75.1%
¹ includes:						
Net interest income	5,113	3,013	6,160	(124)	(560)	13,602
Net income (loss) from equity method investments	(6)	(70)	(5)	42	2	(38)
² includes:						
Equity method investments	91	413	84	420	5	1,013

N/M – Not meaningful

³ The post-tax return on average shareholders' equity and average tangible shareholders' equity at Group level reflects the reported effective tax rate for the Group, which was 14% for the year ended December 31, 2023; for the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the year ended December 31, 2023; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this Annual Report

⁴ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

						2022
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Manage- ment	Corporate & Other	Total Consolidated
Net revenues ¹	6,337	10,016	9,153	2,608	(904)	27,210
Provision for credit losses	335	319	583	(2)	(9)	1,226
Noninterest expenses						
Compensation and benefits	1,422	2,376	2,785	899	3,231	10,712
General and administrative expenses	2,786	4,075	4,176	883	(2,192)	9,728
Impairment of goodwill and other intangible assets	0	0	0	68	0	68
Restructuring activities	(19)	15	(113)	0	(2)	(118)
Total noninterest expenses	4,188	6,466	6,848	1,850	1,037	20,390
Noncontrolling interests	0	15	0	174	(190)	0
Profit (loss) before tax	1,814	3,217	1,722	584	(1,743)	5,594
Assets (in € bn) ²	258	677	333	10	60	1,337
Loans (gross of allowance for loan losses, in € bn)	122	103	265	0	(1)	489
Additions to non-current assets	3	4	177	41	2,267	2,494
Deposits (in € bn)	289	16	317	0	(1)	621
Average allocated shareholders' equity	12,015	26,036	13,557	5,395	2,991	59,994
Risk-weighted assets (in € bn)	74	139	88	13	46	360
of which: operational risk RWA (in € bn)	5	23	8	3	19	58
Leverage exposure (in € bn)	321	530	344	9	36	1,240
Employees (full-time equivalent)	22,161	18,420	37,716	4,778	1,856	84,930
Post-tax return on average shareholders' equity ³	10.0%	8.0%	8.3%	7.4%	N/M	8.4%
Post-tax return on average tangible shareholders' equity ³	10.9%	8.4%	9.0%	17.1%	N/M	9.4%
Cost/income ratio ⁴	66.1%	64.6%	74.8%	71.0%	N/M	74.9%
¹ includes:						
Net interest income	3,628	3,467	5,223	(65)	1,398	13,650
Net income (loss) from equity method investments	4	50	27	66	6	152
² includes:						
Equity method investments	90	501	99	415	20	1,124

N/M – Not meaningful

Prior years comparatives aligned to presentation in the current year

³ The post-tax return on average shareholders' equity and average tangible shareholders' equity at the Group level reflects the reported effective tax rate for the Group, which was (1)% for the year ended December 31, 2022; for the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the year ended December 31, 2022; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this Annual Report

⁴ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

						2021
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Manage- ment	Corporate & Other	Total Consolidated
Net revenues ¹	5,153	9,631	8,233	2,708	(314)	25,410
Provision for credit losses	(3)	104	446	5	(36)	515
Noninterest expenses						
Compensation and benefits	1,447	2,197	2,808	822	3,145	10,418
General and administrative expenses	3,053	3,843	4,939	846	(1,862)	10,821
Impairment of goodwill and other intangible assets	5	0	0	0	0	5
Restructuring activities	42	47	173	2	(2)	261
Total noninterest expenses	4,547	6,087	7,920	1,670	1,281	21,505
Noncontrolling interests	0	(17)	0	223	(206)	0
Profit (loss) before tax	609	3,458	(133)	809	(1,353)	3,390
Assets (in € bn) ²	246	616	310	10	141	1,324
Loans (gross of allowance for loan losses, in € bn)	122	93	254	0	6	476
Additions to non-current assets	17	6	149	32	1,733	1,939
Deposits (in € bn)	270	13	313	0	7	604
Average allocated shareholders' equity	11,101	25,281	13,041	5,128	1,883	56,434
Risk-weighted assets (in € bn)	65	141	85	14	46	352
of which: operational risk RWA (in € bn)	6	25	8	3	20	62
Leverage exposure (fully loaded, in € bn) ³	300	530	321	11	62	1,125
Employees (full-time equivalent)	20,560	16,927	37,458	4,514	3,510	82,969
Post-tax return on average shareholders' equity ⁴	3.2%	9.0%	(1.5)%	11.0%	N/M	3.4%
Post-tax return on average tangible shareholders' equity ⁴	3.5%	9.4%	(1.7)%	25.8%	N/M	3.8%
Cost/income ratio ⁵	88.2%	63.2%	96.2%	61.7%	N/M	84.6%
¹ includes:						
Net interest income	2,605	3,332	4,601	(5)	622	11,155
Net income (loss) from equity method investments	3	(34)	40	81	9	98
² includes:						
Equity method investments	72	462	180	349	29	1,091

N/M – Not meaningful

Prior years comparatives aligned to presentation in the current year

³ The leverage ratio exposure is calculated according to CRR as applicable at the reporting date; starting with September 30, 2020, the Group was allowed to exclude certain Euro-based exposures facing Eurosystem central banks from the leverage ratio exposure based on the ECB-decision (EU) 2020/1306 and EU 2021/1074; this exclusion applied until March 31, 2022; the segmental leverage exposures are presented without that exclusion

⁴ The post-tax return on average shareholders' equity and average tangible shareholders' equity at the Group level reflects the reported effective tax rate for the Group, which was 26% for the year ended December 31, 2021; for the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the year ended December 31, 2021; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this Annual Report

⁵ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

Corporate Bank

in € m. (unless stated otherwise)	2023	2022	2021	2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
				in € m.	in %	in € m.	in %
Net revenues							
Corporate Treasury Services	4,366	3,821	3,072	545	14	749	24
Institutional Client Services	1,906	1,587	1,299	319	20	287	22
Business Banking	1,445	930	781	515	55	148	19
Total net revenues	7,716	6,337	5,153	1,379	22	1,185	23
Of which:							
Net interest income	5,113	3,628	2,605	1,485	41	1,022	39
Commissions and fee income	2,328	2,356	2,204	(28)	(1)	151	7
Remaining income	275	354	343	(79)	(22)	11	3
Provision for credit losses	266	335	(3)	(68)	(20)	338	N/M
Noninterest expenses							
Compensation and benefits	1,537	1,422	1,447	115	8	(26)	(2)
General and administrative expenses	2,934	2,786	3,053	148	5	(267)	(9)
Impairment of goodwill and other intangible assets	0	0	5	0	N/M	(5)	N/M
Restructuring activities	(4)	(19)	42	15	(77)	(61)	N/M
Total noninterest expenses	4,466	4,188	4,547	278	7	(358)	(8)
Noncontrolling interests	0	0	0	0	N/M	0	N/M
Profit (loss) before tax	2,984	1,814	609	1,169	64	1,205	198
Employees (front office, full-time equivalent) ¹	7,859	7,444	7,441	415	6	3	0
Employees (business-aligned operations, full-time equivalent) ¹	7,853	6,508	5,838	1,345	21	670	11
Employees (allocated central infrastructure, full-time equivalent) ¹	9,808	8,209	7,282	1,599	19	927	13
Total employees (full-time equivalent)	25,520	22,161	20,560	3,359	15	1,600	8
Total assets (in € bn)^{1,2}	264	258	246	6	2	12	5
Risk-weighted assets (in € bn) ¹	69	74	65	(5)	(7)	9	14
of which: operational risk RWA (in € bn) ¹	6	5	6	0	5	(0)	(5)
Leverage exposure (in € bn) ¹	307	321	300	(14)	(4)	21	7
Deposits (in € bn) ¹	289	289	270	1	0	18	7
Loans (gross of allowance for loan losses, in € bn) ¹	117	122	122	(5)	(4)	(1)	(1)
Cost/income ratio ³	57.9%	66.1%	88.2%	N/M	(8.2) ppt	N/M	(22.1) ppt
Post-tax return on average shareholders' equity ⁴	15.2%	10.0%	3.2%	N/M	5.2 ppt	N/M	6.8 ppt
Post-tax return on average tangible shareholders' equity ⁴	16.6%	10.9%	3.5%	N/M	5.7 ppt	N/M	7.4 ppt

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

¹ As of year-end

² Segment assets represent consolidated view, i.e. the amounts do not include intersegment balances

³ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

⁴ For the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the years 2023, 2022 and 2021; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this Annual Report

2023

Profit before tax of the Corporate Bank was € 3.0 billion for the full year 2023, up from € 1.8 billion in 2022, driven by higher revenues and lower provision for credit losses, partly offset by higher noninterest expenses. Post-tax return on average shareholders' equity was 15.2%, up from 10.0% in the prior year. Post-tax return on average tangible shareholders' equity was 16.6%, up from 10.9% in the prior year. The cost/income ratio was 58%, down from 66% in 2022.

Full year net revenues were € 7.7 billion, 22% higher year on year, driven by increased interest rates and continued pricing discipline, while commission and fee income remained essentially flat. Deposit volume remained essentially flat, while loan volume lowered by € 5 billion, or 4%, due to a more selective balance sheet deployment and negative impact from FX movements.

All of the Corporate Bank's businesses contributed to revenue growth. Corporate Treasury Services net revenues were € 4.4 billion, up 14% year on year, driven by increased interest rates coupled with essentially flat deposit volume. Institutional Client Services net revenues were € 1.9 billion, 20% higher year on year, benefitting from higher interest rates and higher deposit volume. Business Banking net revenues were € 1.4 billion, 55% higher year on year, reflecting higher interest rate and lagging deposit payouts in Germany supported by essentially flat business volumes.

Provision for credit losses in 2023 was € 266 million, or 23 basis points of average loans, compared to provisions of € 335 million, or 27 basis points of average loans, in 2022. The reduction reflects releases of Stage 1 and 2 provisions driven by improved macroeconomic outlook and model changes.

Noninterest expenses were € 4.5 billion, up 7% year on year, mainly due to increased nonoperating costs, internal service cost allocations and noncompensation direct costs.

2022

Profit before tax of the Corporate Bank was € 1.8 billion for the full year 2022, up from € 0.6 billion in 2021, driven by higher revenues and lower noninterest expenses, partly offset by increased provision for credit losses. Post-tax return on average shareholders' equity was 10.0%, up from 3.2% in the prior year. Post-tax return on average tangible shareholders' equity was 10.9%, up from 3.5% in the prior year. The cost/income ratio was 66%, down from 88% in 2021.

Full year net revenues were € 6.3 billion, 23% higher year on year. Revenue growth was driven by increased interest rates and continued pricing discipline, higher commission and fee income as well as deposit growth and favorable foreign exchange rate movements. Deposits grew by € 18 billion, or 7%, during the year while loan volume decreased by € 1 billion, or 1%.

All of the Corporate Bank's businesses contributed to revenue growth. Corporate Treasury Services net revenues were € 3.8 billion, up 24% year on year, driven by increased interest rates across all markets, growth in commission and fee income and higher deposits. Institutional Client Services net revenues were € 1.6 billion, 22% higher year on year, benefitting from higher interest rates and favorable foreign exchange movements. Business Banking net revenues were € 930 million, 19% higher year on year, reflecting transition to a positive interest rate environment in Germany in the second half of 2022 and higher commission and fee income from account repricing.

Provision for credit losses was € 335 million in the year, or 27 basis points of average loans, reflecting the weakened macroeconomic environment, from essentially nil in the prior year.

Noninterest expenses were € 4.2 billion, down 8% year on year, as a positive contribution from noncompensation initiatives and lower nonoperating costs were partly offset by foreign exchange rate movements.

Investment Bank

				2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
in € m. (unless stated otherwise)	2023	2022	2021	in € m.	in %	in € m.	in %
Net revenues							
Fixed Income, Currency (FIC) Sales & Trading	7,974	8,935	7,063	(961)	(11)	1,871	26
Debt Origination	843	412	1,573	431	105	(1,161)	(74)
Equity Origination	102	101	544	1	1	(443)	(81)
Advisory	301	485	491	(184)	(38)	(6)	(1)
Origination & Advisory	1,246	998	2,608	249	25	(1,610)	(62)
Other	(60)	84	(40)	(144)	N/M	124	N/M
Total net revenues	9,160	10,016	9,631	(856)	(9)	385	4
Provision for credit losses	431	319	104	112	35	215	N/M
Noninterest expenses							
Compensation and benefits	2,524	2,376	2,197	149	6	179	8
General and administrative expenses	4,136	4,075	3,843	61	1	232	6
Impairment of goodwill and other intangible assets	233	0	0	233	N/M	0	N/M
Restructuring activities	(3)	15	47	(18)	N/M	(32)	(68)
Total noninterest expenses	6,890	6,466	6,087	424	7	379	6
Noncontrolling interests	3	15	(17)	(12)	(79)	32	N/M
Profit (loss) before tax	1,836	3,217	3,458	(1,381)	(43)	(241)	(7)
Employees (front office, full-time equivalent) ¹	4,940	4,334	4,212	606	14	122	3
Employees (business-aligned operations, full-time equivalent) ¹	3,050	3,298	2,928	(248)	(8)	370	13
Employees (allocated central infrastructure, full-time equivalent) ¹	11,989	10,788	9,787	1,201	11	1,001	10
Total employees (full-time equivalent)¹	19,979	18,420	16,927	1,559	8	1,493	9
Total assets (in € bn)²	658	677	616	(18)	(3)	61	10
Risk-weighted assets (in € bn) ¹	140	139	141	0	0	(1)	(1)
of which: operational risk RWA (in € bn) ¹	22	23	25	(2)	(7)	(2)	(7)
Leverage exposure (in € bn) ¹	546	530	530	17	3	(1)	(0)
Deposits (in € bn) ¹	18	16	13	1	9	4	28
Loans (gross of allowance for loan losses, in € bn) ¹	101	103	93	(2)	(2)	10	11
Cost/income ratio ³	75.2%	64.6%	63.2%	N/M	10.7ppt	N/M	1.4ppt
Post-tax return on average shareholders' equity ⁴	3.8%	8.0%	9.0%	N/M	(4.2)ppt	N/M	(1.0)ppt
Post-tax return on average tangible shareholders' equity ⁴	4.0%	8.4%	9.4%	N/M	(4.3)ppt	N/M	(1.1)ppt

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

¹ As of year end

² Segment assets represent consolidated view, i.e., the amounts do not include intersegment balances

³ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

⁴ For the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the years 2023, 2022 and 2021; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this Annual Report

2023

Profit before tax in 2023 was € 1.8 billion, down € 1.4 billion, or 43% compared to 2022. This reflects a decline of profit before tax in FIC Sales & Trading revenues compared to a very strong prior year, higher costs driven by strategic investments into the business, including the acquisition of Numis, and increased Provision for credit losses. Post-tax return on average shareholders' equity was 3.8%, down from 8.0% in the prior year. Post-tax return on average tangible shareholders' equity was 4.0%, down from 8.4% in the prior year. The cost/income ratio in 2023 was 75%, compared to 65% in 2022.

Net revenues were € 9.2 billion, a decrease of € 856 million, or 9% year on year.

Revenues in FIC Sales & Trading were € 8.0 billion, down € 961 million, or 11% compared to 2022, which was the best FIC revenue performance in a decade. Revenues in Rates, Emerging Markets and Foreign Exchange were all significantly lower, reflecting reduced levels of market volatility and activity. Credit Trading revenues were significantly higher due to the improved performance of Credit Flow following investments into the business. Financing revenues were robust and essentially flat to the prior year.

Origination & Advisory revenues were € 1.2 billion, an increase of € 249 million, or 25% year on year. This was primarily driven by the non-recurrence of material leveraged lending markdowns in Leveraged Debt Capital Markets. Investment Grade debt revenues were lower, reflecting a decline in the industry fee pool (source: Dealogic). Advisory revenues were significantly lower due to reduced levels of announced deals coming into 2023. Equity Origination revenues were essentially flat to the prior year.

Other revenues were negative € 60 million, compared to positive € 84 million in 2022. The year-on-year decrease was materially driven by a loss of € 47 million relating to the impact of debt valuation adjustments on certain derivative liabilities versus a gain of € 49 million in the prior year.

Provision for credit losses was € 431 million, or 42 basis points of average loans, an increase of € 112 million year on year due to increased levels of stage 3 impairments, primarily in relation to Commercial Real Estate.

Noninterest expenses in 2023 were € 6.9 billion, an increase of € 424 million or 7% year on year, primarily driven by an impairment of Goodwill due to the Numis acquisition, as well as strategic investments made across the business and in line with the previously communicated strategy.

2022

Profit before tax was € 3.2 billion in 2022, a decrease of € 241 million versus a very strong prior year. Slightly higher revenues were more than offset by significantly higher provision for credit losses and slightly higher noninterest expenses. Post-tax return on average shareholders' equity was 8.0%, down from 9.0% in the prior year. Post-tax return on average tangible shareholders' equity was 8.4%, down from 9.4% in the prior year. The cost/income ratio in 2022 was 65%, compared to 63% in 2021.

Net revenues were € 10.0 billion in 2022, an increase of € 385 million, or 4% compared to 2021.

Revenues in FIC Sales & Trading were € 8.9 billion, an increase of € 1.9 billion, or 26%, versus the prior year, with strong year on year growth across the majority of the franchise. Rates, Foreign Exchange and Emerging Markets revenues were all significantly higher, reflecting heightened levels of market activity, increased client flows and disciplined risk management. Financing revenues were higher, driven primarily by higher net interest income, as a result of increased lending activity. Revenues in Credit Trading were significantly lower due to the non-recurrence of the contribution from a concentrated distressed credit position in the prior year and a challenging market environment.

Origination & Advisory net revenues were € 1.0 billion, a decrease of € 1.6 billion, or 62%, compared to the prior year. Debt Origination revenues were € 412 million, significantly lower than the prior year driven principally by Leveraged Debt Capital Markets, where revenues were impacted by a material decline in the industry fee pool and loan markdowns, which were seen across the industry. Investment Grade debt revenues were also lower, however decreased by less than the industry average (source: Dealogic). Equity Origination revenues of € 101 million were significantly lower, reflecting a material decline in primary equity issuance during the year. Advisory revenues of € 485 million were essentially flat to 2021, in a fee pool that was down approximately 15% (source: Dealogic).

Other revenues were positive € 84 million, compared to negative € 40 million in 2021. The year-on-year increase was materially driven by a gain of € 49 million relating to the impact of debt valuation adjustments on certain derivative liabilities versus a loss of € 28 million in 2021. Additionally, 2021 was negatively impacted by the reversal of previously recorded Collateralized Loan Obligation hedge gains, which had resulted from the release of underlying provision for credit losses. These did not re-occur in 2022.

Provision for credit losses was € 319 million, or 32 basis points of average loans, an increase of € 215 million versus prior year, primarily driven by a weakened macroeconomic environment whilst the prior year benefited from a post COVID-19 recovery.

Noninterest expenses in 2022 were € 6.5 billion, an increase of € 379 million or 6% compared to prior year, reflecting the impact of foreign exchange translation and increased bank levies.

Private Bank

	2023	2022	2021	in € m.	2023 increase (decrease) from 2022	in %	in € m.	2022 increase (decrease) from 2021	in %
in € m. (unless stated otherwise)									
Net revenues:									
Private Bank Germany	6,070	5,325	5,006	745	14		319	6	
International Private Bank	3,505	3,828	3,226	(322)	(8)		601	19	
Premium Banking	986	942	934	44	5		8	1	
Wealth Management & Bank for Entrepreneurs	2,520	2,886	2,292	(366)	(13)		593	26	
Total net revenues	9,575	9,153	8,233	422	5		920	11	
of which:									
Net interest income	6,160	5,223	4,601	937	18		622	14	
Commissions and fee income	2,852	3,155	3,206	(303)	(10)		(51)	(2)	
Remaining income	563	775	426	(212)	(27)		349	82	
Provision for credit losses	783	583	446	201	34		137	31	
Noninterest expenses:									
Compensation and benefits	2,806	2,785	2,808	21	1		(22)	(1)	
General and administrative expenses	4,742	4,176	4,939	566	14		(764)	(15)	
Impairment of goodwill and other intangible assets	0	0	0	0	N/M		0	N/M	
Restructuring activities	228	(113)	173	341	N/M		(285)	N/M	
Total noninterest expenses	7,777	6,848	7,920	929	14		(1,072)	(14)	
Noncontrolling interests	0	0	0	(0)	(12)		0	N/M	
Profit (loss) before tax	1,015	1,722	(133)	(707)	(41)		1,855	N/M	
Employees (front office, full-time equivalent) ¹	20,599	21,092	21,973	(492)	(2)		(881)	(4)	
Employees (business-aligned operations, full-time equivalent) ¹	5,637	5,816	6,060	(179)	(3)		(243)	(4)	
Employees (allocated central infrastructure, full-time equivalent) ¹	12,215	10,808	9,426	1,407	13		1,382	15	
Total employees (full-time equivalent)	38,451	37,716	37,458	735	2		258	1	
Total assets (in € bn)^{1,2}	331	333	310	(2)	(1)		22	7	
Risk-weighted assets (in € bn) ¹	86	88	85	(1)	(2)		2	3	
of which: operational risk RWA (in € bn) ¹	8	8	8	0	0		0	1	
Leverage exposure (in € bn) ¹	339	344	321	(6)	(2)		24	7	
Deposits (in € bn) ¹	308	317	313	(10)	(3)		4	1	
Loans (gross of allowance for loan losses, in € bn) ¹	261	265	254	(4)	(1)		10	4	
Assets under Management (in € bn) ^{1,3}	559	518	554	40	8		(36)	(6)	
Net flows (in € bn)	29	30	30	(1)	(4)		(0)	(1)	
Cost/income ratio ⁴	81.2%	74.8%	96.2%	N/M	6.4ppt		N/M	(21.4)ppt	
Post-tax return on average shareholders' equity ⁵	4.1%	8.3%	(1.5)%	N/M	(4.2)ppt		N/M	9.8ppt	
Post-tax return on average tangible shareholders' equity ⁵	4.5%	9.0%	(1.7)%	N/M	(4.6)ppt		N/M	10.7ppt	

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

¹ As of year-end

² Segment assets represent consolidated view, i.e. the amounts do not include intersegment balances

³ The Group defines assets under management as (a) assets held on behalf of customers for investment purposes and/or (b) client assets that are managed by the bank; assets under management are managed on a discretionary or advisory basis, or these assets are deposited with the bank; deposits are considered assets under management if they serve investment purposes; in the Private Bank Germany and Premium Banking, this includes term deposits and savings deposits; in Wealth Management & Bank for Entrepreneurs, it is assumed that all customer deposits are held with the bank primarily for investment purposes; in instances in which Private Bank distributes investment products qualifying as assets under management which are managed by DWS these are reported as assets under management for Private Bank and for Asset Management (DWS) because they are two distinct, independent qualifying services

⁴ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

⁵ For the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the years 2023, 2022 and 2021; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this Annual Report

2023

Private Bank recorded a profit before tax of € 1.0 billion in 2023, compared to € 1.7 billion in the prior year, a decline of 41%. The year-on-year development reflected significant nonoperating costs and revenue items. Nonoperating costs were € 468 million in 2023, compared to a benefit of € 147 million in 2022. Furthermore, 2022 revenues included € 430 million in specific items which did not recur in 2023. These items impacted key ratios, with the cost/income ratio rising to 81%, from 75% in the prior year, while post-tax return on average shareholders' equity declined to 4.1%, from 8.3% in 2022 and post-tax return on average tangible shareholders' equity declined to 4.5%, from 9.0% in the prior year. Excluding nonoperating cost and specific revenue items, profit before tax would have been up 30% year on year.

Net revenues were € 9.6 billion, up 5% year on year, or up 10% if adjusted for the non-recurrence of the aforementioned € 430 million of specific items from last year. These included a gain of approximately € 310 million from the sale of the Deutsche Bank Financial Advisors business in Italy, and positive impacts from Sal. Oppenheim workout activities. Revenue growth was driven by higher net interest income from deposit products, partly offset by lower fee income and lower loan revenues in a rising interest rate environment. The Private Bank attracted net inflows into assets under management of € 29 billion in 2023, with net inflows in both investment products and deposits. Loan development reflected lower client demand, mainly in mortgage loans in Germany and client deleveraging in APAC.

In Private Bank Germany, net revenues grew by 14% to € 6.1 billion as higher net interest income from deposit products more than offset impacts from lower fee income due to changes in contractual and regulatory conditions.

In the International Private Bank, net revenues were € 3.5 billion, down 8% year on year, or up 5% if adjusted for the aforementioned impact of specific items, from non-recurring revenues of approximately € 50 million following the business divestiture in Italy. Higher deposit revenues were offset by lower loan and investment revenues mainly in the APAC region.

Assets under management in the Private Bank were € 559 billion at year end, up € 40 billion in the year. The increase was mainly driven by net inflows of € 29 billion and by a € 19 billion beneficial impact from higher market levels partly offset by € 4 billion negative impact from foreign exchange rate movements.

Provision for credit losses was € 783 million, or 30 basis points of average loans, compared to € 583 million, or 22 basis points of average loans in the prior year. The increase mainly reflected a more difficult macroeconomic environment, higher impacts of single name losses in the International Private Bank and effects from temporary operational backlog related to the Postbank IT migration, while provision for credit losses in 2022 benefited from releases following sales of non-performing loans. The development of the overall portfolio continued to reflect the high quality of the loan book, especially in the retail businesses, and ongoing tight risk discipline.

Noninterest expenses were € 7.8 billion, up 14% year on year, driven predominantly by the aforementioned € 468 million in nonoperating costs, including restructuring and severance of € 346 million and litigation charges of € 123 million, compared to releases of nonoperating costs of € 147 million in 2022. Adjusted costs, which exclude these items, were up 4%, mainly reflecting investments in Group control functions, strategic initiatives, higher internal cost allocations, Postbank service remediation and inflation impacts. These were partly mitigated by continued savings from transformation programs and reduced regulatory charges.

2022

Private Bank recorded a profit before tax of € 1.7 billion in 2022 compared to a loss of € 133 million in the prior year, the highest profit before tax since the formation of Private Bank in 2019. Post-tax return on average shareholders' equity was 8.3%, up from negative 1.5% in 2021, with post-tax return on average tangible shareholders' equity rose to 9.0%, up from negative 1.7% in the prior year. The cost/income ratio improved to 75%, down from 96% in the prior year, reflecting growth of 11% in revenues combined with a reduction of 14% in noninterest expenses.

Net revenues grew to € 9.2 billion, up 11% year on year. The increase partly reflected higher specific revenue items, mainly a gain of approximately € 310 million from the sale of the Deutsche Bank Financial Advisors business in Italy, as well as the positive impact of reduced forgone revenues related to the 2021 German Federal Court of Justice (BGH) ruling on pricing agreements. Adjusted for these impacts, net revenues grew by 6% year on year, driven by higher net interest income, foreign exchange rate movements and continued business growth. Business growth was € 41 billion in 2022 and reflected net inflows into assets under management of € 30 billion, including net inflows into investment products of € 25 billion and deposits of € 5 billion, as well as net new client loans of € 11 billion.

Private Bank Germany generated net revenues of € 5.3 billion, up 6% year on year, partly reflecting the reduction in forgone revenues from the BGH ruling. Adjusted for this impact, revenues were up 4% as higher net interest income from deposit products more than offset the impacts of lower loan revenues and fee income in a more challenging macro-economic environment.

In International Private Bank, net revenues were € 3.8 billion, up 19% year on year, and up 9% if adjusted for the aforementioned gain on sale, and for Sal. Oppenheim workout activities. Revenue growth was mainly attributable to higher deposit revenues due to interest rate increases, continued loan book expansion and positive foreign exchange rate movements. Revenues from investment products benefitted from net inflows but were also impacted by a more challenging market environment. International Private Bank attracted net new volumes of € 29 billion across loans and assets under management in the full year, the highest since its formation.

Assets under management in Private Bank declined by € 36 billion to € 518 billion at year end. This development reflected € 56 billion in negative impacts from market developments and a € 15 billion disposal net effect after the sale of the Financial Advisors business in Italy, partly offset by € 30 billion net inflows and a € 6 billion positive impact from foreign exchange rate movements.

Provision for credit losses was € 583 million, or 22 basis points of average loans, partly driven by certain single exposures in the international franchise. Excluding these, the development of the overall portfolio continued to reflect the high quality of the loan book and ongoing tight risk discipline. This compares to € 446 million provision for credit losses in the prior year, which benefitted from a more stable macroeconomic environment.

Noninterest expenses were € 6.8 billion, a reduction of 14% year on year. This development reflected a positive impact from the release of litigation provisions recorded in the prior year related to the BGH ruling, lower restructuring expenses in the context of the execution of strategic objectives and a year-on-year reduction in adjusted costs of 7%. The latter was driven by incremental savings from transformation initiatives including workforce reductions and the closure of more than 170 branches. Ongoing cost management and lower internal service cost allocations also contributed to the reduction in adjusted costs. These effects were partly offset by a negative impact from foreign exchange rate movements.

Asset Management

in € m. (unless stated otherwise)	2023	2022	2021	2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
				in € m.	in %	in € m.	in %
Net revenues							
Management fees	2,314	2,458	2,370	(143)	(6)	88	4
Performance and transaction fees	128	125	212	2	2	(86)	(41)
Other	(59)	24	126	(84)	N/M	(102)	(81)
Total net revenues	2,383	2,608	2,708	(225)	(9)	(100)	(4)
Provision for credit losses	(1)	(2)	5	1	(50)	(6)	N/M
Noninterest expenses							
Compensation and benefits	891	899	822	(8)	(1)	77	9
General and administrative expenses	934	883	846	50	6	37	4
Impairment of goodwill and other intangible assets	0	68	0	(68)	N/M	68	N/M
Restructuring activities	0	0	2	(0)	(15)	(2)	(95)
Total noninterest expenses	1,825	1,850	1,670	(26)	(1)	180	11
Noncontrolling interests	163	174	223	(12)	(7)	(49)	(22)
Profit (loss) before tax	396	584	809	(188)	(32)	(225)	(28)
Employees (front office, full-time equivalent) ¹	2,023	2,024	1,913	(2)	(0)	111	6
Employees (business-aligned operations, full-time equivalent) ¹	2,363	2,258	2,159	105	5	100	5
Employees (allocated central infrastructure, full-time equivalent) ¹	576	495	442	81	16	53	12
Total employees (full-time equivalent)¹	4,962	4,778	4,514	185	4	264	6
Total assets (in € bn)^{1,2}	10	10	10	0	2	(0)	(2)
Risk-weighted assets (in € bn) ¹	15	13	14	2	18	(2)	(11)
of which: operational risk RWA (in € bn) ¹	3	3	3	0	2	0	2
Leverage exposure (in € bn) ¹	10	9	11	0	3	(1)	(11)
Assets under Management (in € bn) ^{1,3}	896	821	928	75	9	(106)	(11)
Net flows (in € bn)	28	(20)	48	48	N/M	(68)	N/M
Cost/income ratio ⁴	76.6%	71.0%	61.7%	N/M	5.6ppt	N/M	9.3ppt
Post-tax return on average shareholders' equity ⁵	4.9%	7.4%	11.0%	N/M	(2.5)ppt	N/M	(3.6)ppt
Post-tax return on average tangible shareholders' equity ⁵	11.3%	17.1%	25.8%	N/M	(5.9)ppt	N/M	(8.7)ppt

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

¹ As of year end

² Segment assets represent consolidated view, i.e., the amounts do not include intersegment balances

³ The Group defines assets under management as (a) assets held on behalf of customers for investment purposes and/or (b) client assets that are managed by the bank; assets under management are managed on a discretionary or advisory basis, or these assets are deposited with the bank; deposits are considered assets under management if they serve investment purposes; in the Private Bank Germany and Premium Banking, this includes term deposits and savings deposits; in Wealth Management & Bank for Entrepreneurs, it is assumed that all customer deposits are held with the bank primarily for investment purposes; in instances in which Private Bank distributes investment products qualifying as assets under management which are managed by DWS these are reported as assets under management for Private Bank and for Asset Management (DWS) because they are two distinct, independent qualifying services

⁴ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

⁵ For the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the years 2023, 2022 and 2021; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this Annual Report

2023

Profit before tax was € 396 million, down 32%, mainly driven by lower revenues. Post-tax return on average shareholders' equity was 4.9%, down from 7.4% in the prior year. Post-tax return on average tangible shareholders' equity was 11.3%, down from 17.1% in the prior year. The cost/income ratio was 77%, up from 71% in 2022.

Net revenues in 2023 were € 2.4 billion, down 9% compared to 2022, resulting from significantly lower other revenues driven by higher funding costs and lower investment income, as well as slightly lower management fees due to negative market developments, the composition of the net inflows in Alternatives and margin compression in other product classes. Performance and transaction fees were essentially flat compared to full year 2022.

Noninterest expenses were € 1.8 billion in 2023, down 1%. Adjusted costs increased by 3%, mainly due to higher IT costs to support transformation and higher banking servicing costs driven by a rise in assets under management in the Passive business, while compensation and benefits remained essentially flat. Non-operating costs were significantly lower due to a € 68 million impairment of an unamortized intangible asset related to U.S. mutual fund retail contracts in the prior year.

Net flows were positive € 28 billion, primarily in Passive, Cash and Multi Assets products. This was partly offset by net outflows in Equity and Systematic & Quantitative Investments (SQI), while net flows in Alternatives and Fixed Income being essentially flat. ESG products attracted net inflows of € 5 billion in 2023 primarily into Xtrackers.

Assets under Management increased by € 75 billion, or 9%, to € 896 billion during 2023, mainly driven by positive market developments and net inflows, while foreign exchange rate movements had a negative impact.

The following table provides the development of assets under management during 2023, broken down by product type as well as the respective management fee margins:

in € bn.	Active Equity	Active Fixed Income	Active Multi Asset	Active SQL	Active Cash	Passive	Alternatives	Assets under management
Balance as of December 31, 2022	99	194	68	64	80	199	118	821
Inflows	13	37	15	10	608	93	14	788
Outflows	(15)	(36)	(11)	(11)	(602)	(71)	(13)	(760)
Net Flows	(2)	0	4	(2)	6	21	0	28
FX impact	(1)	(3)	(0)	(0)	(2)	(4)	(2)	(12)
Performance	11	12	3	5	1	31	(5)	57
Other	0	0	1	(1)	0	0	0	1
Balance as of December 31, 2023	107	204	76	66	85	247	111	896
Management fee margin (in bps)	69	11	30	31	4	17	47	27

2022

Profit before tax was € 584 million, down 28%, mainly driven by significantly lower performance fees and other income, and an impairment of intangibles assets. Adjusted for restructuring and severance expenses and impairments of goodwill and other intangible assets, profit before tax was € 689 million, down 17%. Post-tax return on average shareholders' equity was 7.4%, down from 11.0% in the prior year. Post-tax return on average tangible shareholders' equity was 17.1%, down from 25.8% in the prior year. The cost/income ratio was 71%, up from 62% in 2021.

Net revenues for 2022 were € 2.6 billion, down 4%, as higher management fees were more than offset by significantly lower performance fees, reflecting the non-recurrence of a performance fee of € 89 million from an Active Asset fund recognized in 2021, and significantly lower other revenues.

Noninterest expenses were € 1.8 billion in 2022, up 11%. Adjusted costs increased by 5%, mainly due to higher compensation and benefits driven by a rise in headcount to support transformation and growth. Non-operating costs include a € 68 million impairment of an unamortized intangible asset related to U.S. mutual fund retail contracts. The cost/income ratio was 71%, up 9 percentage points compared to the prior year.

Net flows were negative € 20 billion, primarily in lower margin products Fixed Income, Cash and Passive, impacted by industry-wide pressure on flows. This was partly offset by net inflows in higher-margin products Multi Asset and Alternatives. ESG products attracted net inflows of € 1 billion in 2022 despite the adverse environment.

Assets under Management decreased by € 106 billion, or 11%, to € 821 billion during 2022, mainly driven by negative market developments and net outflows, while foreign exchange rate movements had a positive impact.

The following table provides the development of assets under management during 2022, broken down by product type as well as the respective management fee margins:

in € bn.	Active Equity	Active Fixed Income	Active Multi Asset	Active SQL	Active Cash	Passive	Alternatives	Assets under management
Balance as of December 31, 2021	116	227	70	77	84	238	115	928
Inflows	16	39	16	10	562	81	17	741
Outflows	(17)	(51)	(10)	(11)	(568)	(88)	(16)	(761)
Net Flows	(1)	(12)	6	(0)	(6)	(7)	1	(20)
FX impact	2	7	0	0	2	7	4	22
Performance	(18)	(28)	(8)	(13)	0	(38)	(2)	(108)
Other	(0)	1	0	(0)	(0)	(1)	0	0
Balance as of December 31, 2022	99	194	68	64	80	199	118	821
Management fee margin (in bps)	71	12	31	29	3	18	50	28

Corporate & Other

in € m. (unless stated otherwise)	2023	2022	2021	2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
				in € m.	in %	in € m.	in %
Net revenues	45	(904)	(314)	949	N/M	(590)	188
Provision for credit losses	26	(9)	(36)	35	N/M	27	(76)
Noninterest expenses							
Compensation and benefits	3,372	3,231	3,145	141	4	86	3
General and administrative expenses	(2,634)	(2,192)	(1,862)	(441)	20	(331)	18
Impairment of goodwill and other intangible assets	0	0	0	0	N/M	0	N/M
Restructuring activities	(1)	(2)	(2)	1	(40)	0	(22)
Total noninterest expenses	738	1,037	1,281	(299)	(29)	(244)	(19)
Noncontrolling interests	(166)	(190)	(206)	24	(12)	16	(8)
Profit (loss) before tax	(553)	(1,743)	(1,353)	1,190	(68)	(389)	29
Employees (C&O, net, full-time equivalent)¹	1,218	1,856	3,510	(638)	(34)	(1,654)	(47)
Employees (central infrastructure allocated to businesses, full-time equivalent)¹	34,588	30,300	26,937	4,288	14	3,363	12
Total Employees (full-time equivalent)¹	35,806	32,156	30,447	3,650	11	1,709	6
Risk-weighted assets (in € bn)¹	40	46	46	(6)	(13)	(0)	(0)
Leverage exposure (in € bn)¹	39	36	62	3	7	(25)	(41)

N/M – not meaningful

Prior year's comparatives aligned to presentation in the current year

¹ As of year-end

2023

Corporate & Other reported a loss before tax of € 0.6 billion in 2023 compared to a loss before tax of € 1.7 billion in 2022, reflecting higher revenues and lower noninterest expenses.

Net revenues were positive € 45 million in 2023, compared to negative € 904 million in 2022. Revenues related to valuation and timing differences were positive € 792 million in 2023, compared to negative € 119 million in 2022, the year-on-year improvement driven by market moves and the reversion of prior period losses. Net revenues relating to funding and liquidity were negative € 242 million in 2023, versus negative € 311 million in 2022.

Noninterest expenses were € 738 million in 2023, a reduction of € 299 million, or 29%, compared to 2022. The reduction was primarily driven by positive € 37 million litigation releases in 2023, compared to a charge of € 261 million in 2022. Expenses associated with shareholder activities as defined in the OECD Transfer Pricing guidelines not allocated to the business divisions were € 582 million in 2023, versus € 510 million in 2022.

Noncontrolling interests are deducted from the profit before tax of the divisions and reversed in Corporate & Other. These amounted to € 166 million in 2023, compared to € 190 million in 2022, mainly related to DWS.

2022

Corporate & Other reported a loss before tax of € 1.7 billion in 2022 compared to a loss before tax of € 1.4 billion in 2021, primarily reflecting higher negative net revenues.

Net revenues were negative € 904 million in 2022, compared to negative € 314 million in 2021. Revenues related to valuation and timing differences were negative € 119 million in 2022, compared to positive € 158 million in 2021. Net revenues relating to funding and liquidity were negative € 311 million in 2022, versus negative € 242 million in 2021.

Noninterest expenses were € 1.0 billion in 2022, compared to € 1.3 billion in 2021, a reduction of 19% year on year. This reduction was primarily driven by legacy portfolios, reflecting lower internal service charges and a decline in direct compensation and noncompensation costs. Expenses associated with shareholder activities as defined in the OECD Transfer Pricing guidelines not allocated to the business divisions were € 510 million in 2022, versus € 460 million in 2021.

Noncontrolling interests are deducted from the profit before tax of the divisions and reversed in Corporate & Other. These amounted to € 190 million in 2022, compared to € 206 million in 2021, mainly related to DWS.

Financial Position

Assets

in € m. (unless stated otherwise)	Dec 31, 2023	Dec 31, 2022	Absolute Change	Change in %
Cash, central bank and interbank balances	184,556	186,091	(1,535)	(1)
Central bank funds sold, securities purchased under resale agreements and securities borrowed	14,764	11,478	3,286	29
Financial assets at fair value through profit or loss	465,252	482,376	(17,124)	(4)
Of which: Trading assets	125,275	92,867	32,408	35
Of which: Positive market values from derivative financial instruments	251,856	299,686	(47,830)	(16)
Of which: Non-trading financial assets mandatory at fair value through profit and loss	88,047	89,654	(1,608)	(2)
Financial assets at fair value through other comprehensive income	35,546	31,675	3,871	12
Loans at amortized cost	473,705	483,700	(9,995)	(2)
Remaining assets	138,507	141,468	(2,961)	(2)
Of which: Brokerage and securities related receivables	72,566	71,250	1,317	2
Total assets	1,312,331	1,336,788	(24,458)	(2)

Liabilities and Equity

in € m. (unless stated otherwise)	Dec 31, 2023	Dec 31, 2022	Absolute Change	Change in %
Deposits	622,035	621,456	579	0
Central bank funds purchased, securities sold under repurchase agreements and securities loaned	3,042	585	2,456	N/M
Financial liabilities at fair value through profit or loss	366,475	388,072	(21,597)	(6)
Of which: Trading liabilities	44,005	50,616	(6,611)	(13)
Of which: Negative market values from derivative financial instruments	238,260	282,353	(44,093)	(16)
Of which: Financial liabilities designated at fair value through profit or loss	83,727	54,634	29,092	53
Other short-term borrowings	9,620	5,122	4,498	88
Long-term debt	119,390	131,525	(12,135)	(9)
Remaining liabilities	116,951	117,700	(749)	(1)
Of which: Brokerage and securities related payables	81,539	82,711	(1,173)	(1)
Total liabilities	1,237,513	1,264,460	(26,948)	(2)
Total equity	74,818	72,328	2,490	3
Total liabilities and equity	1,312,331	1,336,788	(24,458)	(2)

Movements in Assets and Liabilities

As of December 31, 2023, the total balance sheet of € 1.3 trillion was essentially flat compared to year-end 2022.

Trading assets increased by € 32.4 billion, mainly due to increased exposure in government securities from higher client flows and desk positioning in relation to the current environment. Corresponding liabilities decreased by € 6.6 billion, primarily driven by decreased short positions in government bonds in Europe rates business.

Positive and negative market values of derivative financial instruments decreased by € 47.8 billion and € 44.1 billion, respectively, driven by foreign exchange products primarily due to the weakening of the U.S. dollar against the euro and de-risking. The decline was also observed in interest rate products due to moves in interest rate curves.

Loans at amortized cost decreased by € 10.0 billion, primarily driven by lower demand and continued selective balance sheet deployment in the Corporate Bank as well as lower mortgage origination in the Private Bank.

Financial liabilities designated at fair value through profit or loss increased by € 29.1 billion, mainly attributable to an increase in securities sold under repurchase agreements as a result of increased secured funding of trading inventory and client activities; as well as an increase in long term debt driven by new issuances in FIC business in the Investment Bank.

Other short-term borrowings increased by € 4.5 billion, mainly driven by newly issued commercial paper.

Long term debt at amortized cost decreased by € 12.1 billion as a result of prepayment of TLTRO and matured issuances, which were partly offset by new issuances during the year.

The overall movement of the balance sheet included a decrease of € 18.6 billion due to foreign exchange rate movements, mainly driven by a weakening of the U.S. dollar versus the euro. The effects from foreign exchange rate movements are embedded in the movement of the balance sheet line items discussed in this section.

Liquidity

Total High Quality Liquid Assets (HQLA) as defined by the Commission Delegated Regulation (EU) 2015/61 and amended by Regulation (EU) 2018/1620 remained flat at € 219 billion for both December 31, 2023, and December 31, 2022. This is primarily due to the repayment of TLTRO liabilities offset by business portfolio movements. The Group maintains additional highly liquid central bank eligible assets, not qualifying as HQLA or subject to transfer restrictions under the HQLA definition. These additional liquid assets were € 42 billion, such that the Group's total Liquidity Reserves were € 261 billion as at the end of December 31, 2023. As at the end of December 31, 2022, these additional liquid assets were € 37 billion, such that the Group's total Liquidity Reserves were € 256 billion. The Liquidity Coverage Ratio was 140% at the end fourth quarter of 2023, a surplus to regulatory requirements of € 62 billion as compared to 142% as at the end of fourth quarter of 2022, a surplus to regulatory requirements of € 64 billion.

Equity

Total equity as of December 31, 2023, was € 74.8 billion compared to € 72.3 billion as of December 31, 2022, an increase of € 2.5 billion. This change was driven by a number of factors including the profit attributable to Deutsche Bank shareholders and additional equity components reported for the period of € 4.8 billion and treasury shares distributed under share-based compensation plans of € 407 million. Further contributing factors include unrealized net gains on accumulated other comprehensive income, mainly on derivatives hedging cash flows of € 592 million, net of tax, as well as attributable to financial assets at fair value through other comprehensive income of € 133 million, net of tax. These were partially offset by negative impacts from foreign currency translation of € 1.1 billion, net of tax, primarily resulting from the weakening of the U.S. dollar against the Euro, net purchases of treasury shares of € 857 million, coupons paid on additional equity components of € 498 million as well as cash dividends paid to Deutsche Bank shareholders of € 610 million. Further contributing factors include remeasurement losses related to defined benefit plans of € 148 million, net of tax, a net change in share awards for the period of € 94 million and cash dividends paid to noncontrolling interests of € 100 million.

On February 28, 2023, Deutsche Bank cancelled 26.5 million of its common shares, concluding its 2022 share buyback program. The cancellation reduced the nominal value of the shares by € 68 million. The cancelled shares had been held in common shares in treasury, at their acquisition cost of € 300 million. The difference between the common shares at cost and their nominal value has reduced additional paid-in capital by € 232 million. The shares had already been deducted from the reported total equity on December 31, 2022. Therefore, the cancellation did not reduce the reported total equity in 2023.

On July 25, 2023, the Management Board of Deutsche Bank AG decided to initiate the 2023 share buyback program of up to € 450 million. The share buyback program started on August 2, 2023 and ended on December 8, 2023. In this period Deutsche Bank repurchased 45.5 million common shares. The repurchase of these shares has reduced the reported total equity by € 450 million as of December 31, 2023.

Own Funds

Deutsche Bank's CRR/CRD Common Equity Tier 1 capital as of December 31, 2023 remains materially flat at € 48.1 billion, compared to December 31, 2022. The Risk-weighted assets (RWA) decreased by € 10.3 billion to € 349.7 billion as of December 31, 2023, compared to € 360.0 billion as of December 31, 2022. The CET 1 capital ratio increased to 13.7% on December 31, 2023, from 13.4% on December 31, 2022, as a result of a decrease in RWA.

The Bank's Tier 1 capital as of December 31, 2023, amounted to € 56.4 billion, consisting of a CET 1 capital of € 48.1 billion and Additional Tier 1 capital of € 8.3 billion. The Tier 1 capital was € 0.2 billion lower than at the end of 2022, driven by a decrease in AT1 capital. The Tier 1 capital ratio as of December 31, 2023, increased to 16.1% compared to 15.7% as of December 31, 2022.

Total capital as of December 31, 2023 amounted to € 65.0 billion compared to € 66.1 billion at the end of 2022. The Total capital decrease was driven by a decrease in Tier 1 capital of € 0.2 billion and a decrease in Tier 2 capital of € 0.9 billion since year end 2022. The Total capital ratio as of December 31, 2023, increased to 18.6% compared to 18.4% as of December 31, 2022.

Liquidity and capital resources

For a detailed discussion of the bank's liquidity risk management, please see the Risk Report in this annual report.

Credit Ratings

Deutsche Bank is rated by Moody's France SAS ("Moody's"), S&P Global Ratings UK Limited ("S&P"), Fitch Ratings, a branch of Fitch Ratings Ireland Limited ("Fitch"), and DBRS Ratings GmbH ("Morningstar DBRS", together with Moody's, S&P and Fitch, the "rating agencies").

Moody's, Fitch and Morningstar DBRS are established in the European Union and have been registered in accordance with Regulation (EC) No 1060/2009 of the European Parliament and of the Council of September 16, 2009, as amended, on credit rating agencies ("CRA Regulation"). With respect to S&P, the credit ratings are endorsed by S&P's office in Ireland (S&P Global Ratings Europe Limited) in accordance with Article 4(3) of the CRA Regulation.

Credit Ratings Development

The rating agencies recognized the continued progress the bank has made over the course of 2023, specifically further improvements in profitability. This was reflected in upgrades by S&P, Fitch and Morningstar DBRS during the year.

On May 17, 2023, S&P revised its outlook on Deutsche Bank's long-term Issuer Credit Rating to positive from stable. S&P reflected the bank's strengthening resilience and performance. In their view, Deutsche Bank's transformation program has established a more focused and profitable business model and laid the foundations for further progress. In addition, S&P pointed to the bank's solid capital, funding, and liquidity profiles underpinning its credit profile and mitigating market volatility.

On June 29, 2023, Morningstar DBRS upgraded Deutsche Bank's long-term ratings by one notch. The bank's long-term deposit and long-term senior debt ratings as well as the Issuer Rating and the Intrinsic Assessment have been upgraded to A from A (low). In addition, the bank's senior non-preferred debt ratings were raised to A (low) from BBB (high) as well as its Critical Obligations Rating to AA (low) from A (high). The outlook on all long-term ratings has been changed to stable from positive. Morningstar DBRS highlighted the successful implementation of the strategic transformation program, which has helped stabilize and grow Deutsche Bank's franchise, together with improved profitability. At the same time, the bank has maintained a conservative risk profile and solid capital ratios, in their view. Given the business momentum, the ongoing repricing of its loan portfolio to higher rates and the cost controls implemented, Morningstar DBRS expects Deutsche Bank to be able to maintain profitability levels in line with its rating.

On July 3, 2023, Fitch upgraded Deutsche Bank's long-term ratings by one notch. The bank's long-term deposit and long-term senior preferred debt ratings as well as the Derivative Counterparty Rating have been upgraded to A from A-. In addition, the bank's Issuer Default Rating and senior non-preferred debt ratings were raised to A- from BBB+. The ratings for Additional Tier 1 and Tier 2 debt were upgraded to BB+ from BB and to BBB from BBB-, respectively. The short-term ratings for deposits and senior preferred debt were raised to F1 from F2, respectively. The outlook on the long-term Issuer Default Rating has been changed to stable from positive. Fitch highlighted the completion of most of its restructuring as well as Deutsche Bank's more stable and diversified business model. In addition, the bank's sound risk appetite, asset quality, funding and liquidity also support the ratings, in their view.

Following the outlook revision to positive in May, S&P upgraded Deutsche Bank's long-term and short-term ratings by one notch on December 8, 2023. The bank's long-term Issuer Credit Rating and the long-term senior preferred debt rating have been upgraded to A from A-, while the senior non-preferred debt rating has been increased to BBB from BBB-. In addition, the ratings for Additional Tier 1 and Tier 2 debt have been upgraded to BBB- from BB+ and to BB from BB-, respectively. The short-term Issuer Credit Rating was raised to A-1 from A-2. The outlook on the long-term Issuer Credit Rating has been changed to stable from positive. S&P highlighted Deutsche Bank's strengthened performance and resilience as key drivers of the upgrade, while they also believe the bank's capitalization is supportive to the ratings.

Potential Impacts of Ratings Downgrades

Deutsche Bank calculates both the contractual and hypothetical potential impact of a one-notch and two-notch downgrade by the rating agencies (Moody's, S&P and Fitch) on its liquidity position and includes this impact in its daily liquidity stress test and Liquidity Coverage Ratio calculations. The LCR and liquidity stress test results by scenario are disclosed separately.

In terms of contractual obligations, the hypothetical impact on derivative liquidity stress outflows of a one-notch downgrade across the three rating agencies Moody's, S&P and Fitch amounts to approximately € 0.4 billion, mainly driven by increased contractual derivatives funding and/or margin requirements. The hypothetical impact of a two-notch downgrade amounts to approximately € 0.5 billion, mainly driven by increased contractual derivatives funding and/or margin requirements.

The above analysis assumes a simultaneous downgrade by the three rating agencies Moody's, S&P and Fitch that would consequently reduce Deutsche Bank's funding capacity in the stated amounts. This specific contractual analysis feeds into the bank's idiosyncratic liquidity stress test scenario.

The actual impact of a downgrade to Deutsche Bank is unpredictable and may differ from potential funding and liquidity impacts described above.

Selected rating categories

	Counterparty Risk	Senior preferred/ Deposits ¹	Senior non-preferred ²	Short-term rating
Moody's Investors Service, New York	A1 (cr)	A1	Baa1	P-1
Standard & Poor's, New York	-	A	BBB	A-1
Fitch Ratings, New York	A (dcr)	A	A-	F1 ³
Morningstar DBRS, Toronto	AA (low)	A	A (low)	R-1 (low)

¹ Defined as senior unsecured bank rating at Moody's, senior unsecured debt at Standard & Poor's, senior preferred debt rating at Fitch and senior debt rating at Morningstar DBRS. All agencies provide separate ratings for deposits and 'senior preferred' debt, but at the same rating level

² Defined as junior senior debt rating at Moody's, as senior subordinated debt at Standard & Poor's and as senior non-preferred debt at Fitch and Morningstar DBRS

³ F1 assigned for deposits and 'preferred' senior unsecured debt. F2 assigned for Issuer Default Rating

Each rating reflects the view of the rating agency only at the time the rating was issued, and each rating should be separately evaluated, and the rating agencies should be consulted for any explanations of the significance of their ratings. The rating agencies can change their ratings at any time if they believe that circumstances so warrant. The long-term credit ratings should not be viewed as recommendations to buy, hold or sell Deutsche Bank's securities.

Tabular disclosure of contractual obligations

Cash payment requirements outstanding as of December 31, 2023.

Contractual obligations	Total	Less than 1 year	1–3 years	3–5 years	Payment due by period
in € m.					
Long-term debt obligations ¹	135,540	34,999	39,785	28,897	31,859
Trust preferred securities ^{1,2}	307	307	0	0	0
Long-term financial liabilities designated at fair value through profit or loss ³	10,810	2,170	2,874	3,742	2,024
Future cash outflows not reflected in the measurement of Lease liabilities ⁴	4,922	14	225	364	4,318
Lease liabilities ¹	5,981	834	908	908	3,331
Purchase obligations	4,388	835	1,072	1,645	836
Long-term deposits ¹	24,033	0	10,218	3,189	10,627
Other long-term liabilities	252	156	18	8	70
Total	186,234	39,315	55,100	38,754	53,065

¹ Includes interest payments

² Contractual payment date or first call date

³ Long-term debt and long-term deposits designated at fair value through profit or loss

⁴ For further detail please refer to Note 22 "Leases"

Purchase obligations for goods and services include future payments for, among other things, information technology services and facility management. Some figures above for purchase obligations represent minimum contractual payments and actual future payments may be higher. Long-term deposits exclude contracts with a remaining maturity of less than one year. Under certain conditions future payments for some long-term financial liabilities designated at fair value through profit or loss may occur earlier. See the following notes to the consolidated financial statements for further information: Note 5 "Net Interest Income and Net Gains (Losses) on Financial Assets/Liabilities at Fair Value through Profit or Loss", Note 22 "Leases", Note 26 "Deposits" and Note 30 "Long-Term Debt and Trust Preferred Securities".

Outlook

The following section provides an overview of Deutsche Bank's outlook for the Group and business divisions for the financial year 2024. The outlook for the global economy and banking industry in the following chapter reflects the Group's general expectations regarding future economic and industry developments. Economic assumptions used in the bank's models are laid out separately in the respective sections.

Global economy

The Global Economy Outlook

Economic growth (in %) ¹	2024 ²	2023	Main driver
Global Economy			Global economic growth is expected to slow somewhat in 2024. Lagged effects of the monetary policy tightening are likely to be a drag for the developed market economies at least until mid-year 2024. Noticeably positive contributions to global growth are expected to come mainly from emerging markets. The weaker global economy is likely to support a further easing of inflation
GDP	2.9	3.1	
Inflation	5.1	6.9	
Of which:			
Developed countries			In the developed economies, growth is likely to be weakened in particular by the weak momentum in the eurozone. A noticeable slowdown in inflation should support households' real incomes and thus limit the economic downturn. Lower inflation rates should enable central banks to start lowering key interest rates from the middle of the 2024
GDP	1.2	1.6	
Inflation	2.5	4.7	
Emerging markets			Growth in the emerging markets is expected to be somewhat weaker in 2024, with developments in the individual regions likely to vary considerably. However, most countries should see a significant easing of inflation. The expected weak growth in industrialized countries will be a headwind for foreign trade, although this is likely to vary from region to region
GDP	4.0	4.2	
Inflation	6.8	8.4	
Eurozone Economy			GDP growth in the eurozone is likely to stagnate until the middle of the year. After that, private consumption should provide stronger support for the economy if inflation continues to significantly drop. The ECB is expected to start lowering key interest rates from the first half of 2024. Inflation could reach the target rate of 2% by mid-year.
GDP	0.2	0.5	
Inflation	2.2	5.4	
Of which: German economy			German GDP is expected to shrink again in 2024. Fiscal policy is likely to become tighter because of a ruling by the Federal Constitutional Court. If rising wages and easing inflation support private consumption, the economy is expected to regain momentum in the summer. The somewhat weaker global economy is likely to limit the recovery. The still tight monetary policy will provide an additional headwind
GDP	(0.2)	(0.3)	
Inflation	2.6	6.0	
U.S. Economy			The U.S. economy is likely to grow robustly, despite the lagged impact of previous interest rate hikes and lower wage growth. If the labour market and inflation continue to weaken, the Fed could start to cut interest rates from the middle of the year
GDP	2.4	2.5	
Inflation	2.4	4.1	
Japanese Economy			The growth rate of the Japanese economy is expected to slow, not least due to headwinds from the slowdown overseas and fiscal policy to gradually become less accommodative. Wage growth is likely to be strong in 2024 and support private consumption. Due to steady inflation and wage growth, the Bank of Japan is expected to end its negative interest rate policy in 2024
GDP	0.4	2.0	
Inflation	2.9	3.3	
Asian Economy³			China's development remains of crucial importance for the Asian economies. The slowdown in growth overseas is a headwind for the region. The easing of inflation is likely to come to an end in 2024. When the US central bank starts cutting interest rates, the Asian central banks could also start easing
GDP	4.8	5.1	
Inflation	2.0	2.3	
Of which: Chinese Economy			Further fiscal and monetary policy support may be necessary in 2024 to achieve the government's growth target. The expected weak growth in Europe is likely to be a headwind for China's export economy. The weak property market is dampening demand from private households
GDP	4.7	5.2	
Inflation	0.6	0.2	

¹ Annual Real GDP Growth (% YoY). Sources: National Authorities unless stated otherwise

² Sources: Deutsche Bank Research

³ Includes China, Hong Kong, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, South Korea, Thailand and Vietnam; excludes Japan

There are a number of risks to the bank's global economic outlook. Geopolitical risks remain elevated in Ukraine and in the Middle East. The U.S. versus China strategic competition could possibly continue to intensify. The potential intensification of interdependencies between crisis hotspots could exacerbate the impact on the markets. In 2024, important elections will take place in many regions of the world, including the U.S. and the EU, and the news surrounding these could well have the potential to move the markets, at least in the short term.

Banking industry

The global banking industry will probably face more headwinds in 2024 than in the past year when the operating environment had been quite benign. Interest rates are likely to have peaked in major economies and could start to fall from spring onwards. This may exert pressure on net interest margins in the medium term despite a potential short-term benefit from lower funding cost. Asset quality might deteriorate somewhat from current levels as significantly higher interest rates continue to creep into the private sector and stretched borrowers face increasing refinancing risks, especially in the commercial real estate markets. At the same time, a slow real economy in advanced countries may result in credit demand of companies and households weakening further until it stabilizes over the course of the year; with loan volumes possibly moderately contracting. Momentum in capital markets could see a cyclical improvement following two years of suppressed activity.

European banks may continue to benefit from substantially higher interest rates, although the associated side effects will gain in weight. As a result of considerable uncertainty about the speed and extent of the disinflation process, timing and size of the ECB's initial rate cuts is also subject to changing expectations. Likewise, fiscal and economic policy uncertainty may increase due to the incoming new European Commission and European Parliament, on top of developments in individual EU member states and looming further geopolitical fragmentation. However, the banking industry should continue to operate from a position of strength, with revenues still strong despite slower growth and bottom-line profitability likely to remain close to current record high levels. Capital ratios might edge up slightly, while the specific impact of the implementation of the Final Basel III reforms in the EU should become clear. However additional improvements in profitability and capital may become harder to achieve.

In the US, the economy may continue to expand robustly in 2024, which may support loan growth. While the Fed is likely to proceed more slowly in cutting interest rates than the ECB, lower rates could nevertheless help ease the burden of unrealized securities losses on banks' balance sheets. Similar to Europe, policy uncertainty could increase ahead of US elections in November. But greater clarity is emerging regarding the implementation of the Final Basel III reforms and specifically the tighter requirements regional banks will face as a consequence of the turmoil in March 2023. This could slow their growth and make building up capital as well as strengthening liquidity a priority. Nevertheless, system-wide profitability should stay elevated.

Banks in China and Japan may continue to experience headwinds from lackluster economic growth and low, respectively zero, interest rates, even though a first rate hike in Japan is expected in spring. Chinese banks in particular are likely to be affected by the ongoing crisis in the domestic real estate market. Nevertheless, exact repercussions are difficult to predict given the strong role the authorities might potentially play in resolving any issues.

In 2024, the European Commission, European Parliament and the European member states will focus on closing as many of the pending legislative files as possible, ahead of the elections of the European Parliament in June 2024 and the appointment of the new European Commission in October 2024. Files that are open include the Listings Act, Retail Investment Strategy, the digital euro, open finance, Corporate Sustainability Due Diligence Directive, the review of the Payment Services framework, the review of the European Markets Infrastructure framework (EMIR 3.0), Benchmarks Regulation, and the extension for third-country benchmarks from the EU Benchmarks Regulation to December 2025.

In the U.S., most of the attention is on the proposal from the U.S. agencies to implement the Final Basel III package in the U.S. framework. The proposal raises capital requirements for banks over U.S.\$ 100 billion in assets and removes much of the differentiation among institutions' requirements, those that are not U.S. Global Systemically Important Banks, based on size and complexity.

Deutsche Bank Group

Deutsche Bank's strategic and financial road map through 2025, referred to as the *Global Hausbank* strategy, outlines the bank's 2025 financial targets and capital objectives. If Deutsche Bank continues to refine and accelerate the bank's *Global Hausbank* strategy with measures it successfully implements, the bank could outperform its 2025 financial targets.

Deutsche Bank's key performance indicators are shown in the table below.

Key performance indicators

	Dec 31, 2023	Financial targets and capital objectives 2025
Financial targets		
Post-tax return on average tangible equity ¹	7.4%	Above 10.0%
Compound annual growth rate of revenues between 2021 and 2025 ²	6.6%	5.5 to 6.5% ³
Cost/income ratio ⁴	75.1%	Less than 62.5%
Capital objectives		
Common Equity Tier 1 capital ratio ⁵	13.7%	~ 13.0% ⁶
Total payout ratio ⁷	21%	50% ⁸

¹ Based on profit (loss) attributable to Deutsche Bank shareholders after AT1 coupon; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report

² Twelve months period until the end of the respective reporting period compared to full year 2021

³ Target ratio raised to 5.5 to 6.5% between 2021 and 2025 at the beginning of 2024

⁴ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

⁵ Further details on the calculation of this ratio are provided in the Risk Report in this report

⁶ Target ratio while maintaining a buffer of 200 basis points above the bank's expected maximum distributable amount (MDA) threshold

⁷ Distributions in form of common share dividend paid and share buybacks for cancellation executed in the reporting period in relation to prior period net income attributable to Deutsche Bank shareholders

⁸ In respect of financial year 2024 onwards

Deutsche Bank reaffirms its financial targets to be achieved by 2025 of a post-tax return on average tangible equity of above 10% and increases the bank's target on compound annual revenue growth of between 5.5% and 6.5% for 2021 to 2025, from its previously announced 3.5 to 4.5% target, along with a cost/income ratio of below 62.5%. The bank also confirms its capital objectives of a CET 1 capital ratio of around 13% and a payout ratio of 50% in respect of the financial year 2024 onwards. All forward-looking projections below are based on January 31, 2024, foreign exchange rates.

In 2024, Deutsche Bank revenues are expected to be slightly higher compared to the prior year. Deutsche Bank expects revenues to be at around € 30 billion at Group level supported by the resilience and growth potential of its businesses and continued business momentum. Corporate Bank revenues are expected to be slightly lower in 2024 driven by an continued normalization of net interest margins. Investment Bank revenues are expected to be higher in 2024 driven by significantly higher revenues in Origination & Advisory mainly from an expected recovery in the Debt Origination business and slightly higher revenues in FIC Sales & Trading. Private Bank net revenues are expected to remain essentially flat, benefiting from the business growth in investment products, which are partially offset by lower deposit revenues given a more competitive environment. In Asset Management, revenues are expected to be slightly higher assuming market stabilization.

Deutsche Bank is managing the Group's cost base towards the 2025 cost/income ratio target. The bank remains highly focused on cost discipline and delivery of the initiatives underway and expects noninterest expenses as well as adjusted costs in 2024 to be essentially flat compared to 2023. The Group believes costs in 2024 to benefit from the bank's investment in structural efficiency measures. These include the optimization of the Germany platform, the upgrade of technology architecture, the front-to-back redesign of processes and measures to increase infrastructure efficiency. These effects are expected to counterbalance continued inflationary headwinds and help funding selected investments in business growth and in the control environment. The bank aims for a quarterly run-rate of adjusted costs of € 5 billion in 2024 and aims to operate with total noninterest expenses of around € 20 billion in 2025.

Given the headwinds in the first quarter of 2024, the Group's guidance for the full year 2024 provision for credit losses is expected to be at the upper end of 25 to 30 basis points of average loans in light of the persistent macro-economic and geopolitical uncertainties. Deutsche Bank remains committed to stringent underwriting standards and a tight risk management framework. Further details on the calculation of expected credit losses are provided in the section "Management Report: Risk Report".

Common Equity Tier 1 ratio (CET 1 ratio) by year end 2024 is expected to remain essentially flat compared to 2023. The bank has received the majority of the regulatory decisions for internal credit and market risk models in 2023 with smaller ones expected in 2024. On a net basis, risk weighted assets are expected to be slightly higher from capital efficient business growth. Starting in 2024, Deutsche Bank introduces a new methodology regarding the allocation of operational risk RWA to the divisions, while the Group's operational risk RWA will be unaffected by the change, the respective divisional metrics will change going forward. Deutsche Bank aims to maintain a Common Equity Tier 1 capital ratio of around 13%, i.e., to operate with a buffer of 200 basis point above the bank's expected maximum distributable amount (MDA) threshold, also after the impacts from the adoption of CRR 3, which is expected to become effective on January 1, 2025.

Deutsche Bank plans to sustainably grow cash dividends and, over time, return to shareholders through share buybacks excess capital over and above the requirements to support profitable growth and upcoming regulatory changes. For the financial year 2023, the Management Board intends to propose to the Annual General Meeting a dividend of € 0.45 per share, after having paid a dividend of € 0.30 per share for 2022 and € 0.20 per share for 2021. For the financial year 2024 and subsequent years, the bank targets a payout ratio of 50% of net income attributable to Deutsche Bank shareholders, delivered through a combination of cash dividends and share buybacks. These distributions to shareholders are subject to shareholder authorization and German corporate law requirements, and in the case of share buybacks additionally require prior regulatory approval. Deutsche Bank plans to increase both share repurchases and dividends by at least 50% year on year in 2024. The bank has received supervisory approval for a share repurchase of € 675 million, which it aims materially to complete in the first half of 2024, having completed € 450 million in share repurchases in 2023; and Deutsche Bank plans to propose a dividend in respect of the 2023 financial year of € 0.45 per share, or approximately € 900 million, up from € 0.30 per share for 2022, at the bank's Annual General Meeting in May 2024. For the financial years 2024 and 2025, Deutsche Bank aims for cash dividends of € 0.68 and € 1.00 per share, respectively, subject to a 50% payout ratio limitation relative to net income attributable to Deutsche Bank shareholders. The bank has set a capital distribution goal of € 8 billion in respect of the financial years 2021-2025, paid in 2022-2026, and believes that it is positioned to exceed this objective based on the achievement of the bank's financial targets.

By the nature of the bank's business, Deutsche Bank is involved in litigation, arbitration and regulatory proceedings and investigations in Germany and in a number of jurisdictions outside Germany, including in the United States. Such matters are subject to many uncertainties. While Deutsche Bank resolved a number of important litigation matters and made progress on others, the bank expects the litigation and enforcement environment to remain challenging. For 2024, and with a caveat that forecasting litigation charges is subject to many uncertainties, Deutsche Bank presently expects net litigation charges to exceed the levels experienced in 2023. For more details, please refer to "Provisions" of this report.

Deutsche Bank's aspirations are subject to various external and internal risks, some of which the bank cannot influence. Timely and successful achievement of its strategic targets or aspirations may be adversely impacted by reduced revenue-generating capacities of some of the bank's core businesses should downside risks crystallize. These risks include but are not limited to the uncertain future path of inflation and central bank's policies on interest rates, the Israel-Hamas war and the war in Ukraine with both having escalation potential, a deteriorating macroeconomic environment, elevated geopolitical risks, plausible cyber events, the ongoing headwinds posed by regulatory reforms and the effects on the bank's legal and regulatory proceedings. A key focus in 2023 was the persistently high inflation which drove further monetary tightening, growing expectations of a higher-for-longer interest rate environment and generally tighter financial conditions in the major advanced economies. Towards the end of 2023, evidence of waning inflation pressure led to a repricing of market expectations with respect to earlier and more significant central bank rate cuts in 2024 accompanied by an easing of financial conditions. In addition, there were episodes of significant market volatility particularly around selective failures and/or restructurings in the U.S. and European banking sector as well as increasing pressure on the commercial real estate market, particularly in the U.S. office sector. Overall, these trends could continue to drive high levels of uncertainty and could result in fluctuations in the results of Deutsche Bank's operations, strategic plans and financial targets. For a more detailed discussion of potential downside risks please refer to Risks in "Risks and opportunities" of this report.

Adjusted costs as well as Post-tax Return on Average Tangible Equity are non-GAAP financial measures. Please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report for the definitions of such measures and reconciliations to the IFRS measures on which they are based.

Deutsche Bank Business segments

Corporate Bank

Corporate Bank revenues are expected to be slightly lower in 2024 compared to the prior year. Revenue performance in 2023 was marked by extraordinary high levels of net interest income, principally in deposit-based businesses, resulting from increased interest rates and strict pricing discipline. Corporate Bank anticipates a normalization of deposit revenues in 2024, which is expected to be partially offset by growing noninterest rate sensitive revenue streams, including commissions and fees. Despite being slightly lower compared to 2023, revenues are expected to be significantly higher than during the low interest rate environment.

Corporate Treasury Services revenues are anticipated to be slightly lower due the normalization of rate pass-through in the Corporate Cash Management business, partially offset by growth in structured and flow trade finance solutions and lending. Institutional Client Services revenues are also expected to be slightly lower driven by a reduction in net interest income, partly offset by slightly higher fee income. In Business Banking, revenues are expected to be essentially flat compared to prior year, driven by business growth with stable interest income and lagging deposit payouts.

Provision for credit losses is expected to be in a range of 20 to 25 basis points of average loans in 2024.

Noninterest expenses and adjusted costs are expected to be slightly higher in 2024 compared to 2023, as a result of higher internal service cost allocations.

RWA in the Corporate Bank are anticipated to be higher in 2024 driven by increased lending activities, changes from the aforementioned new methodology regarding the allocation of operational risk RWA to the divisions and model changes.

In addition to the risks already outlined above, risks to the division's outlook include lower economic growth in the major operating countries from ongoing supply chain disruptions, higher energy and commodity prices as well as uncertainty around central bank policies (e.g., the interest rate environment). In addition, ongoing regulatory developments (e.g., the finalization of the Basel III framework) and lower levels of client activity may also have an adverse impact.

Investment Bank

Investment Bank revenues are expected to be higher in 2024 compared to the prior year. In 2024, the division expects the targeted investments made in both FIC Sales & Trading and Origination & Advisory in the prior year, combined with a broader recovery in Origination & Advisory market to drive improved performance.

FIC Sales & Trading revenues are expected to be slightly higher compared to 2023. Rates plans to consolidate its existing position, while selectively growing via targeted investments in line with client demand and market opportunities. The Foreign Exchange business will look to further technology development in spot and expand its precious metals offering. The Global Emerging Markets business will continue to further develop its onshore capabilities, for example building on the development of Latin America and client workflow solutions globally, while selectively expanding its product offering. Credit Trading intends to build on the turnaround in performance seen in the flow business in 2023. The Financing business will continue to optimize the effective deployment of resources and look to maintain our top 3 ranking globally.

Origination & Advisory revenues are expected to be significantly higher in 2024 compared to 2023, driven by an expected industry recovery and the impact of investments made in the prior year, with the acquisition of Numis bringing benefits across the business. Within Debt Origination the business expects Leveraged Debt Capital Markets to build on the partial recovery it witnessed in the prior year, while Investment Grade Debt will look to maintain its robust performance in 2023 and benefit from an expected improvement in the industry fee pool in 2024. Equity Origination will continue to provide a competitive offering across products, with a specific focus on IPOs. Advisory plans to build on the momentum of targeted investment in 2023 including the Numis acquisition, which will materially expand the businesses UK client base.

Provision for credit losses in 2024 are expected to be in a range of 35 to 40 basis points of average loans. Overall provisioning levels are likely to remain elevated, as macroeconomic factors that have caused these levels are expected to continue this year.

In 2024, noninterest expenses are expected to be essentially flat compared to the previous year. Non-recurring goodwill impairment, significantly lower Bank levy charges and lower litigation settlements in 2024 are expected to be offset by a full year of costs associated with the strategic growth initiatives, along with further people and technology investments, continued inflation and increased regulatory related costs within infrastructure support.

For 2024, RWA in the Investment Bank is expected to be essentially flat compared to 2023. Increased Credit Risk RWA to support revenue growth is offset by lower allocated operational risk RWA and model changes.

In addition to the risks outlined for the Group above, risks to the outlook of the Investment Bank in 2024 include potential impacts on the business model from macroeconomic changes, including uncertainties associated with the ongoing conflicts in Europe and the Middle East, while second order effects on energy, supply chain disruptions and food prices will continue to have a significant impact on financial markets. Central bank policies, specifically around interest rates and expected fiscal loosening could create further risks. In addition, the evolving regulatory framework could lead to unforeseen regulatory compliance costs and possible delays in the implementation of the division's efficiency measures, which could adversely impact its cost base.

Private Bank

In 2024, the Private Bank expects net revenues to remain essentially flat compared to 2023. Growth in investment product revenues, supported by continued net inflows in assets under management driven by continued business growth, is expected to be partially offset by a decline in deposit revenues given a more competitive market environment.

In the Private Bank Germany, net revenues are expected to be essentially flat compared to 2023. Deposit revenues are expected to decrease due to the higher competition as well as lending due to continued elevated interest rate environment, while investment products are expected to grow. In the International Private Bank, net revenues are expected to be essentially flat year on year driven by increased investment product revenues reflecting continued business growth, partially offset by a decline in deposit revenues, while lending revenues remain essentially flat.

Private Bank assumes continued growth in assets under management in 2024 with corresponding volumes expected to be higher compared to year-end 2023. The overall development of volumes though will highly depend on market parameters, including equity indices and foreign exchange rates.

In 2024, provision for credit losses is expected to be in a range of 25 to 30 basis points of average loans. 2023 included a small number of single name losses in the International Private Bank and higher provision for credit losses from temporary operational backlog in the second half of 2023 in Private Bank Germany.

Noninterest expenses are expected to be slightly lower in 2024 compared to 2023, driven by significantly lower nonoperating costs. Adjusted costs are expected to be slightly lower year on year reflecting continued savings from strategic initiatives, including slightly lower headcount as well as internal service cost allocations. This will be partially offset by continued inflation impacts.

RWA are expected to be higher in 2024 mainly driven by the reallocation of operational risk RWA and model changes, regulatory inflation, and loan related RWA increases.

In addition to the risks outlined for the Group above, risks to Private Bank's outlook include global inflationary pressures due to higher energy and commodity prices as well as ongoing supply chain disruptions, uncertainty on interest rates, slower economic growth in the major operating countries and lower client activity. Client activity could be impacted by market uncertainties including higher than expected volatility in equity and credit markets. The implementation of regulatory requirements, delays in the implementation of strategic projects, delays in Postbank service remediation or changes resulting from contract renegotiations could also have a negative impact on revenues, capital consumption and costs.

Asset Management

The Asset Management segment principally consists of the consolidated financial results of DWS Group GmbH & Co. KGaA, of which Deutsche Bank AG owns a controlling interest.

Given the current macroeconomic outlook and the asset management industry's challenges, Asset Management intends to focus on innovative products and services where it can differentiate and best serve clients, while also maintaining a disciplined cost approach as it invests in growth and transformation. Asset Management also continues to expect its diversified asset base to provide some protection against current challenges.

Asset Management expects net revenues to be slightly higher for the full year 2024 compared to 2023. Management fees are expected to remain essentially flat as slightly higher fees from flows and market impacts are expected to be counterbalanced by anticipated industry wide margin compression. Performance and transaction fees are expected to be lower in 2024 and other revenues to be significantly higher from improved investment income and lower funding allocations.

Noninterest expenses and adjusted costs are expected to be essentially flat in 2024 compared to 2023, as the division expects to continue investing into growth and platform transformation.

Asset Management expects assets under management to be slightly higher at the end of 2024 compared to the end of 2023, with continued net inflows into growth areas like Passive including Xtrackers. Net flows should be further enhanced by strategic partnerships and product innovations.

RWA are expected to be higher in 2024, mainly driven by the reallocation of operational risk RWA and from model changes.

In addition to the risks described above for the Group, risks to Asset Management's outlook include protectionist and anti-trade policies, that could have unpredictable consequences in the economy, market volatility and investors' confidence, which may lead to declines in business and could affect revenues and profits. In addition, the evolving regulatory framework could lead to unforeseen regulatory compliance costs and possible delays in the implementation of the efficiency measures, which could adversely impact the division's cost base.

Corporate & Other

Corporate & Other is expected to generate a pre-tax loss in 2024. Corporate & Other will continue to retain shareholder expenses, which are expected to be around € 0.6 billion for the full year 2024 as well as certain funding and liquidity impacts, which are expected to be around € 0.2 billion for full year 2024. Corporate & Other will continue to record the reversal of noncontrolling interests reported in the business segments, primarily from DWS.

Legacy portfolios are expected to generate a larger pre-tax loss in 2024, primarily from the non-recurrence of a litigation provision release recorded in the fourth quarter of 2023. In addition, results in Corporate & Other will continue to be impacted by valuation and timing differences on positions that are economically hedged, but do not meet hedge accounting requirements.

RWA are expected to be significantly lower in 2024, mainly driven by the reallocation of operational risk RWA and model changes.

Risks and Opportunities

The following section focuses on future trends or events that may result in downside risk or upside potential from what Deutsche Bank has anticipated in its “Outlook”.

The Group's aspirations are subject to various external and internal factors, some of which it cannot influence. Timely and successful achievement of its strategic targets or aspirations including containing costs at the expected run rate, may be adversely impacted by reduced revenue-generating capacities of some of the bank's core businesses should downside risks crystallize. These risks include but are not limited to the uncertain future path of inflation and central bank's policies on interest rates, the Israel-Hamas conflict and the war in Ukraine with both having escalation potential, a deteriorating macroeconomic environment, elevated geopolitical risks, cyber events, the ongoing headwinds posed by regulatory reforms and the effects on the bank's legal and regulatory proceedings. A key focus in 2023 was the persistently high inflation which drove further monetary tightening, risks of a higher-for-longer interest rate environment and generally tighter financial conditions in the major advanced economies. Towards the end of the year, evidence of waning inflation pressure led to a repricing of market expectations with respect to earlier and more significant central bank rate cuts in 2024 accompanied by an easing of financial conditions. In addition, there were episodes of significant market volatility particularly around selective failures and/or restructurings in the U.S. and European banking sector as well as increasing pressure on the CRE market, particularly in the U.S. office sector. Overall, these trends could continue to drive high levels of uncertainty and could result in fluctuations in the results of the Group's operations, strategic plans and financial targets.

Opportunities may arise if macroeconomic conditions, the inflation and interest rate environment improve beyond currently forecasted levels, leading to higher revenues and improving the Group's ability to meet its financial targets. Currently, macro-financial forecasts feature a “soft landing” of most advanced economies (with short episodes of a mild recession or stagnation), only moderate increases in unemployment, lower inflation rates and a significant easing of monetary policy by major central banks in 2024. At the same time, potentially higher inflation and interest rate levels and market volatility could lead to increased revenues from trading flows and higher net interest income and lending margins. Through times of volatility or uncertainty, Deutsche Bank could also benefit from helping clients navigate such financial markets. Focusing on and investing in Deutsche Bank's areas of core strengths and the implementation of its strategy may create further opportunities if implemented to a greater extent or under more favorable conditions than currently anticipated.

Risks

Macroeconomic and market conditions

In 2023, several U.S. regional banks and one major European bank either failed or were restructured leading to investor concerns over the wider banking sector. While overall fundamentals remained sound, as indicated by the 2023 U.S. CCAR and EU-wide EBA stress tests, and market volatility has subsequently reduced, these events in certain areas have increased the likelihood of a tightening of financial conditions as banks act to preserve liquidity amid higher competition for deposits and increased depositor sensitivity around concentration risks and unrealized losses on rates sensitive exposures. A pronounced tightening in financial conditions would lead to more stringent lending standards, higher client refinancing risks, with Commercial Real Estate and higher leveraged corporate clients among the sectors with increased risk.

Major central banks likely reached the peak of the policy rate cycle in 2023. Headline inflation and - more recently - core inflation have shown clearer signs of progress in decelerating towards central bank targets. Financial markets have started to anticipate significant rate cuts for 2024 which has supported a significant easing of financial conditions with lower bond yields, higher equities and tighter credit spreads. However, the path of monetary policy normalization remains somewhat uncertain with central banks signaling that market expectations of early rate cuts in 2024 may be too optimistic in light of remaining inflation risks.

The lagged effects from tighter monetary policy could lead to refinancing risks and potential downgrades across the bank's client franchise while corporate default rates could continue to rise in 2024. The risk of idiosyncratic defaults also remains high. In addition, inflation, interest rates and market volatility could lead to significant collateral value reductions with risks related to recoveries in case of liquidation and therefore higher impacts on provisions for credit losses. This is particularly relevant in instances where financing is asset based and without recourse to a third party. As the lagged effects of higher rates and quantitative tightening feed through to the real economy, further liquidity events may crystallize. The bank could therefore experience higher than expected provisions for credit losses and elevated interest rates may adversely affect Deutsche Bank's planned results of operations, financial targets and costs; which may result in rating downgrades across the bank's client franchise leading to credit risk RWA inflation. More persistent inflation and higher terminal interest rates could increase clients' reallocation of savings to higher interest paying fixed deposits and dampen consumer spending and private client investments which could lead to a reduction in new lending for consumer finance and/or private mortgages. Furthermore, higher costs of living for private individuals as result of a more persistent inflationary environment could negatively affect their ability to repay credit obligations and consequently could lead to higher provisions for credit losses particularly in consumer finance.

CRE markets remain under stress from the impact of high interest rates and borrowing costs, tight lending conditions and economic headwinds. Decreasing liquidity and price discovery for CRE have resulted in a pronounced decline in transactions and willingness to extend lending, particularly in the U.S. office market, with risks compounded by post-pandemic shifts in working patterns. The distressed situation in the CRE markets impacts collateral values and consequently loan-to-values, particularly in the office sector, and may result in higher than expected provision in credit losses.

The U.S. economy remained resilient in 2023, performing in line with a soft-landing scenario, with the labor market softening gradually and inflation pressures receding. Consensus GDP growth forecasts for 2023 and 2024 have continuously been revised upwards. Economic downside risks remain though, mainly due to the lagged impact of monetary tightening. The same holds for the Eurozone economy where economic activity remains weak, particularly in manufacturing, and country performance is divergent with Germany underperforming as the energy-induced competitiveness shock and other structural factors continue to weigh on the economy. Economic growth is projected to recover only slowly in 2024. External downside risks stem not only from the U.S. and Europe but also from China's economy where domestic activity lacks momentum and the highly indebted real estate sector is yet to show signs of a turn around.

Overall, either in isolation or in combination with other risk factors such as an escalation of the China/Taiwan tensions and the political risks associated with the 2024 U.S. election, the aforementioned risks could lead to a deterioration in Deutsche Bank's portfolio quality and higher than expected credit and market losses. This could also lead to rating declines among clients, leading to increasing provisioning levels as well as increased numbers of clients drawing down on credit facilities which would lead to higher capital requirements and liquidity demands. There would also be a higher risk of idiosyncratic defaults. Higher volatility in financial markets could lead to increased margin calls, higher market risk RWA and elevated valuation reserves. Negative impacts on investor appetite may also impact the Group's ability to distribute and de-risk capital market commitments, which could potentially result in losses as well as making pricing and hedging more challenging and costly. Volatility in capital markets also increases the risk of idiosyncratic counterparty events both directly and indirectly, for example shortfalls under Lombard or securities financing transactions.

The aforementioned developments can also impact Deutsche Bank's revenue generating capabilities and costs, while market declines and volatility could negatively impact the value of financial instruments, drive volatility in the bank's valuation and timing differences and result in impairments of non-financial assets. This is particularly relevant as a decline in financial market liquidity would exacerbate price volatility and the risk of broader market stress. Market volatility, which can be also triggered by unexpected policy decisions or policy mistakes, and the challenging macro environment could also lead to increased inherent risks in several non-financial risks including transaction processing, internal and external fraud and conduct risks including attempts to conceal losses and increased litigation attempts from clients.

Another focus area is private capital markets which include certain activities from non-bank financial institutions and private credit more broadly. The non-bank financial institutions sector is extremely broad with diverse risk profiles and vulnerabilities. A failure of one or multiple larger non-bank financial institutions has the potential to drive direct losses for banks including Deutsche Bank and other creditors / capital providers. Broader market instability with rising rates, risk aversion, market illiquidity and economic slowdown all increase the likelihood of failures occurring as returns drop and investors reallocate capital. Internal risk management approaches are commensurate to the risk profile of underlying counterparty and concentration risk exposures and although the bank has not experienced any noteworthy losses in the past, the bank may do so in the future.

A substantial proportion of the assets and liabilities on the Group's balance sheet comprise of financial instruments that are carried at fair value, with changes in fair value recognized in its income statement. As a result of such changes, the Group has incurred losses in the past, and may incur further losses in the future. The Group is exposed to risks related to movements from foreign exchange rates, most notably related to the USD and GBP. The bank also accounts for a substantial portion of assets and liabilities at amortized costs. The fair value of these assets may be lower than its carrying value and could result in realized losses if the asset is sold prior to maturity.

Similarly, liquidity risk could arise from lower value and marketability of Deutsche Bank's High Quality Liquid Assets (HQLA), to which the Group during 2023, has transitioned its risk appetite from Liquidity Reserves (as defined in the Commission Delegated Regulation (EU) 2015/61). Moreover, Liquidity risk could affect the amount of proceeds available for covering cash outflows during a stress event. Additional haircuts may be incurred on top of already impaired asset values. Moreover, securities might lose their eligibility as collateral necessary for accessing Central Bank facilities, as well as their value in the repo/wholesale funding market. At the same time, the Group's liquidity position may also be impaired in situations where its counterparty on e.g., a derivative contract is not current on an obligation to post collateral, in which case the bank has to cover for the shortfall through other means.

The Group is exposed to pension risks which can materially impact the measurement of Deutsche Bank's pension obligations, including interest rate, inflation and longevity risks that can materially impact its earnings.

If multiple downside risks simultaneously materialize and/or occur in combination with a more pronounced economic slowdown, the negative impact on Deutsche Bank's business environment could be more severe than currently expected.

Geopolitics

A number of political and geopolitical risks and events could negatively affect Deutsche Bank's business environment, including weaker economic activity, financial market corrections, compliance risks or a lower interest rate level.

On October 7, 2023, Hamas terrorists attacked Israel, which Israel responded to with a military campaign against Hamas forces and infrastructure in Gaza. Although direct risk or impacts to the bank are contained to date and no significant losses are currently expected, the key risk relates to the extent of wider escalation within the region. Going forward this may also impact oil prices, broader energy markets and global supply chains thereby undermining confidence and global growth. In early 2024, this regional escalation has increased including Houthi attacks against cargo vessels in the Red sea. The latter already impacting global supply chains, with Asia-to-North Europe freight rates more than doubling.

Amidst the ongoing war in Ukraine, further sanctions packages have been introduced in 2023. New sanctions, as well as countermeasures by the Russian government, increased differences between the local application / implementation of relevant requirements by Deutsche Bank's subsidiaries in Russia and the Deutsche Bank Group, along with increasing operational complexity and creating conflict of law situations. Sanctions and Russian countermeasures, including expropriation of assets, may also complicate the wind-down of transactions and relationships that the bank may need to exit. This regulatory environment or other restrictions could result in accounting losses or the loss of control over Deutsche Bank's subsidiaries or assets. Any of these risks could disrupt business and lead to material losses.

Against this backdrop, the Russian government and economy could further resort to activity aimed at circumventing the sanctions imposed, intentionally or unwittingly facilitated through economic operators in the West or in so-called proxy-countries which take a neutral position towards the Russian war against Ukraine. It may be challenging for the bank to identify such activity and protect the bank against the potential regulatory and reputational impacts of such illicit activity in all cases. Against the challenging sanctions backdrop, banks may also be implicated in economic disputes of and with counterparties which could result in costs or losses which would not occur in the normal course of business.

Also, tensions between the U.S. and China remain elevated across a wide range of areas, including trade and technology-related issues, Hong Kong, Taiwan, human rights, and cybersecurity. While the bank does not consider a China/Taiwan military conflict as its base case in the near-term, potential downside impacts from an escalation are significant and could substantially and adversely affect Deutsche Bank's planned results of operations and financial targets. The German government published its own China strategy which envisages German companies to still partake in China's economic development whilst also encouraging diversification efforts to reduce potentially harmful concentration risks and economic dependencies on China. Recently, although in connection with the ongoing war in Ukraine, the U.S. sanctioned several Chinese and Russian companies adding to the tensions between the two countries. In September, the EU Commission announced an investigation into subsidies to Chinese electric vehicle exporters which could lead to increased tariffs and possible Chinese trade retaliation measures. Geopolitical tensions could drive further economic polarization and fragmentation of global trade with the possible emergence of distinct China vs. US-led blocks. Over the medium to long term, the International Monetary Fund among others has highlighted the potential negative impact of deglobalization on living standards and growth.

In many democratic countries, domestic political challenges have arisen from growing political polarization, rising social discontent and higher inflation. These challenges may impede political decision-making processes, forestall necessary structural reforms and lead to negative economic outcomes which could directly or indirectly impact the bank's risk profile.

The U.S. elections in November 2024 could increase economic and geopolitical uncertainty given that current opinion polls indicate a potentially close outcome which could usher in radically different trade and foreign policies. The EU is also holding elections in June 2024 where populist parties could increase their share of the vote, potentially increasing political polarization and fragmentation in Europe. Other regions which are holding or expected to hold local / general elections in 2024 include the UK, Turkey, South Africa and India with unexpected outcomes having the potential to drive local market volatility and economic uncertainty.

There have been a number of military coups in 2023 mainly concentrated in West Africa. None of these have had a material impact on the bank. The Bank's risk management frameworks, including its approach to managing country risk, are designed to avoid undue concentration risks to such events, but an extension of such events to other countries and regions may lead to financial losses and operational disruption in a downside.

Uncertainty and associated economic downside risks have declined over the three years since the UK left the EU's single market and customs union. However, negotiations between the UK and the EU have continued, with regard to financial services not extensively covered by the existing deal. The extension to the temporary equivalence arrangements for UK CCPs (Central Clearing Counterparties) until June 2025 has temporarily removed the risk that access to UK clearing would be withheld from EU firms, although firms are advised not to expect any further extension.

Strategy

Deutsche Bank's *Global Hausbank* strategy includes Group and divisional financial targets and objectives for the period until 2025. While the Group continuously plans and adapts to changing situations, the bank runs the risk that a significant deterioration in the global operating environment, an adverse change in market confidence in the banking sector and/or client behavior, as well as higher competition, could lead to the bank missing its 2025 financial targets. As such, Deutsche Bank may incur unexpected losses including further impairments and provisions, experience lower than planned profitability or an erosion of the bank's capital or liquidity base and broader financial condition, leading to a material adverse effect on Deutsche Bank's results of operations and share price. This also includes the risk that Deutsche Bank will not be able to make desired cash distributions and share buybacks, subject to regulatory approval, shareholder authorization and meeting German corporate law requirements. Where targets reflect commitments to regulators, missing them may also trigger action from such regulators or rating agencies. In these situations, the Group would need to take actions to ensure it meets its minimum capital or liquidity objectives. These actions or measures may result in adverse effects on Deutsche Bank's business, results of operations or strategic plans and targets.

Deutsche Bank operates in highly competitive markets in all divisions. The ability to deploy capital and fund investments is an important success factor. The Group continuously monitors and responds to competitive developments to protect its market position and realize growth opportunities. Competitors in that context include large, international banks, smaller domestic banks as well as emerging and non-banking competitors.

In 2023, labor market conditions normalized and as a result, employee turnover rates decreased significantly in all regions. More broadly, higher global inflation, which is only expected to moderate in 2024, may lead to pressure on noninterest expenses and the ability of the Group to meet cost targets.

Deutsche Bank communicated various capital objectives in the section "Strategy". One of them relates to the CET 1 ratio, where Deutsche Bank has the objective to preserve a CET 1 ratio of no less than 200 basis points above the bank's MDA threshold with some variability possible in 2024. The Group's capital ratio development reflects among other things: the operating performance of core businesses; the extent of its restructuring costs and the delivery of associated benefits from change initiatives including for example front-to-back optimization programs; cost related to potential litigation and regulatory enforcement actions; growth in the balance sheet usage of the core businesses; changes in the bank's tax and pensions accounts; impacts on Other Comprehensive Income; and changes in regulation and regulatory technical standards.

The Group enters into contracts and letters of intent in connection with its ongoing transformation as well as in the ordinary course of business. When these are preliminary in nature or conditional, the Group is exposed to the risk that they do not result in execution of the final agreement or consummation of the proposed arrangement, putting associated benefits with such agreements at risk.

The financial results of the bank could be adversely impacted if anticipated benefits from mergers and acquisitions, joint ventures, strategic partnerships, planned cost savings and other investments do not materialize. At the same time, any integration process will require significant time and resources, and the bank may not be able to manage the process successfully.

All of the above could have a material impact on the Group's CET 1 ratio as well as other target ratios. It is therefore possible that the bank will fall below e.g., the CET 1 ratio objective of no less than 200 basis points above the bank's MDA threshold, the cost/income ratio target, or the Post-tax Return on Average Tangible Equity target, as highlighted in the section "Strategy" in this report.

Liquidity and funding

Deutsche Bank maintained investment grade ratings with all leading credit rating agencies through the year 2023. During 2023, Deutsche Bank was upgraded by Fitch, DBRS and S&P by one notch each.

Throughout 2023, there was pressure on banks to pass on rising interest rates to customers. By the end of 2023, interest rates appear to have peaked, although quantitative tightening by central banks may continue, leading to less supply of liquidity for banks. It is possible that Minimum Mandatory Reserves levels are increased by central banks, which could reduce usable and reported liquidity and may restrict bank lending.

At the same time, a further downturn in the macro-economic environment could lead to a decline in deposit levels and loan growth. This effect could lead to customers moving away from overnight to term deposits in search of better rates in the current environment which could be further exacerbated by competitive pricing pressures from other deposit-taking institutions.

Early 2023 was a turbulent period for banks driven by failure or restructuring of several U.S. regional banks and one major European bank. While the liquidity environment of the bank has improved since the start of 2023, as demonstrated by a return of deposit balances and clients, the geopolitical and economic environment could have an adverse impact on Deutsche Bank's credit spread levels, liquidity metrics or the bank's rating in the future. As of December 31, 2023, the bank demonstrated strong liquidity and funding metrics which were well above the regulatory requirements and internal risk appetite, providing a strong basis to manage, if required, through future periods of market volatility or stress.

Postbank IT migration

Deutsche Bank completed the last data migration of Postbank in July 2023. While the IT migration focused on executing the transfer of clients and employees' use of the new IT infrastructure, it led to operational issues and client backlog. Deutsche Bank has implemented several mitigation measures and devised a remediation plan, which is monitored by the BaFin via a monitor as outlined in the respective order.

Deutsche Bank has made progress in remediating outstanding inquiries. In most processes, this was accomplished by year end 2023, however for selected processes the backlog remediation is ongoing and is expected to be mainly resolved by the end of first quarter 2024. There is a remaining risk when cases are not handled in a timely manner. In case the bank needs more time to process the outstanding inquiries, credit and operational costs could increase further and/or impact the bank's reputation and may result in loss of clients or business. This in turn could impact the bank's future results.

Regulatory supervisory reforms, assessments and proceedings

The regulatory reforms enacted and proposed in response to weaknesses identified during the last financial crisis together with increased regulatory scrutiny and discretion will impose material costs on the bank, create significant uncertainty and may adversely affect the Group's business plans as well as its ability to execute the bank's strategic plans in the medium-term. Those changes that require the bank to maintain increased capital may significantly affect the bank's business model, financial condition, and results of operation as well as the competitive environment more generally.

Supervisors can also impose capital surcharges or regulatory adjustments, for example, as a result of the regular Supervisory Review and Evaluation Process (SREP) performed by the ECB on an annual basis. Such adjustments may, for example, reflect additional risks posed by deficiencies in the Group's control environment, concerning the treatment of specific portfolios, products or transactions. Following the 2023 SREP, Deutsche Bank has been informed by the ECB of its decision regarding prudential capital requirements to be maintained from January 1, 2024, onwards, that Deutsche Bank's Pillar 2 Requirement amounts to 2.65%, a reduction of five basis points compared to the bank's Pillar 2 Requirement applicable for 2023. ECB's SREP decision also includes, for the first time, a Pillar 2 Requirement for the leverage ratio of 10 basis points, effective from January 1, 2024, onwards. Further, the decision includes conclusions the ECB draws from regulatory stress tests conducted by the EBA or the ECB. The ECB evaluates each bank's performance from a qualitative angle to inform the decision on the level of Pillar 2 Requirement and a quantitative outcome which is one aspect when assessing the level of Pillar 2 Guidance. The ECB has already used these powers in its SREP decisions in the past and it may continue to do so to address findings from onsite inspections. In extreme cases, the ECB can even suspend certain activities or permission to operate within their jurisdictions and impose monetary fines for failures to comply with rules applicable to the guidelines.

Regulators across the world can also impose capital surcharges to address macroeconomic risks, through the use of macroprudential tools. These include CET1 buffer increases that could apply group-wide or only for local activities at national level or for specific types of exposures (e.g., mortgages). The use of these tools is governed by the applicable macroprudential framework in the EU or any other relevant jurisdiction and are typically decided by national macroprudential authorities, such as BaFin, often on the basis of Central Bank analysis for macroeconomic risks.

Several future changes to macroprudential tools are expected to impact Deutsche Bank's business. The European Commission had previously announced a review of the EU macroprudential regime for 2022-2023. Deutsche Bank now understands that these reviews will not take place within the envisaged timeline. The European Commission will continue looking at these issues in 2024, and there is always a possibility for a legislative proposal, especially after the new European Commission is appointed in October 2024. Such reforms could result in an increase of the bank's level of capital requirements, including capital buffers, additional capital requirements for securitizations or an increase in risk-weighted assets.

In December 2023, the EU co-legislators, i.e., the European Parliament and the Council, confirmed their agreement for the reform of the EU prudential rules (Capital Requirements Regulation and Directive – CRR III and CRD VI), implementing the Basel Committee for Banking Supervision (BCBS) Final Basel III reforms. These reforms change how EU banks will calculate their risk weighted assets. The European Commission has advised that the reforms will apply as of January 2025, but the output floor, which limits the internal-model RWA to ultimately 72.5% of the standardized approach RWA, to apply fully in January 2030. Final Basel III will increase the bank's RWA and associated capital requirements. The reform is also being implemented, with different timelines, in all major jurisdictions.

In April 2023, the European Commission issued a legislative proposal for reform of the EU crisis management and deposit insurance framework, with amendments to all relevant Directives and Regulations, including the Bank Recovery and Resolution Directive, the Single Resolution Mechanism Regulation and the Deposit Guarantee Scheme Directive. The purpose of the legislative proposal is, among other things, to further harmonize and regulate the crisis management and resolution of small- and medium-sized EU banks, which is currently subject to some degree of national discretion. In its legislative proposal the Commission includes several changes that could impact Deutsche Bank and its clients, including a change in the insolvency hierarchy of claims of all depositors, including those uninsured by deposit guarantee schemes. Also, the proposals provide for an expanded possibility by authorities to use the funds of national deposit guarantee scheme to contribute to the resolution of a bank, and thus giving also access to the Single Resolution Fund. This European Commission legislative proposal will now follow the regular EU co-legislative process, with the involvement of the EU 27 Member States and the European Parliament. The finalization of the revised directives and regulation may take several years, depending on the ability of the co-legislators to reach a compromise, and could differ significantly from the original Commission proposal.

On May 24, 2023, the European Commission published a Retail Investment Strategy, proposing a series of measures and amendments to the current legislative framework to boost retail investor participation and strengthen consumer trust. The strategy is currently under discussions in the Parliament and Council, before the Parliament and Council enter into political negotiations.

The political negotiations on the Markets in Financial Instruments Directive and Regulation (MiFID II / R) concluded in June 2023. The final text is awaiting adoption by both co-legislators before being published in the Official Journal and subsequently entered into force. Further technical work on post-trade transparency requirements, through consultations by the European Commission and ESMA, is expected to continue in 2024.

On June 28, 2023, the European Commission published two legislative packages, one linked to the introduction of a digital euro, the other on financial data access and payments. The European Parliament and EU Member States are now to discuss both packages. It is expected that the final legal text will only be agreed after the European Parliaments elections of June 2024.

Focus in Europe is moving more towards transition finance. The European Commission has published a report that provides high level guidance on these issues. The concept of transition finance, and its development brings with it, certain uncertainties for banks. In addition, the detailed framework for the EU Taxonomy that has been put in place by European legislators will likely be reviewed by the European Commission. It is expected that the next European Commission will include both elements in its work program for 2025 to 2029. Both rapidly changing regulatory as well as stakeholder demands may materially affect Deutsche Bank's business, results of operations or strategic plans if the bank fails to adopt or implement its measures to transition to a low-carbon economy.

The Commission's legislative proposal for a refit of the European Market Infrastructure Regulation has been in political negotiations between the Council (representing Member States) and the European Parliament since December 2023 and will continue in early 2024, with the aim of finalizing it before the elections in the European Parliament in June this year.

In addition, Deutsche Bank may be impacted by future decisions made by the Court of Justice of the EU in regards to the terms and conditions related to irrevocable payment commitments to the SRF. If a ruling by the court is deemed to have a negative impact on the current accounting treatment of such irrevocable payment commitments, this could result in an accounting loss and have a material adverse effect on the bank's results of operations.

For Indian CCPs, the BaFin published a statement on February 17, 2023, allowing German credit institutions, including Deutsche Bank, the possibility to remain members of the six India CCPs until October 31, 2024. This allows European banks, including Deutsche Bank, to make any changes needed so that the clients can continue to be served even after.

Supervisors can also impose other capital surcharges, such as the increase of macroprudential capital buffers including the Countercyclical Capital Buffer and the Systemic Risk Buffer.

In summary, both the regulatory and legislative environment are expected to be dynamic and can impact Deutsche Bank's revenue and costs (e.g., the cost to ensure ongoing and future compliance).

Legal and regulatory enforcement proceedings and tax examinations

Deutsche Bank is subject to a number of legal and regulatory enforcement proceedings and tax examinations. The outcome of these proceedings is difficult to predict and may substantially and adversely affect the bank's planned results of operations, financial condition and reputation. If these matters are resolved on terms that are more adverse to the bank than expected, in terms of their costs or necessary changes to Deutsche Bank's businesses or operations, or if related negative perceptions concerning the bank's business and prospects and related business impacts increase, Deutsche Bank may not be able to achieve its strategic objectives or may be required to change these objectives.

More generally, the bank operates in a highly and increasingly regulated and litigious environment, potentially exposing the bank to liability and other costs, the amounts of which may be substantial and difficult to estimate, as well as to legal and regulatory sanctions and reputational harm. The bank continues to maintain a regular dialogue with its supervisory authorities who expect the bank to deliver control improvements at a faster pace and in a higher quality manner. Deutsche Bank understands this criticism and is committed to meeting these expectations.

Should any of the legal proceedings be resolved against the bank, or any investigations result in a finding that the bank failed to comply with applicable law, the bank could be exposed to material damages, fines, limitations on business, remedial undertakings, criminal prosecution, or other material adverse effects on Deutsche Bank's financial condition, as well as risk to its reputation and potential loss of business because of extensive media attention. Guilty pleas by or convictions of the bank or its affiliates in criminal proceedings, or regulatory or enforcement orders, settlements, or agreements to which the bank or its affiliates become subject, may have consequences that have adverse effects on certain of its businesses.

Compliance and Anti-Financial Crime

Combatting financial crime and complying with applicable laws and regulations is vital to ensuring the stability of banks, such as Deutsche Bank, and the integrity of the international financial system.

A robust and effective internal control environment and adequate infrastructure (comprising people, policies and procedures, controls testing, and IT systems) are necessary to ensure that the bank conducts its business in compliance with the laws, regulations, and associated supervisory expectations.

The bank's compliance controls and surveillance processes, as well as other internal control processes that are aimed at ensuring the proper conduct of its businesses and services as well as preventing market abuse, insider dealing, and conduct breaches, are from time to time subject to regulatory reviews and/or inquiries in certain jurisdictions.

Furthermore, the bank's anti-money laundering (AML) and know-your client (KYC) processes and controls aimed at preventing misuse of the bank's products and services to commit financial crime, continue to be the subject of regulatory reviews, investigations, and enforcement actions in several jurisdictions. The bank continually seeks to enhance the efficacy of its internal control environment and improve its infrastructure to revised regulatory requirements and to close gaps identified by the bank and/or by regulators and monitors.

The BaFin ordered Deutsche Bank in September 2018 to take appropriate internal safeguards and comply with general due diligence obligations to prevent money laundering and terrorist financing and in February 2019 to review the bank's group-wide risk management processes in correspondent banking and adjust them where necessary. In April 2021, the BaFin prolonged previous orders and ordered the bank to adopt further appropriate internal safeguards and comply with due diligence obligations, with regards to regular client file reviews. This expansion also applies to correspondent relationships and transaction monitoring. The BaFin has appointed a Special Representative to monitor the implementation of the ordered measures as well as to assess and report on the progress of the implementation to the BaFin.

On September 28, 2022, the BaFin ordered Deutsche Bank AG to take specific measures aimed at preventing money laundering and terrorist financing in order to implement the orders that the BaFin issued on September 21, 2018, and February 15, 2019. The bank has completed the remediation activities that were the subject of this order.

In November 2023, the BaFin ordered the bank to take specific measures to improve data processing systems for transaction monitoring and has threatened to impose financial penalties in case of non-fulfillment. There are no new findings in the order, however, the order sets a binding timeframe for the implementation of measures that were already agreed. To monitor the implementation progress of the agreed measures, the mandate of the Special Representative has been prolonged until 30 October 2024. The bank will continue to fully cooperate with the BaFin and the Special Representative and invest the necessary resources to implement these measures within the deadlines.

In July 2023, the bank entered into a Consent Order and Written Agreement with the Federal Reserve resolving previously disclosed regulatory discussions concerning adherence to prior orders and settlements related to sanctions and embargoes and AML compliance, a prior correspondent banking relationship and remedial agreements and obligations related to risk management issues. Both the Consent Order and Written Agreement require the bank to comply with and effectuate certain remedial undertakings. To the extent the Bank does not comply with such undertakings, it may face additional regulatory action, including further civil monetary penalties and business restrictions.

On September 25, 2023, DWS agreed to cease-and-desist orders and civil money penalties to settle SEC investigations. These matters related to certain historic processes, procedures and marketing practices DWS has since addressed or is in the process of addressing.

In October 2023, the BaFin imposed a fine for delayed filing of suspicious activity reports to the German Financial Intelligence Unit. The publication resulted from an administrative order issued by BaFin in this matter on March 21, 2023. Deutsche Bank has accepted the fine and the matter is resolved.

As discussed elsewhere in this document, the war in Ukraine led to a significant increase in sanctions against Russian state entities, as well as companies and individuals linked to Russia. Export control restrictions also have increased the compliance burden on banks. In addition, the U.S.'s recently enacted Executive Order 14114, which establishes a new secondary sanctions regime whereby severe measures can be taken against foreign financial institutions facilitating transactions involving broad sectors of the Russian economy, including manufacturing and technology sectors. These secondary sanction measures increase operational burden and regulatory risk for foreign banks with clients that have business operations in or with entities in Russia. Similarly, several regulators imposed further sanctions against individuals and entities with suspected ties to terrorism following Hamas' attack on Israel in October 2023. Deutsche Bank manages these sanctions with enhanced communications, guidance and operational support led by AFC's Sanctions & Embargoes team. To control this risk, transactions are filtered, client and counterparty data is screened, trade in sanctioned financial instruments is restricted, goods and commodities (such as oil) subject to trade finance restrictions are screened in a risk-based approach and further measures such as rejecting or freezing a transaction, restricting client activities, exiting a client relationship or obtaining required regulatory authorizations are taken.

Risk management policies, procedures and methods

The Group has devoted significant resources to develop its risk management policies, procedures and methods, including with respect to market, credit, liquidity, operational as well as reputational and model risk. However, the bank may not be fully effective in mitigating its risk exposures in all economic or market environments or against all types of risk, including risks that the bank fails to identify or anticipate. Where the Group uses models to calculate risk-weighted assets for regulatory purposes, potential deficiencies may also lead regulators to impose a recalibration of input parameters or a complete review of the model.

Deutsche Bank has exposure to operational risks arising from potential failures in its internal control environment or errors in the performance of the bank's processes, e.g., in transaction processing, technology failures as well as loss of business continuity, which may disrupt Deutsche Bank's business and lead to material losses.

Information technology and security build the basis for the business operations of Deutsche Bank, complementing processes and organizational structures. The continuously evolving threats, along with evolving technology and changes in the business landscape require constant efforts to retain an acceptable level of risk. The bank maintains its ability to operate and protect itself through established security capabilities, processes and governance. However, the volatile external environment, the constant flow of new zero day exploits and other new vulnerabilities and continued use of platforms that no longer fit into the strategic architecture, remain a risk for the stability of the bank's technology with the potential of increased service outages. The potential impact in case of a security event could be wide ranging, from minor to extreme issues leading to technology failures, security breaches, unauthorized access, as well as loss or destruction of data.

Delays in the implementation of regulatory requirements, including consumer protection measures and its strategic projects could also have a negative impact on the bank's revenues and costs. In addition, the Group is also exposed to conduct risk, comprising risks relating to inappropriate business practices, including selling products that are not suitable for a particular customer, fraud, unauthorized trading and failure to comply with applicable regulations, laws and internal policies. For example, an employee's misconduct reflecting fraudulent intent may lead to not only material losses but also reputational damage. Conduct risk is elevated owing to increased focus by regulators on misconduct, particularly as an indicator of the health of risk management, the bank has implemented controls to monitor and mitigate the risk.

Any of the aforementioned risks or events could potentially result in litigation, a financial loss, disruption of business activities and liability to the bank's customers, regulatory scrutiny, government intervention or damage to its reputation. At the same time, managing these and other risks requires continual adaptation of the bank's controls.

As a global bank, Deutsche Bank is often in the news. The bank conducts its media dialogue through official teams yet, Deutsche Bank internal information, including confidential matters have been subject to external news media coverage. Media leaks can have severe consequences for Deutsche Bank, particularly when they involve inaccurate statements, rumors, speculation or unsanctioned opinions. Similarly, clients of Deutsche Bank can approach the media to express dissatisfaction or raise adverse communication through social media platforms, potentially causing widespread reputational impact. Legitimate negative publication on Deutsche Bank is addressed with immediate action plans including concrete measures and commitments to clients with timely communication. While the bank has processes in place, its ability to protect itself against these risks is limited, resulting in exposure of financial consequences such as the loss of confidence or business with clients and potential impact to the bank's share price.

In the banking industry, divergence continues in how financial institutions define portfolio types and asset classes including around ESG-related themes. There are often no industry or universally accepted definitions, particularly with respect to assets intended to be classified as Green or ESG-compliant, and differences can be driven by divergence between a risk management and accounting view. These variances could impact the way external stakeholders assess the underlying risk exposures to such portfolio types and asset classes. If losses would exceed market expectations in a certain portfolio type or asset class, this could impact the bank's reputation and adversely affect Deutsche Bank's planned results of operations and financial targets.

Similarly, there can be divergence in views when it comes to devising scenarios for e.g., stress testing purposes or in the context of scenarios applied when assessing potential provisioning requirements for institutional clients on an individual basis. As assessments of future developments are naturally exposed to uncertainties there is the risk that the future may turn out differently.

In order to manage financial and non-financial risk impacts from e.g., geopolitical or other fast developing events, Deutsche Bank utilizes dedicated governance structures including Global and Regional Crisis Management. Where relevant, additional controls and processes have been and would be employed. This would also entail additional reporting to ensure relevant senior stakeholders including the Management Board are up-to date.

Third Party Vendor Management

Financial institutions rely on third-party service providers for a range of services, some of which support their critical operations. These dependencies have grown in recent years as part of the increasing trend in digitalization of the financial services sector which can bring multiple benefits including flexibility, innovation and improved operational resilience. However, if not properly managed, disruption to critical services or service providers could pose risks to financial institutions, and in some cases, financial stability.

The regulatory framework for managing third party risk continues to evolve and becomes increasingly complex as regulators seek to address various objectives. There are two main areas of focus including how financial institutions manage their third-party risks and how to address the systemic risks caused by concentration of services provided by critical third parties.

The recent examples of the publication of the Financial Stability Board toolkit on enhancing third party risk management and oversight, the consultation paper on Critical Third Parties issued by the UK regulators and Digital Operational Resilience Act (DORA) introduced by EU regulators demonstrate the regulators' strong intent to protect the financial stability by addressing the potential systemic risks caused by the third parties.

Deutsche Bank has a well-established approach to Third Party Risk Management; from a clear policy and procedure through to centralized risk process for businesses to use when engaging with third parties. To respond to the increasing regulatory demand, Deutsche Bank is continuously enhancing the bank's current control environment. In 2023, the bank achieved improved efficiency, a more proportionate approach, real time monitoring and better culture of awareness to protect the bank from third party risk.

When using third-party service providers, the bank remains fully responsible and accountable for complying with all the regulatory obligations, including the ability to oversee the outsourcing of critical or important functions. The bank may face risks of material losses or reputational damage if third parties fail to provide services as agreed with the bank and/or in line with regulatory requirements.

Similar to cybersecurity threats to Deutsche Bank, a successful cyberattack on a third party vendor could have a significant negative impact on the bank that may result in the disclosure or misuse of client as well as proprietary information, damage or inability to access information technology systems, financial losses, additional costs, personal data breach notification obligations, reputational damage, client dissatisfaction and potential regulatory penalties or litigation exposure.

In situations where Deutsche Bank is the third party service provider, the bank may be exposed to financial risks, such as lost revenues, costs and expenses associated with the cancellation of the service agreement, if Deutsche Bank were no longer able to benefit from the relationship.

Goodwill and other intangible assets

Goodwill is reviewed annually for impairment or more frequently if there are indications that impairment may have occurred.

Other intangible assets are recognized separately from goodwill when they are separable or arise from contractual or other legal rights and their fair value can be measured reliably. These assets are tested for impairment, or their useful lives reaffirmed at least annually. This includes the testing in relation to software impairments.

The determination of the recoverable amount in the impairment assessment of non-financial assets requires estimates based on quoted market prices, prices of comparable businesses, present value or other valuation techniques, or a combination thereof, necessitating management to make subjective judgments and assumptions. These estimates and assumptions could result in significant differences to the amounts reported if underlying circumstances were to change. Impairments of goodwill and other intangible assets have had and may have a material adverse effect on profitability and results of operations.

Pension Obligations

Deutsche Bank sponsors a number of post-employment benefit plans on behalf of its employees, including defined benefit plans. To the extent that the factors that drive the bank's pension liabilities move in a manner adverse to it, or that the bank's assumptions regarding key variables prove incorrect, or that Deutsche Bank's funding of the pension liabilities does not sufficiently hedge those liabilities, the bank could be required to make additional contributions or be exposed to actuarial or accounting losses in respect of the bank's pension plans.

Deferred Tax Assets

The bank recognizes deferred tax assets for future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, unused tax losses and unused tax credits. To the extent that it is no longer probable that sufficient taxable profits will be available to allow all or a portion of the deferred tax assets to be utilized, the bank must reduce the carrying amounts. Each quarter, the bank re-evaluates its estimate related to deferred tax assets, which can change from period to period and requires significant management judgment. Reductions in the amount of deferred tax assets from a change in estimate have had and may in the future have material adverse effects on its profitability, equity and financial condition.

Technology, Data and Innovation

Digital Innovation offers market entry opportunities for new competitors such as cross-industry entrants, global high-tech companies or financial technology companies. Therefore, the bank expects its businesses to have an increased need for investments in digital product and process resources to mitigate the risk of a potential loss of market share.

To be able to respond to market developments, respond more quickly to client needs and to have more flexibility, and to improve IT resiliency, the bank has decided to migrate a large number of applications to the Public Cloud through a strategic partnership with Google Cloud. This partnership with Google Cloud is a major milestone in the bank's digital journey and shows a commitment to embrace new technologies. The objective is to enhance the client experience through improved products and services, system resiliency and security as well as reducing the cost inefficiencies of running legacy platforms. Such a major technology migration requires robust governance and planning, including required allocation of funding, to manage the risk of security and stability issues. Additionally, there is significant regulatory interest in this program. Also, as with any external service providers, the bank must ensure the highest standards of data privacy and security controls to safeguard client and bank information. Failure to do so can compromise client trust, lead to financial losses and, in severe cases, regulatory penalties, litigation and the obligation to compensate individuals for damage.

Reliance on third parties' products and services that support critical operations can affect the bank's risk posture, because these can be the target of new and evolving information security attacks. This risk, along with expanded regulatory requirements, has necessitated an increased use of technology to better identify information security risks across third parties and, where necessary, proactively perform outreach with them.

Deutsche Bank manages third party information security risks by means of its global third-party risk management program. This program includes an information security policy specifically for third parties that sets forth the bank's control objectives and expectations. Additionally, Deutsche Bank has a third-party risk management process designed to identify, monitor, and mitigate risks arising from working with third parties, which includes the bank's oversight of third parties' operations related to the services provided to the bank. Deutsche Bank operates in an environment with increasing levels of digitization and a continually evolving threat landscape related to information security. Cyber-attacks and other internet crime could result in material losses of client or customer information, damage the bank's reputation and lead to regulatory penalties and financial losses.

The bank closely observes relevant technological developments, the geopolitical landscape and economic impacts driving security risks and assesses their relevance for potential impact to Deutsche Bank and the wider financial ecosystem. Financially motivated and other cyber-attacks like ransomware or denial of service, can be observed as a persistent threat across industries and to become more frequent. Additional threats are posed by supply chain attacks, an increasing frequency of critical software vulnerabilities potentially exploited by threat actors (zero-day exploits), and an expanding threat surface introduced by e.g., remote ways of working or the use of cloud services. The 2023 focus areas included besides the common attack scenarios the Artificial Intelligence and Quantum Computing.

Deutsche Bank may face operational risks arising from failures in the control environment including errors in the performance of its processes or security controls, as well as loss of data, which may disrupt the bank's business and lead to material losses. At the same time, the bank may also face risks of material losses or reputational damage if services are not provided as agreed or in line with internal standards.

Deutsche Bank and other financial institutions have experienced attacks on computer systems, including attacks aimed at obtaining unauthorized access to confidential company or client information, damaging, or interfering with company data, resources, or business activities, or otherwise exploiting vulnerabilities in its infrastructure, including attacks that occurred at the bank's third-party providers. Deutsche Bank group expects to continue to be the target of such attacks in the future. Although to date the bank has not experienced any material business impact from these attacks, the group may not be able to effectively anticipate and prevent more material attacks from occurring in the future. Accordingly, Deutsche Bank continues to invest toward the protection of its systems, including data, infrastructure, devices and applications, against such breaches and toward ensuring that its vendors employ appropriate cybersecurity safeguards. These measures, however, may not be effective against the many security threats Deutsche Bank group faces.

Deutsche Bank is still maturing in its overall data management strategy against its core processes and data sets such as transactional, client and reference data. This includes the development and implementation of the bank's enterprise architecture principles across the core technology infrastructure. This is central to Deutsche Bank's wider technology and data strategy, enabling business growth and efficiencies, while also enhancing the control environment. Deutsche Bank's regulators are actively engaged in ensuring the bank progresses with this component of its strategy. Furthermore, the bank also faces challenges with respect to embracing and incorporating new and disruptive technologies in conjunction with existing technological architecture in order to ensure industry standards of information security and customer experience.

Major technology transformations in the bank's business and infrastructure areas are executed via dedicated initiatives. The benefits of these include IT and business cost reduction, control improvements, revenue growth through provision of new client features or targeted client growth. Program execution risks, including talent and financial constraints, dependencies to other programs and key deliverables (also referred to as KDs), extended implementation timelines or impact of the change related activity on the control environment or functionality issues in the upgraded applications or underlying technology are carefully managed to partially mitigate the risk of not fully achieving expected benefits.

Environmental, social and governance

The impacts of rising global temperatures and the associated policy, technology and behavioral changes required to limit global warming to no greater than 1.5°C above pre-industrial levels have led to emerging sources of financial and non-financial risks. These include the physical risk impacts from extreme weather events, and transition risks as carbon-intensive sectors are faced with higher costs, potentially reduced demand and restricted access to financing. More rapid than currently expected emergence of transition and / or physical climate risks and other environmental risks may lead to increased credit and market losses as well as operational disruptions due to impacts on vendors and the bank's own operations. Deutsche Bank has integrated Climate and Environmental risk considerations throughout its risk and control frameworks to ensure that risks are identified, monitored and managed.

Furthermore, financial institutions are facing increased scrutiny on Climate and ESG-related issues from governments, regulators, shareholders and other bodies (including non-governmental organizations), leading to reputational risks if the bank is not seen to support the transition to a lower carbon economy, to limit nature-related risks such as biodiversity and habitat loss, and to protect human rights. This increased scrutiny includes more extensive and prescriptive ESG disclosure requirements such as the Corporate Sustainability Reporting Directive (CSRD). The emergence of significantly diverging ESG regulatory and / or disclosure standards across jurisdictions could lead to higher costs of compliance and risks of failing to meet requirements.

Deutsche Bank is rated by a number of ESG rating providers, with the ratings increasingly utilized as criteria to determine eligibility for sustainable investments and to assess management of ESG risks and opportunities. The methodologies and scores used by the different providers can lead to significant divergence in results. Should the bank's ratings lag peers, or materially deteriorate, this could lead to negative reputational impacts and reduced investor demand for equity / debt. Improved ratings may have the opposite effect.

Data, methodologies and industry standards for measuring and assessing climate and other environmental risks are still evolving or, in certain cases, are not yet available. This, combined with a lack of comprehensive and consistent climate and other environmental risk disclosures by its clients means that the bank, in line with the wider industry, is heavily reliant on proxy estimates and/or proprietary approaches for its own climate and environmental risk management disclosures. The high degree of uncertainty that this creates increases the risk that third parties may assert that the bank's sustainability-related disclosures constitute greenwashing. Positively, enhanced disclosure requirements for our clients will reduce reliance on proxy estimates and/or proprietary approaches going forwards.

While Deutsche Bank remains committed to the targets and ambitions outlined in its Sustainability Deep Dive on March 2, 2023, the bank may face headwinds in achieving its aim for € 500 billion in cumulative ESG financing and investment volumes through the end of 2025. If ambitions or targets are missed, this could impact, among other things, revenues and the reputation of the bank. In addition, scarcity of ESG assets may reduce Deutsche Bank's ability to issue ESG compliant funding. Similarly, significant deviations from absolute and intensity-based net zero aligned emissions targets may open the bank up to reputational risks.

Certain jurisdictions have begun to develop anti-ESG measures including requiring financial institutions that wish to do business with them to certify their non-adherence to aspects of the transition agenda. Failing to comply with these requirements may result in the termination of existing business and the inability to conduct new business with those jurisdictions, while complying may lead to reputational risks.

Opportunities

Macroeconomic and market conditions

Should economic conditions, such as GDP growth, levels of unemployment, the interest rate environment and competitive conditions in the financial services industry improve beyond currently forecasted levels, this could result in higher revenues. These impacts may only be partially offset by additional costs, therefore improving the Group's ability to meet its financial targets. At the same time, potentially higher inflation, interest rates and market volatility could present a number of opportunities, such as increased revenues from higher trading flows amid private, corporate and institutional customers repositioning their portfolios, higher net interest income as well as higher margins on lending across the Group's balance sheet.

A substantial proportion of the assets and liabilities on the Group's balance sheet are of financial instruments carried at fair value, with changes in fair value recognized in the income statement. If market conditions improve or interest rates decline, this could result in an increase in the fair value of certain financial instruments. As a result of such changes, the Group may realize gains in the future.

Geopolitics

While rising geopolitical risk creates uncertainty which undermines the global growth outlook and leads to increased fragmentation of the business environment, Deutsche Bank could benefit from supporting clients to de-risk their supply chains and rebalance their global footprint if the fragmentation of the international trade order accelerates. Should geopolitical risk unexpectedly subside, the outlook for global growth could improve beyond the bank's assumptions with positive implications for revenues and risk metrics.

Regulatory change

Regulatory change can encourage banks to provide better products or services that can offer opportunities for differentiation in the marketplace. For example, as reporting standards continue to develop for sustainable finance, the market may evolve to embrace sustainable finance initiatives more broadly. As clients and the market adopt sustainable finance related initiatives, the Group may have the opportunity to further differentiate the bank by enhancing the services provided to its clients.

Strategy

Deutsche Bank's Global Hausbank strategy outlines the bank's approach to materially improve returns to shareholders over time and how best deploy the balance sheet as well as other resources, in a way that is consistent with the client franchise and risk appetite of the bank. As such, the implementation of the Group's strategy may create further opportunities if implemented to a greater extent or under more favorable conditions than anticipated. This includes potential benefits from better than planned macroeconomic, market and geopolitical conditions or advantageous changes in the competitive environment, such as the retreat of traditional and emerging, non-banking competitors in selected markets.

If businesses and processes improve beyond Deutsche Bank's planned assumptions and cost efficiencies can be realized sooner or to a greater extent than forecasted, this could also positively impact the results of operations. The progress could be further stimulated if markets react favorably to Deutsche Bank's rating upgrades and sustained revenue performance. This could in turn reduce funding costs and further amplify the bank's profitability.

The bank expects to pursue the Group strategy and become the first point of call for all its clients, addressing the full range of their financial needs – as their "Global Hausbank". Deutsche Bank's expects its over 150-year heritage, global network, market expertise, outstanding risk management and comprehensive product range to support growth and targeted investments with focus on becoming sustainably profitable while increasing operational efficiencies and maintaining capital discipline.

Within the Corporate Bank, Deutsche Bank sees multi-faceted opportunities across a market leading franchise that leverages Corporate Bank's global footprint and coverage model. Deutsche Bank expects to grow revenues by combining risk management solutions with new treasury platform capabilities and establishing the Corporate Bank as a key partner to support its clients' energy transformation, building on its position in Europe and expanding further into APAC.

The Investment Bank continues to be a global leader in fixed income and financing products, and Deutsche Bank is focused on consolidating this position and maintaining the market share gained. To achieve this, combined with the strength of the Origination and Advisory platform, which was further enhanced with the acquisition of Numis Corporation PLC, the focus of the division is targeted on specific investment into areas of growth adjacent to current businesses to enhance and diversify the product offering. Meanwhile, the Investment Bank continues to focus on the optimization of cost and capital across the portfolio, and additional enhancements to the control environment. In addition, an increased focus upon the efficiency of the division's client coverage intends to increase the strength and depth of relationships across the global client base.

For the Private Bank, focus remains on German retail, international retail and business clients, and on seeking growth predominantly within advisory areas. With respect to wealth management activities, the Group sees growth opportunities particularly in EMEA and APAC.

For Asset Management, comprising of DWS legal entities, DWS continues to execute the publicly stated strategy, which aims to maintain leadership in mature asset classes and selectively grow other regions and products, in order to cement its status as a leading asset manager. Growth areas include revenue opportunities from further asset shifts towards Passive investments and Alternative products.

Deutsche Bank continues to focus on sustainability throughout the bank and has seen opportunities for growth in this space across all the bank's core businesses as clients' response to climate change gains further traction. Given strong client appetite, Deutsche Bank continues to see sustainable finance as a key opportunity and area of investment. As part of the broader efforts to develop a risk appetite strategy to manage climate risk, the bank sees opportunities to support clients, for example, in developing credible decarbonization strategies and support their transition.

Individuals and institutions, including clients and non-clients of the bank, increasingly view ESG-related opportunities as significant for long-term returns and the bank believes this could become a key differentiator. In this regard, inclusion of ESG factors in the investment processes or decision-making process for awarding business mandates across businesses is growing. As such, Deutsche Bank plans to develop and provide financial products or investment possibilities that can help both the bank and its clients to achieve common ESG goals and advance Deutsche Bank's holistic ESG strategy. More broadly, the bank believes that advancing ESG activities can lead to both additional revenues opportunities as well as an improved brand and stakeholder perception.

Additionally, a shared and strong firm-wide risk and control culture, enabled by technology, analytics and the bank's deep risk expertise, may, in parts provide the competitive edge needed to support the growth strategy of Deutsche Bank's businesses.

Overall, there are opportunities for Deutsche Bank to gain market share and grow its client base via supporting client needs for financing, advice, and risk management.

Technology, Data and Innovation

Digital Innovation offers various revenue opportunities to increase monetization on existing customers and acquire new customer groups by expanding the Group's own portfolio of products and engaging in product partnerships with third parties, thereby potentially benefiting from a shorter time-to-market. Recent developments in artificial intelligence (AI) technologies such as Generative AI and Large Language Models are an area of significant potential for Deutsche Bank's operational efficiency and revenue growth. The bank is also collaborating with Google on the early adoption of new AI technologies and on 'Responsible AI' for the banking industry. The bank is experimenting with such technologies in a prudent and responsible way to ensure it understands and mitigates risks that may arise before such technologies are deployed into production. The Group's global reach allows it to scale products quickly and efficiently across geographies. At the same time, the bank's customers will benefit from products and services being developed and brought to market more quickly in the future.

In addition, new forms of technology create a new set of digital assets and money, like central bank digital currencies, tokenized deposits, stablecoins or electronic securities. These have the potential to facilitate cheaper, faster, and more efficient financial transactions, while also unlocking new use cases. Deutsche Bank is playing an active role in providing recommendations on how this could be shaped, in particular in the context of the digital euro projects of the ECB for retail and wholesale use cases.

Continued investments and delivery of the bank's changed agenda, including through key deliverables, should help Deutsche Bank to differentiate itself in an otherwise highly competitive market.

Environmental, social and governance

As outlined in Deutsche Bank's Sustainability Deep Dive on March 2, 2023, the transition to a lower carbon economy presents multiple opportunities to support clients on their pathways to net zero through the provision of sustainable finance and transition expertise. Additionally, on October 19, 2023, Deutsche Bank published its Transition Plan which consolidates the bank's definitions, methodologies, targets and achievements on its path to net-zero by 2050 in a single publication. Overall, coupled with the active management of the Group's carbon footprint via its net zero target regime, this can lead to both revenue opportunities as well as improved stakeholder perceptions.

Risk Report

60	Introduction
61	Risk and Capital Overview
61	Key risk metrics
62	Risk profile
64	Risk and Capital Framework
64	Risk management principles
65	Risk governance
68	Risk appetite and capacity
68	Risk and capital plan
71	Stress testing
72	Risk measurement and reporting systems
74	Recovery and resolution planning
75	Risk and Capital Management
75	Capital management
75	Resource limit setting
76	Risk identification and assessment
76	Credit risk management and asset quality
110	Market risk management
117	Operational risk management
123	Liquidity risk management
128	Enterprise risk management
131	Model risk management
132	Reputational risk management
133	Cybersecurity
136	Risk and Capital Performance
136	Capital, leverage ratio, TLAC and MREL
152	Credit risk exposure
172	Trading market risk exposures
175	Non-trading market risk exposures
177	Operational risk exposure
178	Liquidity risk exposure

Introduction

Disclosures in line with IFRS 7

The following Risk Report provides qualitative and quantitative disclosures about credit, market and other risks in line with the requirements of International Financial Reporting Standard 7 (IFRS 7) Financial Instruments: Disclosures. It also considers the underlying classification and measurement and impairment requirements in IFRS 9 with further details to be found in the “Credit Risk Management and Asset quality” section, in the “Asset quality” section, in the “Credit risk mitigation” section and in Note 1 “Material accounting policies and critical accounting estimates” to the consolidated financial statements. Information which forms part of and is incorporated by reference into the financial statements of this report is marked by a light blue shading throughout this Risk Report.

Since June 30, 2020, the Group applies the transitional arrangements in relation to IFRS 9 as provided in the current CRR/CRD for all CET1 measures.

Disclosures according to Pillar 3 of the Basel III Capital Framework

Deutsche Bank's disclosures according to Pillar 3 of the Basel 3 Capital Framework, which are implemented in the European Union by the Regulation (EU) No 575/2013 on prudential requirements for credit institutions (Capital Requirements Regulation or CRR), including recent amendments; and supported by the EBA guideline “Final draft implementing technical standards on public disclosures by institutions of the information referred to in Titles II and III of Part Eight of Regulation (EU) No 575/2013” and related guidelines applicable to Pillar 3 disclosures, are published in the Group's Pillar 3 Report, which can be found on Deutsche Bank's website.

Disclosures according to principles and recommendations of the Enhanced Disclosure Task Force

In 2012 the Enhanced Disclosure Task Force (EDTF) was established as a private sector initiative under the auspices of the Financial Stability Board (FSB), with the primary objective to develop fundamental principles for enhanced risk disclosures and to recommend improvements to existing risk disclosures. Deutsche Bank adheres to the disclosure recommendations in this Risk Report and also in its Pillar 3 report.

Risk and capital overview

Key risk metrics

The following section provides qualitative and quantitative disclosures about credit, market, liquidity and other risk metrics and its developments within the twelve months ended December 31, 2023. Disclosures according to Pillar 3 of the Basel III Capital Framework, which are implemented in the European Union by the Capital Requirements Regulation (CRR) and supported by EBA Implementing Technical Standards or the EBA Guideline, will be published in the Group's separate Pillar 3 report.

The following selected key risk ratios and corresponding metrics form part of the bank's holistic risk management across individual risk types. The Common Equity Tier 1 ratio, Economic Capital Adequacy ratio, Leverage ratio, Total Loss Absorbing Capacity, Minimum Requirement for Own Funds and Eligible Liabilities, Liquidity Coverage Ratio, Stressed Net Liquidity Position and Net Stable Funding Ratio serve as high-level metrics and are fully integrated across strategic planning, risk appetite framework, stress testing and recovery and resolution planning practices, which are reviewed and approved by the Management Board at least annually.

Common Equity Tier 1 (CET1) Ratio		Risk-Weighted Assets (RWA)	
31.12.2023	13.7%	31.12.2023	€ 349.7 bn
31.12.2022	13.4%	31.12.2022	€ 360.0 bn
Economic Capital Adequacy (ECA) Ratio		Economic Capital (EC)	
31.12.2023	205%	31.12.2023	€ 23.3 bn
31.12.2022	239%	31.12.2022	€ 20.9 bn
Leverage Ratio		Leverage Exposure	
31.12.2023	4.5%	31.12.2023	€ 1,240 bn
31.12.2022	4.6%	31.12.2022	€ 1,240 bn
Total loss absorbing capacity (TLAC)		Minimum requirement for own funds and eligible liabilities (MREL)	
31.12.2023 (Risk Weighted Asset based)	32.6%	31.12.2023	35.2%
31.12.2023 (Leverage Exposure based)	9.2%	31.12.2022	34.4%
31.12.2022 (Risk Weighted Asset based)	32.2%		
31.12.2022 (Leverage Exposure based)	9.3%		
Liquidity Coverage Ratio (LCR)		Stressed Net Liquidity Position (sNLP)	
31.12.2023	140%	31.12.2023	€ 57.7 bn
31.12.2022	142%	31.12.2022	€ 48.1 bn
Net Stable Funding Ratio (NSFR)			
31.12.2023		31.12.2023	121%
31.12.2022		31.12.2022	120%

Deutsche Bank regularly assesses the potential impacts of risks on its balance sheet and profitability through portfolio reviews and stress tests. Stress tests are also used to test the resilience of Deutsche Bank's strategic plans. The results of these tests indicate that the currently available capital and liquidity reserves, in combination with available mitigation measures, are sufficient to withstand periods of potential stress.

The Group concludes that the risks, as described above or in the following sections, to which Deutsche Bank is exposed to, including potential impacts on its business strategy, provide a true and fair picture of its risk profile.

For further details please refer to sections "Risk profile", "Risk appetite and capacity", "Risk and capital plan", "Stress testing", "Recovery and resolution planning", "Risk and capital management", "Capital, leverage ratio, TLAC and MREL", "Liquidity coverage ratio", and "Stress testing and scenario analysis".

Risk profile

Deutsche Bank's mix of business activities results in diverse risk taking. The Group measures key risks inherent to the respective business models through the total economic capital metric, which captures the business division's risk profile and considers cross-risk effects at group level.

Corporate Bank's risk profile mainly arises from the products and services offered in Corporate Treasury Services (including Trade Finance, Lending and Corporate Cash Management), Strategic Corporate Lending and Business Banking. Economic capital demand in these segments arises largely from credit risk.

Investment Bank's risk profile is dominated by its financing and trading activities, which give rise to all major risk types. Credit risk in the Investment Bank is broadly distributed across business units but most prominent in Fixed Income & Currencies and Leveraged Debt Capital Markets. Market risk arises mainly from trading and market making activities.

Private Bank's risk profile comprises credit risks from business with German and international retail clients, business clients and wealth management clients as well as non-trading market risks from investment risk, modelling of client deposits and credit spread risk.

Asset Management, as a fiduciary asset manager, invests money on behalf of clients. As such, the main risk drivers are non-financial. The economic capital demand for market risk is mainly driven by non-trading market risks, which arise from guaranteed products and co-investments in the funds.

Corporate & Other's risk profile embeds a range of different risk drivers including those pertaining to Treasury, certain corporate items, and legacy portfolios. The economic capital demand mainly comprises of non-trading market risk from interest rate risk in Treasury, structural foreign exchange risk, pension risk and equity compensation risk, credit risk from Treasury's investments, strategic risk from tax-related risks and software asset risks and operational risk from legacy portfolios.

The table below shows Deutsche Bank's overall risk position as measured by the economic capital demand calculated for credit, market, operational and strategic risk for the dates specified. Deutsche Bank's overall economic risk position also considers diversification benefits across risk types.

Risk profile of Deutsche Bank's business divisions as measured by economic capital

	Dec 31, 2023						
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total	Total (in %)
Credit risk	2,612	4,395	2,182	48	2,639	11,875	51
Market risk	801	2,009	1,346	217	3,955	8,328	36
Operational risk	445	1,729	613	278	1,507	4,572	20
Strategic risk	0	0	0	0	1,874	1,874	8
Diversification benefit ¹	(460)	(1,197)	(589)	(130)	(1,009)	(3,385)	(15)
Total EC	3,399	6,936	3,551	413	8,967	23,265	100
Total EC in %	15	30	15	2	39	100	N/M

¹ Diversification benefit across credit, market, operational and strategic risk

	Dec 31, 2022						
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total	Total (in %)
Credit risk	2,760	4,259	2,344	53	2,386	11,802	56
Market risk	343	1,177	662	180	3,994	6,355	30
Operational risk	424	1,852	611	273	1,507	4,668	22
Strategic risk	0	0	0	0	1,854	1,854	9
Diversification benefit ¹	(440)	(1,308)	(543)	(162)	(1,325)	(3,778)	(18)
Total EC	3,088	5,980	3,073	344	8,416	20,900	100
Total EC in %	15	29	15	2	40	100	N/M

¹ Diversification benefit across credit, market, operational and strategic risk

² Prior year's comparatives aligned to presentation in the current year

As of December 31, 2023, Deutsche Bank's economic capital demand amounted to € 23.3 billion, which was € 2.4 billion or 11% higher than € 20.9 billion economic capital demand as of December 31, 2022. This was driven by an increase in market risk economic capital demand and a lower diversification benefit across risk types, which was partly offset by a decrease in economic capital demand for operational risk.

The economic capital demand for market risk totaled to € 8.3 billion as of December 31, 2023, which was € 2.0 billion or 31% higher compared to year-end 2022. The increase was mainly driven by the annual recalibration of the model's distribution parameters, a reduction in net short credit spread exposure arising from the Group's defined benefit pension plan assets, an increase in trading inventory to support market making and client flow in the Global Rates and Credit Trading businesses within the Investment Bank and a change in behavioral modelling assumptions of client deposits within the Private Bank.

The inter-risk diversification benefit of the economic capital demand across credit, market, operational and strategic risk totaled to € 3.4 billion as of December 31, 2023, which was € 0.4 billion or 10% lower compared to year-end 2022. This decrease was mainly driven by the introduction of a compensating control for a shortcoming in the modeling of the operational risk distribution within the diversification calculation.

The operational risk economic capital usage totaled to € 4.6 billion as of December 31, 2023, which was € 0.1 billion or 2% lower than the € 4.7 billion economic capital usage as of December 31, 2022. In line with the development of the Group's RWA for operational risk, the decrease was mainly driven by a more favorable development of Deutsche Bank's internal loss profile feeding into the capital model. A detailed description is provided in section "Operational risk management".

Risk and capital framework

Risk management principles

Deutsche Bank's business model inherently involves taking risks. Risks can be financial and non-financial and include on and off-balance sheet risks. Deutsche Bank's objective is to create sustainable value in the interests of the company taking into consideration shareholders, employees and other company related stakeholders. The risk management framework contributes to this by aligning planned and actual risk taking with risk appetite as expressed by the Management Board, while being in line with available capital and liquidity.

Deutsche Bank's risk management framework consists of various components, which include the established internal control mechanisms. Principles and standards are set for each component:

- Organizational structures must follow the Three Lines of Defense ("3LoD") model with a clear definition of roles and responsibilities for all risk types
 - The 1st Line of Defense ("1st LoD") refers to those roles in the Bank whose activities generate risks, whether financial or non-financial, and who own and are accountable for these risks. The 1st LoD manages these risks within the defined risk appetite, establishes an appropriate risk governance and risk culture, and adheres to the risk type frameworks defined by the 2nd Line of Defense ("2nd LoD")
 - The 2nd LoD refers to the roles in the Bank who define the risk management framework for a specific risk type. The 2nd LoD independently assesses and challenges the implementation of the risk type framework and adherence to the risk appetite, and acts as an advisor to the 1st LoD on how to identify, assess and manage risks.
 - The 3rd Line of Defense ("3rd LoD") is Group Audit, which is accountable for providing independent and objective assurance on the adequacy of the design, operating effectiveness and efficiency of the risk management system and systems of internal control
- Every employee must act as a risk manager consistent with the bank's risk appetite, risk management standards and values
- The Management Board approved risk appetite must be cascaded and adhered to across all dimensions of the Group, with appropriate consequences in the event of a breach
- Risks must be identified and assessed
- Risks must be actively managed including appropriate risk mitigation and effective internal control systems
- Risks must be measured and reported using accurate, complete and timely data using approved models
- Regular stress tests must be performed against adverse scenarios and appropriate crisis response planning must be established

The Group promotes a strong risk culture where every employee must fully understand and take a holistic view of the risks which could result from their actions, understand the consequences and manage them appropriately against the risk appetite of the bank. The bank expects employees to exhibit behaviors that support a strong risk culture in line with the bank's Code of Conduct. To promote this, Deutsche Bank's policies require that risks taken (including against risk appetite) must be taken into account during the bank's performance assessment and compensation processes. This expectation continues to be reinforced through communications campaigns and mandatory training courses for all DB employees. In addition, Management Board members and senior management frequently communicate the importance of a strong risk culture to support a consistent tone from the top.

Deutsche Bank's risk management and internal control system is described in more detail in Deutsche Bank's Pillar 3 report (specifically in the section "Risk management objectives and policies, Enterprise Risk"). The risk management and internal control system also covers sustainability-related objectives (as outlined in the Non-Financial Report 2023, specifically in the chapters "Sustainability strategy and implementation" and "Climate risk").

The Management Board is of the opinion that a risk management framework and internal control system has been established which is, in its entirety, appropriate and effective for the bank's business model and risk profile.

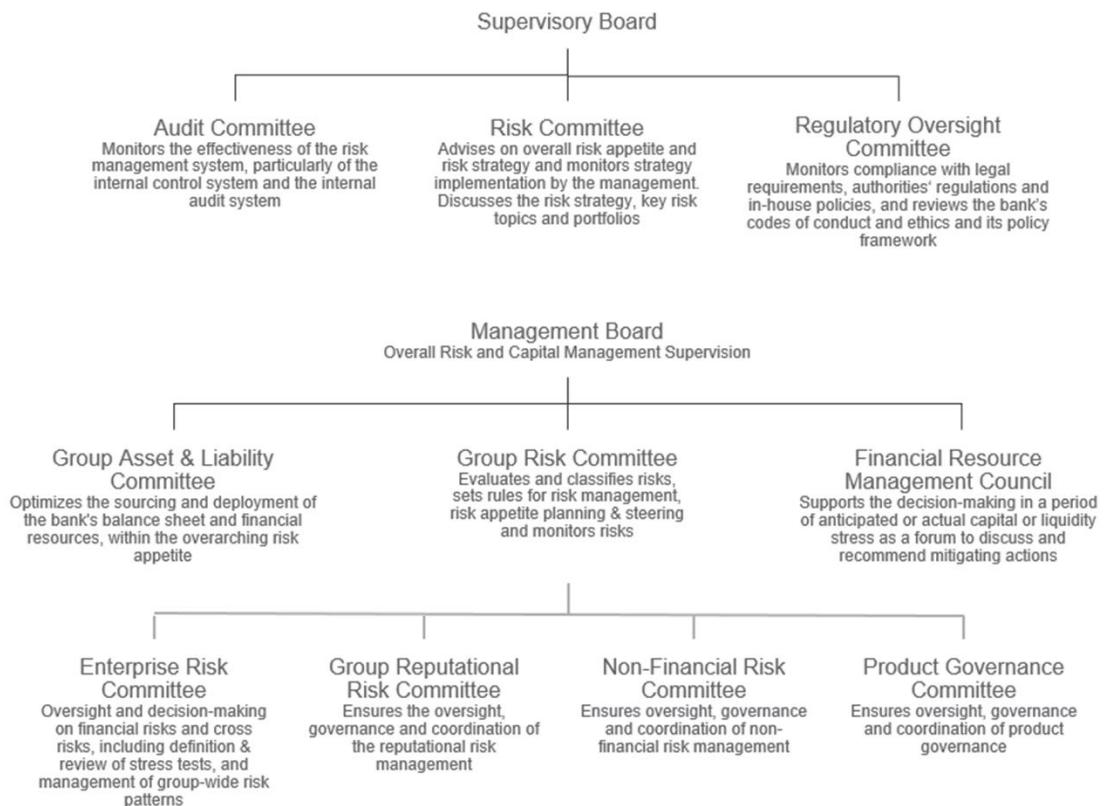
Risk governance

Deutsche Bank's operations throughout the world are regulated and supervised by relevant authorities in each of the jurisdictions in which the bank conducts business. Such regulation focuses on licensing, capital adequacy, liquidity, risk concentration, conduct of business as well as organizational and reporting requirements. The European Central Bank (ECB) in connection with the competent authorities of EU countries which joined the Single Supervisory Mechanism via the Joint Supervisory Team act in cooperation as Deutsche Bank's primary supervisors to monitor the bank's compliance with the German Banking Act and other applicable laws and regulations.

Several layers of management provide cohesive risk governance:

- Deutsche Bank's Supervisory Board is informed regularly on the risk situation, risk management and risk controlling, including reputational risk related items as well as material litigation cases; it has formed various committees to handle specific topics (for a detailed description of these committees, please see the "Report of the Supervisory Board", as well as chapter "Supervisory Board" in the "Corporate Governance Report")
 - At the meetings of the Risk Committee, the Management Board reports on current and forward-looking risk exposures, portfolios, on risk appetite and strategy and on matters deemed relevant for the assessment and oversight of the risk situation of Deutsche Bank AG; it also reports on loans requiring a Supervisory Board resolution pursuant to law or the Articles of Association; the Risk Committee advises on issues related to the overall risk appetite, aggregate risk position and the risk strategy and keeps the Supervisory Board informed of its activities
 - The Regulatory Oversight Committee, among other responsibilities, monitors the Management Board's measures that promote the company's compliance with legal requirements, authorities' regulations and the company's own policies; it also reviews the bank's codes of conduct and ethics as well as its policy framework, and, upon request, supports the Risk Committee in monitoring and analyzing the bank's legal and reputational risks; the Management Board informs the committee about contacts with regulators with a significant relevance for the business activity
 - The Audit Committee, among other matters, supports the Supervisory Board in monitoring the effectiveness of the risk management system, particularly the internal control system and the internal audit system, as well as the Management Board's remediation of deficiencies identified
- The Management Board is responsible for managing Deutsche Bank Group in accordance with the law, the Articles of Association and its Terms of Reference with the objective of creating sustainable value in the interest of the company, thus taking into consideration the interests of the shareholders, employees and other company related stakeholders; the Management Board is responsible for ensuring a proper business organization, encompassing appropriate and effective risk management, as well as compliance with legal requirements and internal guidelines; the Management Board established the Group Risk Committee as the central forum for review and decision on material risk and capital-related topics; the Group Risk Committee generally meets once a week; it has delegated some of its duties to individuals and sub-committees; the Group Risk Committee and its sub-committees are described in more detail below

Risk management governance structure of the Deutsche Bank Group



The following functional committees are central to the management of risk at Deutsche Bank:

- The Group Risk Committee has various duties and dedicated authority, including approval of new or changed material risk and capital models and review of the inventory of risks, high-level risk portfolios, risk exposure developments, and internal and regulatory Group-wide stress testing results; in addition, the Group Risk Committee reviews and recommends items for Management Board approval, such as key risk management principles, the Group risk appetite statement, the Group recovery plan and the contingency funding plan, over-arching risk appetite parameters, and recovery and escalation indicators; the Group Risk Committee also supports the Management Board during Group-wide risk and capital planning processes
- The Non-Financial Risk Committee oversees, governs and coordinates the management of non-financial risks in Deutsche Bank Group and establishes a cross-risk and holistic perspective of the key non-financial risks of the Group, including conduct and financial crime risk; it is tasked to define the non-financial risk appetite tolerance framework, to monitor and control the effectiveness of the non-financial risk operating model (including interdependencies between business divisions and control functions), and to monitor the development of emerging non-financial risks relevant for the Group
- The Group Reputational Risk Committee is responsible for the oversight, governance and coordination of reputational risk management and provides for a look-back and a lessons learnt process; matters are referred to the Group Reputational Risk Committee in exceptional circumstances – this may be the case if a matter is declined by the Regional Reputational Risk Committee and appealed by the business division, or if the Regional Reputational Risk Committee cannot reach a two-thirds majority decision; it provides guidance on Group-wide reputational risk matters, including communication of sensitive topics, to the appropriate levels of Deutsche Bank Group; the Regional Reputational Risk Committees which are sub-committees of the Group Reputational Risk Committee, are responsible for the oversight, governance and coordination of the management of reputational risk in the respective regions on behalf of the Management Board
- The Enterprise Risk Committee has been established with a mandate to focus on enterprise-wide risk trends, events and cross-risk portfolios, bringing together risk experts from various risk disciplines; as part of its mandate, the Enterprise Risk Committee approves the group risk inventory, certain country and industry threshold increases, and scenario design outlines for more severe group-wide stress tests as well as reverse stress tests; it reviews group-wide stress test results in accordance with risk appetite, reviews the risk outlook, emerging risks and topics with enterprise-wide risk implications; it oversees the climate and environmental risk framework

- The Product Governance Committee has the mandate to ensure that there is appropriate oversight, governance and coordination of product governance in the Group by establishing a cross-risk and holistic perspective of key financial and non-financial risks associated with products and transactions throughout the lifecycle
- The Financial Resource Management Council is an ad-hoc governance body, chaired by the Chief Financial Officer and the Chief Risk Officer, with delegated authority from the Management Board, to oversee financial crisis management at the bank; the Financial Resource Management Council provides a single forum to oversee execution of both the contingency funding plan and the Group recovery plan; the council recommends upon mitigating actions to be taken in a time of anticipated or actual capital or liquidity stress; specifically, the Financial Resource Management Council is tasked with analyzing the bank's capital and liquidity position, in anticipation of a stress scenario recommending proposals for capital and liquidity related matters and overseeing the execution of decisions
- The Group Asset & Liability Committee has been established by the Management Board with the mandate to optimize the sourcing and deployment of the bank's balance sheet and financial resources within the overarching risk appetite set by the Management Board

Deutsche Bank's Chief Risk Officer, who is a member of the Management Board, has Group-wide, supra-divisional responsibility for establishing a risk management framework with appropriate identification, measurement, monitoring, mitigation and reporting of liquidity, credit, market, enterprise, model and non-financial risks (including operational and reputational); however, frameworks for certain risks are established by other functions as per the business allocation plan.

The Chief Risk Officer has direct management responsibility for the Chief Risk Office function. Risk management and control duties in the Chief Risk Office function are generally assigned to specialized risk management units focusing on the management of

- Specific risk types
- Risks within a specific business
- Risks in a specific region.

These specialized risk management units generally handle the following core tasks:

- Foster consistency with the risk appetite set by the Management Board and applied to business divisions and their business units
- Determine and implement risk and capital management policies, procedures and methodologies that are appropriate to the businesses within each division
- Establish and approve risk limits
- Conduct periodic portfolio reviews to keep the portfolio of risks within acceptable parameters
- Develop and implement risk and capital management infrastructures and systems that are appropriate for each division

Chief Risk Officers for each business division as well as each region, having a holistic view of the respective business, challenge and influence the divisional and regional strategies, risk awareness and ownership as well as their adherence to risk appetite.

While operating independently from each other and the business divisions, the Finance and Risk functions have the joint responsibility to quantify and verify the risk that the bank assumes.

Risk appetite and capacity

Risk appetite expresses the aggregate level and types of risk that Deutsche Bank is willing to assume to achieve strategic objectives, as defined by a set of quantitative metrics and qualitative statements. Risk capacity is defined as the maximum level of risk that can be assumed given Deutsche Bank's capital and liquidity base, risk management and control capabilities, and regulatory constraints.

Risk appetite is an integral element in business planning processes via risk strategy and plan, to promote the appropriate alignment of risk, capital and performance targets, while at the same time considering risk capacity and appetite constraints from both financial and non-financial risks. Compliance of the plan with risk appetite and capacity is also tested under stressed market conditions. Top-down risk appetite serves as the limit for risk-taking for the bottom-up planning from the business functions.

The Management Board reviews and approves risk appetite and capacity on an annual basis, or more frequently in the event of unexpected changes to the risk environment, with the aim of ensuring that they are consistent with the Group's strategy, business and regulatory environment and stakeholders' requirements.

In order to determine risk appetite and capacity, different group level triggers and thresholds on a forward-looking basis are set and the escalation requirements for further action are defined. Deutsche Bank assigns risk metrics that are sensitive to the material risks to which Deutsche Bank is exposed and which function as indicators of financial health. In addition to that, the risk and recovery management framework is linked with the risk appetite framework.

Reports relating to risk profile as compared to Deutsche Bank's risk appetite and strategy and the monitoring thereof are presented regularly up to the Management Board. In the event that desired risk appetite is breached, a predefined escalation governance matrix is applied so these breaches are highlighted to the appropriate governance bodies.

Risk and capital plan

Strategic and capital plan

Deutsche Bank conducts annually an integrated strategic planning process which lays out the development of our future strategic direction for the Group and for the business areas. The strategic plan aims to create a holistic perspective on capital, funding and risk under risk-return considerations. This process translates long-term strategic targets into measurable short-to medium-term financial targets and enables intra-year performance monitoring and management. Thereby the Group aims to identify growth options by considering the risks involved and the allocation of available capital resources to drive sustainable performance. Risk-specific portfolio strategies complement this framework and allow for an in-depth implementation of the risk strategy on portfolio level, addressing risk specifics including risk concentrations.

The strategic planning process consists of two phases: a top-down target setting and a bottom-up substantiation.

In a first phase – the top-down target setting – Deutsche Bank's key targets for profit and loss (including revenues and costs), capital supply, capital demand as well as leverage, funding and liquidity are defined and discussed for the group and the key business areas. In this process step, the targets for the next five years are based on the global macro-economic outlook and the expected regulatory framework. Subsequently, the targets are challenged and approved by the Management Board.

In a second phase, the top-down targets are substantiated bottom-up by detailed business unit plans, which consist of a month by month operative plan for year one; years two and three are planned per quarter and years four and five are annual plans. The proposed bottom-up plans are reviewed and challenged by Finance and Risk and are discussed individually with the respective business heads. Thereby, the specifics of the business are considered, and concrete targets decided in line with the bank's strategic direction. The bottom-up phase includes the preparation of plans for key legal entities to review local risk and capitalization levels. Stress tests complement the strategic plan to consider the resilience of the plan against adverse market conditions.

The resulting Strategic and Capital Plan is presented to the Management Board for discussion and approval. The final plan is furthermore presented to the Supervisory Board.

The Strategic and Capital Plan is designed to support the Groups' vision of being a leading German bank with strong European roots and a global network and aims to ensure:

- Balanced risk adjusted performance across business areas and units
- High risk management standards with focus on risk concentrations
- Compliance with regulatory requirements
- Strong capital and liquidity position
- Stable funding and liquidity strategy allowing for business planning within the liquidity risk appetite and regulatory requirements

The Strategic and Capital Planning process allows us to:

- set earnings and key risk and capital adequacy targets considering the bank's strategic focus and business plans
- assess our capital adequacy with regard to internal and external requirements (i.e., economic capital and regulatory capital)
- apply appropriate stress test analyses' to assess the impact on capital demand, capital supply and liquidity

All externally communicated financial targets are monitored on an ongoing basis in appropriate management committees. Any projected shortfall versus targets is discussed together with potential mitigating strategies with the aim to ensure that we remain on track to achieve our targets. Amendments to the strategic and capital plan must be approved by the Management Board. Achieving our externally communicated solvency targets ensures that we also comply with the solvency ratio-related Group Supervisory Review and Evaluation Process (SREP) requirements as articulated by our home supervisor.

In December 2022, the ECB informed Deutsche Bank of its decision effective January 1, 2023, that the bank's Pillar 2 requirement changed compared to 2022. This results in ECB's Pillar 2 requirement to 2.70% of RWA. As of December 31, 2023, Deutsche Bank needs to maintain on a consolidated basis a CET 1 ratio of at least 11.16%, a Tier 1 ratio of at least 13.17% and a Total Capital ratio of at least 15.84%. The CET 1 requirement comprises the Pillar 1 minimum capital requirement of 4.50%, the Pillar 2 requirement (SREP add-on) of 1.52%, the capital conservation buffer of 2.50%, the countercyclical buffer of 0.45% and the systemic risk buffer of 0.19% (both subject to changes throughout the year) as well as the higher of our G-SII/O-SII buffer of 2.00%. Correspondingly, the Tier 1 capital requirement includes additionally a Tier 1 minimum capital requirement of 1.50% plus a Pillar 2 requirement of 0.51%, and the Total Capital requirement includes further a Tier 2 minimum capital requirement of 2.00% and a Pillar 2 requirement of 0.68%. Also, following the results of the 2023 SREP, the ECB communicated to Deutsche Bank an individual expectation to hold a further Pillar 2 CET 1 capital add-on, commonly referred to as the Pillar 2 guidance. The capital add-on pursuant to the Pillar 2 guidance is separate from and in addition to the Pillar 2 requirement. The ECB has stated that it expects banks to meet the Pillar 2 guidance although it is not legally binding, and failure to meet the Pillar 2 guidance does not lead to automatic restrictions of capital distributions.

On December 11, 2023, Deutsche Bank was informed by the ECB of its decision regarding prudential minimum capital requirements for 2024 that applies from January 1, 2024, onwards, following the results of the 2023 SREP. The decision set ECB's Pillar 2 requirement to 2.65% of RWA, effective as of January 1, 2024, of which at least 1.49% must be covered by CET 1 capital and 1.99% by Tier 1 capital.

Internal capital adequacy assessment process

Deutsche Bank's internal capital adequacy assessment process (ICAAP) consists of several well-established components which ensure that Deutsche Bank maintains sufficient capital to cover the risks to which the bank is exposed on an ongoing basis:

- Risk identification and assessment: The risk identification process forms the basis of the ICAAP and results in an inventory of risks for the Group; all risks identified are assessed for their materiality; further details can be found in section "Risk identification and assessment"
- Capital demand/risk measurement: Risk measurement models are applied to quantify the regulatory and economic capital demand which is required to cover all material risks except for those which cannot be adequately limited by capital e.g. liquidity risk; further details can be found in sections "Risk profile" and "Capital, Leverage Ratio, TLAC and MREL"
- Capital supply: Capital supply quantification refers to the definition of available capital resources to absorb unexpected losses; further details can be found in sections "Capital, Leverage Ratio, TLAC and MREL" and "Economic Capital Adequacy"
- Risk appetite: Deutsche Bank has established a set of qualitative statements, quantitative metrics and thresholds which express the level of risk that Deutsche Bank is willing to assume to achieve strategic objectives; threshold breaches are subject to a dedicated governance framework triggering management actions aimed to safeguard capital adequacy; further details can be found in sections "Risk appetite and capacity" and "Key risk metrics"
- Capital planning: The risk appetite thresholds for capital adequacy metrics constitute boundaries which have to be met in the capital plan to safeguard capital adequacy on a forward-looking basis; further details can be found in section "Strategic and capital plan"
- Stress testing: Capital plan figures are also considered under various stress test scenarios to prove resilience and overall viability of the bank; regulatory and economic capital adequacy metrics are also subject to regular stress tests throughout the year to constantly evaluate Deutsche Bank's capital position in hypothetical stress scenarios and to detect vulnerabilities under stress; further details can be found in section "Stress testing"
- Capital adequacy assessment: Although capital adequacy is constantly monitored throughout the year, the ICAAP concludes with a dedicated annual capital adequacy statement (CAS); the assessment consists of a Management Board statement about Deutsche Bank's capital adequacy, which is linked to specific conclusions and management actions to be taken to safeguard capital adequacy on a forward-looking basis

As part of its ICAAP, Deutsche Bank distinguishes between a normative and economic internal perspective. The normative internal perspective refers to a multi-year assessment of the ability to fulfil all capital-related legal requirements and supervisory demands on an ongoing basis under a baseline and adverse scenario. The economic internal perspective refers to an internal process using internal economic capital demand models and an internal economic capital supply definition. Both perspectives focus on maintaining the continuity of Deutsche Bank on an ongoing basis.

Stress testing

Deutsche Bank has implemented a stress test framework to satisfy internal as well as external stress test requirements. The internal stress tests are based on in-house developed methods and inform a variety of risk management use cases (risk type specific as well as cross risk). Internal stress tests form an integral part of Deutsche Bank's risk management framework complementing traditional risk measures. The cross-risk stress test framework, the Group Wide Stress Test Framework (GWST), serves a variety of bank management processes, in particular the strategic planning process, the ICAAP, the risk appetite framework and capital allocation. Capital plan stress testing is performed to assess the viability of the bank's capital plan in adverse circumstances and to demonstrate a clear link between risk appetite, business strategy, capital plan and stress testing. The regulatory stress tests, e.g. the EBA stress test and the US-based CCAR (Comprehensive Capital Analysis and Review) stress tests, are strictly following the processes and methodologies as prescribed by the regulatory authorities.

Deutsche Bank's internal stress tests are performed on a regular basis in order to assess the impact of severe economic downturns as well as adverse bank-specific events on the bank's risk profile and financial position. The bank's stress testing framework comprises regular sensitivity-based and scenario-based approaches addressing different severities and regional hotspots. All material risk types are included in the stress testing activities. These activities are complemented by portfolio- and country-specific downside analysis as well as further regulatory requirements, such as annual reverse stress tests and additional stress tests requested by regulators on group or legal entity level. The applied methodologies undergo regular scrutiny from Deutsche Bank's internal validation team (Model Risk Management) to ensure they correctly capture the impact of a given stress scenario.

The initial phase of Deutsche Bank's cross-risk stress test consists of defining a macroeconomic downturn scenario by ERM Risk Research in cooperation with business specialists through a formal governance forum, the Scenario Design Council. ERM Risk Research monitors the political and economic developments around the world and maintains a macro-economic heat map that identifies potentially harmful scenarios. Based on quantitative models and expert judgments, economic parameters such as foreign exchange rates, interest rates, GDP growth or unemployment rates are set accordingly and define the narrative under which the bank's solvency position is assessed. The scenario parameters are translated into specific risk drivers by subject matter experts in the risk units. Based on the bank's internal model framework for stress testing, the following major metrics are calculated under stress: risk-weighted assets, impacts on profit and loss and economic capital by risk type. These results are aggregated at the Group level, and key metrics such as the CET 1 ratio, ECA ratio, MREL ratio and Leverage Ratio under stress are derived. Stress impacts on the Liquidity Coverage Ratio (LCR) and other Liquidity indicators are also considered. The time-horizon of internal stress tests is between one and five years, depending on the use case and scenario assumptions. The Stress Test Council (STC) reviews the final stress results followed by selected presentations to the Enterprise Risk Committee (ERC). After comparing these results against the bank's defined risk appetite, the ERC also discusses specific mitigation actions to remediate the stress impact in alignment with the overall strategic and capital plan if certain limits are breached. The results also feed into the recovery planning which is crucial for the recoverability of the bank in times of crisis. The outcome is presented to senior management up to the Management Board to raise awareness on the highest level as it provides key insights into specific business vulnerabilities and contributes to the overall risk profile assessment of the bank.

The group wide stress tests performed in 2023 indicated that the bank's capitalization together with available mitigation measures as defined in the Group Recovery Plan is adequate to reach the internally set stress exit levels.

The cross-risk reverse stress test leverages the GWST framework and is typically performed annually in order to challenge Deutsche Bank's business model by determining scenarios which would cause the bank to become unviable. Such a reverse stress test is based on a hypothetical macroeconomic scenario enriched by idiosyncratic events based on the top risks monitored by each risk type. Comparing the non-viability scenario to the current economic environment, the probability of occurrence of such a hypothetical stress scenario is considered to be extremely low. Given this, it is the bank's view that its business continuity is not at risk.

As required by ECB, the bank has performed multi-year stress tests as part of the annual strategic planning process for 2023 using two adverse heatmap scenarios, namely a "EU led hard landing scenario" and a "Higher for longer interest rates" scenario.

In addition to the GWST that includes all material risk types and major revenue streams, Deutsche Bank has individual stress test programs in place for all relevant risk metrics in line with regulatory requirements. The relevant stress test programs are described in the sections about the individual risk management methods.

Deutsche Bank also took part in two major regulatory stress tests performed in 2023 i.e. the bi-annual European EBA stress test as well as the US-based CCAR stress test, as implemented pursuant to the U.S. Dodd-Frank Act. The outcome of the EBA stress test is feeding into the SREP process for Deutsche Bank. In the CCAR context, the Federal Reserve (FRB) disclosed the stress capital depletion for DB USA Corporation and DWS USA Corporation; this showed that each entity remains very well-capitalized even after withstanding a hypothetical severe stress environment.

Also in 2023, the bank ran an internal climate transition risk stress test across its global portfolios focusing on a near-term time horizon (three years) under severe assumption of a front-loaded disorderly transition. The results of the stress test are integrated into relevant processes, including risk appetite, business planning and ICAAP.

Risk measurement and reporting systems

Overview

Deutsche Bank's risk measurement systems support regulatory reporting and external disclosures, as well as internal management reporting across all risk types. The risk infrastructure incorporates the relevant legal entities and business divisions and provides the basis for reporting on risk positions, capital adequacy and limit, threshold, or target utilization to the relevant functions on a regular and ad-hoc basis. Established units within the CFO and CRO function assume responsibility for measurement, analysis and reporting of risk while promoting sufficient quality and integrity of risk-related data and consider, where relevant, the principles for effective risk data aggregation and risk reporting as per the Basel Committee on Banking Supervision's regulation number 239 ("BCBS 239"). The Group's risk management systems are reviewed by Group Audit following a risk-based audit approach.

Deutsche Bank's reporting is an integral part of Deutsche Bank's risk management framework and as such aligns with the organizational setup by delivering consistent information on Group level and for material legal entities as well as breakdowns by risk types, business division and material business units.

The following principles guide Deutsche Bank's "risk measurement and reporting" practices:

- Deutsche Bank monitors risks taken against risk appetite and risk-reward considerations on various levels across the Group, e.g. Group, business divisions, material business units, material legal entities, risk types, material asset classes, portfolio and counterparty levels
- Risk reporting is required to be accurate, clear, useful and complete and must convey reconciled and validated risk data to communicate information in a concise manner to ensure, across material Financial and Non-Financial Risks, the bank's risk profile is clearly understood
- Senior risk committees, such as the Enterprise Risk Committee and the Group Risk Committee, as well as the Management Board who are responsible for risk and capital management receive regular reporting (as well as ad-hoc reporting as required)
- Dedicated teams within Deutsche Bank proactively manage material Financial and Non-Financial Risks and must ensure that required management information is in place to enable proactive identification and management of risks and avoid undue concentrations within a specific Risk Type and across risks (Cross-Risk view)

In applying the previously mentioned principles, Deutsche Bank maintains a common basis for all risk reports and aims to minimize segregated reporting efforts to allow Deutsche Bank to provide consistent information, which only differs by granularity and audience focus.

Key risk metrics

The Bank identifies a large number of metrics within its risk measurement systems which support regulatory reporting and external disclosures, as well as internal management reporting across risks and for material risk types. Deutsche Bank designates a subset of those as “Key Risk Metrics” that represent the most critical ones for which the Bank places an appetite, limit, threshold or target at Group level and / or are reported routinely to senior management for discussion or decision making. The identified Key Risk Metrics include Capital Adequacy and Liquidity metrics; further details can be found in the section “Key risk metrics”.

Key risk reports

While a large number of reports are used across the Bank, Deutsche Bank designates a subset of these as “Key Risk Reports” that are critical to support Deutsche Bank’s Risk Management Framework through the provision of risk information to senior management and therefore enable the relevant governing bodies to monitor, steer and control the Bank’s risk taking activities effectively. To ensure that Key Risk Reports meet recipients’ requirements, report producing functions regularly check whether the Key Risk Reports are clear and useful.

The main reports on risk and capital management that are used to provide Deutsche Bank’s central governance bodies with information relating to the Group risk profile are the following:

- The monthly Risk and Capital Profile report is a Cross-Risk report, provides a comprehensive view of Deutsche Bank’s risk profile and is used to inform the ERC, the Group Risk Committee as well as the Management Board and subsequently the Risk Committee of the Supervisory Board; the Risk and Capital Profile includes Risk Type specific and Business-Aligned overviews and Enterprise-wide risk topics; it also includes updates on Key Group Risk Appetite Metrics and other Key Portfolio Risk Type Control Metrics as well as updates on Key Risk Developments, highlighting areas of particular interest with updates on corresponding risk management strategies
- The Weekly Risk Report is a weekly briefing covering high-level topical issues across key risk areas and is submitted every Friday to the Members of the Enterprise Risk Committee, the Group Risk Committee and the Management Board and subsequently to the Members of the Risk Committee of the Supervisory Board; the Weekly Risk Report is characterized by the ad-hoc nature of its commentary as well as coverage of themes and focuses on more volatile risk metrics
- Deutsche Bank runs several Group-wide macroeconomic stress tests. A monthly Risk Appetite scenario serves the purpose to set and regularly monitor the bank’s stress loss appetite; in addition, there are topical scenarios which are reported to and discussed in the Enterprise Risk Committee and escalated to the Group Risk Committee if deemed necessary; the stressed key performance indicators are benchmarked against the Group Risk Appetite thresholds

While the above reports are used at a Group level to monitor and review the risk profile of Deutsche Bank holistically, there are other, supplementing standard and ad-hoc management reports, including for Risk Types or Focus Portfolios, which are used to monitor and control the risk profile.

Recovery and resolution planning

In the EU, the Single Resolution Mechanism Regulation (SRM Regulation) and the Bank Recovery and Resolution Directive (BRRD) aim at reducing the likelihood of another financial crisis, enhance the resilience of institutions under stress, and eventually support the long-term stability of the financial systems without exposing taxpayers' money to losses.

In line with the provisions of the SRM Regulation and the BRRD (which were mainly implemented in Germany by the German Recovery and Resolution Act (Sanierungs- und Abwicklungsgegesetz, SAG)), Deutsche Bank maintains a recovery and resolution planning framework designed to identify and manage the impact of adverse events in a timely and coordinated manner.

The bank maintains a Group recovery plan specifying measures to restore the financial position following a significant deterioration of its financial situation. The Group recovery plan is updated at least annually and approved by the Management Board.

The Group resolution plan on the other hand is prepared by the resolution authorities, rather than by the bank itself. Deutsche Bank works closely with the Single Resolution Board and the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) who establish the Group resolution plan for Deutsche Bank, which is currently based on a single point of entry bail-in as the preferred resolution strategy. Under the single point of entry bail-in strategy, the parent entity Deutsche Bank AG would be recapitalized through a write-down and/or conversion to equity of capital instruments (Common Equity Tier 1, Additional Tier 1, Tier 2) and other eligible liabilities in order to stabilize the Group. Within one month after the application of the bail-in tool to recapitalize an institution, the BRRD (as implemented in the SAG) requires such institution to prepare a business reorganization plan, addressing the causes of failure and aiming to restore the institution's long-term viability. To further support and improve operational continuity of the bank for resolution planning purposes, Deutsche Bank has completed additional preparations, such as adding termination stay clauses into client financial agreements governed by non-EU law and including continuity provisions into key service agreements. Financial contracts and service agreements governed by EU law are already covered by statutory laws which prevent termination solely due to any resolution measure.

The BRRD requires banks in EU member states to maintain minimum requirements for own funds and eligible liabilities to make resolution credible by establishing sufficient loss absorption and recapitalization capacity. Apart from MREL-requirements, Deutsche Bank, as a global systemically important bank, is subject to global minimum standards for Total Loss-Absorbing Capacity, which set out strict requirements for the amount and eligibility of instruments to be maintained for bail-in purposes. In particular, TLAC instruments must be subordinated (including so-called senior non-preferred debt, but also in the form of regulatory capital instruments) to other senior liabilities. This ensures that a bail-in would be applied first to equity and TLAC instruments, which must be exhausted before a bail-in may affect other senior (preferred) liabilities such as senior preferred plain vanilla bonds, debt instruments that are structured, deposits and derivatives.

In the United States, Deutsche Bank AG is required under Title I of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the Dodd-Frank Act), as amended, to prepare and submit to the Federal Reserve Board and the Federal Deposit Insurance Corporation (FDIC) either a full or targeted resolution plan (the U.S. Resolution Plan) on a timeline prescribed by such agencies. The U.S. Resolution Plan must demonstrate that the Deutsche Bank AG has the ability to execute and implement a strategy for the orderly resolution of its designated U.S. material entities and operations. For foreign-based companies subject to these resolution planning requirements such as Deutsche Bank AG, the U.S. Resolution Plan relates only to subsidiaries, branches, agencies and businesses that are domiciled in or whose activities are carried out in whole or in material part in the United States. Deutsche Bank's U.S. Resolution Plan describes the single point of entry strategy for Deutsche Bank's U.S. material entities and operations and prescribes that DB USA Corporation, one of the bank's intermediate holding companies, would provide liquidity and capital support to its U.S. material entity subsidiaries and ensure their solvent wind-down outside of applicable resolution proceedings.

Deutsche Bank filed its first 'targeted' U.S. Resolution Plan on December 17, 2021, which described the core elements of Deutsche Bank's U.S. resolution strategy, such as capital, liquidity, and recapitalization strategies, as well as how Deutsche Bank has integrated lessons learned from its response to the COVID-19 pandemic into its resolution planning process. On December 16, 2022, the Federal Reserve Board and the FDIC (Agencies) announced the results of their review of Deutsche Bank's 2021 U.S. Resolution Plan, as well as those of other banks, and did not find any shortcomings or deficiencies in Deutsche Bank's plan. In their feedback letter to Deutsche Bank, the agencies noted areas where further progress will help improve resolvability. Proposed guidance was also issued in August 2023 by the Agencies which will amend resolution planning requirements for certain foreign filers, including Deutsche Bank. Deutsche Bank's next full resolution plan submission is due to be filed by March 31, 2025.

Risk and Capital Management

Capital management

Deutsche Bank's Treasury function manages solvency, capital adequacy, leverage, and bail-in capacity ratios at Group level and locally in each region, as applicable. Treasury implements Deutsche Bank's capital strategy, which itself is developed by the Group Risk Committee and approved by the Management Board. Treasury, directly or through the Group Asset and Liability Committee, manages, among other things, issuance and repurchase of shares and capital instruments, hedging of capital ratios against foreign exchange swings, setting capacities for key financial resources, the design of shareholders' equity allocation, and regional capital planning. The bank is fully committed to maintaining Deutsche Bank's sound capitalization both from an economic and regulatory perspective considering both book equity based on IFRS accounting standards, regulatory and economic capital as well as specific capital requirements from rating agencies. The bank continuously monitors and adjusts Deutsche Bank's overall capital demand and supply to always achieve an appropriate balance.

Treasury manages the issuance and repurchase of capital instruments, namely Common Equity Tier 1, Additional Tier 1 and Tier 2 capital instruments as well as TLAC/MREL eligible debt instruments. Treasury constantly monitors the market for liability management trades. Such trades represent a countercyclical opportunity to create Common Equity Tier 1 capital by buying back Deutsche Bank's issuances below par.

Treasury manages the sensitivity of Deutsche Bank's CET 1 ratio and capital towards swings in foreign currency exchange rates against the euro. For this purpose, Treasury develops and executes suitable hedging strategies within the constraints of a Management Board approved Risk Appetite. Capital invested into Deutsche Bank's foreign subsidiaries and branches is either not hedged, partially hedged or fully hedged. Thereby, Treasury aims to balance effects from foreign exchange rate movements on capital, capital deduction items and risk weighted assets in foreign currency. In addition, Treasury also accounts for associated hedge cost and implications on market risk weighted assets.

Resource limit setting

Usage of key financial resources is influenced through the following governance processes and incentives.

Target resource capacities are reviewed in Deutsche Bank's annual strategic plan in line with Deutsche Bank's CET 1 and Leverage Ratio ambitions. As a part of Deutsche Bank's quarterly process, the Group Asset and Liability Committee approves divisional resource limits for total capital demand (defined as the sum of RWA and certain RWA equivalents of Capital Deduction Items and certain RWA equivalents of Capital Buffer Requirements items) and leverage exposure that are based on the strategic plan but adjusted for market conditions and the short-term outlook. Limits are enforced through a close monitoring process and an excess charging mechanism.

Overall regulatory capital requirements are principally driven by either Deutsche Bank's CET 1 ratio (solvency) or leverage ratio (leverage) requirements, whichever is the more binding constraint. For the internal capital allocation, the combined contribution of each segment to the Group's Common Equity Tier 1 ratio, the Group's Leverage ratio and the Group's Capital Loss under Stress are weighted to reflect their relative importance and level of constraint to the Group. Contributions to the Common Equity Tier 1 ratio and the Leverage ratio are measured through RWA and Leverage Ratio Exposure (LRE). The Group's Capital Loss under Stress is a measure of the Group's overall economic risk exposure under a defined stress scenario. Goodwill, other intangible assets, and business-related regulatory capital deduction items included in total capital demand are directly allocated to the respective segments, supporting the calculation of the allocated tangible shareholders equity and the respective rate of return.

Most of Deutsche Bank's subsidiaries and several of Deutsche Bank's branches are subject to legal and regulatory capital requirements. In developing, implementing, and testing Deutsche Bank's capital and liquidity position, the bank fully takes such legal and regulatory requirements into account. Any material capital requests of Deutsche Bank's branches and subsidiaries across the globe are presented to and approved by the Group Investment Committee prior to execution.

Further, Treasury is a member of Deutsche Bank's Pensions Committee and represented in relevant Investment Committees overseeing the management of the assets of the largest Deutsche Bank pension funds in Germany. These investment committees set the investment strategy for these funds in line with the bank's investment objective to protect the capital base and distribution capacity of the bank.

Risk identification and assessment

Risks to Deutsche Bank's businesses and infrastructure functions, including under stressed conditions, are regularly identified. This assessment incorporates input from both first and second line of defense, with the identified risks assessed for materiality based on their severity and likelihood of materialization. The assessment of risks is complemented by a view on emerging risks applying a forward-looking perspective. This risk identification and assessment process results in the risk inventory which captures the material risks for the Group, and where relevant, across businesses, entities and branches.

Regular updates to the Group risk inventory are reported to the Enterprise Risk Committee for review and approval. The inventory is also discussed in the Group Risk Committee and reported to the Management Board. The inventory informs key risk management processes, including the development of stress scenarios tailored to Deutsche Bank's risk profile and informing risk appetite setting and monitoring. Risks in the inventory are also mapped to risks in the Group risk type taxonomy, where a corresponding materiality assessment is also provided.

Credit Risk Management and Asset Quality

Credit risk framework

Credit risk arises from all transactions where actual, contingent or potential claims against any counterparty, borrower, obligor or issuer (which Deutsche Bank refers to collectively as "counterparties") exist, including those claims that Deutsche Bank plans to distribute. It captures the risk of loss because of a deterioration of a counterparty's creditworthiness or the failure of a counterparty to meet the terms of any contract with Deutsche Bank or otherwise perform as agreed.

Based on the Risk Type Taxonomy, credit risk is grouped into four material categories, namely default/migration risk, transaction/settlement risk (exposure risk), mitigation risk and credit concentration risk. This is complemented by a regular risk identification and materiality assessment.

- Default/migration risk as the main element of credit risk, is the risk that a counterparty defaults on its payment obligations or experiences material credit quality deterioration increasing the likelihood of a default
- Transaction/settlement risk is the risk that arises from any existing, contingent or potential future positive exposure
- Mitigation risk is the risk of higher losses due to risk mitigation measures not performing as anticipated
- Credit concentration risk is the risk of an adverse development in a specific single counterparty, country, industry or product leading to a disproportionate deterioration in the risk profile of Deutsche Bank's credit exposures to that counterparty, country, industry or product

Deutsche Bank manages its credit risk using the following philosophy and principles:

- Credit Risk is only accepted:
 - for adopted clients
 - after completed appropriate due diligence led by the respective origination teams as 1st LoD
 - New products and changes to existing products have to be assessed within DB Group's new product approval (NPA) framework
 - If a Rating has been assigned in line with agreed and approved processes
 - If all credit relevant exposures are correctly reflected in the relevant risk systems
 - If plans for an orderly termination of the risk positions have been considered
- Credit Risk is assumed within the applicable Risk Appetite limits set for divisions, countries, industries, etc.
- P&L responsibility for credit exposures is owned by the originating Group Division
- Risk taken needs to be adequately compensated
- Risk must be continuously monitored and managed across 1st and 2nd LoD
- Credit standards are applied consistently across all Group Divisions in order to maintain a favorable risk profile in line with the Risk Appetite
- Collateral or other risk mitigating, hedging or rating transfer instruments, which can be an alternative source of repayment do not substitute for underwriting standards and a thorough assessment of the debt service ability of a counterparty has to be performed during the credit process; essentially rating transfer instruments are supporting documents (e.g., comfort letters or parental guarantees) helping the debtor to prevent a default; consequently, this effect can be considered in the Probability of Default
- Deutsche Bank strives to adequately secure, guarantee or hedge outright cash risk and longer tenor-exposures; this approach does usually not include lower risk short-term transactions and facilities supporting specific trade finance or other lower risk products where the margin allows for adequate loss coverage

- Deutsche Bank measures and consolidates globally all exposure and facilities to the same Obligor; a Key Contact Person (KCP) within a Credit Team is assigned to each group of connected clients (Obligor) to globally co-ordinate the Credit Risk process for the respective obligor
- Deutsche Bank has established within Credit Risk Management – where appropriate – specialized teams for deriving internal client ratings, analyzing and approving transactions or covering workout clients; for transaction approval purposes, structured credit risk management teams are aligned to the respective products or specific risks to ascertain adequate product expertise
- Where required, Deutsche Bank has established processes to manage credit exposures at a legal entity or regional level
- To meet the requirements of Article 190 CRR, Deutsche Bank has allocated the various control requirements for the credit processes to 2nd LoD units best suited to perform such controls

Measuring Credit Risk

Credit risk is measured by credit rating, regulatory and internal capital demand and other key components like credit limits as mentioned below.

The credit rating is an essential part of the bank's underwriting and credit process and provides – amongst others – a cornerstone for risk appetite determination on an individual counterparty level, credit decision and transaction pricing as well as the determination of regulatory capital demand for credit risk. Each counterparty must be rated, and each rating has to be reviewed at least annually supported by ongoing monitoring of counterparties. A credit rating is a prerequisite for any credit limit established/ approved. For each credit rating, the appropriate rating approach has to be applied and the derived credit rating has to be established in the relevant systems. Specific rating approaches have been established to best reflect the respective characteristics of exposure classes, including specific product types, central governments and central banks, institutions, corporates and retail.

Counterparties in the bank's non-retail portfolios are rated by Deutsche Bank's independent Credit Risk Management function partly using automated Rating systems. Given the largely homogeneous nature of the retail portfolio, counterparty creditworthiness and ratings are predominately derived by utilizing an automated decision engine. Country risk-related ratings are provided by Enterprise Risk Management (ERM) Risk Research.

Deutsche Bank's rating analysis is based on a combination of qualitative and quantitative factors. When rating a counterparty Deutsche Bank applies in-house assessment methodologies, scorecards and the bank's 21-grade rating scale for evaluating the creditworthiness of the bank's counterparties.

Changes to existing credit models and introduction of new models are approved by the Regulatory Credit Risk Model Committee (RCRMC) chaired by the Head of Credit Risk Management before the models are used for credit decisions and capital calculation for the first time or before they are significantly changed. Separately, for all model changes and for new models an approval by Model Risk Management is required. Proposals with high impact are recommended for approval to the Group Risk Committee. Furthermore, regulatory approval may also be required. The model validation is performed independently of model development by Model Risk Management. The results of the regular validation processes as stipulated by internal policies are brought to the attention of the RCRMC, even if the validation results do not lead to a change.

Deutsche Bank measures risk-weighted assets to determine the regulatory capital demand for credit risk using "advanced", "foundation" and "standard" approaches of which "advanced" and "foundation" approaches are approved by the bank's regulator.

The advanced Internal Ratings Based Approach (IRBA) is the most sophisticated approach available under the regulatory framework for credit risk and allows Deutsche Bank to make use of the bank's internal credit rating models as well as internal estimates of specific further risk parameters. These methods and parameters represent long-used key components of the internal risk measurement and management process supporting the credit approval process, the economic capital and expected loss calculation and the internal monitoring and reporting of credit risk. The relevant parameters include the probability of default (PD), the loss given default (LGD) and the maturity (M) driving the regulatory risk-weight and the credit conversion factor (CCF) as part of the regulatory exposure at default (EAD) estimation. For the majority of derivative counterparty exposures as well as securities financing transactions (SFT), Deutsche Bank makes use of the internal model method (IMM) in accordance with CRR to calculate EAD. For most of the bank's internal rating systems more than seven years of historical information is available to assess these parameters. Deutsche Bank's internal rating methodologies aim at point-in-time rather than a through-the-cycle rating, but in line with regulatory solvency requirements, they are calibrated based on long-term averages of observed default rates.

The foundation IRBA is an approach available under the regulatory framework for credit risk allowing institutions to make use of their internal rating methodologies while using pre-defined regulatory values for all other risk parameters. Parameters subject to internal estimates include the PD while the LGD and the CCF are defined in the regulatory framework. Foundation IRBA remains in place for some exposures stemming from ex-Postbank.

Deutsche Bank applies the standardized approach to a subset of its credit risk exposures. The standardized approach measures credit risk either pursuant to fixed risk weights, which are predefined by the regulator, or through the application of external ratings. Deutsche Bank assigns certain credit exposures permanently to the standardized approach in accordance with Article 150 CRR. These are predominantly exposures to the Federal Republic of Germany and other German public sector entities as well as exposures to central governments of other European Member States that meet the required conditions. These exposures make up the majority of the exposures carried in the standardized approach and receive predominantly a risk weight of zero percent. For internal purposes, however, these exposures are subject to an internal credit assessment and fully integrated in the risk management and economic capital processes.

In addition to the above-described regulatory capital demand, Deutsche Bank determines the internal capital demand for credit risk via an economic capital model.

Deutsche Bank calculates economic capital for the default risk, country risk and settlement risk as elements of credit risk. In line with the bank's economic capital framework, economic capital for credit risk is set at a level to absorb with a probability of 99.9% very severe aggregate unexpected losses within one year. Deutsche Bank's economic capital for credit risk is derived from the loss distribution of a portfolio via Monte Carlo Simulation of correlated rating migrations. The loss distribution is modeled in two steps. First, individual credit exposures are specified based on parameters for the probability of default, exposure at default and loss given default. In a second step, the probability of joint defaults is modeled through the introduction of economic factors, which correspond to geographic regions and industries. The simulation of portfolio losses is then performed by an internally developed model, which takes rating migration and maturity effects into account. Effects due to wrong-way derivatives risk (i.e., the credit exposure of a derivative in the default case is higher than in non-default scenarios) are modeled by applying the bank's own alpha factor when deriving the exposure at default for derivatives and securities financing transactions under the CRR. Deutsche Bank allocates expected losses and economic capital derived from loss distributions down to transaction level to enable management on transaction, customer and business level.

Besides the credit rating, as a key component for managing the bank's credit portfolio, including individual transaction approval and the setting of risk appetite, Deutsche Bank establishes credit limits for all credit exposures. Credit limits set forth maximum credit exposures Deutsche Bank is willing to assume over specified periods. In determining the credit limit for a counterparty, Deutsche Bank considers the counterparty's credit quality above others by reference to its internal credit rating. Credit limits and credit exposures are both measured on a gross and net basis where net is derived by deducting appropriate hedges and certain collateral from respective gross figures. For derivatives, Deutsche Bank looks at current market values and the potential future exposure over the relevant time horizon, which is based upon the bank's legal agreements with the counterparty.

IFRS 9 Impairment

In the following chapter, the Group provides an overview of the IFRS 9 impairment framework and how it is embedded into Deutsche Bank's credit risk management activities. The disclosure provides a description of the Group's IFRS 9 model and methodology, changes implemented in 2023 as well as key model assumptions. This chapter also highlights novel risks in focus in 2023 and how Deutsche Bank assessed impact of these latest developments on its ECL calculations, and in particular, how the model properly takes into account the impacts of the uncertainties noted in 2023 and at year end, along with the impact from reasonable changes in the Group's key model assumptions.

These credit risk management activities and assessments are embedded in the bank's overall control and governance framework for credit risk which includes the estimation of expected credit losses under IFRS 9 and the governance around the models used. These activities include, but are not limited to, regular emerging risk reviews as well as portfolio deep dives, day to day risk management on the level of individual borrowers, as well as regular model validations. Further explanations are provided regarding management overlays applied to the credit loss allowance, how reviews of relevant assumptions and inputs to the ECL calculation are performed and how as part of the model reviews, potential model imprecision and whether any overlays were necessary, are assessed. The Group also presents background on management overlays recorded at the end of 2022, throughout 2023 and at the end of 2023. To provide additional transparency on the impact of reasonable changes to the key assumptions, model sensitivities are presented in a separate section which concludes with the key drivers for the IFRS 9 model results.

Description of IFRS 9 Model and Methodology

The impairment requirements of IFRS 9 apply to all credit exposures that are measured at amortized cost or fair value through other comprehensive income and to off balance sheet lending commitments, such as loan commitments and financial guarantees. For purposes of the bank's impairment approach, the Group refers to these instruments as financial assets.

The Group determines its allowance for credit losses in accordance with IFRS 9 as follows:

- Stage 1 reflects financial assets where it is assumed that credit risk has not increased significantly after initial recognition
- Stage 2 contains all financial assets, that are not defaulted, but have experienced a significant increase in credit risk since initial recognition
- Stage 3 consists of financial assets which deemed to be in default in accordance with Deutsche Bank's policies, which are based on the Capital Requirements Regulation (CRR) Article 178. The Group defines these financial assets as impaired, non-performing and defaulted
- Significant increase in credit risk is determined using quantitative and qualitative information based on the Group's historical experience, credit risk assessment and forward-looking information
- Purchased or Originated Credit-Impaired (POCI) financial assets are assets where at the time of initial recognition, there is objective evidence of impairment and the Group purchased at a discount.

The IFRS 9 impairment approach is an integral part of the Group's credit risk management procedures. The estimation of expected credit loss (ECL) is either performed via the automated, parameter based ECL calculation using the Group's ECL model or determined by credit officers. In both cases, the calculation takes place for each financial asset individually. Similarly, the determination of the need to transfer between stages is made on an individual asset basis. The Group's ECL model is used to calculate the allowance for credit losses for all financial assets in Stage 1 and Stage 2, as well as for Stage 3 in the homogeneous portfolio (i.e., retail and small business loans with similar credit risk characteristics). For financial assets in the bank's non-homogeneous portfolio in Stage 3 and for POCI assets, the allowance for credit losses is determined individually by credit officers.

The Group uses three main components to measure ECL. These are Probability of Default (PD), Loss Given Default (LGD) and Exposure at Default (EAD). The Group leverages existing parameters used for determination of capital demand under the Basel Internal Ratings Based Approach (IRBA) and internal risk management practices as much as possible to calculate ECL. These parameters are adjusted where necessary to comply with IFRS 9 requirements (e.g., use of point in time ratings and removal of downturn add-ons in the regulatory parameters). Incorporating forecasts of future economic variables into the measurement of ECL influences the allowance for credit losses. In order to calculate lifetime ECL, the Group's calculation derives the corresponding lifetime PDs from migration matrices that reflect economic forecasts.

In July 2023, the Group completed the migration of Postbank clients into the IT systems of Deutsche Bank, which resulted in a Group-wide alignment of the IFRS 9 impairment model and methodologies, while specific models previously applied for Postbank were decommissioned. This change in estimate resulted in an immaterial net increase in the Group's allowance for credit losses.

In September 2023, the Group received approval from authorities to align the Probability of Default (PD) model for large corporates and leveraged lending with regulatory requirements. The model is used for the determination of capital demand under the Basel Internal Ratings Based Approach, for internal risk management practices and is leveraged for IFRS 9 ECL purposes. The related change in estimate reduced the Group's ECL as of September 30, 2023, by € 101 million.

Stage Determination and Significant Increase in Credit Risk

At initial recognition, financial assets are reflected in Stage 1, unless the financial assets are POCI. If there is a significant increase in credit risk, the financial asset is transferred to Stage 2. A significant increase in credit risk is determined by using rating-related and process-related indicators. The transfer of financial assets to Stage 3 is based on the status of the borrower being in default. If a borrower is in default, all financial assets of the borrower are transferred to Stage 3.

Rating-related Stage 2 indicators: The Group compares a borrower's lifetime PD at the reporting date with lifetime PD expectations at the date of initial recognition to determine if there has been a significant change in the borrower's PDs and consequently to any of the borrower's transaction in the scope of IFRS 9 impairment. Based on historically observed migration behavior and a sampling of different economic scenarios, a lifetime PD distribution is obtained. A quantile of this distribution, which is defined for each counterparty class, is chosen as the lifetime PD threshold. If the remaining lifetime PD of a transaction according to current expectations exceeds this threshold, the financial asset is deemed to have incurred a significant increase in credit risk and is transferred to Stage 2. The quantiles used to define Stage 2 thresholds are determined using expert judgment, are reviewed annually and have not changed since implementation of IFRS 9. The thresholds applied vary depending on the original credit quality of the borrower, elapsed lifetime, remaining lifetime and counterparty class. Management believes that the defined approach and quantiles represent a meaningful indicator that a financial asset has incurred a significant increase in credit risk.

Process-related Stage 2 indicators are derived via the use of existing risk management indicators, which in the bank's view represent situations where the credit risk of financial assets has significantly increased. These include borrowers being added to the Group's watchlist, being transferred to workout status, payments being 30 days or more past due or being in forbearance. As long as the condition for one or more of the process-related or rating-related indicators is fulfilled and the borrower of the financial asset has not met the definition of default, the asset will remain in Stage 2. If the Stage 2 indicators are no longer fulfilled and the financial asset has not defaulted, the financial asset transfers back to Stage 1. In case of performing forborne financial assets, the probation period is 2 years before the financial asset is reclassified to Stage 1, which is aligned with regulatory guidance.

If the borrower defaults, all transactions of the borrower are allocated to Stage 3. If, at a later date, the borrower is no longer in default, the curing criteria according to regulatory guidance is applied (including probation periods), which are at least 3 months or 1 year in case of distressed restructurings. Once the regulatory cure period or criteria has been met, the borrower will cease to be classified as defaulted and will be transferred back to Stage 2 or Stage 1.

The ECL calculation for Stage 3 distinguishes between transactions in the homogeneous and non-homogenous portfolios, as well as POCI financial assets. For transactions that are in Stage 3 and in a homogeneous portfolio, the Group uses a parameter-based automated approach to determine the credit loss allowance per transaction. For these transactions, the LGD parameters are to a large extent modelled to be time-dependent, i.e., consider the declining recovery expectation as time elapses after default. The allowance for credit losses for financial assets in the bank's non-homogeneous portfolios in Stage 3, as well as for POCI assets are determined by credit officers and have to be approved along an established authority grid up to and including the Management Board. This allows credit officers to consider currently available information and recovery expectations specific to the borrowers and the financial assets at the reporting date.

Estimation Techniques for Key Input Factors

The first key input factor in the Group ECL calculation is the one-year PD for borrowers which is derived from the bank's internal rating systems. The Group assigns a PD to each borrower credit exposure based on a 21-grade master rating scale for all of the Group's exposure.

The borrower ratings assigned are derived based on internally developed rating models which specify consistent and distinct customer-relevant criteria and assign a rating grade based on a specific set of criteria as given for a certain customer. The set of criteria is generated from information sets relevant for the respective customer segments including general customer behavior, financial and external data (e.g., credit bureau). The methods in use range from statistical scoring models to expert-based models taking into account the relevant available quantitative and qualitative information. Expert-based models are usually applied for borrowers in the exposure classes "Central governments and central banks", "Institutions" and "Corporates" with the exception of those "Corporates" for which a sufficient data basis is available for statistical scoring models. For the latter, as well as for the retail segment, statistical scoring or hybrid models combining both approaches are commonly used. Quantitative rating methodologies are developed based on applicable statistical modelling techniques, such as logistic regression.

One-year PDs are extended to multi-year PD curves using through-the-cycle matrices and macroeconomic forecasts. Based on economic scenarios centered around the macroeconomic baseline forecast, through-the-cycle matrices are first transformed into point-in-time rating migration matrices, typically for a two-year period. The calculation of the point-in-time matrices leverages a link between macroeconomic variables and the default and rating behavior of borrowers, which is derived from historical macroeconomic variables (MEVs) and rating time series through regression techniques. In a final step, multi-year PD curves are derived from point-in-time rating migration matrices for periods where reasonable and supportable forecasts are available and extrapolated based on through-the-cycle rating migration matrices beyond those periods.

The second key input factor into the ECL calculation is the LGD parameter, which is defined as the likely loss intensity in case of a borrower's default. It provides an estimation of the exposure that cannot be recovered in a default event and therefore captures the severity of a loss. Conceptually, LGD estimates are independent of a borrower's probability of default. The LGD models applied in Stages 1 and 2, which are based on regulatory LGD models, but adjusted for IFRS 9 requirements (i.e., removal of downturn-add-on and removal of indirect costs of workout), ensure that the main drivers for losses (i.e., different levels and quality of collateralization and customer or product types or seniority of facility) are reflected as risk drivers in LGD estimates. In the bank's LGD models, the Group assigns collateral type specific LGD parameters to the collateralized exposure (collateral value after application of haircuts). The LGD setting for defaulted homogeneous portfolios are partially dependent on time after default and are either calibrated based on the Group's multi-decade loss and recovery experience using statistical methods or for less significant portfolios certain LGD model input parameters (e.g., cure rates) are determined by expert judgement.

The third key input factor is the exposure at default over the lifetime of a financial asset which is modelled taking into account expected repayment profiles (e.g., linear amortization, annuities, bullet loan structures). Prepayment options are modelled for some portfolios. The bank applies specific credit conversion factors (CCFs) in order to calculate an EAD value. Conceptually, the EAD is defined as the expected amount of the credit exposure to a borrower at the time of its default. In instances where a transaction involves an unused limit, a percentage share of this unused limit is added to the outstanding amount in order to appropriately reflect the expected outstanding amount in case of a borrower's default. This reflects the assumption that for commitments, the utilization at the time of default might be higher than the current outstanding balance. In case a transaction involves an additional contingent component (i.e., guarantees) a further percentage share is applied as part of the CCF model in order to estimate the amount of guarantees drawn in case of default. The calibrations of such parameters are based on internal historical data and are either based on empirical analysis or supported by expert judgement and consider borrower and product type specifics. Where supervisory CCF values need to be applied for regulatory purposes, internal estimates are used for IFRS 9.

Expected Lifetime

IFRS 9 requires the determination of lifetime ECL for which the expected lifetime of a financial asset is a key input factor. Lifetime ECL represent default events over the expected life of a financial asset. The Group measures ECL considering the risk of default over the maximum contractual period (including any borrower's extension options) over which the Group is exposed to credit risk.

Retail overdrafts, credit card facilities and certain corporate revolving facilities typically include both a loan and an undrawn commitment component. The expected lifetime of such on-demand facilities exceeds their contractual life as they are typically cancelled only when the Group becomes aware of an increase in credit risk. The expected lifetime is estimated by taking into consideration historical information and the Group's credit risk management actions such as credit limit reductions and facility cancellation. Where such facilities are subject to an individual review by credit risk management, the lifetime for calculating ECL is 12 months. For facilities not subject to individual review by credit risk management, the bank applies a lifetime for calculating ECL of 24 months.

Interest Rate used in the IFRS 9 model

In the context of the ECL calculation, the Group applies in line with IFRS 9 an approximation of the effective interest rate (EIR), which is usually the contractual interest rate. The contractual interest rate is deemed to be an appropriate approximation, as the interest rate is consistently used in the ECL model, interest recognition and for discounting of the ECL and does not materially differ from the EIR.

Consideration of Collateralization in IFRS 9 Expected Credit Loss Calculation

The ECL model projects the level of collateralization for each point in time in the life of a financial asset. At the reporting date, the model uses the existing collateral distribution process applied in Deutsche Bank's economic capital model. In this model, the liquidation value of each eligible collateral is allocated to relevant financial assets to distinguish between collateralized and uncollateralized parts of each financial asset. In the ECL calculation, the Group subsequently applies the aforementioned LGDs for secured and unsecured exposures to derive the ECL for the secured and unsecured part of the exposure separately.

For personal collateral (e.g., guarantees), the ECL model assumes that the relative level of collateralization remains stable over time. In the case of an amortizing loan, the outstanding exposure and collateral values decrease together over time. For physical collateral (e.g., real estate property), the ECL shall assume that the absolute collateral value remains constant. In case of an amortizing loan, the collateralized part of the exposure increases over time and the loan-to-value decreases accordingly.

Certain financial guarantee contracts are integral to the financial assets guaranteed. In such cases, the financial guarantee is considered as collateral for the financial asset and the benefit of the guarantee is used to mitigate the ECL of the guaranteed financial asset.

Forward Looking Information

Under IFRS 9, the allowance for credit losses is based on reasonable and supportable forward-looking information available without undue cost or effort, which takes into consideration past events, current conditions and forecasts of future economic conditions.

To incorporate forward looking information into the Group's allowance for credit losses, the bank uses two key elements:

- As its base scenario, the Group uses external survey-based macroeconomic forecasts (e.g. consensus views on GDP and unemployment rates); in addition, the scenario expansion model, which has been initially developed for stress testing, is used for forecasting macroeconomic variables that are not covered by external consensus data; all forecasts are assumed to reflect the most likely development of the respective variables; the Group regularly updates its forecasts for macroeconomic factors during the quarter and reviews aspects of potential model imprecision (e.g., MEV parameters outside the historic range used for model calibration, if not already included in the model) as part of an MEV monitoring framework to assess if an overlay is required.
- Statistical techniques are then applied to transform the base scenario projections into a probability distribution of the macroeconomic variables; these scenarios specify deviations from the baseline forecasts; the scenario distribution is then used for deriving multi-year PD curves for different rating and counterparty classes, which are applied in the ECL calculation and in the identification of significant deterioration in credit quality of financial assets as described above in the rating-related Stage 2 indicators

The Group's Risk and Finance Credit Loss Provision Forum monitors the impact of forward-looking information, including the latest macroeconomic variables, on a quarterly basis and determines if any additional overlays are required. Although interest rates and inflation are not separately included in the MEVs, the economic impact of these risks is reflected in GDP growth rates, unemployment, equities and credit spreads as higher rates and inflation filter through these forecasts. As of December 31, 2023, the consensus data applied in the ECL model was deemed to have reflected the latest macroeconomic developments and after considering all relevant uncertainties in the MEVs no additional overlays were required.

As described earlier, the Group's approach to reflect macroeconomic variables in the calculation of ECLs is to incorporate forecasts for the next two years, using eight discrete quarterly observations. After the period of eight quarters, the Group constructs forecasts based on macro-economic variables and its historic trends.

The tables below contain the macroeconomic variables included in the application of forward-looking information in the IFRS 9 model as of December 31, 2023, and as of December 31, 2022.

Forward-looking information applied

	December 31, 2023 ^{1 2}	
	Year 1 (4 quarter avg)	Year 2 (4 quarter avg)
Commodity - Gold	1,957.34	1,958.16
Commodity - WTI	82.52	83.56
Credit - CDX Emerging Markets	195.16	192.83
Credit - CDX High Yield	451.57	466.40
Credit - CDX IG	70.04	72.12
Credit - High Yield Index	4.05	4.19
Credit - ITX Europe 125	73.09	72.21
Equity - MSCI Asia	1,293	1,297
Equity - Nikkei	33,188	34,051
Equity - S&P500	4,514	4,621
GDP - Developing Asia	4.94%	4.37%
GDP - Emerging Markets	4.08%	4.01%
GDP - Eurozone	0.13%	1.08%
GDP - Germany	0.12%	1.30%
GDP - Italy	0.33%	1.03%
GDP - USA	1.75%	1.31%
Real Estate Prices - US CRE Index	353.41	347.99
Unemployment - Eurozone	6.67%	6.64%
Unemployment - Germany	3.12%	3.13%
Unemployment - Italy	7.75%	7.68%
Unemployment - Japan	2.58%	2.42%
Unemployment - Spain	11.96%	11.67%
Unemployment - USA	4.19%	4.40%

¹ MEV as of December 6, 2023, which barely changed until December 29, 2023

² Year 1 equals fourth quarter of 2023 to third quarter of 2024, Year 2 equals fourth quarter of 2024 to third quarter of 2025

	December 31, 2022 ^{1 2}	
	Year 1 (4 quarter avg)	Year 2 (4 quarter avg)
Commodity - Gold	1,745.84	1,797.74
Commodity - WTI	90.19	88.79
Credit - CDX Emerging Markets	260.99	239.03
Credit - CDX High Yield	489.77	476.53
Credit - CDX IG	85.33	84.94
Credit - High Yield Index	4.46	4.31
Credit - ITX Europe 125	101.26	96.50
Equity - MSCI Asia	1,178	1,176
Equity - Nikkei	28,427	29,287
Equity - S&P500	3,933	4,011
GDP - Developing Asia	3.95%	4.60%
GDP - Emerging Markets	3.31%	3.94%
GDP - Eurozone	0.87%	0.53%
GDP - Germany	(0.26)%	1.00%
GDP - Italy	0.32%	0.68%
GDP - USA	0.62%	0.61%
Real Estate Prices - US CRE Index	352.41	343.97
Unemployment - Eurozone	7.03%	7.15%
Unemployment - Germany	3.22%	3.33%
Unemployment - Italy	8.24%	8.53%
Unemployment - Japan	2.56%	2.42%
Unemployment - Spain	13.06%	12.98%
Unemployment - USA	4.05%	4.75%

¹ MEV as of December 12, 2022 which have barely changed until December 30, 2022

² Year 1 equals fourth quarter of 2022 to third quarter of 2023, Year 2 equals fourth quarter of 2023 to third quarter of 2024

Focus areas in 2023

Deutsche Bank's macroeconomic environment in 2023 was characterized by the persistently high inflation which drove further monetary tightening, risks of a higher-for-longer interest rate environment and generally tighter financial conditions in the major advanced economies. Towards the end of the year, evidence of waning inflation pressure led to a repricing of market expectations with respect to earlier and more significant central bank rate cuts in 2024 accompanied by an easing of financial conditions. In addition, there were episodes of significant market volatility particularly around selective failures and/or restructurings in the U.S. and European banking sector as well as increasing pressure on the Commercial Real Estate (CRE) market, particularly in the U.S. office sector.

To ensure that Deutsche Bank's ECL model was taking into account the uncertainties in the macroeconomic environment throughout 2023, the Group reviewed emerging risks to assess its potential downside and to manage the bank's credit strategy and risk appetite on an ongoing basis. Overall, Deutsche Bank believes the actions taken as a result of these reviews were designated to ensure the bank was adequately provisioned for its expected credit losses as of December 31, 2023.

Commercial Real Estate

CRE markets continue to face headwinds due to the impacts of higher interest rates, decreasing market liquidity combined with tightened lending conditions, and structural changes in the office sector.

The market stress has been more pronounced in the U.S. where property price indices point to a greater decline of CRE asset values from recent peaks compared to Europe and APAC. Similarly, within the office segment, the market weakness is most evident in the U.S., reflected in subdued leasing activity and higher vacancy rates compared to Europe.

In the current environment, the main risk for the portfolio is refinancing risk. CRE loans often have a significant portion of their principal amount payable at maturity. Under current market conditions, borrowers may have difficulty obtaining a new loan to repay the maturing debt or fulfil conditions to extend the loan. The Group is closely monitoring its CRE portfolio for indications of elevated refinancing risk.

Amidst interest rate hikes commencing in 2022 and real estate market stress increasing, the Group has proactively worked with borrowers to address upcoming maturities to establish terms for loan amendments and extensions (e.g. extensions of terms) which in many cases, are classified as forbearance triggering Stage 2 classification under IFRS, but are not always modifications according under IFRS. However, in certain cases, no agreement can be reached on loan extensions or loan amendments, and the borrower's inability to obtain refinancing leads to a default. This has resulted in higher Stage 3 ECL for 2023 compared to 2022, and there is continued uncertainty with respect to future defaults and the timing of a recovery in the CRE markets.

The CRE portfolio consists of lending arrangements originated across various parts of the Group and client segments. The Group's CRE portfolio under the Group's CRE definition includes exposures reported under the Main Credit Exposure Categories by Industry Sectors for Real Estate Activities NACE but also exposures reported under other NACE classifications including Financial and Insurance Activities.

Within the CRE portfolio, the Group differentiates between recourse and non-recourse financing. Recourse CRE financings typically have a lower inherent risk profile based on recourse to creditworthy entities or individuals, in addition to mortgage collateral. Recourse CRE exposures range from secured recourse lending for business or commercial properties to property companies, Wealth Management clients, as well as other private and corporate clients.

Non-recourse financings rely on sources of repayment that are typically limited to the cash flows generated by the financed property and the ability to refinance such loans may be constrained by the underlying property value and income stream generated by such property at the time of refinancing.

The entire CRE loan portfolio is subject to periodic stress testing under Deutsche Bank's Group Wide Stress Test Framework. In addition, Deutsche Bank uses bespoke portfolio stress testing for certain sub-segments of the CRE loan portfolio to obtain a more comprehensive view of potential downside risks. For the year ending December 31, 2023, the Group performed a bespoke portfolio stress test on a subset of the non-recourse financing portfolio deemed higher risk based on its heightened sensitivity to current CRE market stress factors, including higher interest rates, declining collateral values and elevated refinancing risk due to loan structures with a high proportion of their outstanding principal balance payable at maturity.

As of December 31, 2023, the non-recourse portfolio subject to bespoke portfolio stress testing, also referred to as the higher risk CRE portfolio or the stress-tested CRE portfolio, amounted to € 31.2 billion of the € 38.2 billion non-recourse CRE portfolio, excluding only sub-portfolios with less impacted risk drivers such as data centers and municipal social housing, which benefit from strong underlying demand fundamentals. The reduction in the non-recourse CRE portfolio and stress-tested CRE portfolio since December 31, 2022 was € 0.7 billion and € 1.2 billion, respectively, mainly driven by paydowns and loan sales. The reduction in the non-recourse CRE portfolio in comparison to the stress-tested CRE portfolio was lower, as selective originations continued in the aforementioned lower risk non-recourse CRE sub-portfolios such as data centers and municipal social housing.

The following table provides an overview of the Group's Real Estate Activities and other industry sectors (NACE) contributing to Deutsche Bank's non-recourse and stress-tested CRE portfolio as of December 31, 2023, and December 31, 2022, respectively.

Overview of CRE portfolio

		Dec 31, 2023	Dec 31, 2022
in € m.		Gross Carrying Amount ¹	Allowance for Credit Losses ²
Real Estate Activities ³		49,267	460
thereof: non-recourse		25,073	382
thereof: stress-tested portfolio		21,331	364
Other industry sectors ³ non-recourse		13,119	225
thereof: stress-tested portfolio		9,879	114
Total non-recourse CRE portfolio		38,192	606
thereof: stress-tested portfolio		31,210	478

¹ Loans at amortized cost

² Allowance for credit losses do not include allowance for country risk

³ Industry sector by NACE (Nomenclature des Activités Économiques dans la Communauté Européenne) code

The following table shows the non-recourse CRE portfolio by IFRS 9 stages as well as provision for credit losses recorded as of December 31, 2023, and December 31, 2022.

Non-recourse CRE portfolio

		Dec 31, 2023	Dec 31, 2022
in € m.		Gross Carrying Amount ¹	Gross Carrying Amount ¹
Exposure by stages			
Stage 1		27,325	31,892
Stage 2		7,661	5,233
Stage 3		3,206	1,744
Total		38,192	38,869
Provision for Credit Losses ²		2023	2022
		445	128

¹ Loans at amortized cost

² Provision for Credit Losses do not include country risk provisions

The year-over-year increase in Stage 2 and Stage 3 exposures is reflective of the deterioration in CRE markets leading to increased loans added to the watchlist and forbearance measures as well as increasing defaults.

The following table shows the stress-tested CRE portfolio by IFRS 9 stages, region, property type and average weighted loan to value (LTV) as well as Provision for Credit Loss recorded for the year ended December 31, 2023, and December 31, 2022, respectively.

Stress-tested CRE portfolio

	Dec 31, 2023	Dec 31, 2022
	Gross Carrying Amount ¹	Gross Carrying Amount ¹
in € m.		
Exposure by stages		
Stage 1	21,568	26,199
Stage 2	6,889	5,046
Stage 3	2,753	1,141
Total	31,210	32,386
thereof:		
North America	56%	57%
Western Europe (including Germany)	36% ²	36%
Asia/Pacific	7%	7%
thereof: offices		
North America	42%	41%
Western Europe (including Germany)	23%	22%
Asia/Pacific	17% ³	15%
thereof: residential	2%	3%
thereof: hospitality	14%	12%
thereof: retail	10%	11%
	9%	9%
Weighted average LTV, in %		
Investment Bank	66%	62%
Corporate Bank	53%	53%
Other Business	68%	56%
	2023	2022
Provision for Credit Losses ⁴	388	103
thereof: North America	298	87

¹ Loans at amortized cost

² Germany accounts for ca 7% of the total stress-tested CRE portfolio

³ Office loans in Germany account for 4% of total office loans in the stress-tested CRE portfolio

⁴ Provision for Credit Losses do not include country risk provisions

The average LTV in the U.S. office loan segment was 81% as of December 31, 2023 versus 60% as of December 31, 2022. LTV calculations are based on latest externally appraised values which are additionally subject to regular interim internal adjustments. While the Group is updating CRE collateral values where applicable, such values and their underlying assumptions are subject to a higher degree of fluctuation and uncertainty in the current environment of heightened market volatility and reduced market liquidity. A continuation of the current stressed market conditions could have a further adverse impact on commercial real estate property values and LTV ratios.

Stage classification and provisioning levels are primarily based on the Group's assessment of a borrower's ability to generate recurring cash flows, its ability to obtain refinancing at the loan's maturity, and an assessment of the financed property's collateral value. Deutsche Bank actively monitors these factors for potential signs of deterioration to ensure timely adjustment of the borrower's loan classifications. When a loan is deemed to be impaired, the Group calculates required credit loss provisions using multiple potential scenarios for loan resolution, weighted by their expected probabilities and taking into account information available at that point. Such assessments are inherently subjective with respect to scenario weightings and subject to various assumptions, including future cash flows generated by a property and potential property liquidation proceeds. These assumptions are subject to uncertainties which are exacerbated in the current volatile market environment such that deviating developments to initial assumptions could have a material future impact on calculated provisions. Additional uncertainty exists within the office sector due to the uncertain long-term impact of remote working arrangements on demand for office space.

Given the near-term outlook for interest rates, the Group expects stressed market conditions to continue into 2024 which could result in further deterioration of asset quality and higher credit loss provisions, which is reflected in the communicated guidance on credit loss provisions for 2024.

Since the onset of the CRE market deterioration, the Group aims to assess the downside risk of additional credit losses in its higher risk non-recourse portfolio through a temporary bespoke stress testing focused on stressing property values as main driver of loss severity. Stressed values are derived by applying an observed peak-to-trough market index decline (a commercial property value market index to the appraised values) plus an additional haircut, differentiated by property type and region. Implying a liquidation scenario, the stress analysis assumes a loss to occur on a loan when the stressed property value is less than the outstanding loan balance, i.e., the stress LTV beyond 100%. For the stress analysis performed as of December 31, 2023 the Group applied haircuts ranging from 3%-18% on top of the observed peak-to-trough market index decline for each property type. Driven by further deterioration of market conditions especially in the U.S. office sector, the index decline in the fourth quarter increased further compared to the prior quarter.

Based on the stress test assumptions and utilizing the December 31, 2023 stress-tested CRE portfolio of € 31.2 billion as jump-off point, the stress scenario could result in approximately € 1.1 billion of credit losses over multiple years based on the respective maturity profile. The stress loss is reported gross of allowance, however, it should be noted that it covers a portfolio, where the Group has already a credit loss allowance in place. Nevertheless, the stress loss under a liquidation scenario could exceed the current ECL estimate.

The bespoke stress test has numerous limitations, including but not limited to lack of differentiation based on individual asset performance, specific location or asset desirability, all of which could have a material impact on potential stress losses. Furthermore, calculated stress losses are sensitive to potential further deterioration of peak-to-trough index values and assumptions about incremental haircuts, incremental stress loss can therefore change going forward. Changes in underlying assumptions could lead to a wider range of stress results and hence the Group's bespoke stress approach is one of multiple scenarios.

Based on currently available information, Deutsche Bank believes that the ECL estimate related to the Group's CRE portfolio is within reasonable ranges, requires no additional corrective measure and thus represents the bank's best estimate. However, the Group remains highly selective around new business, focusing on more resilient property types such as industrial or logistics.

Overall Assessment of ECL's

To ensure that Deutsche Bank's ECL model accounted for the uncertainties in the macroeconomic environment throughout 2023, the Group continued to review emerging risks, assessed potential baseline and downside impacts and required actions to manage the bank's credit strategy and risk appetite. The outcome of these reviews concluded that the bank adequately provisioned for its expected credit losses as of December 31, 2023, and December 31, 2022.

Results from the above reviews and development of key portfolio indicators are regularly discussed at the Credit Risk Appetite and Management Forum and Group Risk Committee. Where necessary, actions and measures are taken to mitigate the risks. Client ratings are regularly reviewed to reflect the latest macroeconomic developments and where potentially significant risks are identified clients are moved to the watchlist (Stage 2), forbearance measures may be negotiated, and credit limits and collateralization are reviewed. Overall, the Group believes that based on its day-to-day risk management activities and regular reviews of emerging risks it has adequately provided for its ECL.

However, the section below further considers whether any additional overlays were required as of year end 2023.

Management overlays applied to the IFRS 9 model output

The Group regularly reviews the IFRS 9 methodology and processes, key inputs into the ECL calculation and discusses upcoming model changes, potential model imprecisions or other estimation uncertainties, for example in the macroeconomic environment to determine if any material overlays are required.

In 2023 the € 92 million overlay related to parameter recalibrations required due to the new definition of default has been released (which at first application led to a decrease of Allowance for Credit Losses). This overlay was introduced in 2021, when the Group implemented the new definition of default which is the trigger for Stage 3. The implementation of the new definition of default mainly affected the Private Bank, where the Stage 3 population in homogeneous portfolios increased. As the change in definition does not materially impact the total loss expectation of these portfolios, this change resulted in an overstatement of Stage 3 provisions as related PD and LGD parameters were not updated in the model.

The envisaged PD and LGD recalibrations took place in the second half of 2023 after additional empirical data was available to enable the statistical recalibration and led to the expected parameter updates. The overall net recalibration effect including offsetting impact from the release of the overlay amounted to € 15 million.

For year end 2022, the Group recorded overlays amounting to in total € (92) million (which led to an decrease of Allowance for Credit Losses) versus € 84 million for year end 2023 (which led to an increase of Allowance for Credit Losses), mainly in relation to envisaged ECL model changes planned for implementation in the second quarter of 2024.

In assessing whether the Group requires any additional overlays, it regularly reviews for evolving or emerging risks, especially in the current geopolitical environment. Similar to the measures included above in the Focus areas in 2023, these measures include client surveys and interviews, along with analysis of portfolios across businesses, regions and sectors. In addition, the Group regularly reviews and validates key model inputs and assumptions (including those in feeder models) and ensures where expert judgement is applied, it is in line with the Group's risk management framework. As of December 31, 2023, the Group did not identify any model weaknesses that would require an additional overlay, except for the ECL model related changes, for which overlays have been recorded.

Model Sensitivity

The Group has identified three key model assumptions included in the IFRS 9 model. These include forward looking macroeconomic variables, the quantitative criteria for determining if a borrower has incurred a significant increase in credit risk and transferred to Stage 2, and the LGD setting on homogenous portfolios in Stage 3. Below the bank provides sensitivity analysis on the potential impact if these key assumptions applied in the ECL model were to deviate from the bank's base case expectations.

Macroeconomic Variables

The sensitivity of the ECL model with respect to potential changes in projections for key MEVs is shown in the tables below, which provides ECL impacts for Stages 1 and 2 from one sigma downward and upward shifts applied separately to each group of MEV as of December 31, 2023, and December 31, 2022. A sigma shift is a standard deviation used in statistics and probability calculations and is a measure of the dispersion of the values of a random variable. Each of these groups consists of MEVs from the same category:

- GDP growth rates: includes USA, Eurozone, Germany, Italy, Developing Asia, Emerging Markets
- Unemployment rates: includes USA, Eurozone, Germany, Italy, Japan, Spain
- Equities: S&P500, Nikkei, MSCI Asia
- Credit spreads: ITX Europe 125, High Yield Index, CDX IG, CDX High Yield, CDX Emerging Markets
- Real Estate: Commercial Real Estate Price Index
- Commodities: WTI oil price, Gold price

Although interest rates and inflation are not separately included in the MEVs above, the economic impact of these risks is reflected in other macroeconomic variables, such as GDP growth rates, unemployment, equities and credit spreads as higher rates and inflation would filter through these forecasts and be included in the ECL model and sensitivity analysis below.

In addition, the sensitivity analysis only includes the impact of the aggregated MEV group (i.e., potential correlation between different MEV groups or the impact of management overlays is not taken into consideration). ECLs for Stage 3 are not affected and not reflected in the following tables as its calculation is independent of the macroeconomic scenarios.

Sensitivity impact is lower as of December 31, 2023, compared to December 31, 2022, due to portfolio changes and minor improvements of base MEV projections which the analyses were based on.

IFRS 9 – Sensitivities of Forward-Looking Information applied on Stage 1 and Stage 2 – Group Level

	December 31, 2023			
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in € m.	Downward shift	ECL impact in € m.
GDP growth rates	1pp	(80.4)	(1)pp	88.9
Unemployment rates	(0.5)pp	(43.1)	0.5pp	45.9
Real estate prices ²	5%	(5.9)	(5)%	6.2
Equities	10%	(9.0)	(10)%	12.2
Credit spreads	(40)%	(20.5)	40%	22.8
Commodities ¹	10%	(8.5)	(10)%	9.2

¹ Here the sign of the shift applies to oil prices changes. Gold price changes have the opposite sign. 1pp (percentage point), e.g., GDP shifts from 3% to 4% // 1% (percentage change), e.g., Real estate price shifts from 100 to 101

² For a more severe stress test relating to the CRE portfolio that also takes into consideration existing and potential exposure in stage 3 reference is made to the section on Commercial Real Estate above

	December 31, 2022			
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in € m.	Downward shift	ECL impact in € m.
GDP growth rates	1pp	(83.3)	(1)pp	101.4
Unemployment rates	(0.5)pp	(40.8)	0.5pp	58.0
Real estate prices	5%	(5.6)	(5)%	6.0
Equities	10%	(15.8)	(10)%	19.6
Credit spreads	(40)%	(37.9)	40%	42.6
Commodities	10%	(14.8)	(10)%	15.6

At the divisional level, the sensitivity analysis below was performed for the year ended December 31, 2023, and 2022, respectively, and revealed GDP growth rates, credit spreads and commodities prices to be the dominant factors for the Investment Bank, whereas the model sensitivity for the Corporate Bank and Private Bank is mainly associated with changes in GDP growth rates and unemployment rates. The model sensitivity table for the Private Bank shows GDP growth rates and unemployment rates only, as the key MEVs relevant to the underlying portfolios.

IFRS 9 – Sensitivities of Forward-Looking Information applied on Stage 1 and Stage 2 - Corporate Bank

	December 31, 2023			
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in € m.	Downward shift	ECL impact in € m.
GDP growth rates	1pp	(18.1)	(1)pp	20.7
Unemployment rates	(0.5)pp	(10.4)	0.5pp	11.0
Real estate prices ²	5%	(1.5)	(5)%	1.6
Credit spreads	(40)%	(3.8)	40%	4.4
Commodities ¹	10%	(2.6)	(10)%	2.9

¹ Here the sign of the shift applies to oil prices changes. Gold price changes have the opposite sign

² For a more severe stress test relating to the CRE portfolio that also takes into consideration existing and potential exposure in Stage 3 reference is made to the section on Commercial Real Estate above

	December 31, 2022			
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in € m.	Downward shift	ECL impact in € m.
GDP growth rates	1pp	(21.7)	(1)pp	24.6
Unemployment rates	(0.5)pp	(12.2)	0.5pp	14.0
Real estate prices	5%	(1.1)	(5)%	1.1
Credit spreads	(40)%	(7.5)	40%	9.1
Commodities	10%	(4.3)	(10)%	4.6

IFRS 9 – Sensitivities of Forward-Looking Information applied on Stage 1 and Stage 2 - Investment Bank

	December 31, 2023			
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in € m.	Downward shift	ECL impact in € m.
GDP growth rates	1pp	(30.6)	(1)pp	33.5
Unemployment rates	(0.5)pp	(6.7)	0.5pp	7.5
Real estate prices ²	5%	(4.0)	(5)%	4.2
Equities	10%	(3.3)	(10)%	4.4
Credit spreads	(40)%	(13.6)	40%	14.7
Commodities ¹	10%	(5.5)	(10)%	5.9

¹ Here the sign of the shift applies to oil prices changes. Gold price changes have the opposite sign

² For a more severe stress test relating to the CRE portfolio that also takes into consideration existing and potential exposure in Stage 3 reference is made to the section on Commercial Real Estate above

	December 31, 2022			
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in € m.	Downward shift	ECL impact in € m.
GDP growth rates	1pp	(35.3)	(1)pp	36.9
Unemployment rates	(0.5)pp	(5.3)	0.5pp	6.1
Real estate prices	5%	(4.5)	(5)%	4.8
Equities	10%	(5.8)	(10)%	7.3
Credit spreads	(40)%	(26.3)	40%	28.5
Commodities	10%	(9.8)	(10)%	10.3

IFRS 9 – Sensitivities of Forward-Looking Information applied on Stage 1 and Stage 2 - Private Bank

	December 31, 2023			
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in € m.	Downward shift	ECL impact in € m.
GDP growth rates	1pp	(24.4)	(1)pp	26.3
Unemployment rates	(0.5)pp	(22.4)	0.5pp	23.3

	December 31, 2022			
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in € m.	Downward shift	ECL impact in € m.
GDP growth rates	1pp	(21.8)	(1)pp	34.5
Unemployment rates	(0.5)pp	(20.7)	0.5pp	34.9

Impact of Lifetime Expected Credit Losses for Stage 1 borrowers

As described above, the Group uses a mixture of quantitative and qualitative criteria to determine significant increase in credit risk which require, for affected borrowers, a move to lifetime ECL (Stage 2). If for all Stage 1 borrowers Deutsche Bank were to record lifetime expected credit losses, the Group's allowance for credit losses amounting to € 5.7 billion as of December 31, 2023 and € 5.6 billion as of December 31, 2022 would increase by approximately 38% as of year end 2023 and as of year-end 2022, respectively.

Stage 3 LGD setting

The Group's allowance for credit losses in Stage 3 for the homogeneous portfolios amounts to € 2.2 billion as of December 31, 2023 and € 1.9 billion as of December 31, 2022. The key driver in determining the ECL provision is the loss given default estimate, which differs by individual portfolios. Loss given default is influenced by recovery rates, proceeds from the sale of collateral, and cure rates. Some of the drivers for different portfolios include elements of expert judgment and in particular on expected cure rates. If the LGD for all homogeneous portfolios were to increase by 1%, then Stage 3 ECL would increase as of December 31, 2023 by approximately € 22 million (thereof € 14 million in Germany, € 5 million in Italy and € 2 million in Spain), and by approximately € 19 million as of December 31, 2022 (thereof € 11 million in Germany, € 5 million in Italy and € 2 million in Spain).

IFRS 9 Model results

In 2023, provision for credit losses was € 1.5 billion, compared to € 1.2 billion recorded for the year ended 2022. The increase is reflecting an overall weakened macroeconomic environment with only slow recovery of the main economies after Russia's invasion of Ukraine in 2022 as well as increased challenges for the Commercial Real Estate sector especially in the office space which was already affected by a post-Covid driven change in demand. This sector came under further pressure by monetary measures imposed by the central banks in reply to increased inflation which subsequently led to increased refinancing risks.

The total provisions in 2023 include a € 51 million release related to clients in Russia and Ukraine as a result of successful de-risking activities compared to a € 114 million increase in 2022.

In 2023, € 33 million releases of provision for credit losses related to Stage 1 and 2 and € 1.5 billion new provision for credit losses to Stage 3, this compares to € 204 million provisions of Stage 1 and 2 provisions and € 1.0 billion in Stage 3 in 2022. The reduction of Stage 1 and 2 provisions was primarily driven by the improvement and stabilization of macroeconomic parameters after the macroeconomic outlook significantly deteriorated in 2022 following Russia's invasion of Ukraine as well as benefits from a one-time model change. The increase of Stage 3 provisions was affecting all businesses but primarily the Private Bank and the Investment Bank.

Corporate Bank recorded provision for credit losses of € 266 million in 2023 versus a € 335 million in 2022. The year on year decrease was primarily driven by Stage 1 and 2 releases in 2023 compared to charges observed in 2022 following an improved macro-economic outlook and benefits from model related changes. This was partly offset by moderately higher Stage 3 provisions compared to the prior year across various portfolios. The Investment Bank recorded an increase of provision for credit losses of € 431 million in 2023 versus € 319 million in 2022. The increase was mainly driven by an increased number of impairments primarily in Commercial Real Estate. The Private Bank recorded an increase of provisions for credit losses of € 783 million in 2023 versus € 583 million reported in 2022. The increase was mainly driven by Stage 3 provisions in the first quarter of 2023 due to single name cases in Wealth Management and in the fourth quarter 2023 due to the reversal of the € 92 million overlay related to parameter recalibrations required due to the new definition of default introduced in 2021.

The amounts recognized in the allowance for credit losses in relation to climate-related risks are deemed to be immaterial at the end of December 31, 2022, and as of December 31, 2023.

For details on the Group's accounting policy related to IFRS 9 Impairment, please refer to Note 1 - Material Accounting Policies and Critical Accounting Estimates of the Consolidated Financial Statements.

Exposure to Russia

Deutsche Bank continues to have limited exposure to Russia. The following table provides an overview of total Russian exposures, including overnight deposits with the Central Bank of Russia in the amount of € 0.6 billion as of December 31, 2023 (€ 0.8 billion as of December 31, 2022) and other receivables, which are subject to IFRS 9 impairment, and correspondent allowance for credit losses by stages as of December 31, 2023, and December 31, 2022.

Breakdown of total exposure and allowance for credit losses by stages

in € m.	Dec 31, 2023			Dec 31, 2022		
	Total Exposure	Allowance for Credit Losses ¹	Total collateral and guarantees	Total Exposure	Allowance for Credit Losses ¹	Total collateral and guarantees
Stage 1	93	0	24	209	0	59
Stage 2	797	4	270	1,182	10	375
Stage 3	325	16	261	336	68	152
Total	1,215	20	555	1,726	79	586

¹ Allowance for credit losses do not include allowance for country risk amounting to € 3 million as of December 31, 2023 and € 11 million as of December 31, 2022

Total exposure of € 1.2 billion (€ 1.7 billion as of December 31, 2022) consists of € 0.5 billion (€ 0.8 billion as of December 31, 2022) loan exposure to Russia, € 26 million (€ 78 million as of December 31, 2022) of undrawn commitments and € 0.6 billion (€ 0.8 billion as of December 31, 2022) of unsecured overnight deposits in Rubles with the Central Bank of Russia (which continues to be reflected in Stage 2 as of December 31, 2023); the residual unsecured exposure, excluding the unsecured overnight deposits in Rubles with the Central Bank of Russia, is mainly driven by loans with large Russian companies. Not included in these exposures are Deutsche Bank's interests in its Russian consolidated entities. This disclosure should be read in conjunction with the section "Risk and Opportunities" in this Annual Report.

Asset Quality

The Asset Quality section under IFRS 9 describes the quality of debt instruments subject to impairment, which under IFRS 9 consist of debt instruments measured at amortized cost, financial instruments at fair value through other comprehensive income (FVOCI) as well as off balance sheet lending commitments such as loan commitments and financial guarantees (hereafter collectively referred to as "Financial Assets").

Overview of financial assets subject to impairment

The following tables provide an overview of the exposure amount and allowance for credit losses by financial asset class broken down into stages as per IFRS 9 requirements.

Overview of financial assets subject to impairment

in € m.	Dec 31, 2023					Dec 31, 2022				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
Amortized cost¹										
Gross carrying amount	686,421	55,704	12,799	806	755,731	721,546	45,335	11,379	1,041	779,300
Allowance for credit losses ²	447	680	3,960	198	5,285	533	626	3,656	180	4,995
of which Loans										
Gross carrying amount	412,663	52,834	12,576	806	478,879	433,081	43,711	10,686	1,027	488,504
Allowance for credit losses ²	424	673	3,874	198	5,170	507	619	3,491	174	4,790
Fair value through OCI										
Fair value	34,424	1,076	46	0	35,546	31,123	482	70	0	31,675
Allowance for credit losses	13	13	22	0	48	14	12	43	0	69
Off-balance sheet										
Notional amount	292,747	23,778	2,282	8	318,814	296,062	18,478	2,625	8	317,173
Allowance for credit losses ³	117	88	187	0	393	144	97	310	0	551

¹ Financial assets at amortized cost consist of: loans at amortized cost, cash and central bank balances, interbank balances (w/o central banks), central bank funds sold and securities purchased under resale agreements, securities borrowed and certain subcategories of other assets

² Allowance for credit losses do not include allowance for country risk amounting to € 4 million as of December 31, 2023 and € 14 million as of December 31, 2022

³ Allowance for credit losses do not include allowance for country risk amounting to € 9 million as of December 31, 2023 and € 9 million as of December 31, 2022

Financial assets at amortized cost

The following tables provide an overview of development of financial assets at amortized cost and related allowance for credit losses in each of the relevant reporting periods broken down into stages as per IFRS 9 requirements.

Development of exposures in the current reporting period

in € m.	Dec 31, 2023				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Gross carrying amount
Balance, beginning of year	721,546	45,335	11,379	1,041	779,300
Movements in financial assets including new business and credit extensions	17,219	10,074	2,498	99	29,890
Transfers due to changes in creditworthiness	(4,513)	3,111	1,402	0	0
Changes due to modifications that did not result in derecognition	0	8	(40)	0	(32)
Changes in models					
Financial assets that have been derecognized during the period	(41,331)	(2,182)	(2,397)	(315)	(46,226)
Recovery of written off amounts	0	0	93	0	93
Foreign exchange and other changes	(6,499)	(641)	(136)	(18)	(7,295)
Balance, end of reporting period	686,421	55,704	12,799	806	755,731

Financial assets at amortized cost subject to impairment decreased by € 24 billion or 3% in 2023, driven by stage 1:

Stage 1 exposures declined by € 35 billion or 5%, primarily due to a reduction in cash and central bank balances and loans at amortized cost.

Stage 2 exposures increased by € 10 billion or 23% across business divisions, largely driven by loans at amortized cost.

Stage 3 exposures went up by € 1 billion or 10% in 2023, mainly driven by new defaults of single large clients in Private Bank as well as within the CRE portfolio in Investment Bank.

Development of exposures in the previous reporting period

in € m.	Dec 31, 2022				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
Balance, beginning of year	710,271	40,653	11,326	1,297	763,548
Movements in financial assets including new business and credit extensions	106,702	5,554	923	(1)	113,177
Transfers due to changes in creditworthiness	(2,101)	666	1,435	0	0
Changes due to modifications that did not result in derecognition	0	(0)	(6)	0	(6)
Changes in models	0	0	0	0	0
Financial assets that have been derecognized during the period	(103,660)	(2,177)	(2,583)	(258)	(108,679)
Recovery of written off amounts	0	0	68	3	71
Foreign exchange and other changes	10,334	639	216	0	11,189
Balance, end of reporting period	721,546	45,335	11,379	1,041	779,300

Financial assets at amortized cost subject to impairment increased by € 16 billion or 2% in 2022, largely driven by stage 1:

Stage 1 exposures increased by € 11 billion or 2%, primarily due to the increases in debt securities held to collect as well as loans at amortized cost in Investment Bank and Private Bank, partly offset by a reduction in central bank balances.

Stage 2 exposures increased by € 5 billion or 12%, largely driven by loans at amortized cost in Private Bank due to the deterioration of the macroeconomic environment.

Stage 3 exposures slightly decreased by € 203 million or 2% in 2022, driven by reductions in Private Bank and the POCI loan portfolio. This was partly offset by an increase in Corporate Bank due to new defaults.

Development of allowance for credit losses in the current reporting period					
	Dec 31, 2023				
	Allowance for Credit Losses ²				
in € m.	Stage 1	Stage 2	Stage 3	Stage 3 POCI ⁴	Total
Balance, beginning of year	533	626	3,656	180	4,995
Movements in financial assets including new business and credit extensions	(195)	294	1,647	32	1,778
Transfers due to changes in creditworthiness	170	(150)	(20)	N/M	0
Changes due to modifications that did not result in derecognition	N/M	N/M	N/M	N/M	N/M
Changes in models	(57)	(53)	0	0	(110)
Financial assets that have been derecognized during the period ³	0	0	(1,145)	(52)	(1,197)
Recovery of written off amounts	0	0	93	0	93
Foreign exchange and other changes	(3)	(38)	(271)	38	(273)
Balance, end of reporting period	447	680	3,960	198	5,285
Provision for Credit Losses excluding country risk¹	(83)	92	1,627	32	1,668

¹ Movements in financial assets including new business, transfers due to changes in creditworthiness and changes in models add up to Provision for Credit Losses excluding country risk

² Allowance for credit losses does not include allowance for country risk amounting to € 4 million as of December 31, 2023

³ This position includes charge offs of allowance for credit losses

⁴ The total amount of undiscounted expected credit losses at initial recognition on financial assets that are purchased or originated credit-impaired initially recognized during the reporting period was € 0 million in 2023 and € 46 million in 2022

Allowance for credit losses for financial assets at amortized cost subject to impairment went up by € 291 million or 6% in 2023, driven by stage 3:

Stage 1 allowances decreased by € 86 million or 16% across business divisions, driven by non-recurring positive ECL model changes and an improved macroeconomic outlook.

Stage 2 allowances increased by € 54 million or 9% across business divisions, due to the aforementioned overlays mainly related to envisaged ECL model changes (Forward Looking Information on LGDs), which led to an increase of Allowance for Credit Losses.

Stage 3 allowances increased by € 323 million or 8%, mainly driven by the new provisions and the release of the existing overlay related to parameter recalibrations required due to the new definition of default in Private Bank (which at first application led to a decrease of Allowance for Credit Losses), as mentioned above.

The Group's stage 3 coverage ratio (defined as allowance for credit losses in stage 3 (excluding POCI) as a percentage of financial assets at amortized cost in stage 3 (excluding POCI)) amounted to 31% in the current fiscal year, compared to 32% in the prior year.

Due to the non-recurring positive ECL model changes, net transfers into stage 1 due to changes in creditworthiness increased in 2023 on a year-over-year basis. Net outflows from stage 2 due to changes in creditworthiness increased in 2023, which was mainly due to the improved macroeconomic environment, as mentioned above.

In 2023, net outflows from stage 3 (excluding POCI) increased compared to 2022. The immaterial amount of net outflows from stage 3 due to creditworthiness in 2023 resulted from a release of an overlay, as mentioned above.

Development of allowance for credit losses in the previous reporting period					
	Dec 31, 2022				
	Allowance for Credit Losses ²				
in € m.	Stage 1	Stage 2	Stage 3	Stage 3 POCI ⁴	Total
Balance, beginning of year	440	532	3,740	182	4,895
Movements in financial assets including new business and credit extensions	(32)	204	887	22	1,081
Transfers due to changes in creditworthiness	122	(121)	(0)	N/M	0
Changes due to modifications that did not result in derecognition	N/M	N/M	N/M	N/M	N/M
Changes in models	0	0	0	0	0
Financial assets that have been derecognized during the period ³	0	0	(1,014)	(28)	(1,043)
Recovery of written off amounts	0	0	68	3	71
Foreign exchange and other changes	2	12	(25)	1	(10)
Balance, end of reporting period	533	626	3,656	180	4,995
Provision for Credit Losses excluding country risk ¹	90	82	886	22	1,081

¹ Movements in financial assets including new business, transfers due to changes in creditworthiness and changes in models add up to Provision for Credit Losses excluding country risk

² Allowance for credit losses does not include allowance for country risk amounting to € 14 million as of December 31, 2022

³ This position includes charge offs of allowance for credit losses

⁴ The total amount of undiscounted expected credit losses at initial recognition on financial assets that are purchased or originated credit-impaired initially recognized during the reporting period was € 46 million in 2022 and € 0 million in 2021

Allowance for credit losses for financial assets at amortized cost subject to impairment increased by € 100 million or 2% in 2022, driven by stages 1 and 2:

Stage 1 allowances increased by € 93 million or 21%, driven by a deteriorating macroeconomic environment.

Stage 2 allowances increased by € 94 million or 18% due to a deterioration of the macroeconomic outlook.

Stage 3 allowances decreased by € 87 million or 2%, mainly driven by reductions due to non-performing portfolio sales in Private Bank, which were partly offset by new provisions in Investment Bank and Corporate Bank.

Financial assets at amortized cost by business division

	Gross Carrying Amount ¹					Dec 31, 2023				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
in € m.										
Corporate Bank	105,812	13,706	2,812	0	122,329	67	110	876	0	1,053
Investment Bank	150,562	13,309	3,127	806	167,804	119	108	536	198	962
Private Bank	233,744	26,815	6,400	0	266,960	249	445	2,497	0	3,191
Asset Management	1,224	8	0	0	1,232	(0)	0	0	0	(0)
Corporate & Other	195,079	1,866	460	0	197,406	11	16	51	0	79
Total	686,421	55,704	12,799	806	755,731	447	680	3,960	198	5,285

¹ Gross Carrying Amount numbers per business division are reported after a reallocation of cash balances from business divisions to Corporate & Other

	Gross Carrying Amount ¹					Dec 31, 2022				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
in € m.										
Corporate Bank	114,983	11,030	2,879	0	128,892	91	99	963	0	1,153
Investment Bank	164,443	10,288	2,375	1,041	178,147	145	89	491	180	904
Private Bank	243,896	22,609	5,870	0	272,375	283	433	2,167	0	2,883
Asset Management	1,861	49	0	0	1,910	0	0	0	0	0
Corporate & Other ²	196,363	1,359	255	0	197,978	14	5	35	0	54
Total	721,546	45,335	11,379	1,041	779,300	533	626	3,656	180	4,995

¹ Gross Carrying Amount numbers per business division are reported after a reallocation of cash balances from business divisions to Corporate & Other

² Prior year's comparatives aligned to presentation in the current year

Financial assets at amortized cost by industry sector

The below table provides an overview of the Group's asset quality by industry and is based on the NACE code of the counterparty. NACE (Nomenclature des Activités Économiques dans la Communauté Européenne) is a standard European industry classification system.

in € m.	Dec. 31, 2023									
	Gross Carrying Amount					Allowance for Credit Losses				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
Agriculture, forestry and fishing	288	77	20	0	384	0	1	4	(0)	6
Mining and quarrying	2,538	277	8	0	2,823	2	3	4	0	9
Manufacturing	23,474	4,061	1,445	44	29,024	27	48	456	2	533
Electricity, gas, steam and air conditioning supply	4,253	206	73	0	4,532	3	3	16	0	23
Water supply, sewerage, waste management and remediation activities	491	21	5	0	517	1	0	3	0	5
Construction	3,248	893	213	60	4,414	5	9	80	12	107
Wholesale and retail trade, repair of motor vehicles and motorcycles	17,237	3,407	698	25	21,366	16	31	351	3	402
Transport and storage	4,083	1,075	165	24	5,346	6	10	30	(0)	46
Accommodation and food service activities	1,471	320	76	3	1,869	2	3	26	(0)	31
Information and communication	7,398	814	89	0	8,302	10	11	28	0	49
Financial and insurance activities	342,352	12,189	1,691	351	356,583	96	90	491	92	769
Real estate activities	37,907	8,954	2,630	185	49,675	19	49	321	75	464
Professional, scientific and technical activities	5,887	918	179	1	6,985	6	12	75	1	94
Administrative and support service activities	7,980	1,107	351	24	9,463	7	11	114	9	141
Public administration and defense, compulsory social security	26,536	489	742	0	27,767	15	1	28	0	45
Education	226	46	11	0	283	0	1	2	0	3
Human health services and social work activities	3,986	482	34	0	4,503	5	7	14	0	25
Arts, entertainment and recreation	769	229	31	1	1,030	1	5	3	0	10
Other service activities	8,436	648	225	86	9,395	11	6	119	6	143
Activities of households as employers, undifferentiated goods- and services-producing activities of households for own use	187,649	19,492	4,113	3	211,257	212	379	1,792	(2)	2,381
Activities of extraterritorial organizations and bodies	213	0	0	0	213	0	0	0	0	0
Total	686,421	55,704	12,799	806	755,731	447	680	3,960	198	5,285

in € m.	Dec 31, 2022									
	Gross Carrying Amount					Allowance for Credit Losses				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
Agriculture, forestry and fishing	425	76	23	0	525	1	1	8	0	10
Mining and quarrying	2,227	137	70	0	2,434	4	5	23	0	32
Manufacturing	25,151	4,670	1,163	84	31,068	35	64	519	3	620
Electricity, gas, steam and air conditioning supply	6,226	563	51	0	6,839	4	5	33	0	42
Water supply, sewerage, waste management and remediation activities	624	63	39	0	726	1	1	6	0	8
Construction	3,453	540	203	87	4,282	5	9	91	10	115
Wholesale and retail trade, repair of motor vehicles and motorcycles	18,710	2,530	733	31	22,004	20	30	383	3	437
Transport and storage	5,233	642	225	28	6,127	9	8	65	(0)	83
Accommodation and food service activities	1,385	466	112	6	1,969	2	5	59	1	67
Information and communication	7,096	614	127	17	7,854	14	13	94	0	122
Financial and insurance activities	356,491	8,991	1,999	402	367,883	129	73	472	46	720
Real estate activities	41,450	6,345	896	238	48,929	30	22	116	71	239
Professional, scientific and technical activities	6,147	721	218	1	7,087	6	9	104	0	119
Administrative and support service activities	8,429	1,003	383	18	9,833	9	13	94	6	121
Public administration and defense, compulsory social security	30,984	418	923	0	32,325	15	0	17	0	33
Education	205	41	4	0	251	0	1	2	0	3
Human health services and social work activities	4,188	351	83	0	4,622	8	12	12	0	32
Arts, entertainment and recreation	922	185	28	1	1,137	1	5	2	0	9
Other service activities	7,198	818	226	123	8,365	10	6	133	25	174
Activities of households as employers, undifferentiated goods- and services-producing activities of households for own use	194,959	16,160	3,874	6	215,000	229	343	1,423	15	2,010
Activities of extraterritorial organizations and bodies	41	0	0	0	41	0	0	0	0	0
Total	721,546	45,335	11,379	1,041	779,300	533	626	3,656	180	4,995

Financial assets at amortized cost by region

in € m.	Gross Carrying Amount					Allowance for Credit Losses					Dec 31, 2023
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	
Germany	291,826	21,499	3,653	0	316,978	214	390	1,936	(4)	2,537	
Western Europe (excluding Germany)	134,376	15,228	3,410	560	153,573	116	179	1,076	194	1,564	
Eastern Europe	8,768	1,058	396	0	10,221	4	11	47	0	62	
North America	175,011	12,133	3,442	89	190,674	51	74	445	12	582	
Central and South America	3,936	261	80	5	4,282	2	1	16	0	19	
Asia/Pacific	52,290	5,031	909	92	58,322	28	23	317	1	370	
Africa	4,099	187	717	0	5,003	8	1	30	0	39	
Other	16,116	307	192	62	16,677	23	0	94	(5)	113	
Total	686,421	55,704	12,799	806	755,731	447	680	3,960	198	5,285	

in € m.	Gross Carrying Amount					Allowance for Credit Losses					Dec 31, 2022
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	
Germany	317,241	19,904	3,689	0	340,835	201	333	1,619	13	2,166	
Western Europe (excluding Germany)	141,935	9,828	3,171	712	155,646	178	194	1,224	162	1,758	
Eastern Europe	8,050	1,174	386	0	9,609	3	7	97	0	107	
North America	173,084	10,504	1,628	149	185,366	81	55	289	5	431	
Central and South America	4,525	253	82	5	4,865	6	2	5	0	12	
Asia/Pacific	58,621	2,967	1,475	112	63,174	40	28	330	3	400	
Africa	3,144	177	843	0	4,164	8	0	7	0	15	
Other	14,946	527	105	63	15,642	16	6	86	(4)	105	
Total	721,546	45,335	11,379	1,041	779,300	533	626	3,656	180	4,995	

Financial assets at amortized cost by rating class

in € m.	Gross Carrying Amount					Allowance for Credit Losses					Dec 31, 2023
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	
iAAA–iAA	244,750	518	0	0	245,268	2	0	0	0	3	
iA	101,538	2,359	0	9	103,907	8	1	0	0	9	
iBBB	186,168	8,446	0	0	194,614	66	16	0	0	82	
iBB	122,823	18,153	0	0	140,976	173	78	0	0	251	
iB	28,531	20,040	0	0	48,571	165	294	0	0	459	
iCCC and below	2,611	6,188	12,799	797	22,395	32	290	3,960	198	4,481	
Total	686,421	55,704	12,799	806	755,731	447	680	3,960	198	5,285	

in € m.	Gross Carrying Amount					Allowance for Credit Losses					Dec 31, 2022
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	
iAAA–iAA	251,598	228	0	0	251,826	3	0	0	0	3	
iA	106,548	580	0	14	107,142	9	1	0	0	10	
iBBB	172,643	6,246	0	0	178,889	63	21	0	0	84	
iBB	152,063	14,891	0	0	166,954	212	91	0	0	302	
iB	35,626	17,717	0	14	53,358	218	276	0	6	501	
iCCC and below	3,068	5,672	11,379	1,013	21,132	28	237	3,656	174	4,095	
Total	721,546	45,335	11,379	1,041	779,300	533	626	3,656	180	4,995	

The Group's existing commitments to lend additional funds to debtors with stage 3 financial assets at amortized cost amounted to € 816 million as of December 31, 2023 and € 621 million as of December 31, 2022.

Collateral held against financial assets at amortized cost in stage 3

	Dec 31, 2023			Dec 31, 2022		
in € m.	Gross Carrying Amount	Collateral	Guarantees	Gross Carrying Amount	Collateral	Guarantees
Financial Assets at Amortized Cost (Stage 3) ¹	12,799	4,451	1,435	11,379	3,431	1,439

¹ Stage 3 consists here only of non-POCI assets

In 2023, collateral and guarantees held against financial assets at amortized cost in stage 3 increased by € 1 billion, or 21% mainly driven by Investment Bank and Private Bank.

Due to full collateralization the Group did not recognize an allowance for credit losses against financial assets at amortized cost in stage 3 for € 408 million in 2023 and € 916 million in 2022.

Modified Assets at Amortized Cost

A financial asset is considered modified when its contractual cash flows are renegotiated or otherwise modified. Renegotiation or modification may or may not lead to derecognition of the old and recognition of the new financial instrument. This section covers modified financial assets that have not been derecognized.

Under IFRS 9, when the terms of a Financial Asset are renegotiated or modified and the modification does not result in derecognition, a gain or loss is recognized in the income statement as the difference between the original contractual cash flows and the modified cash flows discounted at the original effective interest rate (EIR). For modified financial assets the determination of whether the asset's credit risk has increased significantly reflects the comparison of:

- The remaining lifetime probability of default (PD) at the reporting date based on the modified terms; with
- The remaining lifetime PD estimated based on data at initial recognition and based on the original contractual terms.

The following table provides the overview of modified financial assets at amortized cost in the reporting periods broken down into IFRS 9 stages.

Modified Assets at Amortized Cost

	Dec 31, 2023					Dec 31, 2022				
in € m.	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
Amortized cost carrying amount prior to modification	0	1,072	220	0	1,292	0	0	47	0	47
Net modification gain/losses recognized	0	5	(40)	0	(35)	0	(0)	(6)	0	(6)

In 2023, the bank has observed the increase of € 1.2 billion in modified assets at amortized cost due to client related modifications, driven by a single large client in Private Bank and the CRE portfolio in Investment Bank and Corporate Bank. The latter were granted with no modification loss.

In 2023, the Group has not observed any amounts of modified assets that have been upgraded to stage 1. The bank has not observed any subsequent re-deterioration of those assets into stages 2 and 3.

In 2022, the Group has observed immaterial amounts of modified assets that have been upgraded to stage 1. The bank has not observed any subsequent re-deterioration of those assets into stages 2 and 3.

Financial Assets at Fair value through Other Comprehensive Income

The fair value of financial assets at Fair value through Other Comprehensive Income (FVOCI) subject to impairment under IFRS 9 was € 36 billion at December 31, 2023, compared to € 32 billion at December 31, 2022. Allowance for credit losses against these assets remained at very low levels (€ 48 million as of December 31, 2023 and € 69 million as of December 31, 2022). Due to immateriality no further breakdown is provided for financial assets at FVOCI.

Off-balance sheet lending commitments and guarantee business

The following tables provide an overview of the nominal amount and credit loss allowance for the Group's off-balance sheet financial asset class broken down into stages as per IFRS 9 requirements.

Development of nominal amount in the current reporting period

in € m.	Dec 31, 2023				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Nominal Amount
Balance, beginning of year	296,062	18,478	2,625	8	317,173
Movements including new business	4,062	2,510	(235)	0	6,337
Transfers due to changes in creditworthiness	(3,040)	3,094	(54)	0	0
Changes in models	0	0	0	0	0
Foreign exchange and other changes	(4,337)	(304)	(54)	0	(4,696)
Balance, end of reporting period	292,747	23,778	2,282	8	318,814
of which: Financial guarantees	58,405	5,991	401	0	64,798

Development of nominal amount in the previous reporting period

in € m.	Dec 31, 2022				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Nominal Amount
Balance, beginning of year	276,157	14,498	2,582	11	293,248
Movements including new business	16,078	361	62	(3)	16,498
Transfers due to changes in creditworthiness	(3,047)	3,166	(119)	0	0
Changes in models	0	0	0	0	0
Foreign exchange and other changes	6,874	452	100	(0)	7,427
Balance, end of reporting period	296,062	18,478	2,625	8	317,173
of which: Financial guarantees	61,083	5,283	971	0	67,337

Development of allowance for credit losses in the current reporting period

in € m.	Dec 31, 2023				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Allowance for Credit Losses ²
Balance, beginning of year	144	97	310	0	551
Movements including new business	(39)	(3)	(118)	0	(160)
Transfers due to changes in creditworthiness	11	(4)	(7)	0	0
Changes in models	0	0	0	0	0
Foreign exchange and other changes	1	(2)	3	0	2
Balance, end of reporting period	117	88	187	0	393
of which: Financial guarantees	84	37	113	0	233
Provision for Credit Losses excluding country risk ¹	(28)	(7)	(125)	0	(160)

¹ The above table breaks down the impact on provision for credit losses from movements in financial assets including new business, transfers due to changes in creditworthiness and changes in models

² Allowance for credit losses does not include allowance for country risk amounting to € 9 million as of December 31, 2023

Development of allowance for credit losses in the previous reporting period

in € m.	Dec 31, 2022				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Allowance for Credit Losses ²
Balance, beginning of year	108	111	225	0	443
Movements including new business	21	(1)	78	0	99
Transfers due to changes in creditworthiness	12	(15)	3	0	0
Changes in models	0	0	0	0	0
Foreign exchange and other changes	4	3	3	0	9
Balance, end of reporting period	144	97	310	0	551
of which: Financial guarantees	95	56	226	0	378
Provision for Credit Losses excluding country risk ¹	33	(16)	82	0	99

¹ The above table breaks down the impact on provision for credit losses from movements in financial assets including new business, transfers due to changes in creditworthiness and changes in models

² Allowance for credit losses does not include allowance for country risk amounting to € 9 million as of December 31, 2022

Legal Claims

Assets subject to enforcement activity consist of assets, which have been fully or partially written off and the Group still continues to pursue recovery of the asset. Such enforcement activity comprises for example cases where the bank continues to devote resources (e.g. our Legal Department/CRM workout unit) towards recovery, either via legal channels or third party recovery agents. Enforcement activity also applies to cases where the Bank maintains outstanding and unsettled legal claims. This is irrespective of whether amounts are expected to be recovered and the recovery timeframe. It may be common practice in certain jurisdictions for recovery cases to span several years.

Amounts outstanding on financial assets that were written off during the reporting period and are still subject to enforcement activity amounted to € 334 million in fiscal year 2023, mainly in Corporate Bank. In 2022, legal claims amounted to € 175 million, mainly in Corporate Bank and Private Bank.

Renegotiated and forborne assets at amortized costs

For economic or legal reasons the bank might enter into a forbearance agreement with a borrower who faces or will face financial difficulties in order to ease the contractual obligation for a limited period of time. A case-by-case approach is applied for corporate clients considering each transaction and client-specific facts and circumstances. For consumer loans the bank offers forbearances for a limited period of time, in which the total or partial outstanding or future instalments are deferred to a later point of time. However, the amount not paid including accrued interest during this period must be re-compensated at a later point of time. Repayment options include distribution over residual tenor, a one-off payment or a tenor extension. Forbearances are restricted and depending on the economic situation of the client, the Group's risk management strategies and the local legislation. In case a forbearance agreement is entered into, an impairment measurement is conducted as described below, an impairment charge is taken if necessary and the loan is subsequently recorded as impaired.

In the Group's management and reporting of forborne assets at amortized costs, the bank follows the EBA definition for forbearances and non-performing loans (Implementing Technical Standards (ITS) on Supervisory reporting on forbearance and non-performing exposures under article 99(4) of Regulation (EU) No 575/2013). Once the conditions mentioned in the ITS are met, the Group reports the loan as being forborne; removes the asset from the bank's forbearance reporting, once the discontinuance criteria in the ITS are met (i.e., the contract is considered as performing, a minimum two year probation period has passed, regular payments of more than an insignificant aggregate amount of principal or interest have been made during at least half of the probation period, and none of the exposures to the debtor is more than 30 days past-due at the end of the probation period).

Forborne financial assets at amortized cost

	Dec 31, 2023					Dec 31, 2022					
						Total forborne loans at amortize d cost					Total forborne loans at amortize d cost
	Performing			Non-performing			Performing			Non-performing	
in € m.	Stage 1	Stage 2	Stage 1	Stage 2	Stage 3		Stage 1	Stage 2	Stage 1	Stage 2	Stage 3
German	426	2,356	0	7	812	3,600	729	1,563	0	21	1,066
Non-German	639	4,399	0	194	3,632	8,864	1,254	3,139	60	13	3,299
Total	1,065	6,755	0	201	4,444	12,464	1,983	4,702	60	34	4,365
											11,143

Development of forborne financial assets at amortized cost

in € m.	Dec 31, 2023	Dec 31, 2022
Balance beginning of period	11,143	13,741
Classified as forborne during the year	4,007	3,196
Transferred to non-forborne during the year (including repayments)	(2,500)	(5,899)
Charge-offs	(80)	(142)
Exchange rate and other movements	(106)	248
Balance end of period	12,464	11,143

Forborne assets at amortized cost increased by € 1.3 billion, or 12% in 2023. This was driven by the increase in Investment Bank.

Forborne assets at amortized cost decreased by € 2.6 billion, or 19% in 2022. This was driven by the reduction in the COVID-19 related forbearance measures, which was partly offset by an increase in Investment Bank and Corporate Bank.

Collateral Obtained

The Group obtains collateral on the balance sheet only in certain cases by either taking possession of collateral held as security or by calling upon other credit enhancements. Collateral obtained is made available for sale in an orderly fashion or through public auctions, with the proceeds used to repay or reduce outstanding indebtedness. Generally, the bank does not occupy obtained properties for its business use.

Collateral Obtained during the reporting period

	2023	2022
Commercial real estate	0	2
Residential real estate ¹	3	1
Other	11	0
Total collateral obtained during the reporting period	14	4

¹ Carrying amount of foreclosed residential real estate properties amounted to € 30 million as of December 31, 2023 and € 62 million as of December 31, 2022

The collateral obtained, as shown in the table above, excludes collateral recorded as a result of consolidating securitization trusts under IFRS 10. In 2023 and 2022, the Group obtained € 0 million of collateral related to these trusts.

Derivatives – Credit Valuation Adjustment

The bank establishes counterparty Credit Valuation Adjustment (CVA) for OTC derivative transactions to cover expected credit losses. The adjustment amount is determined by assessing the potential credit exposure to a given counterparty and taking into account any collateral held, the effect of any relevant netting arrangements, expected loss given default and the credit risk, based on available market information, including CDS spreads.

Treatment of default situations under derivatives

Unlike standard loan assets, the bank generally has more options to manage the credit risk in its derivatives transactions when movement in the current replacement costs or the behavior of its counterparty indicate that there is the risk that upcoming payment obligations under the transactions might not be honored. In these situations, the bank is frequently able under the relevant derivatives agreements to obtain additional collateral or to terminate and close-out the derivative transactions at short notice.

The master agreements and associated collateralization agreements for OTC derivative transactions executed with its clients typically result in the majority of its credit exposure being secured by collateral. It also provides for a broad set of standard or bespoke termination rights, which allows the bank to respond swiftly to a counterparty's default or to other circumstances which indicate a high probability of failure.

The banks contractual termination rights are supported by internal policies and procedures with defined roles and responsibilities which ensure that potential counterparty defaults are identified and addressed in a timely fashion. These procedures include necessary settlement and trading restrictions. When its decision to terminate derivative transactions results in a residual net obligation owed by the counterparty, the bank restructures the obligation into a non-derivative claim and manage it through its regular work-out process. As a consequence, for accounting purposes the bank typically does not show any nonperforming derivatives.

Wrong-way risk occurs when exposure to a counterparty is adversely correlated with the credit quality of that counterparty. In compliance with Article 291(2) and (4) CRR the bank has a monthly process to monitor several layers of wrong-way risk (specific wrong-way risk, general explicit wrong-way risk at country/industry/region levels and general implicit wrong-way risk, whereby relevant exposures arising from transactions subject to wrong-way risk are automatically selected and presented for comment to the responsible credit officer). A wrong-way risk report is then sent to Credit Risk senior management on a monthly basis. In addition, the bank utilized its established process for calibrating its own alpha factor (as defined in Article 284 (9) CRR) to estimate the overall wrong-way risk in its derivatives and securities financing transactions portfolio. The Private Bank Germany's derivative counterparty risk is immaterial to the Group and collateral held is typically in the form of cash.

Managing and mitigation of credit risk

Managing credit risk on counterparty level

Credit-relevant counterparties are principally allocated to credit officers within credit teams which are organized by type of counterparty (such as financial institutions, corporates or private individuals), economic area (e.g., emerging markets) or product and supported by dedicated rating analyst teams where deemed necessary. The individual credit officers have the relevant expertise and experience to manage the credit risks associated with these counterparties and their associated credit related transactions. For retail clients, credit decision making and credit monitoring is highly automated due to standardized products and processes. Credit Risk Management has full oversight of the respective processes and tools used in these highly automated retail credit processes. It is the responsibility of each credit officer to undertake ongoing credit monitoring for their allocated counterparties. Deutsche Bank also has procedures in place intended to identify at an early-stage credit exposures for which there may be an increased risk of deteriorated risk/ loss.

In instances where Deutsche Bank has identified counterparties with emerging concern about their credit quality deteriorating or likely to deteriorate to the point where they present a heightened risk of default / loss, the respective counterparty is generally placed on the “Watchlist”. Deutsche Bank aims to identify those counterparties at an early stage to ensure that credit exposures with increased risks are effectively managed, the Bank’s risk management tools are appropriately applied aiming to minimize potential losses. The objective of this early warning system is to address potential problems while adequate options for action are still available. This early risk detection is a tenet of Deutsche Bank’s credit culture and is designed to raise management awareness of these positions.

Credit limits for individual counterparties are established by the Credit Risk Management function applying credit authorities assigned to individual Credit Officers. This also applies to settlement risk that must fall within limits pre-approved by Credit Risk Management and in a manner that reflects expected settlement patterns for the subject counterparty. Credit approvals are documented by electronic signature under 4-eye principle by the respective credit authority holders and are retained for future reference.

Credit authority is generally assigned as a personal credit authority according to the individual's professional qualification and experience. All assigned credit authorities are reviewed on a periodic basis to help ensure that they are commensurate with the individual performance of the authority holder.

Where credit authority is insufficient to establish required credit limits, the transaction is referred to a credit authority holder with the respective credit authority or if exceeding the highest personal authority to an appropriate credit committee. Where personal and committee authorities are insufficient to establish appropriate limits, the case is referred to the Management Board for approval.

Mitigation of credit risk on counterparty level

In addition to determine counterparty credit quality by assigning internal ratings and the alignment of the exposure with the Bank’s counterparty concentration risk guidelines, Deutsche Bank also uses various credit risk mitigation & protection techniques to optimize credit exposure and reduce potential credit losses. These techniques are applied in the following forms:

- Comprehensive and enforceable credit documentation with adequate terms and conditions
- Collateral in its various forms to reduce losses by increasing the recovery of obligations; key principles for collateral management include legal effectiveness and enforceability, prudent and realistic collateral valuations, risk and regulatory capital reduction, as well as cost efficiency
- Risk transfers, which shift the risk of default of an obligor to a third-party including hedging executed by the bank's Strategic Corporate Lending (SCL) team or entity; other de-risking tools, such as securitizations etc., may also be employed
- Netting and collateral arrangements which reduce the credit exposure from derivatives and securities financing transactions (e.g. repo transactions)
- Hedging of derivatives counterparty risk including CVA, using primarily CDS contracts via the bank's Counterparty Portfolio Management desk

Collateral

Deutsche Bank regularly agrees on collateral to be received from customers that are subject to credit risk or to be provided by third parties agreed by legally effective and enforceable contracts as documented by a written and reasoned legal opinion. Collateral is credit protection in the form of (funded) assigned or pledged assets or (unfunded) third-party obligations that serves to mitigate the inherent risk of credit loss in an exposure, by either substituting the counterparty default risk or improving recoveries in the event of a default. Deutsche Bank generally takes all types of eligible collateral for its respective businesses but may limit accepted collateral types for specific businesses or regions as customary in the respective market or driven by purpose of efficiency. While collateral can be an alternative source of repayment, it does not replace the necessity of high-quality underwriting standards and a thorough assessment of the debt service ability of the counterparty in line with Article 194 (9) CRR.

Deutsche Bank distinguishes the following two types of credit protection approaches:

- Funded Credit Protection like financial and other collateral, which enables Deutsche Bank to recover all or part of the outstanding exposure by liquidating the collateral / asset provided, in cases where the counterparty is unable or unwilling to fulfill its primary obligations. Cash collateral, securities (equity, bonds), collateral pledges or assignments of other claims or inventory, movable assets (i.e., plant, machinery, ships and aircraft) and real estate typically fall into this category; all financial collateral is regularly, mostly daily, revalued and measured against the respective credit exposure; the value of other collateral, including real estate, is monitored based upon established processes that includes regular reviews or revaluations by internal and/or external experts
- Unfunded Credit Protection like Guarantees, which complement the counterparty's ability to fulfill its obligation under the legal contract and as such is provided by uncorrelated third parties. Letters of credit, insurance contracts, export credit insurance, guarantees, credit derivatives and (unfunded) risk participations typically fall into this category. Guarantees and strong letters of comfort provided by correlated group members of customers (generally the parent company) may also be accepted and considered in approved rating approaches; guarantee collateral with a non-investment grade rating of the guarantor is limited

Deutsche Bank's processes seek to ensure that the collateral accepted for risk mitigation purposes is of high quality. This includes processes to generally ensure legally effective and enforceable documentation for realizable and measurable collateral or assets which are evaluated within the on-boarding process by dedicated internal appraisers or teams with the respective qualification, skills and experience or adequate external valuers mandated in regulated processes. The applied valuations follow generally accepted valuation methods or models. Ongoing correctness of values is monitored by collateral type-specific, appropriately frequent, and event-driven reviews considering relevant risk parameters. Revaluations are applied in cases of identified probable material deterioration and future monitoring may be adjusted respectively. The assessment of the suitability of collateral for a specific transaction is part of the credit decision and must be undertaken in a conservative way, including collateral haircuts that are applied. Deutsche Bank has collateral type specific haircuts in place which are regularly reviewed and approved. In this regard, Deutsche Bank strives to avoid "wrong-way" risk characteristics where the counterparty's risk is positively correlated with the risk of deterioration in the collateral value. For unfunded credit protection like guarantees, the process for the analysis of the guarantor's creditworthiness is aligned to the credit assessment process for credit-relevant counterparties.

The valuation of collateral is considered under a liquidation scenario. The liquidation value is equal to the expected proceeds of collateral monetization / realization in a base case scenario, wherein a fair price is achieved through careful preparation and orderly liquidation of the collateral. Collateral can either move in value over time (dynamic value) or not (static value). The dynamic liquidation value generally includes a safety margin or haircut over realizable value to address liquidity and marketability aspects.

The Group assigns a liquidation value to eligible collateral, based on, among other things:

- The market value and / or lending value, notional amount or face value of a collateral as a starting point
- The type of collateral; the currency mismatch, if any, between the secured exposure and the collateral; and a maturity mismatch, if any
- The applicable legal environment or jurisdiction (onshore versus offshore collateral)
- The market liquidity and volatility in relation to agreed termination clauses
- The correlation between the performance of the borrower and the value of the collateral, e.g., in the case of the pledge of a borrower's own shares or securities (in this case generally full correlation leads to no liquidation value)
- The quality of physical collateral and potential for litigation or environmental risks; and
- A determined collateral type specific haircut (0 – 100%) reflecting collection risks (i.e. price risks over the average liquidation period and processing/utilization/sales costs) as specified in the respective policies.

Collateral haircut settings are typically based on available historic internal and / or external recovery data (expert opinions may also be used, where appropriate). They also incorporate a forward-looking component in the form of collection and valuation forecast provided by experts within Risk Management. Considering the expected proceeds from the liquidation of the different collateral types, respective value fluctuations, market specific liquidation costs, and time applied haircuts vary between 0 to 100%. When data is not sufficiently available or inconclusive, more conservative haircuts than otherwise used must be applied. Haircut settings are reviewed at least annually.

Risk transfers

Risk transfers to third parties form a key part of the bank's overall risk management process and are executed in various forms, including outright sales, single name and portfolio hedging, and securitizations. Risk transfers are conducted by the respective business units and/ or by Strategic Corporate Lending, in accordance with specifically approved mandates.

Strategic Corporate Lending manages the residual credit risk of loans and lending-related commitments of the institutional and corporate credit portfolio, part of the leveraged lending portfolio and the medium-sized German companies' portfolio across the bank's Corporate Bank and Investment Bank divisions.

Acting as a central pricing reference, Strategic Corporate Lending provides the businesses with an observed or derived capital market rate for loan applications; however, the decision of whether or not the business can enter into the credit risk remains exclusively with Credit Risk Management.

Strategic Corporate Lending concentrates on two primary objectives within the credit risk framework to enhance risk management discipline, improve returns and use capital more efficiently:

- To reduce single-name credit risk concentrations within the credit portfolio and
- To manage credit exposures by utilizing techniques including loan sales, securitization via collateralized loan obligations, sub-participations and single-name and portfolio credit default swaps

Netting and collateral arrangements for derivatives and securities financing transactions

Netting is applicable to both exchange traded derivatives and OTC derivatives. Netting is also applied to securities financing transactions (e.g. repurchase, securities lending and margin lending transactions) as far as documentation, structure and nature of the risk mitigation allow netting with the underlying credit risk in accordance with applicable law and the bank's Financial Contracts Netting and Collateral Policy and Procedures – Legal (collectively, "Netting Policies"). While cross-product netting between derivatives and securities financing transactions may be used in certain cases, the bank does not make use of cross-product netting for regulatory purposes.

All exchange traded derivatives are cleared through central counterparties (CCPs), which interpose themselves between the trading entities by becoming the counterparty to each of the entities. Where legally required or where available and to the extent agreed with the bank's counterparties, Deutsche Bank also uses CCP clearing for its OTC derivative transactions.

The Dodd-Frank Act and related Commodity Futures Trading Commission (CFTC) rules require CCP clearing in the United States for certain standardized OTC derivative transactions, including certain interest rate swaps and index credit default swaps, subject to limited exceptions when facing certain counterparties. The European Regulation (EU) No 648/2012 on OTC Derivatives, Central Counterparties and Trade Repositories (EMIR) and the Commission Delegated Regulations (EU) 2015/2205, (EU) 2015/592 and (EU) 2016/1178 based thereupon introduced mandatory CCP clearing in the EU for certain standardized OTC derivatives transactions. Mandatory CCP clearing in the EU began for certain interest rate derivatives on June 21, 2016 and for certain iTraxx-based credit derivatives and additional interest rate derivatives on February 9, 2017. Article 4 (2) of EMIR authorizes competent authorities to exempt intragroup transactions from mandatory CCP clearing, provided certain requirements, such as full consolidation of the intragroup transactions and the application of an appropriate centralized risk evaluation, measurement and control procedure are met. The bank successfully applied for the clearing exemption for a number of its regulatory-consolidated subsidiaries with intragroup derivatives, including e.g., Deutsche Bank Securities Inc. and Deutsche Bank Luxembourg S.A. As of December 31, 2023, the bank is allowed to make use of intragroup exemptions from the EMIR clearing obligation for 58 bilateral intragroup relationships. The extent of the exemptions differs as not all entities enter into relevant transaction types subject to the clearing obligation. Of the 58 intragroup relationships, 14 are relationships where both entities are established in the Union (EU) for which a full exemption has been granted, and 44 are relationships where one is established in a third country ("Third Country Relationship"). Third Country Relationships required repeat applications for each new asset class being subject to the clearing obligation; the process took place in the course of 2017. Due to "Brexit", the status of some group entities has changed from an EU entity to a third country entity, but there has been no impact for the bank in respect clearing exemptions.

The rules and regulations of CCPs typically provide for the bilateral set off of all amounts payable on the same day and in the same currency ("payment netting") thereby reducing the bank's settlement risk. Depending on the business model applied by the CCP, this payment netting applies either to all of the bank's derivatives cleared by the CCP or at least to those that form part of the same class of derivatives. Many CCPs' rules and regulations also provide for the termination, close-out and netting of all cleared transactions upon the CCP's default ("close-out netting"), which reduces the bank's credit risk. In its risk measurement and risk assessment processes Deutsche Bank applies close-out netting only to the extent Deutsche Bank believes that the relevant CCP's close-out netting provisions are legally valid and enforceable and have been approved in accordance with the bank's Netting Policies.

In order to reduce the credit risk resulting from OTC derivative transactions, where CCP clearing is not available, Deutsche Bank regularly seeks the execution of standard master agreements (such as master agreements for derivatives published by the International Swaps and Derivatives Association, Inc. (ISDA) or the German Master Agreement for Financial Derivative Transactions) with the bank's counterparties. A master agreement allows for the close-out netting of rights and obligations arising under derivative transactions that have been entered into under such a master agreement upon the counterparty's default, resulting in a single net claim owed by or to the counterparty. Payment netting may be agreed from time to time with the bank's counterparties for multiple transactions having the same payment dates (e.g., foreign exchange transactions) pursuant to the terms of master agreements which can, reduce the bank's settlement risk. In its risk measurement and risk assessment processes Deutsche Bank applies close-out netting only to the extent Deutsche Bank has concluded that the master agreement is legally valid and enforceable in all relevant jurisdictions and the recognition of close-out netting has been approved in accordance with the bank's Netting Policies.

Deutsche Bank also enters into credit support annexes (CSAs) to master agreements in order to further reduce the bank's derivatives-related credit risk. These annexes generally provide risk mitigation through periodic, usually daily, margining of the covered exposure. The CSAs also provide for the right to terminate the related derivative transactions upon the counterparty's failure to honor a margin call. As with netting, when Deutsche Bank believes the annex is enforceable, Deutsche Bank reflects this in its exposure measurement.

Certain CSAs to master agreements provide for rating-dependent triggers, where additional collateral must be pledged if a party's rating is downgraded. Deutsche Bank also enters into master agreements that provide for an additional termination event upon a party's rating downgrade. These downgrade provisions in CSAs and master agreements usually apply to both parties but in some agreements may apply to Deutsche Bank only. Deutsche Bank analyzes and monitors its potential contingent payment obligations resulting from a rating downgrade in its stress testing and liquidity coverage ratio approach for liquidity risk on an ongoing basis. For an assessment of the quantitative impact of a downgrading of the bank's credit rating please refer to table "Stress Testing Results" in the section "Liquidity Risk".

The Dodd-Frank Act and CFTC rules thereunder, including CFTC rule § 23.504, as well as EMIR and Commission Delegated Regulation based thereon, namely Commission Delegated Regulation (EU) 2016/2251, introduced the mandatory use of master agreements and related CSAs, which must be executed prior to or contemporaneously with entering into an uncleared OTC derivative transaction. Certain documentation is also required by the U.S. margin rules adopted by U.S. prudential regulators. Under the U.S. prudential regulators' margin rules, Deutsche Bank is required to post and collect initial margin for its derivatives exposures with other derivatives dealers, as well as with the bank's counterparties that (a) are "financial end users," as that term is defined in the U.S. margin rules, and (b) have an average daily aggregate notional amount of uncleared swaps, uncleared security-based swaps, foreign exchange forwards and foreign exchange swaps exceeding U.S.\$ 8 billion in June, July and August of the previous calendar year. The U.S. margin rules additionally requires Deutsche Bank to post and collect variation margin for its derivatives with other derivatives dealers and certain financial end user counterparties. These margin requirements are subject to a U.S.\$ 50 million threshold for initial margin, but no threshold for variation margin, with a combined U.S.\$ 500,000 minimum transfer amount. The U.S. margin requirements have been in effect for large banks since September 2016, with additional variation margin requirements having come into effect March 1, 2017 and additional initial margin requirements having been phased in from September 2017 through September 2022.

Under Commission Delegated Regulation (EU) 2016/2251, which implements the EMIR margin requirements, the CSA must provide for daily valuation and daily variation margining based on a zero threshold and a minimum transfer amount of not more than € 500,000. For large derivative exposures exceeding € 8 billion, initial margin has to be posted as well. The variation margin requirements under EMIR apply as of March 1, 2017; the initial margin requirements originally were subject to a staged phase-in until September 1, 2021. However, legislative changes published on February 17, 2021 extended deadlines into 2022. Under Article 31 of Commission Delegated Regulation (EU) 2016/2251, an EU party may decide to not exchange margin with counterparties in certain non-netting jurisdictions provided certain requirements are met. Pursuant to Article 11 (5) to (10) of EMIR, competent authorities are authorized to exempt intragroup transactions from the margining obligation, provided certain requirements are met. While some of those requirements are the same as for the EMIR clearing exemptions (see above), there are additional requirements such as the absence of any current or foreseen practical or legal impediment to the prompt transfer of funds or repayment of liabilities between intragroup counterparties. The bank is making use of this exemption. The bank has successfully applied for the collateral exemption for some of its regulatory-consolidated subsidiaries with intragroup derivatives, including, e.g., Deutsche Bank Securities Inc. and Deutsche Bank Luxembourg S.A. As of December 31, 2023, the bank is allowed to use intragroup exemptions from the EMIR collateral obligation for a number of bilateral intragroup relationships which are published under db.com/legal-resources/european-market-infrastructure-regulation/intra-group-exemptions-margining. For some bilateral intragroup relationships, the EMIR margining exemption may be used based on Article 11 (5) of EMIR, i.e. without the need for any application or publication, because both entities are established in the same EU Member State. For third country subsidiaries, the intragroup exemption was originally limited until the earlier of June 30, 2022 and four months after the publication of an equivalence decision by the EU Commission under Article 13(2) EMIR, unless, in the case of an equivalence decision being applicable, a follow-up exemption application is made and granted. On February 13, 2023, an amendment to Regulation (EU) 2016/2251 has been published in the Official Journal, which amendment relates to the extension of the exemption end date until June 30, 2025. While the application requirement may be abolished with "EMIR 3.0" (see European Commission proposal COM (2022) 697 final), Deutsche Bank continues to have processes in place ensuring readiness for intragroup margining should the need arise.

Concentrations within credit risk mitigation

Concentrations within credit risk mitigations taken may occur if a number of guarantors and credit derivative providers with similar economic characteristics are engaged in comparable activities with changes in economic or industry conditions affecting their ability to meet contractual obligations. Concentration risk may also occur in collateral portfolios (e.g. multiple claims and receivables against third parties) which are considered conservatively within the valuation process and / or on-site inspections where applicable. Deutsche Bank uses a range of tools and metrics to monitor its credit risk mitigating activities and potential concentrations.

For more qualitative and quantitative details in relation to the application of credit risk mitigation and potential concentration effects please refer to the section "Maximum exposure to credit risk".

Managing credit risk on portfolio level

Enterprise Risk Management (ERM) Portfolio sets the framework for the management of concentration risks at a portfolio level. This includes strategically setting, monitoring, reviewing, reporting, and controlling credit risk appetites across various dimensions such as group, division, business unit, legal entity, branch, country, and industry level that need to be considered in the context of credit approvals. In addition, ERM Portfolio provides a comprehensive and holistic view of the bank's risk profile across risk types.

On a portfolio level, significant concentrations of credit risk could result from having material exposures to a number of counterparties with similar economic characteristics, or who are engaged in comparable activities, where these similarities may cause their ability to meet contractual obligations to be affected in the same manner by changes in economic or industry conditions.

Deutsche Bank's portfolio management framework supports a comprehensive assessment of concentrations within its credit risk portfolio in order to keep concentrations within acceptable levels.

Risk and portfolio developments are regularly discussed at the Credit Risk Appetite and Portfolio Management Forum which includes representation from across the Credit Risk Management function including the Head of Credit Risk Management.

Industry risk management

To manage industry risk, Deutsche Bank has grouped its corporate and financial institutions counterparties into various industry sub-portfolios. Portfolios are regularly reviewed at least on an annual basis. Reviews highlight industry developments and risks to the bank's credit portfolio, review cross-risk concentration risks, analyze the risk/reward profile of the portfolio and incorporate the results of an economic downside stress test. Finally, this analysis is used to define the credit strategies for the portfolio in question.

In the bank's industry risk management framework, thresholds are established for aggregate credit limits to counterparties within each industry sub-portfolio. For risk management purposes, the aggregation of limits across industry sectors follows an internal risk view that does not have to be congruent with NACE (Nomenclature des Activités Economiques dans la Communauté Européenne) code-based view applied elsewhere in this report. Regular industry portfolio overviews are prepared for the Enterprise Risk Committee to discuss recent developments and to agree on risk management actions where necessary.

Beyond credit risk, the bank's industry risk framework comprises of thresholds for Traded Credit Positions while key industry relevant non-financial risks are closely monitored.

Country risk management

Avoiding undue concentrations from a regional and country perspective is also an integral part of the bank's credit risk management framework. In order to achieve this, country risk thresholds are applied to countries in Non-Japan Asia, Central Eastern Europe, Middle East & Africa and Latin America as well as selected Developed Markets countries (based on internal country risk ratings). Country portfolios are regularly reviewed with the frequency of review dependent on portfolio size and risk profile as well as risk developments. Larger / riskier portfolios are reviewed at least on an annual basis. These reviews assess amongst other factors, key macroeconomic and political risk developments and outlook; portfolio composition, quality and cross-risk concentrations under normal and stress conditions; analyze the risk / reward profile of the portfolio. Based on this and taking into account the Group's Risk Appetite and strategy, country risk appetite and strategies are set by ERM.

In the bank's country risk framework, thresholds are established for counterparty credit risk exposures in each country to manage the aggregate credit risk subject to country-specific economic and political events. These thresholds cover exposures to entities incorporated locally and subsidiaries of foreign multinational corporations as well as companies with significant economic or operational dependence on a specific country even though they are incorporated externally. In addition, gap risk thresholds are set to control the risk of loss due to intra-country wrong-way risk exposure. As such, for risk management purposes, the aggregation of exposures across countries follows an internal risk view that may differ from the geographical exposure view applied elsewhere in this report. Beyond credit risk, the bank's country risk framework comprises thresholds for trading positions that measure the aggregate market value of traded credit risk positions. For Emerging Markets, thresholds are also set to measure the profit and loss impact under specific country stress scenarios on trading positions across the bank's portfolio. Furthermore, thresholds are set for capital and intra-group funding exposure of Deutsche Bank entities in above countries given the transfer risk inherent in these cross-border positions. Key non-financial risks are closely monitored and factored into financial threshold setting considerations where relevant. Deutsche Bank's country risk ratings represent a key tool in its management of country risk. They include:

- Sovereign rating (set and managed by ERM Risk Research): A measure of the probability of the sovereign defaulting on its foreign or local currency obligations
- Transfer risk rating (set and managed by ERM Risk research): A measure of the probability of a “transfer risk event”, i.e., the risk that an otherwise solvent debtor is unable to meet its obligations due to inability to obtain foreign currency or to transfer assets as a result of direct sovereign intervention

All sovereign and transfer risk ratings are reviewed, at least on an annual basis.

Product/Asset class specific risk management

Complementary to the bank's counterparty, industry and country risk approach, Deutsche Bank focuses on certain product / asset class specific risk concentrations and sets limits or thresholds where required for risk management purposes. Specific risk limits are set in particular if a concentration of transactions of a specific type might lead to significant losses under certain conditions. In this respect, correlated losses might result from disruptions in the functioning of financial markets, significant moves in market parameters to which the respective product or asset class is sensitive to, or other risk drivers common to the asset class.

Private Bank and certain Corporate Bank businesses are managed via product-specific strategies setting the bank's risk appetite for portfolios with similar credit risk characteristics, such as the retail portfolios of mortgages and consumer finance products as well as products for business clients. Risk analyses are performed on portfolio level including further breakdown into business units as well as countries/regions. In Wealth Management, target levels are set for global concentrations along products as well as based on type and liquidity of collateral.

Underwriting of capital markets transactions

Specific focus is placed on transactions with underwriting risks where Deutsche Bank underwrites commitments with the intention to sell down or distribute part of the risk to third parties. These commitments include the undertaking to provide bank loans for syndication into the debt capital market and bridge loans for the issuance of notes. The inherent risks of being unsuccessful in the distribution of the facilities or the placement of the notes, comprise of a delayed distribution, funding of the underlying loans as well as a pricing risk as some underwriting commitments are additionally exposed to market risk in the form of widening credit spreads. Where applicable, Deutsche Bank dynamically hedges this credit spread risk to be within the approved market risk limit framework.

A major asset class, in which Deutsche Bank is active in underwriting, is leverage lending, which Deutsche Bank mainly executes through its Leveraged Debt Capital Markets business unit. The business model is a fee-based, originate to distribute approach focused on the distribution of largely unfunded underwriting commitments into the capital market. The aforementioned risks regarding distribution and credit spread movement apply to this business unit, however, are managed under a range of specific notional as well as market risk limits. The latter require the business to also hedge its underwriting pipeline against market dislocations. The fee-based model of the bank's Leveraged Debt Capital Markets business unit includes a restrictive approach to single-name risk concentrations retained on Deutsche Bank's balance sheet, which results in a diversified overall portfolio without any material concentrations. The resulting longer-term on-balance sheet portfolio is also subject to a comprehensive credit limit and hedging framework.

Deutsche Bank assumes underwriting risk with respect to Commercial Real Estate loans. Primarily in the Commercial Real Estate business unit in the Investment Bank loans may be originated with the intent to securitize in the capital markets or syndicate to other lenders. The afore-mentioned inherent underwriting risks such as delayed distribution and pricing risk are managed through notional caps, market risk limits and hedging against the risk of market dislocations.

Deutsche Bank also provides material underwriting activity through its Debt Capital Markets desk which is focused on supporting Investment Grade and cross-over rated corporate borrowers, usually in connection with M&A transaction financing. These exposures are typically 12-24 month bridge loans, which are expected to be repaid by syndicated loans and/or capital markets issuance by the borrower. Deutsche Bank does not bear market placement or pricing risk on these exposures but faces funding risk and credit risk for the duration of the commitment, which are managed through notional underwriting limits for the Group and an industry concentration framework.

Market Risk Management

Market Risk framework

The vast majority of Deutsche Bank's businesses are subject to market risk, defined as the potential for change in the market value of the Group's trading and invested positions. Risk can arise from changes in interest rates, credit spreads, foreign exchange rates, equity prices, commodity prices and other relevant parameters, such as market volatility and market implied default probabilities. The market risk can affect accounting, economic and regulatory views of the exposure.

Market Risk Management is part of Deutsche Bank's independent Risk function and sits within the Market and Valuations Risk Management group. One of the primary objectives of Market Risk Management is to ensure that the business units' risk exposure is within the approved risk appetite commensurate with its defined strategy. To achieve this objective, Market Risk Management works closely together with risk takers ("the business units") and other control and support groups.

The Group distinguishes between three substantially different types of market risk:

- Trading market risk arises primarily through the market-making and client facilitation activities of the Investment Bank and Corporate Bank divisions. This involves taking positions in debt, equity, foreign exchange, other securities and commodities as well as in equivalent derivatives
- Traded default risk arising from defaults and rating migrations relating to trading instruments
- Non-trading market risk arises from market movements, primarily outside the activities of the trading units, in the banking book and from off-balance sheet items; this includes interest rate risk, credit spread risk, investment risk and foreign exchange risk as well as market risk arising from pension schemes, guaranteed funds and equity compensation; non-trading market risk also includes risk from the modeling of client deposits as well as savings and loan products

Market Risk Management governance is designed and established to promote oversight of all market risks, effective decision-making and timely escalation to senior management.

Market Risk Management defines and implements a framework to systematically identify, assess, monitor and report the Group's market risk. Market risk managers identify market risks through active portfolio analysis and engagement with the business units.

Market Risk measurement

The Group aims to accurately measure all types of market risks by a comprehensive set of risk metrics embedding accounting, economic and regulatory considerations.

The market risks are measured by several internally developed key risk metrics and regulatory defined market risk approaches.

Trading Market Risk

The Group's primary mechanism to manage trading market risk is the application of the bank's risk appetite framework of which the limit framework is a key component. The Management Board, supported by Market Risk Management, sets group-wide value-at-risk, economic capital and portfolio stress testing limits for market risk in the trading book. Market Risk Management allocates this overall appetite to the Corporate Divisions and their individual business units based on established and agreed business plans. Deutsche Bank also has business aligned heads within Market Risk Management who establish business unit limits, by allocating the limit down to individual portfolios, geographical regions and types of market risks.

Value-at-risk, economic capital and portfolio stress testing limits are used for managing all types of market risk at an overall portfolio level. As an additional and important complementary tool for managing certain portfolios or risk types, Market Risk Management performs risk analysis and business specific stress testing. Limits are also set on sensitivity and concentration/liquidity, exposure, business-level stress testing and event risk scenarios, taking into consideration business plans and the risk vs return assessment.

Business units are responsible for adhering to the limits against which exposures are monitored and reported. The market risk limits set by Market Risk Management are monitored on a daily, weekly and monthly basis, dependent on the risk management tool being used.

Internally developed Market Risk Models

Value-at-Risk (VaR)

VaR is a quantitative measure of the potential loss (in value) of Fair Value positions due to market movements that should not be exceeded in a defined period of time and with a defined confidence level.

The Group's value-at-risk for the trading businesses is based on historical simulation model (internal model approach) predominantly utilizing full revaluation, although some portfolios remain on a sensitivity based approach. The approach is used for both Risk Management and capital requirements.

Risk management VaR is calibrated to a 99% confidence level and a one day holding period. This means we estimate there is a 1 in 100 chance that a mark-to-market loss from our trading positions will be at least as large as the reported VaR. For regulatory capital purposes, the VaR model is calibrated to a 99% confidence interval and a ten day holding period.

The calculation employs a historical simulation technique that uses one year of historical market data as input and observed correlations between the risk factors during this one year period.

The VaR model is designed to take into account a comprehensive set of risk factors across all asset classes. Key risk factors are swap/government curves, index and issuer-specific credit curves, single equity and index prices, foreign exchange rates, commodity prices as well as their implied volatilities. To help ensure completeness in the risk coverage, second order risk factors, e.g. money market basis, implied dividends, option-adjusted spreads and precious metals lease rates are also considered in the VaR calculation. The list of risk factors included in the VaR model is reviewed regularly and enhanced as part of ongoing model performance reviews.

The model incorporates both linear and, especially for derivatives, nonlinear impacts predominantly through a full revaluation approach but it also utilizes a sensitivity-based approach for certain portfolios. The full revaluation approach uses the historical changes to risk factors as input to pricing functions. Whilst this approach is computationally expensive, it does yield a more accurate view of market risk for nonlinear positions, especially under stressed scenarios. The sensitivity based approach uses sensitivities to underlying risk factors in combination with historical changes to those risk factors.

For each business unit a separate VaR is calculated for each risk type, e.g. interest rate risk, credit spread risk, equity risk, foreign exchange risk and commodity risk. "Diversification effect" reflects the fact that the total VaR on a given day will be lower than the sum of the VaR relating to the individual risk types. Simply adding the VaR figures of the individual risk types to arrive at an aggregate VaR would imply the assumption that the losses in all risk types occur simultaneously.

The VaR enables the Group to apply a consistent measure across the fair value exposures. It allows a comparison of risk in different businesses, and also provides a means of aggregating and netting positions within a portfolio to reflect correlations and offsets between different asset classes. Furthermore, it facilitates comparisons of the market risk both over time and against the daily trading results.

When using VaR results a number of considerations should be taken into account. These include:

- The use of historical market data may not be a good indicator of potential future events, particularly those that are extreme in nature; this "backward-looking" limitation can cause VaR to underestimate future potential losses (as in financial credit crisis 2008/09), but can also cause it to be overstated immediately following a period of significant stress (as in COVID-19 pandemic)
- The one day holding period does not fully capture the market risk arising during periods of illiquidity, when positions cannot be closed out or hedged within one day
- VaR does not indicate the potential loss beyond the 99th percentile
- Intra-day risk is not reflected in the end of day VaR calculation
- There may be risks in the trading or banking book that are not fully captured in the VaR model (either partially captured or missing entirely)

The process of systematically capturing and evaluating risks currently not captured in the bank's VaR model has been further developed and improved. An assessment is made to determine the level of materiality of these risks and material risks are prioritized for inclusion in the bank's internal model. Risks not in VaR are monitored and assessed on a regular basis through the Risk Not In VaR (RNIV) framework. This framework has also undergone a significant overhaul in 2020 which included the alignment of methodologies with the Historical Simulation approach which in turn yields a more accurate estimate of the contribution of these missing items and their potential capitalization.

Deutsche Bank is committed to the ongoing development of the internal risk models, and substantial resources are allocated to review, validate and improve them.

Stressed Value-at-Risk

Stressed Value-at-Risk (SVaR) calculates a stressed value-at-risk measure based on a one year period of significant market stress. The Group calculates a stressed value-at-risk measure using a 99% confidence level. Stressed VaR is calculated with a holding period of ten days. The SVaR calculation utilizes the same systems, trade information and processes as those used for the calculation of value-at-risk. The only difference is that historical market data and observed correlations from a period of significant financial stress (i.e., characterized by high volatilities) are used as an input for the historical simulation.

The stress period selection process for the stressed value-at-risk calculation is based on the comparison of VaR calculated using historical time windows compared to the current SVaR. If a historical window produces a VaR which is higher than the current SVaR, it is further investigated and the SVaR window can subsequently be updated accordingly. This process runs on a quarterly basis.

During 2023, the stress period selection process for the Group was conducted as outlined above. As a result, the SVaR window used at various periods in 2023 included the Financial credit crisis of 2008/09 and the European sovereign crisis of 2011/12.

Incremental Risk Charge

Incremental Risk Charge captures default and credit rating migration risks for credit-sensitive positions in the trading book. The Group uses a Monte Carlo Simulation for calculating incremental risk charge as the 99.9% quantile of the portfolio loss distribution over a one-year capital horizon under a constant position approach and for allocating contributory incremental risk charge to individual positions.

The model captures the default and migration risk in an accurate and consistent quantitative approach for all portfolios. Important parameters for the incremental risk charge calculation are exposures, recovery rates, maturities, ratings with corresponding default and migration probabilities and parameters specifying issuer correlations.

Market Risk Standardized Approach

The Market Risk Standardized Approach ("MRSA") is used to determine the regulatory capital charge for the specific market risk of trading book securitizations, for certain types of investment funds and for longevity risk as set out in CRR/CRD regulations.

Longevity risk is the risk of adverse changes in life expectancies resulting in a loss in value on longevity linked policies and transactions. For risk management purposes, stress testing and economic capital allocations are also used to monitor and manage longevity risk.

Market Risk Stress Testing

Stress testing is a key risk management technique, which evaluates the potential effects of extreme market events and movements in individual risk factors. It is one of the core quantitative tools used to assess the market risk of Deutsche Bank's positions and complements VaR and Economic Capital. Market Risk Management performs several types of stress testing to capture the variety of risks (Portfolio Stress Testing, individual specific stress tests and Event Risk Scenarios) and also contributes to Group-wide stress testing. These stress tests cover a wide range of severities designed to test the earnings stability and capital adequacy of the bank.

Trading Market Risk Economic Capital

Deutsche Bank's trading market risk economic capital model-scaled Stressed VaR based EC (SVaR based EC) - comprises two core components, the "common risk" component covering risk drivers across all businesses and the "business-specific risk" component, which enriches the Common Risk via a suite of Business Specific Stress Tests. Both components are calibrated to historically observed severe market shocks. Common risk is calculated using a scaled version of the SVaR framework while Business Specific Stress Tests are designed to capture more product/business-related bespoke risks (e.g. complex basis risks) as well as higher order risks not captured in the common risk component. The SVaR based EC uses the Monte Carlo SVaR framework.

Traded Default Risk Economic Capital

The Traded Default Risk Economic Capital captures the relevant credit exposures across our trading and fair value banking books. Trading book exposures are monitored by Market Risk Management via single name concentration and portfolio thresholds which are set based upon rating, size and liquidity. Single name concentration risk thresholds are set for two key metrics: Default Exposure, i.e., the P&L impact of an instantaneous default at the current recovery rate, and bond equivalent Market Value, i.e. default exposure at 0% recovery. In order to capture diversification and concentration effects we perform a joint calculation for traded default risk economic capital and credit risk economic capital. Important parameters for the calculation of traded default risk are exposures, recovery rates and default probabilities as well as maturities. The probability of joint rating downgrades and defaults is determined by the default and rating correlations of the portfolio model. These correlations are specified through systematic factors that represent countries, geographical regions and industries.

Trading Market Risk Reporting

Market Risk Management reporting creates transparency on the risk profile and facilitates the understanding of core market risk drivers to all levels of the organization. The Management Board and Senior Governance Committees receive regular reporting, as well as ad hoc reporting as required, on market risk, regulatory capital and stress testing. Senior Risk Committees receive risk information at a number of frequencies, including weekly or monthly.

Additionally, Market Risk Management produces daily and weekly Market Risk specific reports and daily limit utilization reports for each business owner.

Regulatory prudent valuation of assets carried at fair value

Pursuant to Article 34 CRR, institutions shall apply the prudent valuation requirements of Article 105 CRR to all assets measured at fair value and shall deduct from CET 1 capital the amount of any additional value adjustments necessary.

We determined the amount of the additional value adjustments based on the methodology defined in the Commission Delegated Regulation (EU) 2016/101.

As of December 31, 2023 the amount of the additional value adjustments was € 1.7 billion. The December 31, 2022 amount was € 2.0 billion. The decrease was predominantly due to a combination of risk exposure changes and reductions in price dispersion.

As of December 31, 2023 the reduction of the expected loss from subtracting the additional value adjustments was € 102 million, which partly mitigated the negative impact of the additional value adjustments on our CET 1 capital.

Non-trading Market Risk

Non-trading market risk arises primarily from activities outside of the trading units, in the banking book, including pension schemes and guarantees, and embedding considerations of different accounting treatments of transactions. Significant market risk factors the Group is exposed to and are overseen by risk management groups in that area are interest rate risk (including risk from embedded optionality and changes in behavioral patterns for certain product types), credit spread risk, foreign exchange risk (including structural foreign exchange risk), equity risk (including equity compensation related risk and investments in public and private equity as well as real estate, infrastructure and fund assets).

As for trading market risks the Group's risk appetite and limit framework is also applied to manage our exposure to non-trading market risk. On group level those are captured by the management board set limits for market risk economic capital capturing exposures to all market risks across asset classes as well as earnings and economic value based limits for interest rate risk in the banking books. Those limits are cascaded down by market risk management to the divisional or portfolio level. The limit framework for non-trading market risk exposure is further complemented by a set of business specific stress tests, value-at-risk & sensitivity limits monitored on a daily or monthly basis dependent on the risk measure being used.

Interest Rate Risk in the Banking Book

Interest rate risk in the banking book (IRRBB) is the current or prospective risk, to both the Group's capital and earnings, arising from movements in interest rates, which affect the Group's banking book exposures. This includes gap risk, which arises from the term structure of banking book instruments, basis risk, which describes the impact of relative changes in interest rates for financial instruments that are priced using different interest rate curves, as well as option risk, which arises from option derivative positions or from optional elements embedded in financial instruments.

The Group manages its IRRBB exposures using economic value as well as earnings based measures. The Group Treasury function is mandated to manage the interest rate risk centrally, with Market Risk Management acting as 2nd Line of Defense (LoD) independently assessing and challenging the implementation of the framework and adherence to the risk appetite. Group Audit in its role as the 3rd LoD is accountable for providing independent and objective assurance on the adequacy of the design, operating effectiveness and efficiency of the risk management system and systems of internal control. The Group Asset & Liability Committee ("ALCo") oversees and steers the Group's structural interest risk position with particular focus on banking book risks and the management of the net interest income. The ALCo monitors the sensitivity of financial resources and associated metrics to key market parameters such as interest rate curves and oversees adherence to divisional/business financial resource limits.

Economic value based measures look at the change in economic value of banking book assets, liabilities and off-balance sheet exposures resulting from interest rate movements, independent of the accounting treatment. Thereby the Group measures the change in economic value of equity (Δ EVE) as the maximum decrease of the banking book economic value under the six standard scenarios defined by the EBA in addition to internal stress scenarios for risk steering purposes. For the reporting of internal stress scenarios and risk appetite the Group applies a few different modelling assumptions as used in this disclosure. When aggregating the economic value of equity Δ EVE across different currencies, DB adds up negative and positive changes without applying weight factors for positive changes. Furthermore, the Group is using behavioral model assumptions about the interest rate duration of own equity capital as well as non-maturity deposits from financial institutions.

Earnings-based measures look at the expected change in net interest income (NII) resulting from interest rate movements over a defined time horizon, compared to a defined benchmark scenario. Thereby the Group measures net interest income Δ NII as the maximum reduction under the six standard scenarios defined by the EBA in addition to internal stress scenarios for risk steering purposes, compared to a market implied curve scenario, over a period of 12 months.

The Group employs mitigation techniques to hedge the interest rate risk arising from non-trading positions within given limits. The interest rate risk arising from non-trading asset and liability positions is managed through Treasury Markets & Investments. Thereby the Group uses derivatives and applies different hedge accounting techniques such as fair value hedge accounting or cash flow hedge accounting. For fair value hedges, the Group uses interest rate swaps and options contracts to manage the fair value movements of fixed rate financial instruments due to changes in benchmark interest. For hedges in the context of the cash flow hedge accounting, the Group uses interest rate swaps to manage the exposure to cash flow variability of the variable rate instruments as a result of changes in benchmark interest rates.

The Group assesses and measures hedge effectiveness of a hedging relationship based on the change in the fair value or cash flows of the derivative hedging instrument relative to the change in the fair value or cash flows of the hedged item attributable to the hedged risk.

The "Model Risk Management" function performs independent validation of models used for IRRBB measurement, as per all market risk models, in line with Deutsche Bank's group-wide risk governance framework.

The calculation of VaR and sensitivities of interest rate risk is performed daily, whereas the measurement and reporting of economic value interest rate and earnings risk is performed on a monthly basis. The Group generally uses the same metrics in its internal management systems as it applies for the disclosure in this report.

Deutsche Bank's key modelling assumptions are applied to the positions in the Private Bank and Corporate Bank divisions. Those positions are subject to risk of changes in client's behavior with regard to their deposits as well as loan products. The Group regularly tests the assumptions and updates them where appropriate following a defined governance process. In particular, the Group has made changes to its assumptions during the early phase of rising interest rates where a slower repricing in deposits was observed than it was anticipated.

The Group manages the interest rate risk exposure of its non-maturity deposits through a replicating portfolio approach to determine the average repricing maturity of the portfolio. For the purpose of constructing the replicating portfolio, the portfolio of non-maturity deposits is clustered by dimensions such as business unit, currency, product and geographical location. The main dimensions influencing the repricing maturity are elasticity of deposit rates to market interest rates, volatility of deposit balances and observable client behavior. For the reporting period the average repricing maturity assigned across all such replicating portfolios is 2.40 years and Deutsche Bank uses 15 years as the longest repricing maturity.

In the loan and some of the term deposit products Deutsche Bank considers early prepayment/withdrawal behavior of its customers. The parameters are based on historical observations, statistical analyses and expert assessments.

Furthermore, the Group generally calculates IRRBB related metrics in contractual currencies and aggregates the resulting metrics for reporting purposes. When calculating economic value based metrics the commercial margin is excluded for material parts of the balance sheet.

Credit Spread Risk in the Banking Book

Deutsche Bank is exposed to credit spread risk of bonds held in the banking book, mainly as part of the Treasury Liquidity Reserves portfolio. The credit spread risk in the banking book is managed by the businesses, with Market Risk Management acting as an independent oversight function ensuring that the exposure is within the approved risk appetite. This risk category is closely associated with interest rate risk in the banking book as changes in the perceived credit quality of individual instruments may result in fluctuations in spreads relative to underlying interest rates. The calculation of credit spread sensitivities and value-at-risk for credit spread exposure is in general performed on a daily basis, the measurement and reporting of economic capital and stress tests are performed on a monthly basis.

Foreign exchange risk

Foreign exchange risk arises from non-trading asset and liability positions that are denominated in currencies other than the functional currency of the respective entity. The majority of this foreign exchange risk is transferred through internal hedges to trading books within the Investment Bank and is therefore reflected and managed via the value-at-risk figures in the trading books. The remaining foreign exchange risks that have not been transferred are mitigated through match funding the investment in the same currency, so that only residual risk remains in the portfolios. Small exceptions to above approach follow the general Market Risk Management monitoring and reporting process, as outlined for the trading portfolio.

The bulk of non-trading open foreign exchange risk arises from the foreign exchange translation of local capital into the reporting currency of the Group and related capital hedge positions. Thereby structural open long positions are taken for a selected number of relevant currencies to immunize the sensitivity of the capital ratio of the Group against changes in the exchange rates.

Equity and investment risk

Non-trading equity risk is arising predominantly from our non-consolidated investment holdings in the banking book and from our equity compensation plans.

Deutsche Bank's non-consolidated equity investment holdings in the banking book are categorized into strategic and alternative investment assets. Strategic investments typically relate to acquisitions made to support the bank's business franchise and are undertaken with a medium to long-term investment horizon. Alternative assets are comprised of principal investments and other non-strategic investment assets. Principal investments are direct investments in private equity, real estate, venture capital, hedge or mutual funds whereas assets recovered in the workout of distressed positions or other legacy investment assets in private equity and real estate are of a non-strategic nature.

Investment proposals for strategic investments as well as monitoring of progress and performance against committed targets are evaluated by the Group Investment Committee. Depending on size, strategic investments may require approval from the Group Investment Committee, the Management Board or the Supervisory Board.

Credit Risk Management Principal Investments is responsible for the risk-related governance and monitoring of our alternative asset activities. The review of new or increased principal investment commitments is the task of the Principal Investment Commitment Approval Group, established by the Enterprise Risk Committee as a risk management forum for alternative asset investments. The Principal Investment Commitment Approval Group approves investments under its authority or recommends decisions above its authority to the Management Board for approval. The Management Board also sets investment limits for business divisions and various portfolios of risk upon recommendation by the Enterprise Risk Committee.

The equity investment holdings are included in regular group wide stress tests and the monthly market risk economic capital calculations.

Pension risk

The Group is exposed to market risks from defined benefit pension schemes for past and current employees. Market risks in pension plans materialize due to a potential decline in the market value of plan assets or an increase in the present value of the pension liability of each of the pension plans. Market Risk Management is responsible for a regular measurement, monitoring, reporting and control of market risks of the asset and liability side of the defined benefit pension plans. Thereby, market risks in pension plans include but are not restricted to interest rate risk, inflation risk, credit spread risk, equity risk, and longevity risk. For further details on the Group's defined benefit pension obligations and their management, please refer to Note 33 "Employee Benefits" in the "Notes to the Consolidated Financial Statements" section.

Other risks in the Banking Book

Market risks in the Asset Management business primarily result from principal guaranteed funds or accounts, but also from co-investments in the bank's funds.

Non-trading Market Risk Economic Capital

Non-trading market risk economic capital is calculated either by applying the standard traded market risk EC methodology or through the use of non-traded market risk models that are specific to each risk class and which consider, among other factors, historically observed market moves, the liquidity of each asset class, and changes in client's behavior in relation to products with behavioral optionality.

Operational risk management

Operational Risk Management Framework

Deutsche Bank applies the European Banking Authority's Single Rulebook definition of operational risk: "Operational risk means the risk of losses stemming from inadequate or failed internal processes, people and systems or from external events. Operational risk includes legal risks but excludes business and reputational risk and is embedded in all banking products and activities." Operational risk forms a subset of the bank's non-financial risks.

Deutsche Bank's operational risk appetite sets out the amount of operational risk it is willing to accept as a consequence of doing business. The bank takes on operational risks consciously, both strategically as well as in day-to-day business. While the bank may have no appetite for certain types of operational risk events (such as violations of laws or regulations and misconduct), in other cases a certain amount of operational risk must be accepted if the bank is to achieve its business objectives. In case a residual risk is assessed to be outside risk appetite, risk reducing actions must be undertaken, including remediating the risks, insuring risks or ceasing business.

The Operational Risk Management Framework is a set of interrelated tools and processes that are used to identify, assess, mitigate and monitor the bank's operational risks. Its components have been designed to operate together to provide a comprehensive, risk-based approach to managing the bank's most material operational risks. Operational Risk Management Framework components include the Group's approach to setting and adhering to operational risk appetite, the operational risk type and control taxonomies, the policies and procedures for operational risk management processes including the respective tools, and the bank's operational risk capital model.

Organizational and governance structure

While the day-to-day management of operational risk is the primary responsibility of business divisions and infrastructure functions, where these risks are generated, Non-Financial Risk Management (NFRM) oversees the Group-wide management of operational risks, identifies and reports risk concentrations, and promotes a consistent application of the Operational Risk Management Framework across the bank. NFRM is part of the Group's risk function, the Chief Risk Office, which is headed by the Chief Risk Officer.

The Chief Risk Officer appoints the Head of NFRM, who is accountable for the design, oversight and maintenance of an effective, efficient and regulatory compliant Operational Risk Management Framework, including the operational risk capital model. The Head of NFRM monitors and challenges the Operational Risk Management Framework's Group wide implementation and monitors overall risk levels against the bank's operational risk appetite.

The Non-Financial Risk Committee, which is chaired by the Chief Risk Officer, is responsible for the oversight, governance and coordination of the management of operational risk in the Group on behalf of the Management Board, by establishing a cross-risk and holistic perspective of the key operational risks of the Group. Its decision-making and policy related authorities include the review, advice and management of all operational risk issues that may impact the risk profile of business divisions and infrastructure functions. Several sub-fora with attendees from both the 1st LoD and 2nd LoD support the Non-Financial Risk Committee to effectively fulfil its mandate. In addition to the Group level Non-Financial Risk Committee, business divisions have established 1st LoD non-financial risk fora for the oversight and management of operational risks on various levels of the organization.

The governance of operational risks follows the bank's 3LoD approach to managing all of its financial and non-financial risks. The Operational Risk Management Framework establishes the operational risk governance standards including the core 1st and 2nd LoD roles and their responsibilities, to ensure effective risk management and appropriate independent challenge.

Operational risk requirements for the 1st LoD: Risk owners as the 1st LoD have full accountability for their operational risks and manage these against a defined risk appetite.

Risk owners are those roles in the bank whose activities generate - or who are exposed to - operational risks. As heads of business divisions and infrastructure functions, they must determine the appropriate organizational structure to identify their operational risk profile, actively manage these risks within their organization, take business decisions on the mitigation or acceptance of operational risks to ensure they remain within risk appetite, and establish and maintain 1st LoD controls.

Operational risk requirements for the 2nd LoD: Risk Type Controllers act as the 2nd LoD control functions for all sub-risk types under the overarching risk type "Operational Risk".

Risk Type Controllers establish the framework and define Group level risk appetite statements for the specific operational risk type they oversee. Risk Type Controllers define the minimum risk management and control standards and independently monitor and challenge risk owners' implementation of these standards in their day-to-day processes, as well as their risk-taking and risk management activities. Risk Type Controllers provide independent operational risk oversight and prepare aggregated risk type profile reporting. Risk Type Controllers monitor the risk type's profile against risk appetite and have a right to veto risk decisions leading to foreseeable risk appetite breaches. As risk type experts, Risk Type Controllers define the risk type and its taxonomy and support and facilitate the implementation of the risk type framework in the 1st LoD. To maintain their independence, Risk Type Controller roles are located only in infrastructure functions.

Operational risk requirements for NFRM as the Risk Type Controller for the overarching risk type "Operational Risk": As the Risk Type Controller / risk control function for operational risk, NFRM establishes and maintains the overarching Operational Risk Management Framework and determines the appropriate level of capital to underpin the Group's operational risk.

- As the 2nd LoD risk control function, NFRM defines the bank's approach to operational risk appetite and monitors its adherence, breaches and consequences; NFRM is the independent reviewer and challenger of the 1st LoD's risk and control assessments and risk management activities relating to the holistic operational risk profile of a unit (while Risk Type Controllers monitor and challenge activities related to their specific risk types). NFRM provides the oversight of risk and control mitigation plans to return the bank's operational risk to its risk appetite, where required; it also establishes and regularly reports the bank's operational risk profile and operational top risks, i.e. the bank's material operational risks which are outside of risk appetite
- As the subject matter expert for operational risk, NFRM provides independent risk views to facilitate forward-looking management of operational risks, actively engages with risk owners (1st LoD) and facilitates the implementation of risk management and control standards across the bank
- NFRM is accountable for the design, implementation and maintenance of the approach to determine the adequate level of capital required for operational risk, for recommendation to the Management Board; This includes the calculation and allocation of operational risk capital demand and expected loss under the Advanced Measurement Approach (AMA)

Managing operational risk

To manage the broad range of sub-risk types underlying operational risk, the Operational Risk Management Framework provides a set of tools and processes that apply to all operational risk types across the bank. These enable the bank to determine its operational risk profile in relation to risk appetite for operational risk, to systematically identify operational risk themes and concentrations, and to define risk mitigating measures and priorities.

In 2023, the bank continued to mature the management of operational risk by further integrating and simplifying the risk management process. This was achieved through enhancement of the bank's central controls inventory; upgrading the application used to analyze operational risk loss events by integrating 'lessons learned' functionality; introduction of residual risk tolerance zones in the risk appetite framework and by extending framework adherence monitoring to also cover 2LoD activities

Loss data collection: Data on internal and relevant external operational risk events (with a P&L impact $\geq \text{€} 10,000$) is independently validated in a timely manner. Material operational risk events trigger clearly defined lessons learned and read-across analyses, which are performed in the 1st LoD in close collaboration between business partners, risk control and other infrastructure functions. Lessons learned reviews analyze the reasons for significant operational risk events, identify their root causes, and document appropriate remediation actions to reduce the likelihood of their reoccurrence. Read across reviews take the conclusions of the lessons learned process and seek to analyze whether similar risks and control weaknesses identified in a lessons learned review exist in other areas of the bank, even if they have not yet resulted in problems or losses. This allows preventative actions to be undertaken. In 2023, lesson learned documentation functionality was integrated into the operational risk event management application (EMApp), allowing for direct technical linkage to the underlying operational risk event and enhanced lessons learned monitoring, governance and reporting.

Scenario analysis: The operational risk profile is complemented and further substantiated by incorporating exploratory scenario analysis into day-to-day risk management activities. Scenario analysis is used as a risk identification and management tool that enables risk owners and Risk Type Controllers to explore potential exposure to risk as the basis for identifying potential gaps in the banks existing operational risk profile. Furthermore, it is used as an input into the calculation of the operational risk capital for the bank. Scenario storylines build on internal losses, emerging risk reviews, top risks and risk concentrations, and findings, as well as the review of external peer operational risk loss events. Information from actual and potential future loss events are systematically utilized to identify thematic susceptibilities and actively seek to reduce the likelihood of similar incidents, for example through deep dive analyses or risk profile reviews. In 2023, the scenario analysis process has been strengthened by further tightening the roles and responsibilities within the 1st LoD and 2nd LoD in executing scenarios and scenario analysis continues to play an important role in operational resilience exercises, particularly in assessing impacts of emerging risk themes. Additionally, work has started which will allow scenario analysis to be performed in the event management application (EMApp) in order to automate the capture, governance and reporting..

Risk & Control Assessment: The risk and control assessment process comprises of a series of bottom-up assessments of the risks generated by business divisions and infrastructure functions, the effectiveness of the controls in place to manage them, and the remediation actions required to bring the risks within the risk appetite perimeter. The Risk & Control Assessment is performed at a global business level and as such covers all jurisdictions. It is designed to assist Senior Management to determine whether operational risks are being managed and controlled adequately via a dynamic assessment approach which covers all applicable Risk Types from the Group's Non-Financial Risk Type Taxonomy (NFR TT). The Risk & Control Assessment puts a greater emphasis on assessing and mitigating risks that are outside of appetite and risks that drive unethical and inappropriate market conduct within the bank.

Top risks: The Top Risk process is a regular process to identify the risks which pose greatest concern across Group and divisions, in addition to ensuring there is commensurate remediation activity associated to mitigate the risk. The associated Top Risk reporting provides a forward-looking perspective on the impact of top risk reduction programs, comprising of planned remediation and control enhancements, indicating the expected timeframe for reduction. The reporting also contains emerging risks and themes that have the potential to influence the top risk population in the future. The top risk identification process is closely connected to both the risk and control assessment and risk appetite, consuming the risk exposure from the former and the appetite levels from the latter to help inform the top risk population.

Transformation Risk Assessment: To identify and appropriately manage risks from material change initiatives within the bank, a transformation risk assessment process is in place to assess the impact of transformation on the bank's risk profile and control environment. The assessment considers impacts to financial and non-financial risk types and is mandatory for a subset of initiatives, categorized as key deliverables (typically includes regulatory initiatives, technology migrations, remediation initiatives, strategy and organizational changes). In 2023 the scope of the transformation risk assessment was expanded to cover to bank's future joint ventures and strategic investments, to implement requirements of the bank's updated Joint Venture and Strategic Investment Policy.

Risk appetite: Non-financial risk appetite reflects the amount of non-financial risk the bank is willing to accept to pursue its strategy. The non-financial risk appetite framework provides a common approach to define the level of risk appetite across the firm and monitor exposure against this appetite. NFR appetite metrics are used to monitor the operational risk profile against the bank's defined risk appetite, and to alert the organization to impending problems in a timely fashion. In 2023, design amendments have been made resulting in the introduction of residual risk tolerance zones which allow for a more precise articulation of tolerance for residual risk assessed by the risk and control assessment process. This introduces defined consequences for given combinations of likelihood and severity of impact for a given risk type.

Findings and issue management: The findings and issue management process facilitates the bank in mitigating the risks associated with known control weaknesses and deficiencies, and enables management to make risk-based decisions over the need for further remediation or risk acceptance. Outputs from the findings management process must be able to demonstrate to internal and external stakeholders that the bank is actively identifying its control weaknesses and taking steps to manage associated risks within acceptable levels of risk appetite. In 2023, Group Audit's review and approval role in the lifecycle of Self-Identified Issues was enhanced. Additionally, the scope of the 'Findings to Control' linkage was expanded to cover all Risk Types and integrated in the Findings management tool.

Framework Adherence: Operational Risk Framework Adherence is a key activity to oversee, monitor and test the conformity to NFR Framework component requirements by key stakeholders. Operational Risk Framework Adherence results aim to proactively identify implementation improvements required of users of the NFR Framework and highlight potential Framework design improvements. In 2023, Operational Risk Framework Adherence monitoring was expanded to also cover 2nd LoD activities.

Operational risk type frameworks

Operational risk is a risk type on the Group's Risk Type Taxonomy. Together with Reputational Risk it forms Non-Financial risk. The Operational Risk Management Framework is a set of interrelated tools and processes that are used to identify, assess, measure, monitor and mitigate Deutsche Bank Group's operational risks according to regulatory and industry-established definition of operational risk. It applies to the operational sub-risk types on a more granular level and enables the bank to aggregate and monitor its operational risk profile. These operational sub-risk types are controlled by various infrastructure functions and include the following:

- The Compliance department performs an independent 2nd level control function that protects the bank's license to operate by promoting and enforcing compliance with the law and driving a culture of compliance and ethical conduct in the bank; the Compliance department assists and challenges the business divisions and works with other infrastructure functions and regulators to establish and maintain a risk-based approach to the management of the bank's compliance risks in accordance with the bank's risk appetite and to help the bank detect, mitigate and prevent breaches of laws and regulations; the Compliance department performs the following principal activities: the identification, assessment, mitigation, monitoring and reporting on compliance risk; performs second level controls; the results of these assessments and controls are regularly reported to the Management Board and Supervisory Board; the Compliance department also assists the Regulatory Management team with regulatory engagement
- Financial crime risks are managed by the Anti-Financial Crime (AFC) function via maintenance and development of a dedicated program; the AFC program is based on regulatory and supervisory requirements; AFC has defined roles and responsibilities and established dedicated functions for the identification and management of financial crime risks resulting from money laundering, terrorism financing, compliance with sanctions and embargoes, the facilitation of tax evasion as well as other criminal activities including fraud, bribery and corruption and other crimes; AFC updates its strategy for financial crime prevention via regular development of internal policies processes and controls, institution-specific risk assessment and staff training
- The Legal department is a fully independent infrastructure function, mandated to provide legal advice to the Management Board, the Supervisory Board (restricted to matters that do not give rise to conflict of interest), corporate divisions and infrastructure functions, and to support the Management Board in setting up and guarding the bank's corporate governance framework and manage the bank's legal corporate governance framework, antitrust legal and data privacy risk

The Legal Department carries out its mandate through the following responsibilities:

- Advising the Management Board and Supervisory Board on legal aspects of their activities
- Providing legal advice to all Deutsche Bank units to facilitate adherence to legal and regulatory requirements in relation to their activities respectively
- Supporting other bank units managing Deutsche Bank Group's interactions with regulatory authorities
- Engaging and managing external lawyers used by Deutsche Bank Group (in conjunction with the Outside Counsel Management team in Regulatory & Exam Management
- Managing Deutsche Bank Group's litigation and contentious regulatory matters, (including contentious HR matters), and managing Deutsche Bank Group's response to external regulatory enforcement investigations
- Establishing appropriate processes for the preparation, review and execution of transactional documentation
- Preserving documents in connection with the management of Continuous Matters by issuing Legal Holds
- Advising on legal aspects of internal investigations
- Setting the global governance framework for Deutsche Bank Group, facilitating its cross-unit application and assessing its implementation
- Developing and safeguarding efficient corporate governance structures suitable to support efficient decision-making, to align risk and accountability based on clear and consistent roles and responsibilities
- Maintaining Deutsche Bank Group's framework for policies, procedures, framework and key operating documents and serving in particular as guardian for the same
- Setting the framework for the establishment, composition and functioning of joint decision-making bodies, ensuring its consistent implementation and providing a framework and platforms for sustainable, and auditable documentation of decision-making events, allowing for central swift retrieval of information
- Setting the framework for and facilitating the legal entity approval processes
- Advising on internal corporate governance topics to ensure the implementation of the governance frameworks, including the analysis of corporate governance specific laws and regulations, interaction with supervisors on internal corporate governance-related topics and the ongoing development of solutions for organizational/structural topics of Deutsche Bank Group

- Advising on data privacy laws, rules and regulation and maintaining Deutsche Bank Group's data privacy risk and control framework
- Ensuring appropriate quality assurance in relation to all of the above
- Deutsche Bank's New Product Approval and Systematic Product Review processes form a control framework designed to manage the risks associated with new products and services and their lifecycle management; these processes are overseen by Product Governance, within the Non-Financial Risk function; existing products and services are reviewed in one- to three year cycles designed to assess whether they remain fit for purpose and consistent with their respective target markets' characteristics and objectives; each product or service must be sponsored by a business Managing Director who bears ultimate accountability for it; breaches of the New Product Approval requirements are in scope of the bank's Red Flag consequence management process
- NFRM is the Risk Type Controller for a number of operational resilience risks; its mandate includes second line oversight of controls over transaction processing activities, as well as infrastructure risks to prevent technology or process disruption, maintain the confidentiality, integrity and availability of data, records and information security, and ensure business divisions and infrastructure functions have robust plans in place to recover critical business processes and functions in the event of disruption including technical or building outage, or the effects of cyber-attack or natural disaster as well as any physical security or safety risk; NFRM Risk Type Controller also manages the risks arising from the bank's internal and external vendor engagements via the provision of a comprehensive third party risk management framework

Measuring Operational Risks

Deutsche Bank calculates and measures the regulatory and economic capital requirements for operational risk using the Advanced Measurement Approach (AMA) methodology. The AMA capital calculation is based upon the loss distribution approach. Gross losses from historical internal and external loss data (Operational Riskdata eXchange Association consortium data) complemented by scenario data are used to estimate the risk profile (i.e., a loss frequency and a loss severity distribution). The loss distribution approach model includes conservatism by recognizing losses on events that arise over multiple years as single events in the historical loss profile.

Within the loss distribution approach model, the frequency and severity distributions are combined in a Monte Carlo simulation to generate potential losses over a one-year time horizon. Finally, the risk mitigating benefits of insurance are applied to each loss generated in the Monte Carlo simulation. Correlation and diversification benefits are applied to the net losses in a manner compatible with regulatory requirements to arrive at a net loss distribution at Group level, covering expected and unexpected losses. Capital is then allocated to each of the business divisions considering qualitative adjustments after deducting expected loss.

The regulatory and economic capital requirements for operational risk is derived from the 99.9% percentile; see the section "Internal Capital Adequacy" for details. Both regulatory and economic capital requirements are calculated for a time horizon of one year.

The regulatory and economic capital demand calculations are performed on a quarterly basis. NFRM establishes and maintains the approach for capital demand quantification and ensures that appropriate development, validation and change governance processes are in place, whereby the validation is performed by an independent validation function and in line with the Group's model risk management process.

Drivers for operational risk capital development

By design of the AMA capital calculation, Deutsche Bank's operational risk capital demand is predominantly driven by historical internal loss events. In view of the relevance of legal risks within the bank's operational risk profile, specific attention is dedicated to the management and measurement of open civil litigation and regulatory enforcement matters where the bank relies both on information from internal as well as external data sources to consider developments in legal matters that affect the bank specifically but also the banking industry as a whole. Reflecting the multi-year nature of legal proceedings the measurement of these risks furthermore takes into account changing levels of certainty by capturing the risks at various stages throughout the lifecycle of a legal matter.

Conceptually, the bank measures operational risk including legal risk by determining the annual operational risk loss that will not be exceeded with a given probability. This loss amount is driven by a component that due to the IFRS criteria is reflected in the bank's financial statements and a component beyond the amount reflected as provisions within the bank's financial statements.

The legal losses which the bank expects with a likelihood of more than 50% are already reflected in the IFRS group financial statements. These losses include net changes in provisions for existing and new cases in a specific period where the loss is deemed probable and is reliably measurable in accordance with IAS 37.

Uncertain legal losses which are not reflected in the bank's financial statements as provisions because they do not meet the recognition criteria under IAS 37 are considered within regulatory or economic capital demand.

To quantify the litigation losses in the AMA model, the bank takes into account historical losses, provisions, contingent liabilities and legal forecasts. Legal forecasts generally comprise ranges of potential losses covering risks of outflows greater than the provision and topside adjustments which are deemed remote or relate to yet unknown matters. Such forecasts may result from ongoing and new legal matters which are reviewed at least quarterly by the attorneys handling the legal matters.

The legal forecasts are included in the "relevant loss data" used in the AMA model. The projection range of the legal forecasts is not restricted to the one year capital time horizon but goes beyond and conservatively assumes early settlement of the underlying losses in the reporting period - thus considering the multi-year nature of legal matters.

Liquidity risk management

Liquidity risk arises from Deutsche Bank Group's potential inability to meet payment obligations when they come due or without incurring excessive costs. The Group's risk taxonomy differentiates between two aspects of liquidity risk: Short-term liquidity risk and Structural funding risk, both embedded in one liquidity risk management framework. Its objective is to ensure that all necessary governance and controls are established within the Group to fulfil its payment obligations at all times (including intraday) and to manage its liquidity and funding risks within the Management Board approved risk appetite, when executing the strategic plan. The framework considers relevant and significant drivers of liquidity risk, whether on-balance sheet or off-balance sheet.

Liquidity and funding risk framework

The Management Board defines the liquidity and funding risk strategy for the Group and sets the risk appetite, based on recommendations made by the Group Asset and Liability Committee and Group Risk Committee. The Management Board reviews and approves the risk appetite at least annually. The risk appetite is applied to the Group and to bespoke Key Liquidity Entities e.g., Deutsche Bank AG to monitor and control liquidity risk as well as the Group's long-term funding and issuance plan.

The Liquidity Risk Management Framework defines the organization of the liquidity managing functions in alignment with the three lines of defense structure, which is described in the "Risk Management Policy". The Corporate Divisions and Treasury comprise the first line of defense, responsible for executing the steps needed to most effectively manage the liquidity of the Group and steer business activities. Risk comprises the second line of defense, responsible for defining the liquidity risk management framework, providing independent risk oversight, challenge, and validation of activities conducted by the first line of defense, including establishing the risk appetite. Group Audit comprises the third line of defense, responsible for overseeing the activities of both the first line of defense and second line of defense.

The Group Asset and Liability Committee is the Group's decisive governing body mandated by the Management Board to optimize the sourcing and deployment of the Group's balance sheet and financial resources in line with the Management Board's risk appetite and strategy. The Group Asset and Liability Committee has the overarching responsibility to define, approve and optimize the Group's funding strategy. Regarding the second line of defense the Group Risk Committee is mandated by the Management Board with decision-making authority regarding material risk-related topics. In addition, it reviews and recommends items for Management Board approval, including key risk management principles, the Group's risk appetite statement, recovery plan, the contingency funding plan, over-arching risk appetite parameters, and recovery and escalation indicators.

The Group's liquidity risk management principles are documented in the "Liquidity Risk Management Policy" and the framework is described in the "Global Liquidity Risk Framework" and "Global Funding Risk Framework" documents. Both the policy and framework documents adhere to and articulate how the eight key risk management practices are applied to liquidity risk, namely risk governance, risk organization (3 lines of defense), risk culture, risk appetite and -strategy, risk identification and -assessment, risk mitigation and controls, risk measurement and reporting, stress planning and -execution. The individual roles and responsibilities are laid out and documented in the Global Responsibility Matrix, which provides further clarity and transparency on the roles and responsibilities across all involved stakeholders. All additional policies and procedures (both global and local) issued by the liquidity risk management functions further define the requirements specific to liquidity risk practices. They are subordinate to the "Liquidity Risk Management Policy" and are subject to the standards it sets forth.

In accordance with the European Central Bank's Supervisory Review and Evaluation Process (and revised Internal Liquidity Adequacy Assessment Process requirement issued in November 2018), the Group has implemented an Internal Liquidity Adequacy Assessment Process, which is assessed, documented and reviewed at least annually and approved by the Management Board.

As part of an annual strategic planning process, Treasury projects the development of the key liquidity and funding metrics including the U.S. Dollar currency exposure based on anticipated business activities to ensure that the strategic plan can be executed in accordance with the Group's risk appetite.

Risk appetite and control setting

The Group's liquidity risk appetite, which is defined through qualitative principles and supporting quantitative metrics, is laid out in the "Risk Appetite Statement" and is subject to the standards defined in the "Risk Appetite Policy". This Risk Appetite Statement is further underpinned by the liquidity risk controls framework consisting of "Key Limits" based on risk appetite, as well as a suite of additional limits, thresholds and early warning indicators.

Deutsche Bank implemented a dedicated Risk Appetite framework covering regulatory Pillar 1 as well as internal stress metrics (Pillar 2) which are defined by Liquidity Risk Management and ensure the Group's liquidity position is balanced across the Group, its Key Liquidity Entities and across currencies.

Treasury manages liquidity and funding, in accordance with the risk appetite across a range of relevant metrics and implements several tools including business level risk appetite limits further cascading aspects of risk appetite to divisional level, to ensure compliance. As such, Treasury works closely with Liquidity Risk Management under its delegated authority and the business divisions to identify, analyze and monitor underlying liquidity risk characteristics within business portfolios. These parties are engaged in regular dialogue regarding changes in the Group's liquidity position arising from business activities and market circumstances.

Furthermore, the Group ensures at the level of each liquidity relevant entity that all local liquidity metrics are managed in compliance with the defined risk appetite. Local liquidity surpluses are pooled in Deutsche Bank AG hubs and local liquidity shortfalls can be met through support from these hubs. Transfers of liquidity capacity between entities are subject to the approval framework involving the Group's liquidity steering function as well as the local liquidity managers considering the compliance with Pillar 1 metrics like Liquidity Coverage Ratio (LCR), Net Stable Funding Ratio (NSFR) as well as stressed Net Liquidity Position (sNLP), which is a Pillar 2 metric. Available surplus that resides in entities with restriction to transfer liquidity to other Group entities, for example due to regulatory lending requirements, is treated as trapped and as such not considered in the calculation of the consolidated Group liquidity surplus.

The Management Board is informed about the Group's performance against the key liquidity metrics, including the risk appetite and internal and market indicators, via a weekly liquidity dashboard.

Liquidity risk monitoring and management

Finance - Liquidity & Treasury Reporting & Analysis (LTRA) and Finance - Global Reporting – LTRA together have overall accountability for the accurate and timely production of both external regulatory liquidity reporting (Pillar 1) as well as internal management reporting (Pillar 2) for liquidity risk of the Group. In addition, Liquidity & Treasury Reporting & Analysis is responsible for the development of management information systems and the related analysis to support the liquidity risk framework and its governance for Treasury and Liquidity Risk Management.

Liquidity Coverage Ratio

The LCR which is also a key limit is intended to promote the short-term resilience of a bank's liquidity risk profile over a 30-day stress scenario. The ratio is defined as the amount of High-Quality Liquid Assets that could be used to raise liquidity in a stressed scenario, measured against the total volume of net cash outflows, arising from both contractual and prescribed modelled exposures over a 30-day time horizon on a consolidated currency basis.

By maintaining a ratio in excess of the minimum regulatory requirements, the LCR seeks to ensure that the Group holds adequate liquidity resources to mitigate a short-term liquidity stress.

Key differences between the internal liquidity stress test (sNLP) and the LCR include the time horizon (eight weeks versus 30 days), the classification and haircut differences between debt securities within the sNLP and the LCR High-Quality Liquid Assets, outflow rates for various categories of funding, as well as inflow assumption for various assets (for example, loan repayments). The Group's internal liquidity stress test also includes outflows related to intraday liquidity assumptions, which are not explicitly reflected in the LCR.

Net Stable Funding Ratio

The Net Stable Funding Ratio is a regulatory metric for assessing a Bank's structural funding profile. The NSFR is intended to reduce medium to long-term funding risks by requiring banks to maintain a stable funding profile in relation to their on- and off-balance sheet activities. The ratio is defined as the amount of Available Stable Funding (the portion of capital and liabilities expected to be a stable source of funding), relative to the amount of Required Stable Funding (a function of the liquidity characteristics of various assets held).

Based on risk appetite a NSFR key limit has been set for the Group as well as for all Key Liquidity Entities and liquidity relevant entities subject to a respective regulatory requirement to ensure compliance to it.

Liquidity stress testing and scenario analysis

Global internal liquidity stress testing and scenario analysis is used for measuring liquidity risk and evaluating the Group's short-term liquidity position within the liquidity framework. This complements the daily operational cash management process. The long-term liquidity strategy based on contractual and behavioral modelled cash flow information is represented by a long-term metric known as the Funding Matrix (refer to Funding risk management and funding diversification below).

The global liquidity stress testing process is managed by Treasury towards a respective risk appetite. Treasury is responsible for the design of the overall methodology, the choice of liquidity risk drivers and the determination of appropriate assumptions (parameters) to translate input data into stress testing output. Liquidity Risk Management is responsible for the definition of the stress scenarios. Under the principles and policy requirements laid out by Model Risk Management, Liquidity Risk Management and Model Risk Management perform the independent validation of liquidity risk models and non-model estimates. Finance -Liquidity & Treasury Reporting & Analysis and Finance - Global Reporting are responsible for implementing these methodologies and performing the stress test calculation in conjunction with Treasury, Liquidity Risk Management, Group Strategic Analytics and IT.

Stress testing and scenario analysis are used to describe and evaluate the impact of sudden and severe stress events on the Group's liquidity position. Deutsche Bank has selected four scenarios to calculate the Group's stressed Net Liquidity Position. These scenarios are designed to capture potential outcomes which may be experienced by the Group. The most severe scenario assesses the potential consequences of a combined market-wide and idiosyncratic stress event, including downgrades of Deutsche Bank credit rating. Under each of the scenarios, the impact of a liquidity stress event over different time horizons and across multiple liquidity risk drivers, covering all business lines and product areas and with that all portfolios and balance sheet, is considered. The output from this scenario analysis feeds the Group Wide Stress Test, which considers the impact of scenarios across all risk stripes.

In addition, potential funding requirements from contingent liquidity risks which can arise under stress, including drawdowns on lending facilities, increased collateral requirements under derivative agreements, and outflows from deposits with a contractual rating linked trigger are included in the analysis. Subsequently, countermeasures, which are the actions the Group would take to counterbalance the outflows incurred during a stress event, are taken into consideration. Those countermeasures include the usage of the Group's liquidity reserve and generating liquidity from other unencumbered, marketable assets without causing any material impact on the Group's business model.

Stress testing is conducted at a global level and for defined entities relevant for liquidity risk management. The stress analysis covers an eight-week stress horizon which is considered to be the most critical time span during a liquidity crisis requiring that liquidity is actively assessed and steered on a Group level. In addition to the consolidated currency stress test, further stress tests are performed for material currencies. On a global level and in the U.S. liquidity stress tests a twelve-months period is covered. Additionally, stress test results are monitored over a twelve-month period with specific risk limits, if required by local regulators. Ad-hoc analysis may be conducted to reflect the impact of potential downside events that could affect the Group such as climate / ESG-related events. Relevant stress assumptions are applied to reflect liquidity flows from risk drivers and on-balance sheet and off-balance sheet products. The suite of stress testing scenarios and assumptions are reviewed on a regular basis and are updated when enhancements are made to stress testing methodologies.

Complementing the daily liquidity stress testing, the Group also conducts regular group-wide stress tests run by Enterprise Risk Management, which analyze liquidity risks in conjunction with the other defined risk types and evaluate their impact and interplay to both capital and liquidity positions as described in "Risk and Capital Framework - Stress testing".

Funding Risk Management and Funding Diversification

Funding Management

In line with regulatory guidelines, Deutsche Bank has developed a set of internal indicators to measure its inherent funding risks. These are considered for steering purposes in addition to the regulatory metric Net Stable Funding Ratio.

The Group relies on a vast range of funding sources such as e.g. deposits, unsecured wholesale funding, Capital Markets Issuances and secured funding. These protect its liquidity position twofold. Firstly, since stress events may impact funding markets differently, maintaining a well-diversified funding portfolio will lower the average impact of these. Secondly, when experiencing liquidity stress, having access to a wide range of funding sources significantly improves the Group's ability to tap different funding markets. The diversification across products is complemented by Risk thresholds in order to monitor tenor concentration and counterparty concentration for both secured and unsecured funding sources.

In addition, the stability of Deutsche Bank Group's funding position can be negatively impacted by various forms of industry risks. These are typically medium to long term structural trends with potentially significant long-term impact on the economy and consequently on banks' balance sheets. Deutsche Bank is performing ad-hoc analyzes on such emerging risks to assess the impact of such trends on its funding position to ensure that mitigating measures will be taken well in time when deemed necessary. In addition, Treasury evaluates current market access information in its significant funding markets on a regular basis. Market access information is compiled monthly and presented to Group Asset and Liability Committee.

The Group's primary internal tool for monitoring and managing structural funding risk is the Funding Matrix. The Funding Matrix assesses the Group's structural funding profile over a time horizon beyond one year. To produce the Funding Matrix, all funding-relevant assets and liabilities are mapped into time buckets corresponding to their contractual or modelled maturities. This allows the Group to identify expected excesses and shortfalls in term liabilities over assets in each time bucket, facilitating the management of potential liquidity exposures.

The liquidity profile is based on contractual cash flow information. If the contractual maturity profile of a product does not adequately reflect the liquidity profile, it is replaced by modelling assumptions. Short-term balance sheet items (less than one year) or matched funded structures (asset and liabilities directly matched with no liquidity risk) are excluded from the term analysis.

The bottom-up assessment by individual business line is combined with a top-down reconciliation against the Group's IFRS balance sheet. From the cumulative term profile of assets and liabilities beyond 1 year, long-funded surpluses or short-funded gaps in the Group's maturity structure can be identified. The cumulative profile is thereby built up starting from the "greater than ten-year" bucket down to the "greater than one-year" bucket. The Funding Matrix is also undertaken for material foreign currencies i.e. USD.

To diversify our refinancing activities Deutsche Bank actively uses among others Capital Markets Issuance.

Capital Markets Issuance

The main objective of debt issuance is to raise medium term funding and securing in the most cost optimal manner. Debt issuance, encompassing senior unsecured bonds, covered bonds, and capital securities, is a key source of term funding for the Group and is managed directly by Treasury. At least once a year, following endorsement by the Asset and Liability Committee, Treasury submits an annual long-term funding plan to the Group Risk Committee for recommendation and then to Management Board for approval. This plan is driven by global and local funding and liquidity requirements based on expected business development. The Group's capital markets issuance portfolio is dynamically managed through annual issuance plans to avoid excessive maturity concentrations.

Deutsche Bank holds a license to issue mortgage Pfandbriefe and maintains a program to issue structured covered bonds. Additionally, the Group continues to run a program for the purpose of issuing covered bonds under Spanish law (Cedulas). In 2023, Deutsche Bank further diversified its investor base through inaugural transactions in China (so-called Panda bonds). Since 2020 the Group maintains its Green Bond framework which the bank continuously expands to offer green note issuances to both, institutional and retail investors. Furthermore, multiple green structured notes, first green deposits and first green repurchase agreements (repos) were executed. In 2023, the Group concluded on integrating the legacy bond portfolio from former Postbank activities into Deutsche Bank's infrastructure, leading to a uniform platform for all issuances.

Risk Mitigation

High Quality Liquid Assets

High-quality Liquid Assets (HQLA) is a Pillar 1 calculation which feeds into LCR and, since the beginning of the fourth quarter 2023 is a key limit per the risk appetite, replacing Liquidity Reserve. HQLA comprise available cash and cash equivalents and unencumbered high quality liquid securities (including government and government guaranteed bonds), representing the most readily available and most important countermeasure in a stress event.

The vast majority of the Group's HQLA are held centrally across major currencies at the central bank accounts of the parent entity and foreign branches in the key locations in which we are active and in a dedicated Treasury-owned Strategic Liquidity Reserves portfolio, set up exclusively to serve as a mitigant during periods of stress.

Asset Encumbrance

Encumbered assets primarily comprise those on- and off-balance sheet assets that are pledged as collateral against secured funding, collateral swaps, and other collateralized obligations. Generally, loans are encumbered to support long-term capital markets secured issuance such as covered bonds or other self-securitization structures, while financing debt and equity inventory on a secured basis is a regular activity for the Investment Bank business. Additionally, in line with the European Banking Authority technical standards on regulatory asset encumbrance reporting, assets pledged with settlement systems (including default funds and initial margins) as well as other assets pledged which cannot be freely withdrawn such as mandatory minimum reserves at central banks are considered encumbered assets. Derivative margin receivable assets as encumbered under these European Banking Authority guidelines are also included.

Funds transfer pricing

The funds transfer pricing framework is key to incentivize liquidity steering activities to the business units. It applies to all Corporate Divisions and entities with balance sheet items requiring active management and funding from the Group and promotes pricing of (i) assets in accordance with their underlying liquidity risk, (ii) liabilities in accordance with their liquidity value and (iii) contingent liquidity exposures in accordance with the cost of providing for appropriate High Quality Liquid Assets.

Within this framework funding and liquidity risk costs and benefits are allocated to the Group's business units based on rates which reflect the economic costs of liquidity for Deutsche Bank. Treasury might set further financial incentives in line with the Group's liquidity risk guidelines. While the framework promotes a diligent Group-wide allocation of its funding costs to the liquidity users, it also provides an incentive-based framework for businesses generating stable long-term and stress compliant funding.

Throughout 2023, the Bank continued to deliver against improvements of the changes to the internal Funds Transfer Pricing framework started in 2019 aimed at enhancing its effectiveness as a management tool, as well as better supporting funding cost optimization. Additional details are included in Note 4 „Business segments and related information“ of the consolidated financial statements.

Contingency Funding Planning

Deutsche Bank's Group Contingency Funding Plan outlines how Deutsche Bank would respond to an actual or anticipated liquidity stress event. It specifies the provisions, procedures and action plans for responding to potential disruptions to the Bank's ability to fund itself. It covers actions that can be taken to raise cash and/or recover the Bank's liquidity metrics in breach. The Contingency Funding Plan outlines governance arrangements for its activation and presents the framework of liquidity indicators enabling the Bank to identify deteriorating market circumstances in a timely manner and that determine quickly what actions need to be taken, incl. communication and coordination during a liquidity stress event. Deutsche Bank has established the Financial Resource Management Council, which is responsible for oversight of capital and liquidity across contingency, recovery, and resolution scenarios in a defined crisis situation.

Enterprise risk management

Enterprise Risk Management (ERM) provides a holistic view of the Bank's risk profile across risk types, businesses and geographies. Key responsibilities include:

- Defining the overarching risk management policy, including setting of risk management standards.
- Setting and monitoring the Bank's overarching risk appetite and cascading to business & entity dimensions.
- Delivering insight through emerging risks and trends analysis, forward-looking stress tests, portfolio concentration, deep-dive analyses and ad-hoc event reporting.
- Overseeing the Bank's internal capital adequacy process, including capital risk appetite.
- Coordinating and implementing the group recovery plan and maintaining credible resolution plans that could be executed in a crisis.
- Developing and managing the climate risk management framework.
- Providing risk reporting and analytics to key stakeholders, including senior management and regulators.
- Acting as risk controlling function for credit risk.

Strategic risk

Strategic risk is the risk of a shortfall in planned earnings (excluding other material risks) due to incorrect business plans, ineffective plan execution, or inability to effectively respond to material plan deviations. Strategic risk arises from the exposure of the bank to the macroeconomic environment, changes in the competitive landscape, and regulatory and technological developments. Additionally, it could occur due to errors in strategic positioning, the bank's failure to execute its planned strategy and/or a failure to effectively address underperformance versus plan targets.

The strategic plan is developed annually and presented to the Management Board for discussion and approval. The final plan is presented to the Supervisory Board. The plan is challenged in an iterative process with respect to its assumptions, credibility and integrity. During the year, execution of business strategies is regularly monitored to assess the performance against targets. A more comprehensive description of this process is detailed in the section 'Strategic and Capital Plan'.

Strategic risk is measured through a dedicated risk model that quantifies potential losses caused by unexpected pre-tax earnings shortfalls that cannot be offset by cost reductions under extreme but plausible market conditions over a 12-month period. Strategic risk appetite is also established for the Group via dedicated metrics.

The Business Divisions and Infrastructure Functions are the 1st LoD that own the risk and have the responsibility to manage strategic risk in accordance with the plan approved by the Management Board. Finance and Risk are the 2nd LoD and act as facilitators via their controlling activities, and are responsible for escalation to the appropriate decision-taking authorities.

Capital risk

Capital risk is defined as the risk that Deutsche Bank has an insufficient level or composition of capital supply to support its current and planned business activities and associated risks during normal and stressed conditions.

The bank's capital risk framework consists of several elements which aim to ensure that Deutsche Bank maintains on an ongoing basis an adequate capitalization to cover the risks to which it is exposed. The framework is strongly integrated with the bank-wide strategic planning process and closely linked to Deutsche Bank's internal capital adequacy assessment process (see section "Internal Capital Adequacy Assessment Process" for further details). Treasury together with the divisions is the key risk manager of the associated risks and represents the 1st LoD. ERM acts as the 2nd LoD for capital risk.

Treasury function manages capital risk at group level and locally in each region, as applicable. This includes managing issuances and repurchases of capital instruments (see section on "Capital management" for details). Additionally, divisional limits for key capital resources are approved by the Group Asset and Liability Committee to ensure alignment with the capital risk appetite (see section on "Resource limit setting" for details).

ERM sets the capital risk framework, assesses the capital risk profile and provides independent challenge. This includes setting of risk appetite thresholds for key capital ratios. Threshold breaches are subject to a dedicated governance framework triggering management actions up to the execution of Deutsche Bank's recovery plan. Thresholds also provide boundaries to the capital plan and are fully integrated into the regular assessment of capital risk under stress scenarios.

Portfolio concentration risk

Risk concentrations refer to clusters of the same or similar risk drivers within specific risk types (intra-risk concentrations in credit, market, operational and strategic risks) as well as across different risk types (inter-risk concentrations). They occur within and across counterparties, businesses, regions/countries, industries and products. The management and monitoring of risk concentrations is achieved through a quantitative and qualitative approach, as follows:

- Intra-risk concentrations are assessed, monitored and mitigated by the individual risk functions (enterprise, credit, market, operational and liquidity risk management). This is supported by risk appetite including limit setting on different levels and/or management according to each risk type
- Inter-risk concentrations are managed through quantitative top-down stress-testing and qualitative bottom-up reviews, identifying and assessing risk themes independent of any risk type and providing a holistic view across the bank. The diversification effects between credit, market, operational and strategic risk are measured through a dedicated risk model that quantifies the diversification benefit caused by non-perfect correlations between these risk types. The calculation of the risk type diversification benefit is intended to ensure that the standalone economic capital figures for the individual risk types are aggregated in an economically meaningful way

The most senior governance body for the oversight of risk concentrations is the Group Risk Committee (GRC).

Environmental, social and governance risk

The impacts of rising global temperatures, the enhanced focus on climate change and the transition to a net-zero economy from society, regulators and the banking sector have led to the emergence of new and increasing sources of financial and non-financial risks. These include the physical risks arising from extreme weather events, which are growing in frequency and severity, as well as transition risks as carbon intensive sectors are faced with higher taxation, reduced demand and potentially restricted access to financing. These risks can impact Deutsche Bank across a broad range of financial and non-financial risk types.

Financial institutions are facing increased scrutiny on climate and broader ESG-related issues from governments, regulators, shareholders and other bodies, leading to reputational risks if the Group is not seen to support the transition to a lower carbon economy, to protect biodiversity and human rights. Deutsche Bank is reviewing and enhancing its ESG risk management frameworks in alignment with regulatory guidance and to ensure that we actively manage ESG risks and prevent greenwashing. Data, methodologies and industry standards for measuring and assessing climate and other environmental risks are still evolving or, in certain cases, are not yet available. This, combined with a lack of comprehensive and consistent climate and other environmental risk disclosures by its clients means that the bank, in line with the wider industry, remains partially reliant on proxy estimates and qualitative approaches when assessing these risks which introduces a higher degree of uncertainty into climate-related disclosures.

Financial institutions are facing increased scrutiny as well as reporting requirements on climate and broader ESG-related issues from governments, regulators, shareholders and other bodies. This can lead to reputational risks if the bank is not seen to support the transition to a lower carbon economy or is perceived to be heavily involved in the financing of activities harmful to nature or linked to human rights abuse within supply chains.

Certain jurisdictions have begun to develop anti-ESG measures including requiring financial institutions that wish to do business with them to certify their non-adherence to aspects of the transition agenda. Failing to comply with these requirements may result in the termination of existing business and the inability to conduct new business with those jurisdictions, while complying may lead to reputational risks.

Deutsche Bank is committed to managing its business activities and operations in a sustainable manner, including aligning its portfolios with net zero emissions by 2050. In October, Deutsche Bank published its Initial Transition Plan (*), which documents the strategy that the bank has developed to decarbonize its operations, its upstream supply chain and its financing portfolio. In the plan the Group also disclosed net-zero aligned decarbonization pathways for three additional carbon intensive sectors compared to 2022, bringing the total number of sectors covered by portfolio targets to seven: Oil and Gas (upstream), Power Generation, Automotive (light duty vehicles), Steel, Coal mining, Cement and Shipping. Targets and metrics disclosed in the bank's Transition Plan are integrated into the Group-wide risk management framework, appetite and controls.

The Group Sustainability Committee acts as the main governance and decision-making body for sustainability related matters across Deutsche Bank. This includes the assessment of material impacts as well as risks and opportunities for Deutsche Bank. The Management Board has delegated sustainability related decisions to this committee, which is chaired by the Chief Executive Officer and the Chief Sustainability Officer (Vice Chair).

The Group Risk Committee, chaired by the Chief Risk Officer and established by the Management Board has the mandate to oversee several risk & capital related matters. This includes the responsibility for developing the bank's Climate Risk Framework. The Committee approves the Bank's climate and environmental risk appetite, including appetite for deviation from net-zero decarbonization linear reduction pathways. A number of other committees of the Group Risk Committee are responsible for the development and management of specific elements of climate and environmental risk.

Deutsche Bank's business activities are governed by a dedicated Climate and Environmental Risk Policy outlining roles, responsibilities as well as qualitative risk appetite principles and quantitative risk-appetite thresholds and KPIs. In addition, the bank's Environmental and Social policy outlines specific restrictions for certain sectors. Deutsche Bank uses a number of complementary tools to identify and assess risks including the Group's risk identification process, an internal climate risk taxonomy and regular internal reporting of portfolio financed emissions and intensities and progress against net zero targets.

Model Risk Management

Introduction

Model risk is the potential for adverse consequences from decisions based on incorrect estimation approaches (covering models and non-model estimates) or their misused outputs. Model risk can lead to financial loss, poor business or strategic decision making, or damage to its reputation. Deutsche Bank recognizes the use of estimation approaches can affect other risk-types, and that model risk is a distinct risk that can increase or decrease aggregate risk across other risk-types.

Deutsche Bank uses estimation approaches for a broad range of decision-making activities, such as: underwriting credits; valuing exposures, instruments, and positions; measuring risk; managing and safeguarding client assets and determining capital and reserve adequacy. The term 'estimation approach' refers to a 'model' or 'non-model estimate' that is a quantitative or qualitative method, system, or approach that applies expert judgement, statistical, economic, financial, or mathematical theories, techniques, and assumptions to process input data into quantitative estimates. Estimation approaches are simplified representations of real-world relationships and are based on assumptions and judgment. Accordingly, the Bank is exposed to model risk, which must be identified, measured, and controlled appropriately.

Model risk management oversight is provided by all levels of management, including the Management Board. Management of model risk is underpinned by a framework designed and monitored by a 2nd Line of Defense control function independent from developer, owner, and user of estimation approaches.

Model Risk Management Framework and Governance

Model risk is one of the Bank's Level 1 risks, and is overseen by the Chief Risk Officer through the setting of a quantitative and qualitative risk appetite statement, and managed through:

- The Model Risk Policy and Procedure, and supporting documents aligned to risk appetite, regulatory requirements, and industry best practice, with clear roles and responsibilities for stakeholders
- Inventorization of all estimation approaches, supporting ongoing model risk framework components including risk assessments and attestations
- Key controls for estimation approaches from development through to decommissioning, including validation, approval, deployment and monitoring
 - Independent Validations, and subsequent independent approvals, verify that estimation approaches have been appropriately designed and implemented for their intended scope and purpose, and that respective controls are in place to assure that they continue to perform as expected during their use
 - The controls identify estimation approaches' limitations and weaknesses, resulting in findings and compensating controls, these may be conditions for use, such as adjustments or overlays
- Model risk governance, including senior forums for monitoring and escalation of model risk related topics, as well as monthly updates to the Management Board on the model risk appetite metrics, and periodic model risk updates to the Supervisory Board.

Developments during the reporting period

In 2023, Deutsche Bank elevated the status of model risk management with the Global Head of Model Risk Management joining the Executive Committee of the Chief Risk Officer and reporting directly into the CRO. This manifests the importance of model risk for the Bank and is reflective of model risk being a Level 1 risk for the Bank.

In addition, Deutsche Bank consolidated the Model Inventory systems further on the strategic bank-wide model risk platform replacing all historic inventories going forward. This single platform aligns model risk data across the Bank and supports compliance to the model risk framework, including key measurements, controls, and mitigation of model risks.

Reputational Risk Management

Within the group's risk management process, reputational risk is defined as the risk of possible damage to Deutsche Bank's brand and reputation, and the associated risk to earnings, capital or liquidity arising from any association, action or inaction which could be perceived by stakeholders to be inappropriate, unethical or inconsistent with the Deutsche Bank's values and beliefs.

Deutsche Bank has limited appetite for transactions or relationships with material reputational risk or in areas which inherently pose a higher reputational risk such as the defense, gaming, or adult entertainment sectors, or where there are certain environmental concerns. Reputational risk cannot be precluded as it can be driven by unforeseeable changes in perception of its practices by its various stakeholders (e.g. public, clients, shareholders and regulators).

The Reputational Risk Framework (the Framework) is in place to manage the process through which active decisions are taken on matters which may pose a reputational risk, before the event, and in doing so to prevent damage to Deutsche Bank's reputation wherever possible. The Framework provides consistent standards for the identification, assessment and management of reputational risk issues. Reputational impacts which may arise as a consequence of a failure from another risk type, control or process are addressed separately via the associated risk type framework and are therefore not addressed in this section.

The reputational risk could arise from multiple sources including, but not limited to, potential issues with the profile of the counterparty, the business purpose / economic substance of the transaction or product, high risk industries, environmental and social considerations, and the nature of the transaction or product or its structure and terms.

The modelling and quantitative measurement of reputational risk internal capital is implicitly covered in the bank's economic capital framework primarily within strategic risk.

Governance and Organizational Structure

The Framework is applicable to all business units and regions. Matters specific to DWS are reviewed by a DWS reputational risk committee and, if necessary, escalated to the DWS Executive Board, which can escalate matters to the management board of Deutsche Bank AG.

Whilst every employee has a responsibility to protect the bank's reputation, the primary responsibility for the identification, assessment, management, monitoring and, if necessary, referring or reporting of reputational risk matters lies with Deutsche Bank's Business Divisions as the primary risk owners. Each Business Division has an established process through which matters, which are deemed to be a moderate or greater reputational risk are assessed, the Unit Reputational Risk Assessment Process.

The Unit RRAP is required to refer any material reputational risk matters to the respective Regional Reputational Risk Committee. The Framework also sets out a number of matters which are considered inherently higher risk from a reputational risk perspective and are therefore mandatory referrals to the Regional Reputational Risk Committees. The Regional Reputational Risk Committees, which are 2nd LoD Committees, are responsible for ensuring the oversight, governance and coordination of the management of reputational risk in the respective region of Deutsche Bank. The Regional Reputational Risk Committees meet, as a minimum, on a quarterly basis with ad hoc meetings as required. The Group Reputational Risk Committee (GRRC) is responsible for ensuring the oversight, governance and coordination of the management of reputational risk at Deutsche Bank on behalf of the Group Risk Committee and the Management Board. Additionally, the Group Reputational Risk Committee reviews cases with a Group wide impact and in exceptional circumstances, those that could not be resolved at a regional level.

Cybersecurity

Cybersecurity governance

Responsibility for cybersecurity matters sits within the Chief Security Office, where it forms the first Line of Defense (1st LoD) within Deutsche Bank's Three Lines of Defense ("3LoD") model. The Chief Security Officer has delegated authority from the Management Board and reports directly to the Chief Technology, Data, and Innovation Officer, who is a member of the Management Board.

Deutsche Bank's Chief Security Officer has served in various roles in information security for more than 20 years. This includes the role as global Chief Information Security Officer (CISO) / Chief Security Officer (CSO) for three different large European financial institutions and a partner position in a global strategy and consulting firm, leading security work for financial service clients.

The Chief Security Officer is supported by information security role holders at various seniority levels to help ensure that security requirements are met from a regional, divisional, and technical perspective. All information security activities are overseen by two dedicated governance fora chaired by the Chief Security Officer: the Group IT Security Council (interface to the bank's IT units), and the Group Information Security Committee (interface to the bank's business and infrastructure divisions). Furthermore, both fora oversee the information security posture of Deutsche Bank against defined targets, the progress and performance of key information security deliverables, the remediation status of information security related audit findings and current information security incidents. They also endorse the information security strategy and act as the highest escalation level within the Chief Security Office.

The Chief Security Office develops the bank's group-wide security strategy and oversees its implementation and operationalization globally via the organizational set-up, governance, and implemented security policies. The security strategy is reviewed continually to address changes in the threat landscape, technology, the regulatory environment, the bank's corporate and IT strategy, and other internal and external parameters. Deutsche Bank's security strategy framework provides comprehensive and layered security controls. This framework is strengthened by a threat-driven approach to direct and adjust the security investment, including the continual review and assessment of the maturity of the bank's security implementation.

The Chief Security Office maintains a comprehensive metrics and reporting framework, underpinned by an extensive data set allowing for global, regional, and divisional views. Security metrics and reporting provided to the bank's governance fora at all seniority levels support appropriate security risk awareness and decision taking. The Management Board receives a comprehensive quarterly information security risk posture report, as well as ad hoc information if required. Furthermore, the Chief Security Officer provides regular updates on material topics relating to security to the Supervisory Board's Committee responsible for Technology, Data and Innovation.

Information Security Risk is managed as an Operational Risk under the Non-Financial Risk Management Framework of the bank. The Chief Security Office, in its responsibility as 1st LoD, executes against the Non-Financial Risk Management Framework and leverages its various instruments (e.g., an annual Risk & Control Assessment) whereas the Non-Financial Risk Management as second Line of Defense (2nd LoD) provides oversight, review, and challenge. Accordingly, part of the Non-Financial Risk Committee's (NFRC) remit is to oversee and govern Deutsche Bank's cybersecurity risk profile, remediation programs and risk tolerance. Also, 2nd LoD is represented in both 1st LoD fora described above.

In alignment with its Non-Financial Risk Management policies, Deutsche Bank's security policy framework defines the core principles of security risk management and the fundamentals for security management. The complete framework is reviewed annually, and any changes are endorsed by the Group Information Security Committee. The framework is governed centrally and applied globally across all product groups and business and infrastructure divisions. The framework includes a clear description of the risk tolerance related to information security. It also sets out the roles, responsibilities and accountabilities of key personnel identified to manage information security risk; the strategy and measures to cope with information security breaches, and related communication procedure.

Additionally, the bank's Information Security Management System has been certified according to ISO 27001 for all information security domains defined in that standard since 2012. To maintain the ISO 27001 certification, the bank performs a full recertification process every three years, with the latest taking place in 2021. In the years a full certification process does not take place, the bank performs a certification-follow-up, designed to ensure compliance between certification intervals. The latest certification follow-up was in 2023. The next full recertification will take place in September 2024.

Deutsche Bank employs a variety of mechanisms to self-identify areas for improvements and control enhancements. These include security testing, security problem management and lessons learned. The effectiveness of the bank's overall information security program is evaluated on a regular basis by third-party organizations that compare the bank's approach with industry benchmarks. Deutsche Bank's independent Group Audit function frequently includes the assessment of security controls in its audit plan.

Identifying, assessing and managing cybersecurity threats

Deutsche Bank operates in an environment with increasing levels of digitization and a continually evolving landscape related to cybersecurity threats. Due to the dynamics and complexity of the current environment, the bank is continuously monitoring the security threat landscape. The bank vigilantly observes technological developments, the geopolitical landscape and economic impacts driving security risks and assesses their relevance for potential impacts to Deutsche Bank and the wider financial ecosystem.

Deutsche Bank has a variety of prevention methods and controls in place, such as threat intelligence, data leakage prevention, cyber hygiene, and encryption solutions. These also include placing a strong emphasis on detection, backed by a robust incident-response process. The bank actively shares best practices and threat information with national and international security organizations, government authorities, and peer organizations. These relationships help to ensure that the bank's security technology and procedures reflect current industry best practices and keep pace with the threat environment.

Deutsche Bank's security incident management covers cybersecurity events that may affect the bank, its clients, business partners, or employees. The related management and reporting processes performed with the involvement of Compliance, Legal and Group Data Privacy are designed to enable a quick and effective response to cyberattacks and information security threats. The objective is to minimize loss, leakage, or disruption and to use insights gained from the handling of incidents to continuously improve the bank's processes. The worldwide distributed Cyber Intelligence and Response Centers in Asia-Pacific, Europe and America allow detection of threats and response to incidents worldwide by 24/7 operations.

To address evolving security threats, the bank continually reviews and enhances its information security controls into every layer of technology, including identity and access management, data, infrastructure, devices, and applications. This is complemented by organizational controls and security training and awareness. The purpose of this layered approach is to provide end-to-end protection, as well as multiple opportunities to detect, prevent, respond to, and recover from cyberthreats.

Security risks are assessed on a regular basis, at least annually, taking internal as well as external risk drivers and events dynamically into account. A thorough analysis of the external threat landscape, which leverages industry standard threat assessment frameworks, provides a foundation for the assessment of financial industry relevant risk scenarios. These are evaluated against the bank's capabilities to cope with these risks. In case of emerging developments, additional risk reviews are conducted. As part of the annual risk and control assessment process, subject matter experts provide a risk description, and are supported by other areas such as Legal, Compliance or Group Data Privacy, as necessary. Senior information security experts from all divisions and functions assess the exposure of the Group, based on their divisional or functional background. The process considers contextual data such as major events, threat assessments, findings, scenario analysis, control metrics, lessons learned, read across, regulatory expectations and remediation activities when assessing control suites and residual risk positions. Measures for the further reduction of material residual risks may include policy changes or policy amendments at divisional or group level as well as prioritized investment and accelerated implementation of risk mitigating activities.

Reliance on third parties' products and services that support critical operations can affect the bank's risk posture, because these can be the target of new and evolving cybersecurity attacks. This risk, along with expanded regulatory requirements, has necessitated an increased use of technology to better identify information security risks across third parties and where necessary, proactively perform outreach with them. Deutsche Bank manages third party information security risks by means of its global third-party risk management program. This program includes an information security policy specifically for third parties that sets forth the bank's control objectives and expectations. Additionally, Deutsche Bank has a third-party risk management process designed to identify, monitor, and mitigate risks arising from working with third parties, which includes the bank's oversight of third parties' operations related to the services provided to the bank.

Material and potentially material impacts from cybersecurity threats

Deutsche Bank's cybersecurity threats are mainly related to the risk of breaches in confidentiality, integrity, or availability of the banks or clients' information, which includes breaches of the security of third-party computer systems. Breaches can occur due to unauthorized access to networks or resources, the introduction of computer viruses or malware, or other forms of cybersecurity attacks or incidents, including regulatory, geopolitical, operational, and third-party risk.

Deutsche Bank may face operational risks arising from failures in the control environment, including errors in the performance of processes or security controls, as well as loss of data, which may disrupt business and lead to material losses. At the same time, the bank may also face risks of material losses or reputational damage, if services are not provided as agreed, or in line with internal standards, which could result in regulatory penalties and financial losses. Cyberattacks could impact Deutsche Bank both directly and indirectly including impacts from third parties.

The increasing frequency and sophistication of recent cyberattacks has resulted in an elevated risk profile for many organizations around the world including Deutsche Bank. Significant attention by the bank's management has been paid to the overall level of preparedness against such attacks. Cybersecurity continues as a focus area due to factors such as the continued and increasing reliance on the bank's technology environment, as well as potential risks arising from the need for digital innovation, such as the usage of public cloud services, artificial intelligence, or quantum computing.

The technological advancements also pose demands on data privacy, security, and other information security risks. As the use of artificial intelligence becomes widespread, there are also increased risks to cybersecurity: denial of service, the criminal use of deepfakes, and more sophisticated social engineering attacks. Cybercrime groups may have the capability to use machine learning techniques to automate the deployment and operation of malware campaigns.

Financially motivated and other sophisticated cyberattacks, including ransomware, can be observed as persistent threats across industries and are expected to become more frequent. Additional threats are posed by supply chain attacks, an increasing frequency of critical software vulnerabilities potentially exploited by threat actors (zero-day exploits), and an expanding threat surface introduced by, for example, remote ways of working or the usage of cloud services.

Deutsche Bank experienced attacks on computer systems, including attacks aimed at obtaining unauthorized access to confidential company or client information, damaging, or interfering with company data, resources, or business activities, or otherwise exploiting vulnerabilities in its infrastructure, including attacks that occurred at the bank's third-party providers. In 2023, the bank did not experience any material effect on its business strategy, results of operations, or financial condition as a result of an information security incident, including an attempted cyberattack. Deutsche Bank expects to continue to be the target of such attacks in the future and may not be able to effectively anticipate or prevent more material attacks from occurring in the future.

As a result, cyberattacks could lead to technology failures, security breaches, unauthorized access, unavailability of services, data loss, data destruction, and the inaccessibility of data and/or systems. This includes internal and third-parties information technology systems. A successful cyberattack could have a significant negative impact on the bank that may result in the disclosure or misuse of client as well as proprietary information, damage to or inability to access information technology systems, financial losses, remediation costs (such as for investigation and reestablishing services), increased cybersecurity costs (such as for additional personnel, technology, or third-party vendors), personal data breach notification obligations, reputational damage, client dissatisfaction and potential regulatory penalties or litigation exposure.

Risk and capital performance

Capital, Leverage Ratio, TLAC and MREL

Own Funds

The calculation of Deutsche Bank's own funds incorporates the capital requirements following the "Regulation (EU) No 575/2013 on prudential requirements for credit institutions" CRR and the "Directive 2013/36/EU on access to the activity of credit institutions and the prudential supervision of credit institutions" "CRD", which have been further amended with subsequent Regulations and Directives. The CRD has been implemented into German law. The information in this section as well as in the section "Development of risk-weighted assets" is based on the regulatory principles of consolidation.

This section refers to the capital adequacy of the group of entities consolidated for banking regulatory purposes pursuant to the CRR and the German Banking Act ("Kreditwesengesetz" or "KWG"), which does not include insurance companies and companies outside the finance sector.

The total own funds pursuant to the effective regulations as of year-end 2023 comprises Tier 1 and Tier 2 capital. Tier 1 capital is subdivided into Common Equity Tier 1 capital and Additional Tier 1 capital.

CET 1 capital consists primarily of common share capital (net of own holdings) including related share premium accounts, retained earnings (including losses for the financial year, if any) and accumulated other comprehensive income, subject to regulatory adjustments (i.e., prudential filters and deductions), as well as minority interests qualifying for inclusion in consolidated CET 1 capital. Prudential filters for CET 1 capital, according to Articles 32 to 35 CRR, include securitization gains on sale, cash flow hedges and changes in the value of own liabilities, and additional value adjustments. CET 1 capital deductions for instance includes intangible assets (exceeding their prudential value), deferred tax assets that rely on future profitability, negative amounts resulting from the calculation of expected loss amounts, net defined benefit pension fund assets, (reciprocal cross holdings in the capital of financial sector entities and, significant and non-significant investments in the capital (CET 1, AT1, Tier 2) of financial sector entities above certain thresholds. All items which are not deducted (i.e., amounts below the threshold) are subject to risk-weighting.

Additional Tier 1 capital consists of AT1 capital instruments and related share premium accounts as well as noncontrolling interests qualifying for inclusion in consolidated AT1 capital. To qualify as AT1 capital under CRR/CRD, instruments must have principal loss absorption through a conversion to common shares or a write-down mechanism allocating losses at a trigger point and must also meet further requirements such as perpetual with no incentive to redeem, institution must have full dividend/coupon discretion at all times, etc.

Tier 2 capital comprises eligible capital instruments, the related share premium accounts and subordinated long-term debt, certain loan loss provisions and noncontrolling interests that qualify for inclusion in consolidated Tier 2 capital. To qualify as Tier 2 capital, capital instruments or subordinated debt must have an original maturity of at least five years. Moreover, eligible capital instruments may inter alia not contain an incentive to redeem, a right of investors to accelerate repayment, or a credit sensitive dividend feature.

Capital instruments

The Management Board was authorized by the 2022 Annual General Meeting to buy, on or before April 30, 2027, shares of up to 10% of the share capital at the time this resolution was taken or, if lower, of the share capital at the respective time the authorization was exercised. As at the 2022 Annual General Meeting, this corresponded to a volume of up to 206.6 million shares. Thereof, a volume of up to 5% of the total share capital or 103.3 million shares can be purchased by using derivatives, including derivatives with a volume of up to 2% of the total share capital with a maturity exceeding 18 months. During the period from the 2022 Annual General Meeting until the 2023 Annual General Meeting, 36.3 million shares were purchased for equity compensation purposes in the same period or upcoming periods. Thereof, 22.7 million shares were purchased by exercising call options. In addition, 30.2 million new call options were purchased for equity compensation purposes in upcoming periods. The number of shares held in Treasury amounted to 5.0 million as of the 2023 Annual General Meeting. These shares were held for equity compensation purposes in upcoming periods.

The Annual General Meeting on May 17, 2023 granted the Management Board the approval to buy, on or before April 30, 2028, shares of up to 10% of the share capital at the time of this resolution was taken or, if lower, of the share capital at the respective time the authorization was exercised. As at the 2023 Annual General Meeting, this corresponded to 204 million shares. Thereof, a volume of up to 5% of the total share capital or 102 million shares can be purchased by using derivatives, including derivatives with a volume of up to 2% of the total share capital with a maturity exceeding 18 months. These authorizations replaced the authorizations of the previous year. During the period from the 2023 Annual General Meeting until December 31, 2023, 45.5 million shares were purchased for cancellation with the purpose of distributing capital to shareholders. The number of shares held in Treasury from buybacks amounted to 48.2 million as of December 31, 2023. Thereof 45.5 million relate to shares bought back for cancellation. The remaining amount of 2.7 million shares relates to shares to be used for equity compensation purposes in upcoming periods.

Since the 2017 Annual General Meeting, renewed at the 2021 Annual General Meeting, and as of December 31, 2023, authorized capital available to the Management Board is € 2,560 million (1,000 million shares).

Since the 2022 Annual General Meeting, the Management Board is authorized to issue participatory notes and other hybrid debt securities that fulfill the regulatory requirements to qualify as Additional Tier 1 capital with an equivalent value of € 9.0 billion on or before April 30, 2027. Deutsche Bank issued € 1.25 billion new AT1 notes under this authorization in November 2022.

The current CRR as applicable since June 27, 2019, provides further grandfathering rules for AT1 and Tier 2 instruments issued prior to June 27, 2019. AT1 and Tier 2 instruments issued through special purpose entities were grandfathered until December 31, 2021. In 2023, transitional arrangements only exist for AT1 and Tier 2 instruments which continue to qualify until June 26, 2025, even if they do not meet certain new requirements that apply since June 27, 2019. Deutsche Bank had an immaterial amount of instruments that qualified during 2023, which resulted in no material difference between the "fully loaded" and "transitional" amounts.

Based on the current CRR, the Group has eligible AT1 instruments of € 8.6 billion outstanding as of December 2023. In 2023, the bank did not issue or redeem AT1 notes.

As of December 31, 2023, Tier 2 capital instruments amounted to € 8.6 billion (nominal value of € 11.5 billion). In 2023, the bank issued Tier 2 capital instruments with a nominal value U.S. \$ 1.5 billion (equivalent amount of € 1.4 billion) and a notional of € 132.5 million Tier 2 capital instruments matured.

Minimum capital requirements and additional capital buffers

The Pillar 1 CET 1 minimum capital requirement applicable to the Group is 4.50% of RWA. The Pillar 1 total capital requirement of 8.00% demands further resources that may be met with up to 1.50% Additional Tier 1 capital and up to 2.00% Tier 2 capital.

Failure to meet minimum capital requirements can result in supervisory measures such as restrictions of profit distributions or limitations on certain businesses such as lending. Deutsche Bank complied with the minimum regulatory capital adequacy requirements in 2023.

In addition to these minimum capital requirements, the following combined capital buffer requirements were fully effective beginning 2023 onwards. These buffer requirements must be met in addition to the Pillar 1 minimum capital requirements but can be drawn down in times of economic stress.

The capital conservation buffer is implemented in Section 10c German Banking Act, based on Article 129 CRD and equals a requirement of 2.50% CET 1 capital of RWA in 2023 and onwards.

The countercyclical capital buffer is deployed in a jurisdiction when excess credit growth is associated with an increase in system-wide risk. It may vary between 0% and 2.50% CET 1 capital of RWA. In exceptional cases, it could also be higher than 2.50%. The institution-specific countercyclical buffer that applies to Deutsche Bank is the weighted average of the countercyclical capital buffers that apply in the jurisdictions where our relevant credit exposures are located. As per December 31, 2023, the institution-specific countercyclical capital buffer was at 0.45%.

In addition to the aforementioned buffers, national authorities, such as the BaFin, may require a systemic risk buffer to prevent and mitigate long-term non-cyclical systemic or macro-prudential risks that are not covered by the CRR. They can require an additional buffer of up to 5.00% CET 1 capital of RWA. As of the year end 2023, a systemic risk buffer applied to Deutsche Bank is 0.19%.

Deutsche Bank continues to be designated as a global systemically important institution (G-SII) by the BaFin in agreement with the Deutsche Bundesbank, resulting in a G-SII buffer requirement of 1.50% CET 1 capital of RWA in 2023 based on the indicators as published in 2020. This assessment has been confirmed by the FSB in 2023. Further, BaFin has announced that the G-SII buffer requirement for Deutsche Bank will remain unchanged for the years 2024 and 2025.

Additionally, Deutsche Bank has been classified by BaFin in agreement with the Deutsche Bundesbank as an “other systemically important institution” (O-SII) with an additional capital buffer requirement of 2.00% in 2023 that has to be met on a consolidated level. Hence, for Deutsche Bank, the O-SII buffer amounts to 2.00% in 2023. BaFin has announced O-SII buffer requirement for Deutsche bank remain unchanged for the year 2024. The higher of the buffers for systemically important institutions (G-SII buffer or O-SII buffer) must be applied.

Pursuant to the Pillar 2 SREP, the ECB may impose capital requirements on individual banks which are more stringent than statutory requirements (so-called Pillar 2 requirement).

In December 2022, the ECB informed Deutsche Bank of its decision effective January 1, 2023, that the bank's Pillar 2 requirement changed compared to 2022. This results in ECB's Pillar 2 requirement to 2.70% of RWA. As of December 31, 2023, Deutsche Bank needs to maintain on a consolidated basis a CET 1 ratio of at least 11.16%, a Tier 1 ratio of at least 13.17% and a Total Capital ratio of at least 15.84%. The CET 1 requirement comprises the Pillar 1 minimum capital requirement of 4.50%, the Pillar 2 requirement (SREP add-on) of 1.52%, the capital conservation buffer of 2.50%, the countercyclical buffer of 0.45% and the systemic risk buffer of 0.19% (both subject to changes throughout the year) as well as the higher of our G-SII/O-SII buffer of 2.00%. Correspondingly, the Tier 1 capital requirement includes additionally a Tier 1 minimum capital requirement of 1.50% plus a Pillar 2 requirement of 0.51%, and the Total Capital requirement includes further a Tier 2 minimum capital requirement of 2.00% and a Pillar 2 requirement of 0.68%. Also, following the results of the 2023 SREP, the ECB communicated to Deutsche Bank an individual expectation to hold a further Pillar 2 CET 1 capital add-on, commonly referred to as the Pillar 2 guidance. The capital add-on pursuant to the Pillar 2 guidance is separate from and in addition to the Pillar 2 requirement. The ECB has stated that it expects banks to meet the Pillar 2 guidance although it is not legally binding, and failure to meet the Pillar 2 guidance does not lead to automatic restrictions of capital distributions.

On December 11, 2023, Deutsche Bank was informed by the ECB of its decision regarding prudential minimum capital requirements for 2024 that applies from January 1, 2024, onwards, following the results of the 2023 SREP. The decision set ECB's Pillar 2 requirement to 2.65% of RWA, effective as of January 1, 2024, of which at least 1.49% must be covered by CET 1 capital and 1.99% by Tier 1 capital.

The following table gives an overview of the different Pillar 1 and Pillar 2 minimum capital buffer requirements (but excluding the Pillar 2 guidance) as applicable to Deutsche Bank for the years 2023 and 2024.

Overview total capital requirements and capital buffers

	2023	2024
Pillar 1		
Minimum CET 1 requirement	4.50%	4.50%
Combined buffer requirement	5.14%	5.19%
Capital Conservation Buffer	2.50%	2.50%
Countercyclical Buffer ¹	0.45%	0.50%
Systemic Risk Buffer ²	0.19%	0.19%
Maximum of:		
G-SII Buffer	2.00%	2.00%
O-SII Buffer	1.50%	1.50%
Pillar 2		
Pillar 2 SREP Add-on of CET 1 capital (excluding the "Pillar 2" guidance)	2.70%	2.65%
of which covered by CET 1 capital	1.52%	1.49%
of which covered by Tier 1 capital	2.03%	1.99%
of which covered by Tier 2 capital	0.68%	0.66%
Total CET 1 requirement from Pillar 1 and 2 ³	11.16%	11.18%
Total Tier 1 requirement from Pillar 1 and 2	13.17%	13.18%
Total capital requirement from Pillar 1 and 2	15.84%	15.84%

¹ Deutsche Bank's countercyclical buffer requirement is subject to country-specific buffer rates decreed by EBA and the Basel Committee of Banking Supervision (BCBS) as well as Deutsche Bank's relevant credit exposures as per respective reporting date; the countercyclical buffer rate for 2024 has been calculated to be 0.50% based on known countercyclical buffer changes in 2024. The countercyclical buffer is subject to Deutsche Bank portfolio changes and further changes of countercyclical buffer rates throughout the year

² The Systemic risk buffer rate for 2024 has been calculated to be 0.19% based on known systemic risk buffer changes in 2024. The Systemic risk buffer is subject to Deutsche Bank portfolio changes and further changes in systemic risk buffer rates throughout the year

³ The total Pillar 1 and Pillar 2 CET 1 requirement (excluding the "Pillar 2" guidance) is calculated as the sum of the SREP requirement, the systemic risk buffer requirement, the capital conservation buffer requirement and countercyclical buffer requirement as well as the higher of the G-SII/O-SII requirement

Development of Own Funds

Deutsche Bank's CET 1 capital as of December 31, 2023, amounted to € 48.1 billion and remained materially flat compared to the end of 2022. AT1 capital was € 0.2 billion lower amounted to € 8.3 billion as of December 31, 2023 compared to € 8.5 billion at the end of 2022. Tier 1 capital as of December 31, 2023, amounted to € 56.4 billion compared to € 56.6 billion at the end of 2022. Tier 2 capital was € 0.9 billion lower as of December 31, 2023, amounted to € 8.6 billion compared to € 9.5 billion at the end of 2022. Total capital was € 1.1 billion lower as of December 31, 2023, amounted to € 65.0 billion compared to € 66.1 billion at the end of 2022.

CET 1 capital was materially flat over the year with positive net profit of € 4.8 billion for the year 2023 offset by regulatory deductions for future common share dividend and AT1 coupon payments of € 1.3 billion which is in line with the ECB Decision (EU) (2015/656) on the recognition of interim or year-end profits in CET 1 capital in accordance with the Article 26(2) of Regulation (EU) No 575/2013 (ECB/2015/4), and increased regulatory adjustments related to the expected loss shortfall of € 1.9 billion mainly due to new model implementations and deferred tax assets of € 1.0 billion partially offset by reductions in the additional value adjustment of € 0.3 billion, equity compensation of € 0.2 billion and other regulatory adjustments of € 0.1 billion. In addition, CET 1 capital decreased as a result of negative effects from currency translation adjustments net of capital deduction item counter-effects of € 0.8 billion and share buybacks of € 0.5 billion.

The AT1 capital decrease of € 0.2 billion was driven by increased capital deduction resulting from higher limits for market making transactions.

The Tier 2 capital decrease of € 0.9 billion was mainly due to the redemption of a Tier 2 instrument with a notional amount of € 1.3 billion, € 0.7 billion amortization, € 0.2 billion due to foreign exchange effects and € 0.2 billion higher deduction in market making limit. This was partially offset by issuance of a new Tier 2 capital instrument with a notional amount of € 1.4 billion in the first quarter of 2023.

Own Funds Template (including RWA and capital ratios)

	Dec 31, 2023	Dec 31, 2022
	CRR/CRD	CRR/CRD
in € m.		
Common Equity Tier 1 (CET 1) capital: instruments and reserves		
Capital instruments, related share premium accounts and other reserves	44,908	45,458
Retained earnings	16,509	12,305
Accumulated other comprehensive income (loss), net of tax	(1,760)	(1,314)
Independently reviewed interim profits net of any foreseeable charge or dividend ¹	3,493	4,183
Other	973	1,002
Common Equity Tier 1 (CET 1) capital before regulatory adjustments	64,124	61,634
Common Equity Tier 1 (CET 1) capital: regulatory adjustments		
Additional value adjustments (negative amount)	(1,727)	(2,026)
Other prudential filters (other than additional value adjustments)	(126)	600
Goodwill and other intangible assets (net of related tax liabilities) (negative amount)	(5,014)	(5,024)
Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liabilities where the conditions in Art. 38 (3) CRR are met) (negative amount)	(4,207)	(3,244)
Negative amounts resulting from the calculation of expected loss amounts	(2,386)	(466)
Defined benefit pension fund assets (net of related tax liabilities) (negative amount)	(920)	(1,149)
Direct, indirect and synthetic holdings by an institution of own CET 1 instruments (negative amount)	(0)	(0)
Direct, indirect and synthetic holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above the 10% / 15% thresholds and net of eligible short positions) (negative amount)	0	0
Deferred tax assets arising from temporary differences (net of related tax liabilities where the conditions in Art. 38 (3) CRR are met) (amount above the 10% / 15% thresholds) (negative amount)	0	0
Other regulatory adjustments ²	(1,679)	(2,225)
Total regulatory adjustments to Common Equity Tier 1 (CET 1) capital	(16,058)	(13,536)
Common Equity Tier 1 (CET 1) capital	48,066	48,097
Additional Tier 1 (AT1) capital: instruments		
Capital instruments and the related share premium accounts	8,578	8,578
Amount of qualifying items referred to in Art. 484 (4) CRR and the related share premium accounts subject to phase out from AT1	0	0
Additional Tier 1 (AT1) capital before regulatory adjustments	8,578	8,578
Additional Tier 1 (AT1) capital: regulatory adjustments		
Direct, indirect and synthetic holdings by an institution of own AT1 instruments (negative amount)	(250)	(60)
Residual amounts deducted from AT1 capital with regard to deduction from CET 1 capital during the transitional period pursuant to Art. 472 CRR	0	0
Other regulatory adjustments	(250)	(60)
Total regulatory adjustments to Additional Tier 1 (AT1) capital	8,328	8,518
Additional Tier 1 (AT1) capital	56,395	56,616
Tier 2 (T2) capital	8,610	9,531
Total capital (TC = T1 + T2)	65,005	66,146
Total risk-weighted assets	349,742	360,003
Capital ratios		
Common Equity Tier 1 capital ratio (as a percentage of risk-weighted assets)	13.7	13.4
Tier 1 capital ratio (as a percentage of risk-weighted assets)	16.1	15.7
Total capital ratio (as a percentage of risk-weighted assets)	18.6	18.4

N/M – Not meaningful

¹ Full year profit is recognized as per ECB Decision (EU) 2015/656 in accordance with the Article 26(2) of Regulation (EU) No 575/2013 (ECB/2015/4)

² Includes capital deductions of € 1.4 billion (Dec 2022: € 1.2 billion) based on ECB guidance on irrevocable payment commitments related to the Single Resolution Fund and the Deposit Guarantee Scheme, € 0.3 billion (Dec 2022: € 1.0 billion) based on ECB's supervisory recommendation for a prudential provisioning of non-performing exposures, € 0.9 million (Dec 2022: € 7.4 million) resulting from minimum value commitments as per Article 36 (1)(n) of the CRR and CET 1 shows no change in the current year, but a decrease of € 14.7 million for the year 2022 from IFRS 9 transitional provision as per Article 473a of the CRR

Reconciliation of shareholders' equity to Own Funds

	CRR/CRD	
	Dec 31, 2023	Dec 31, 2022
in € m.		
Total shareholders' equity per accounting balance sheet	64,486	61,959
Deconsolidation/Consolidation of entities	(35)	29
Of which:		
Additional paid-in capital	0	0
Retained earnings	(35)	29
Accumulated other comprehensive income (loss), net of tax	0	0
Total shareholders' equity per regulatory balance sheet	64,451	61,988
Minority Interests (amount allowed in consolidated CET 1)	973	1,002
AT1 coupon and shareholder dividend deduction ¹	(1,279)	(1,342)
Capital instruments not eligible under CET 1 as per CRR 28(1)	(21)	(14)
Common Equity Tier 1 (CET 1) capital before regulatory adjustments	64,124	61,634
Additional value adjustments	(1,727)	(2,026)
Other prudential filters (other than additional value adjustments)	(126)	600
Goodwill and other intangible assets (net of related tax liabilities) (negative amount)	(5,014)	(5,024)
Deferred tax assets that rely on future profitability	(4,207)	(3,244)
Defined benefit pension fund assets (net of related tax liabilities) (negative amount)	(920)	(1,149)
Direct, indirect and synthetic holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities	0	0
Other regulatory adjustments ²	(4,065)	(2,691)
Common Equity Tier 1 capital	48,066	48,097

¹ Full year profit is recognized as per ECB Decision (EU) 2015/656 in accordance with the Article 26(2) of Regulation (EU) No 575/2013 (ECB/2015/4)

² Includes capital deductions of € 1.4 billion (Dec 2022: € 1.2 billion) based on ECB guidance on irrevocable payment commitments related to the Single Resolution Fund and the Deposit Guarantee Scheme, € 0.3 billion (Dec 2022: € 1.0 billion) based on ECB's supervisory recommendation for a prudential provisioning of non-performing exposures, € 0.9 million (Dec 2022: € 7.4 million) resulting from minimum value commitments as per Article 36 (1)(n) of the CRR. CET 1 shows no change in the current year, but a decrease of € 14.7 million for the year 2022 from IFRS 9 transitional provision as per Article 473a of the CRR

Development of Own Funds

	CRR/CRD	
	twelve months ended Dec 31, 2023	twelve months ended Dec 31, 2022
in € m.		
Common Equity Tier 1 (CET 1) capital - opening amount	48,097	46,506
Common shares, net effect		
Additional paid-in capital	(69)	(2)
Retained earnings	(332)	(79)
Common shares in treasury, net effect/(+) sales (-) purchase	4,794	5,945
Movements in accumulated other comprehensive income	(150)	(325)
AT1 coupon and shareholder dividend deduction ¹	(445)	(870)
Additional value adjustments	(1,279)	(1,342)
Goodwill and other intangible assets (net of related tax liabilities) (negative amount)	300	(215)
Deferred tax assets that rely on future profitability (excluding those arising from temporary differences)	11	(127)
Negative amounts resulting from the calculation of expected loss amounts	(962)	(1,779)
Defined benefit pension fund assets (net of related tax liabilities) (negative amount)	(1,920)	107
Direct, indirect and synthetic holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities	230	(158)
Deferred tax assets arising from temporary differences (amount above 10% and 15% threshold, net of related tax liabilities where the conditions in Art. 38 (3) CRR are met)	0	0
Other, including regulatory adjustments	(208)	285
Common Equity Tier 1 (CET 1) capital - closing amount	48,066	48,097
Additional Tier 1 (AT1) Capital – opening amount	8,518	8,868
New Additional Tier 1 eligible capital issues	0	1,967
Matured and called instruments	0	(2,350)
Other, including regulatory adjustments	(190)	33
Additional Tier 1 (AT1) Capital – closing amount	8,328	8,518
Tier 1 capital	56,395	56,616
Tier 2 (T2) capital – closing amount	8,610	9,531
Total regulatory capital	65,005	66,146

¹ Full year profit is recognized as per ECB Decision (EU) 2015/656 in accordance with the Article 26(2) of Regulation (EU) No 575/2013 (ECB/2015/4)

Minimum loss coverage for Non Performing Exposure (NPE)

In April 2019, the EU published requirements Regulation (EU) 2019/630 amending the CRR (Regulation (EU) No 575/2013) for a prudential backstop reserve for non-performing exposure (NPE). This regulation results in a Pillar 1 deduction from CET 1 capital when a minimum loss coverage requirement is not met. It is applied to exposures originated and defaulted after April 25, 2019.

In addition, in March 2018, the ECB published its “Addendum to the ECB Guidance to banks on non-performing loans: supervisory expectations for prudential provisioning of non-performing exposures” and in August 2019, its “Communication on supervisory coverage expectations for NPEs”.

The ECB guidance issued is applicable to all newly defaulted loans after April 1, 2018 (ECB - new NPE's after April 1, 2018) and, similar to the EU rules, it requires banks to take measures in case a minimum impairment coverage requirement is not met. Within the annual SREP discussions ECB may impose Pillar 2 measures on banks in case ECB is not confident with measure taken by the individual bank.

For the year end 2020, the bank introduced a framework to determine the prudential provisioning of non-performing exposure as a Pillar 2 measure as requested in the before mentioned ECB's guidance and SREP recommendation.

For the minimum loss coverage expectation for NPE's arising from clients defaulted before April 1, 2018 (ECB – NPE Stock) a phase-in path to 100% coverage expectation was envisaged with an annual increase of 10%. In a first step, banks were allocated to three comparable groups on the basis of the bank's net NPL ratios as of end-2017 and in a second step an assessment of capacity regarding the potential impact was carried out for each individual bank with a horizon of end-2026. Deutsche Bank has been assigned to Group 1 which requires a full applicability of 100% minimum loss coverage by year end 2024 for secured loans respectively by year end 2023 for unsecured loans.

The shortfall between the minimum loss coverage requirements for non-performing exposure and the risk reserves recorded in line with the IFRS 9 for defaulted (Stage 3) assets amounted to € 322 million as of December 31, 2023 and was deducted from CET 1. This additional CET 1 charge can be considered as additional loss reserve and leads to a € 2.6 billion RWA relief. The reduction in the shortfall and the respective increase in the RWA relief in 2023 were driven by the benefits from data and process optimization as part of the bank's capital efficiency measures, as discussed below.

Non-performing exposure loss coverage

		Dec 31, 2023		
in € m. (unless stated otherwise)	Exposure value ¹	Total minimum coverage requirement	Available coverage	Applicable amount of insufficient coverage
Corporate Bank	3,745	650	1,299	51
Investment Bank	9,415	3,684	4,753	223
Private Bank	6,621	1,428	3,169	43
Asset Management	0	0	0	0
Corporate & Other	491	59	98	4
Total	20,271	5,820	9,319	322

¹ Exposure value in accordance with Article 47c CRR

		Dec 31, 2022		
in € m. (unless stated otherwise)	Exposure value ¹	Total minimum coverage requirement	Available coverage	Applicable amount of insufficient coverage
Corporate Bank	4,378	795	1,176	316
Investment Bank	14,665	8,182	10,117	383
Private Bank	6,101	1,250	2,202	315
Asset Management	0	0	0	0
Corporate & Other ²	282	67	41	35
Total	25,426	10,294	13,535	1,048

¹ Exposure value in accordance with Article 47c CRR

² Aligned to the current representation

Development of risk-weighted assets

The table below provides an overview of RWA broken down by risk type and business division. It includes the aggregated effects of the segmental reallocation of infrastructure related positions, if applicable, as well as reallocations between the segments.

Risk-weighted assets by risk type and business division

	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Dec 31, 2023
in € m.						
Credit Risk	63,156	94,246	78,422	11,652	18,314	265,789
Settlement Risk	0	1	13	0	0	14
Credit Valuation Adjustment (CVA)	82	4,654	110	0	429	5,276
Market Risk	181	19,019	22	28	2,260	21,510
Operational Risk	5,568	21,611	7,659	3,475	18,839	57,153
Total	68,987	139,532	86,226	15,155	39,842	349,742

	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Dec 31, 2022 ¹
in € m.						
Credit Risk	68,022	93,184	79,865	9,417	18,726	269,214
Settlement Risk	0	63	0	0	61	124
Credit Valuation Adjustment (CVA)	130	5,144	29	4	877	6,184
Market Risk	847	17,895	72	28	7,289	26,131
Operational Risk	5,304	23,155	7,637	3,414	18,839	58,349
Total	74,303	139,442	87,602	12,864	45,792	360,003

¹ Prior year's comparatives aligned to presentation in the current year

Deutsche Bank's RWA were € 349.7 billion as of December 31, 2023, compared to € 360.0 billion at the end of 2022. Market risk RWA declined by € 4.6 billion, primarily driven by decreases in the Value-at-Risk and Stressed-Value-at-Risk components following a reduction in the qualitative and quantitative components of the capital multiplier. In addition, reductions in exposure led to a lower Value-at-Risk and Stressed-Value-at-Risk, which was partially offset by a higher Incremental Risk Charge, when compared to year end 2022. Credit risk RWA decreased by € 3.4 billion, primarily driven by benefits from data and process optimization as part of the bank's capital efficiency measures, new securitizations, foreign exchange movements and a reduction in RWA for deferred tax assets. This was partially offset by an RWA increase due to regulatory changes from the introduction of new models, impacts from rating migration, exposures to central counterparties, increases from the acquisition of Numis and business growth. Operational risk RWA decreased by € 1.2 billion, mainly driven by a more favorable development of Deutsche Bank's internal loss profile feeding into the capital model. Credit valuation adjustment (CVA) RWA decreased by € 0.9 billion mainly driven by model updates and market data changes, partially offset by changes in methodology and policy as well as business activities.

The tables below provide an analysis of key drivers for risk-weighted asset movements observed for credit risk, credit valuation adjustments as well as market and operational risk in the reporting period. They also show the corresponding movements in capital requirements, derived from the RWA by an 8% minimum capital requirement.

Development of risk-weighted assets for Credit Risk including Counterparty Credit Risk

	Dec 31, 2023	Dec 31, 2022		
	Credit risk RWA	Capital requirements	Credit risk RWA	Capital requirements
in € m.				
Credit risk RWA balance, beginning of year	269,214	21,537	263,752	21,100
Book size	(3,694)	(296)	(6,254)	(500)
Book quality	(886)	(71)	(478)	(38)
Model updates	298	24	(179)	(14)
Methodology and policy	5,831	466	8,244	659
Acquisition and disposals	571	46	0	0
Foreign exchange movements	(4,174)	(334)	5,320	426
Other	(1,371)	(110)	(1,191)	(95)
Credit risk RWA balance, end of year	265,789	21,263	269,214	21,537

Of which: Development of risk-weighted assets for Counterparty Credit Risk

		Dec 31, 2023		Dec 31, 2022
in € m.		Counterparty credit risk RWA	Capital requirements	Counterparty credit risk RWA
Counterparty credit risk RWA balance, beginning of year		23,589	1,887	24,780
Book size		(4,664)	(373)	(1,734)
Book quality		1,278	102	(41)
Model updates		0	0	0
Methodology and policy		312	25	0
Acquisition and disposals		0	0	0
Foreign exchange movements		(646)	(52)	584
Other		0	0	0
Counterparty credit risk RWA balance, end of year		19,868	1,589	23,589
				1,887

The classifications of key drivers for the RWA credit risk development table are fully aligned with the recommendations of the Enhanced Disclosure Task Force. Organic changes in the Group's portfolio size and composition are considered in the category "book size". The category "book quality" mainly represents the effects from portfolio rating migrations, loss given default, model parameter recalibrations as well as collateral and netting coverage activities. "Model updates" include model refinements and advanced model roll out. RWA movements resulting from externally, regulatory-driven changes, e.g., applying new regulations, are considered in the "methodology and policy" section. "Acquisition and disposals" is reserved to show significant exposure movements which can be clearly assigned to new businesses or disposal-related activities. Changes that cannot be attributed to the above categories are reflected in the category "other".

The decrease in RWA for credit risk by € 3.4 billion, or 1.3%, since December 31, 2022, is mainly driven by the categories "foreign exchange movements", "book size", "other" and "book quality". This was partially offset by changes shown in the categories "methodology and policy", "acquisition and disposals" and "model updates". The decrease in category "book size" is predominantly driven by a relief from synthetic securitizations in the Corporate Bank and the Private Bank, which was partially offset by business growth. Additionally, the decrease in category "other" reflects a reduction in RWA for deferred tax assets and investments in financial sector entities. The reduction in "book quality" is mainly driven by benefits from data and process optimization as part of the bank's capital efficiency measures, partially offset by counterparty rating deteriorations. The aforementioned decreases were partially offset by increases in the category "methodology and policy" which mainly reflects impacts from the introduction of new models due to regulatory changes and exposures to central counterparties. The category "acquisition and disposals" reflects the acquisition of Numis. Furthermore, credit risk RWA increased in the category "model updates" compared to 2022, driven by refinements on Deutsche Bank's IRBA model.

RWA for counterparty credit risk decreased by € 3.7 billion, or 15.8%, since December 31, 2022, mainly driven by the decrease in category "book size" reflecting lower exposures for derivatives along with lower risk weights for new positions as well as a reduction in the category "foreign exchange movements". This decrease was partially offset by an increase in category "book quality", particularly stemming from counterparty rating deteriorations. Additionally, RWA for counterparty credit risk increased in the category "methodology and policy", driven by impacts from the introduction of new models due to regulatory changes and exposures to central counterparties.

Based on the CRR/CRD regulatory framework, Deutsche Bank is required to calculate RWA using the CVA which takes into account the credit quality of our counterparties. RWA for CVA covers the risk of mark-to-market losses on the expected counterparty risk in connection with OTC derivative exposures and securities financing transactions. Deutsche Bank calculates the majority of the CVA based on our own internal model as approved by the BaFin.

Development of risk-weighted assets for Credit Valuation Adjustment

		Dec 31, 2023		Dec 31, 2022
in € m.		CVA RWA	Capital requirements	CVA RWA
CVA RWA balance, beginning of year		6,184	495	6,327
Movement in risk levels		170	14	1,217
Market data changes and recalibrations		(656)	(52)	(200)
Model updates		(683)	(55)	(1,160)
Methodology and policy		261	21	0
Acquisitions and disposals		0	0	0
Foreign exchange movements		0	0	0
CVA RWA balance, end of year		5,276	422	6,184
				495

The development of CVA RWA is broken down into a number of categories: "Movement in risk levels", which includes changes to the portfolio size and composition; "Market data changes and calibrations", which includes changes in market data levels and volatilities as well as recalibrations; "Model updates", which refers to changes to either the IMM credit exposure models or the value-at-risk models that are used for CVA RWA; "Methodology and policy", which relates to changes to the regulation. Any significant business acquisitions or disposals would be presented in the category "Acquisitions and disposals".

As of December 31, 2023, RWA for CVA amounted to € 5.3 billion, representing a decrease of € 0.9 billion or -15% compared to December 31, 2022. This includes € 0.7 billion decrease in model updates and € 0.7 billion decrease in market data changes, partially offset by methodology and policy changes and business activities throughout the year.

Development of risk-weighted assets for Market Risk

						Dec 31, 2023
in € m.	VaR	SVaR	IRC	Other	Total RWA	Total capital requirements
Market risk RWA balance, beginning of year	7,413	12,221	3,639	2,857	26,131	2,091
Movement in risk levels	(1,901)	(1,724)	3,647	72	95	8
Market data changes and recalibrations	(393)	(10)	0	(53)	(456)	(36)
Model updates/changes	77	(663)	(158)	0	(745)	(60)
Methodology and policy	(1,446)	(2,735)	0	722	(3,459)	(277)
Acquisitions and disposals	0	0	0	0	0	0
Foreign exchange movements	0	0	0	(57)	(57)	(5)
Other	0	0	0	0	0	0
Market risk RWA balance, end of year	3,750	7,090	7,129	3,542	21,510	1,721

						Dec 31, 2022
in € m.	VaR	SVaR	IRC	Other	Total RWA	Total capital requirements
Market risk RWA balance, beginning of year	3,538	9,360	3,657	3,219	19,773	1,582
Movement in risk levels	(175)	1,986	(17)	266	2,061	165
Market data changes and recalibrations	2,651	(617)	0	(593)	1,441	115
Model updates/changes	100	(650)	0	0	(550)	(44)
Methodology and policy	1,299	2,142	0	0	3,441	275
Acquisitions and disposals	0	0	0	0	0	0
Foreign exchange movements	0	0	0	113	113	9
Other	0	0	0	0	0	0
Market risk RWA balance, end of year	7,413	12,221	3,639	2,857	26,131	2,091

The analysis for market risk covers movements in the bank's internal models for value-at-risk (VaR), stressed value-at-risk, incremental risk charge (IRC) as well as results from the market risk standardized approach (MRSA), which is captured in the category "Other". MRSA is used to determine the regulatory capital charge for the specific market risk of trading book securitizations, for certain types of investment funds and for longevity risk as set out in CRR/CRD regulations.

Market risk RWA movements due to changes in market data levels, volatilities, correlations, liquidity and ratings are included under the "Market data changes and recalibrations" category. Changes to market risk RWA internal models, such as methodology enhancements or risk scope extensions, are included in the category "Model updates". In the "Methodology and policy" category regulatory driven changes to market risk RWA models and calculations are reported. Significant new businesses and disposals would be assigned to the line item "Acquisition and disposals". The impacts of "Foreign exchange movements" are only calculated for the CRM and Standardized approach methods.

As of December 31, 2023 the RWA for market risk was € 21.5 billion, a decrease of € 4.6 billion, or -18% since December 31, 2022. The decrease is driven by the "Methodology and policy" category due to a reduction in quantitative component of capital multiplier by 0.85 on the back of backtesting outliers moving out of the 250 day window and reduction in qualitative component of multiplier by 0.5. The Incremental Risk Charge increased by € 3.5 billion driven by changes in sovereign bond inventory for facilitating market making in Global Rates and Global Emerging Markets business which is offset by lower value at risk and stressed value at risk driven by a reduction in interest rates exposure under Global Rates and reductions following the changes in Global Foreign Exchange business strategy.

Development of risk-weighted assets for operational risk

				Dec 31, 2023		Dec 31, 2022
in € m.	Operational risk RWA	Capital requirements	Operational risk RWA	Capital requirements		
Operational risk RWA balance, beginning of year	58,349	4,668	61,718	4,937		
Loss profile changes (internal and external)	(1,577)	(126)	(3,405)	(272)		
Expected loss development	150	12	(166)	(13)		
Forward looking risk component	130	10	794	63		
Model updates	0	0	(669)	(54)		
Methodology and policy	100	8	78	6		
Acquisitions and disposals	0	0	0	0		
Operational risk RWA balance, end of year	57,153	4,572	58,349	4,668		

Changes in internal and external loss events are reflected in the category "Loss profile changes". The category "Expected loss development" is based on divisional business plans as well as historical losses and is deducted from the AMA capital figure within certain constraints. The category "Forward looking risk component" reflects qualitative adjustments and, as such, the effectiveness and performance of the day-to-day operational risk management activities via Non-Financial Risk appetite metrics and Risk and Control Assessment (RCA) scores, focusing on the business environment and internal control factors. The category "Model updates" covers model refinements, such as the implementation of model changes. The category "Methodology and policy" represents externally driven changes such as regulatory add-ons. The category "Acquisition and disposals" represents significant exposure movements which can be clearly assigned to new or disposed businesses.

The overall decrease of the RWA for operational risk by € 1.2 billion during 2023 was mainly driven by lower loss frequencies feeding into our capital model.

Economic Capital

Economic capital adequacy

Deutsche Bank's internal capital adequacy assessment process (ICAAP) aims at maintaining the continuity of the bank on an ongoing basis. Internal capital adequacy is assessed from an economic perspective as the ratio of economic capital supply divided by economic capital demand as shown in the table below.

Total economic capital supply and demand

in € m. (unless stated otherwise)	Dec 31, 2023	Dec 31, 2022
Components of economic capital supply		
Shareholders' equity	64,486	61,959
Noncontrolling interests ¹	899	897
AT1 coupons deduction	(381)	(319)
Gain on sale of securitizations, cash flow hedges	(45)	790
Fair value gains on own debt and debt valuation adjustments, subject to own credit risk	(82)	(190)
Additional valuation adjustments	(1,727)	(2,026)
Intangible assets	(3,692)	(3,677)
IFRS deferred tax assets excl. temporary differences	(4,737)	(3,937)
Expected loss shortfall	(2,386)	(466)
Defined benefit pension fund assets	(947)	(1,176)
Other adjustments	(3,782)	(1,864)
Economic capital supply	47,607	49,989
Components of economic capital demand		
Credit risk	11,875	11,802
Market risk	8,328	6,355
Operational risk	4,572	4,668
Strategic risk	1,874	1,854
Diversification benefit	(3,385)	(3,778)
Total economic capital demand	23,265	20,900
Economic capital adequacy ratio	205%	239%

¹ Includes noncontrolling interest up to the economic capital requirement for each subsidiary

The economic capital adequacy ratio was 205% as of December 31, 2023, compared with 239% as of December 31, 2022. The decline was due to an increase in economic capital demand, which is explained in the section "Risk Profile", and a decrease in economic capital supply.

The decrease in economic capital supply by € 2.4 billion compared to year-end 2022 was mainly driven by higher capital deduction from expected loss shortfall of € 1.9 billion, introduction of a new deduction of € 1.5 billion for valuation differences between carrying and fair values for debt securities held to collect, deductions for future common share dividend and AT1 coupon payments of € 1.3 billion, currency translation adjustments of € 1.1 billion, higher capital deductions for IFRS deferred tax assets excluding temporary differences of € 0.8 billion and cash flow hedges of € 0.8 billion. These decreases were partly offset by a positive net income of € 4.8 billion and reduced deduction for additional valuation adjustments of € 0.3 billion.

Leverage Ratio

Leverage Ratio according to CRR/CRD framework

The non-risk-based leverage ratio is intended to act as a supplementary measure to the risk-based capital requirements. Its objectives are to constrain the build-up of leverage in the banking sector, helping avoid destabilizing deleveraging processes which can damage the broader financial system and the economy, and to reinforce the risk-based requirements with a simple, non-risk based “backstop” measure.

A minimum leverage ratio requirement of 3% was introduced effective starting with June 28, 2021. Starting January 1, 2023, an additional leverage ratio buffer requirement of 50% of the applicable G-SII buffer rate applies. This additional requirement equals 0.75% for Deutsche Bank. Furthermore, the European Central Bank has set a Pillar 2 requirement for the leverage ratio for the first time; effective January 1, 2024, this requirement will be 0.10%.

Deutsche Bank calculates its leverage ratio exposure in accordance with Articles 429 to 429g of the CRR.

The Group's total leverage ratio exposure includes derivatives, securities financing transactions (SFTs), off-balance sheet exposure and other on-balance sheet exposure (excluding derivatives and SFTs).

The leverage exposure for derivatives is calculated by using a modified version of the standardized approach for counterparty credit risk (SA-CCR), comprising the current replacement cost plus a regulatory defined add-on for the potential future exposure. The effective notional amount of written credit derivatives, i.e., the notional reduced by any negative fair value changes that have been incorporated in Tier 1 capital is included in the leverage ratio exposure measure; the resulting exposure measure is further reduced by the effective notional amount of purchased credit derivative protection on the same reference name provided certain conditions are met.

The SFT component includes the gross receivables for SFTs, which are netted with SFT payables if specific conditions are met. In addition to the gross exposure a regulatory add-on for the counterparty credit risk is included.

The off-balance sheet exposure component follows the standardized approach for credit risk with credit risk conversion factors (CCF) depending on the risk category (0% for low risk, 20% for medium/low risk, 50% for medium risk, or 100% for full risk). For the determination of the leverage exposure a floor of 10% is applied leading to a 10% CCF for the low risk category.

The on-balance sheet exposures (excluding derivatives and SFTs) component reflects the accounting values of the assets (excluding derivatives, SFTs and regular-way purchases and sales awaiting settlement). The exposure value of regular-way purchases and sales awaiting settlement is determined as offset between those cash receivables and cash payables where the related regular-way sales and purchases are both settled on a delivery-versus payment basis.

Assets can be excluded from the leverage ratio exposure measure if they have been deducted in the determination of Tier 1 capital. The corresponding regulatory adjustments are reflected in the asset amounts deducted in determining Tier 1 capital component.

The following tables show the leverage ratio exposure and the leverage ratio. For further details on Tier 1 capital please also refer to the section “Development of Own Funds”.

Summary reconciliation of accounting assets and leverage ratio exposures

in € bn.	Dec 31, 2023	Dec 31, 2022
Total assets as per published financial statements	1,312	1,337
Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	2	2
Adjustments for derivative financial instruments	(122)	(171)
Adjustment for securities financing transactions (SFTs)	4	1
Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	127	128
Other adjustments	(83)	(57)
Leverage ratio total exposure measure	1,240	1,240

Leverage ratio common disclosure

in € bn. (unless stated otherwise)	Dec 31, 2023	Dec 31, 2022
Total derivative exposures	131	130
Total securities financing transaction exposures	99	96
Total off-balance sheet exposures	127	128
Other Assets	897	897
Asset amounts deducted in determining Tier 1 capital	(14)	(11)
Tier 1 capital	56.4	56.6
Leverage ratio total exposure measure	1,240	1,240
Leverage ratio (in %)	4.5	4.6

Description of the factors that had an impact on the leverage ratio in 2023

As of December 31, 2023, the leverage ratio was 4.5% compared to 4.6% as of December 31, 2022. This takes into account a Tier 1 capital of € 56.4 billion over an applicable exposure measure of € 1,240.3 billion as of December 31, 2023 (€ 56.6 billion over an applicable exposure measure of € 1,240.5 billion as of December 31, 2022, respectively).

Over the year 2023 the leverage exposure was materially unchanged at € 1,240.3 billion. Asset amounts deducted in determining Tier 1 capital declined by € 2.8 billion mainly reflecting higher capital deductions for negative amounts resulting from the calculation of expected loss amounts and deferred tax assets. In addition, off-balance sheet leverage exposure decreased by € 0.6 billion. The leverage exposure for assets not related to derivatives and secured financing transactions decreased by € 0.5 billion which largely reflects the development of the balance sheet (for additional information please refer to section "Movements in assets and liabilities" in this report). SFT-related items (securities purchased under resale agreements and securities borrowed) increased by € 3.0 billion, largely in line with the development on the balance sheet. Furthermore, the leverage exposure related to derivatives increased by € 0.8 billion.

The development of the leverage exposure in 2023 includes a negative foreign exchange impact of € 17.7 billion mainly due to the weakening of the U.S. Dollar versus the Euro. The effects from foreign exchange rate movements are embedded in the movement of the leverage exposure items discussed in this section.

For main drivers of the Tier 1 capital development please refer to section "Development of Own Funds".

Minimum Requirement of Own Funds and Eligible Liabilities and Total Loss Absorbing Capacity

MREL Requirements

The minimum requirement for own funds and eligible liabilities (MREL) was introduced by the European Union's Regulation establishing uniform rules and a uniform procedure for the resolution of credit institutions (Single Resolution Mechanism Regulation or SRMR) and the European Union's Directive establishing a framework for the recovery and resolution of credit institutions (Bank Recovery and Resolution Directive or BRRD) as implemented into German law by the German Recovery and Resolution Act.

The currently required level of MREL is determined by the competent resolution authorities for each supervised bank individually, depending on the respective preferred resolution strategy. In the case of Deutsche Bank AG, MREL is determined by the Single Resolution Board. While there is no statutory minimum level of MREL, the SRMR, BRRD and a delegated regulation set out criteria which the resolution authority must consider when determining the relevant required level of MREL. Guidance is provided through an MREL policy published annually by the SRB. Any binding MREL ratio determined by the SRB is communicated to Deutsche Bank via the German Federal Financial Supervisory Authority (BaFin).

As a result of its regular annual review the SRB has updated Deutsche Bank AG's binding MREL ratio requirements in the second quarter of 2023 applicable immediately. The MREL ratio requirement on a consolidated basis is now 25.21% of RWA and 6.92% of LRE of which 19.54% of RWA and 6.92% of LRE must be met with own funds and subordinated instruments.

The combined buffer requirements of 5.14% as of December 31, 2023 must be met in addition to the RWA based MREL and subordinated MREL requirements.

TLAC Requirements

Since June 27, 2019, Deutsche Bank, as a global systemically important bank, has also become subject to global minimum standards for its Total Loss-Absorbing Capacity (TLAC). The TLAC requirement was implemented via amendments to the Capital Requirements Regulation and the Capital Requirements Directive provided in June 2019 with the publication of Regulation (EU) 2019/876 and Directive (EU) 2019/878.

This TLAC requirement is based on both risk-based and non-risk-based denominators and set at the higher-of 18% of RWA plus the combined buffer requirements and 6.75% of LRE since January 1, 2022.

MREL ratio development

As of December 31, 2023, available MREL were € 123.3 billion, corresponding to a ratio of 35.24% of RWA. This means that Deutsche Bank has a comfortable MREL surplus of € 17.1 billion above Deutsche Bank's MREL requirement of € 106.2 billion (i.e. 30.35% of RWA including combined buffer requirement). Compared to December 31, 2022 the surplus has reduced as a higher MREL requirement was not fully offset by lower RWA.

€ 114.1 billion of Deutsche Bank's available MREL were own funds and subordinated liabilities, corresponding to a MREL subordination ratio of 32.63% of RWA, a buffer of € 27.8 billion over Deutsche Bank's subordination requirement of € 86.3 billion (i.e. 24.68% of RWA including combined buffer requirements). Compared to December 31, 2022 the surplus has increased due to a lower subordinated MREL requirement and lower RWA.

TLAC ratio development

As of December 31, 2023, TLAC was € 114.1 billion and the corresponding TLAC ratios were 32.63% of RWA and 9.20% of LRE. This means that Deutsche Bank has a comfortable TLAC surplus of € 30.4 billion over its TLAC requirement of € 83.7 billion (6.75% of LRE). Compared to December 31, 2022 the surplus has reduced due to a lower available TLAC.

MREL and TLAC disclosure

in € m.

(unless stated otherwise)

	Dec 31, 2023	Dec 31, 2022
Regulatory capital elements of TLAC/MREL		
Common Equity Tier 1 capital (CET 1)	48,066	48,097
Additional Tier 1 (AT1) capital instruments eligible under TLAC/MREL	8,328	8,518
Tier 2 (T2) capital instruments eligible under TLAC/MREL		
Tier 2 (T2) capital instruments before TLAC/MREL adjustments	8,610	9,531
Tier 2 (T2) capital instruments adjustments for TLAC/MREL	2,478	1,898
Tier 2 (T2) capital instruments eligible under TLAC/MREL	11,088	11,429
Total regulatory capital elements of TLAC/MREL	67,483	68,045
Other elements of TLAC/MREL		
Senior non-preferred plain vanilla	46,624	47,862
Holdings of eligible liabilities instruments of other G-SIIs (TLAC only)	0	0
Total Loss Absorbing Capacity (TLAC)	114,106	115,907
Add back of holdings of eligible liabilities instruments of other G-SIIs (TLAC only)	0	0
Available Own Funds and subordinated Eligible Liabilities (subordinated MREL)	114,106	115,907
Senior preferred plain vanilla	5,538	4,552
Senior preferred structured products	3,609	3,215
Available Minimum Own Funds and Eligible Liabilities (MREL)	123,253	123,674
Risk Weighted Assets (RWA)	349,742	360,003
Leverage Ratio Exposure (LRE)	1,240,318	1,240,483
TLAC ratio		
TLAC ratio (as percentage of RWA)	32.63	32.20
TLAC requirement (as percentage of RWA)	23.14	22.57
TLAC ratio (as percentage of Leverage Exposure)	9.20	9.34
TLAC requirement (as percentage of Leverage Exposure)	6.75	6.75
TLAC surplus over RWA requirement	33,167	34,638
TLAC surplus over LRE requirement	30,385	32,174
MREL subordination		
MREL subordination ratio (as percentage of RWA)	32.63	32.20
MREL subordination requirement (as percentage of RWA)	24.68	24.85
Surplus over MREL subordination requirement	27,781	26,430
MREL ratio		
MREL ratio (as percentage of RWA)	35.24	34.35
MREL requirement (as percentage of RWA)	30.35	29.46
MREL surplus over requirement	17,098	17,600

Own Funds and Eligible Liabilities

To meet the MREL and TLAC requirement, Deutsche Bank needs to ensure that enough eligible liabilities instruments are maintained. Instruments eligible for MREL and TLAC are regulatory capital instruments (own funds) and liabilities that meet certain criteria, which are referred to as eligible liabilities.

Own funds used for MREL and TLAC include the full amount of Tier 2 capital instruments with a remaining maturity of greater than 1 year and less than 5 years which are reflected in regulatory capital on a pro-rata basis only.

Eligible liabilities are liabilities issued out of the resolution entity Deutsche Bank AG that meet eligibility criteria which are supposed to ensure that they are structurally suited as loss-absorbing capital. As a result, eligible liabilities exclude deposits which are covered by an insurance deposit protection scheme or which are preferred under German insolvency law (e.g., deposits from private individuals as well as small and medium-sized enterprises). Among other things, secured liabilities and derivatives liabilities are generally excluded as well. Debt instruments with embedded derivative features can be included under certain conditions (e.g., a known and fixed or increasing principal). In addition, eligible liabilities must have a remaining time to maturity of at least one year and must either be issued under the law of a Member State of the European Union or must include a bail-in clause in their contractual terms to make write-down or conversion effective. The SRB has granted a transitional period for liabilities issued under UK law on or before November 15, 2018, which do not include an enforceable and effective bail-in clause but can still be included in eligible liabilities after Brexit until June 28, 2025.

In addition, eligible liabilities need to be subordinated to be counted against the TLAC and MREL subordination requirements. Effective January 1, 2017, the German Banking Act provided for a new class of statutorily subordinated debt securities that rank as senior non-preferred below the bank's other senior liabilities (but in priority to the bank's contractually subordinated liabilities, such as those qualifying as Tier 2 instruments). Following a harmonization effort by the European Union implemented in Germany effective July 21, 2018, banks are permitted to now decide if a specific issuance of eligible senior debt will be in the non-preferred or in the preferred category. Any such senior non-preferred debt instruments issued by Deutsche Bank AG under such rules rank on parity with its outstanding debt instruments that were classified as senior non-preferred under the prior rules. All these senior non-preferred issuances meet the TLAC and MREL subordination criteria.

Credit Risk Exposure

Deutsche Bank defines its credit exposure by taking into account all transactions where losses might occur due to the fact that counterparties may not fulfill their contractual payment obligations as defined under 'Credit Risk Framework'.

Maximum Exposure to Credit Risk

The maximum exposure to credit risk table shows the direct exposure before consideration of associated collateral held and other credit enhancements (netting and hedges) that do not qualify for offset in the financial statements for the periods specified. The netting credit enhancement component includes the effects of legally enforceable netting agreements as well as the offset of negative mark-to-markets from derivatives against pledged cash collateral. The collateral credit enhancement component mainly includes real estate, collateral in the form of cash as well as securities-related collateral. In relation to collateral, the Group applies internally determined haircuts and additionally cap all collateral values at the level of the respective collateralized exposure.

Maximum Exposure to Credit Risk

						Dec 31, 2023	
						Credit Enhancements	
	in € m.	Maximum exposure to credit risk ¹	Subject to impairment	Netting	Collateral	Guarantees and Credit derivatives ²	Total credit enhancements
Financial assets at amortized cost ³							
Cash and central bank balances	178,424	178,424		–	0	–	0
Interbank balances (w/o central banks)	6,144	6,144		–	0	0	0
Central bank funds sold and securities purchased under resale agreements	14,725	14,725		–	13,761	–	13,761
Securities borrowed	39	39		–	33	–	33
Loans	478,879	478,879		–	260,047	42,191	302,239
Other assets subject to credit risk ^{4,5}	82,826	77,520		24,037	914	644	25,594
Total financial assets at amortized cost³	761,036	755,731		24,037	274,755	42,835	341,626
Financial assets at fair value through profit or loss ⁶							
Trading assets	122,841	–		–	1,458	951	2,408
Positive market values from derivative financial instruments	251,856	–		195,499	40,036	12	235,547
Non-trading financial assets mandatory at fair value through profit or loss	87,153	–		1,931	76,894	92	78,917
Of which:							
Securities purchased under resale agreement	65,937	–		1,931	63,877	0	65,807
Securities borrowed	13,036	–		–	12,863	0	12,863
Loans	812	–		–	89	72	160
Financial assets designated at fair value through profit or loss	75	–		–	0	0	0
Total financial assets at fair value through profit or loss	461,925	–		197,430	118,388	1,055	316,872
Financial assets at fair value through OCI	35,546	35,546		0	2,744	988	3,732
Of which:							
Securities purchased under resale agreement	1,805	1,805		–	1,740	0	1,740
Securities borrowed	0	0		–	0	0	0
Loans	4,867	4,867		–	16	976	991
Total financial assets at fair value through OCI	35,546	35,546		–	2,744	988	3,732
Financial guarantees and other credit related contingent liabilities ⁷	65,131	64,798		–	4,127	7,136	11,263
Revocable and irrevocable lending commitments and other credit related commitments ⁷	255,409	254,016		–	21,736	6,779	28,515
Total off-balance sheet	320,540	318,814		–	25,863	13,915	39,777
Maximum exposure to credit risk	1,579,048	1,110,090		221,466	421,750	58,792	702,008

¹ Does not include credit derivative notional sold (€ 540,063 million) and credit derivative notional bought protection

² Bought Credit protection is reflected with the notional of the underlying

³ All amounts at gross value before deductions of allowance for credit losses

⁴ All amounts at amortized cost (gross) except for qualifying hedge derivatives, which are reflected at Fair value through P&L

⁵ Includes Asset Held for Sale regardless of accounting classification

⁶ Excludes equities, other equity interests and commodities

⁷ Figures are reflected at notional amounts

					Dec 31, 2022	Credit Enhancements
	Maximum exposure to credit risk ¹	Subject to impairment	Netting	Collateral	Guarantees and Credit derivatives ²	Total credit enhancements
in € m.						
Financial assets at amortized cost ³						
Cash and central bank balances	178,897	178,897	–	0	–	0
Interbank balances (w/o central banks)	7,199	7,199	–	0	0	0
Central bank funds sold and securities purchased under resale agreements	11,479	11,479	700	10,771	–	11,471
Securities borrowed	0	0	–	0	–	0
Loans	488,504	488,504	–	269,428	38,899	308,327
Other assets subject to credit risk ^{4,5}	98,505	93,221	29,232	888	317	30,437
Total financial assets at amortized cost³	784,584	779,300	29,933	281,087	39,216	350,236
Financial assets at fair value through profit or loss ⁶						
Trading assets	90,180	–	–	1,573	1,264	2,837
Positive market values from derivative financial instruments	299,686	–	227,299	53,273	6	280,579
Non-trading financial assets mandatory at fair value through profit or loss	88,799	–	2,480	78,920	69	81,469
Of which:						
Securities purchased under resale agreement	63,855	–	2,480	61,376	0	63,855
Securities borrowed	17,414	–	–	17,300	0	17,300
Loans	1,037	–	–	78	46	124
Financial assets designated at fair value through profit or loss	168	–	–	0	94	94
Total financial assets at fair value through profit or loss	478,833	–	229,779	133,767	1,433	364,978
Financial assets at fair value through OCI	31,675	31,675	0	2,622	879	3,500
Of which:						
Securities purchased under resale agreement	2,156	2,156	–	1,732	0	1,732
Securities borrowed	0	0	–	0	0	0
Loans	4,069	4,069	–	11	879	890
Total financial assets at fair value through OCI	31,675	31,675	–	2,622	879	3,500
Financial guarantees and other credit related contingent liabilities ⁷	67,214	67,214	–	4,738	7,482	12,220
Revocable and irrevocable lending commitments and other credit related commitments ⁷	251,021	249,959	–	24,769	5,694	30,463
Total off-balance sheet	318,234	317,173	–	29,507	13,176	42,683
Maximum exposure to credit risk	1,613,327	1,128,148	259,712	446,982	54,704	761,398

¹ Does not include credit derivative notional sold (€ 738,733 million) and credit derivative notional bought protection

² Bought Credit protection is reflected with the notional of the underlying

³ All amounts at gross value before deductions of allowance for credit losses

⁴ All amounts at amortized cost (gross) except for qualifying hedge derivatives, which are reflected at Fair value through P&L

⁵ Includes Asset Held for Sale regardless of accounting classification

⁶ Excludes equities, other equity interests and commodities

⁷ Figures are reflected at notional amounts

The overall decrease in maximum exposure to credit risk for December 31, 2023 was € 34.3 billion mainly driven by decreases of € 47.8 billion in positive market values from derivatives financial instruments, € 15.7 billion in other assets subject to credit risk and € 9.6 billion in loans at amortized cost. These decreases were partly offset by increases in trading assets of € 32.6 billion, € 3.9 billion in financial assets at fair value through OCI and € 2.3 billion in Off-balance sheet exposure.

Trading assets as of December 31, 2023, includes traded bonds of € 112.5 billion (€ 80.2 billion as of December 31, 2022) of which over 85% were investment-grade (over 83% as of December 31, 2022).

Credit Enhancements are split into three categories: netting, collateral and guarantees / credit derivatives. Haircuts, parameter setting for regular margin calls as well as expert judgments for collateral valuation are employed to prevent market developments from leading to a build-up of uncollateralized exposures. All categories are monitored and reviewed regularly. Overall credit enhancements received are diversified and of adequate quality being largely cash, highly rated government bonds and third-party guarantees mostly from well rated banks and insurance companies. These financial institutions are domiciled mainly in European countries and the United States. Furthermore, the Bank has collateral pools of highly liquid assets and mortgages (principally consisting of residential properties mainly in Germany) for the homogeneous retail portfolio.

Main Credit Exposure Categories

The tables in this section show details about several of Deutsche Bank's main credit exposure categories, namely Loans, Revocable and Irrevocable Lending Commitments, Contingent Liabilities, Over-The-Counter ("OTC") Derivatives, Debt Securities and Repo and repo-style transactions:

- "Loans" are gross loans as reported on our balance sheet at amortized cost, loans at fair value through profit and loss and loans at fair value through other comprehensive income before deduction of allowance for credit losses; this includes "Traded loans" that are bought and held for the purpose of selling them in the near term, or the material risks of which have all been hedged or sold; from a regulatory perspective the latter category principally covers trading book positions
- "Revocable and irrevocable lending commitments" consist of the undrawn portion of revocable and irrevocable lending-related commitments
- "Contingent liabilities" consist of financial and performance guarantees, standby letters of credit and other similar arrangements (mainly indemnity agreements)
- "OTC derivatives" are the bank's credit exposures from over-the-counter derivative transactions that the Group has entered into, after netting and cash collateral received; on the bank's balance sheet, these are included in financial assets at fair value through profit or loss or, for derivatives qualifying for hedge accounting, in other assets, in either case only applying cash collateral received and netting eligible under IFRS
- "Debt securities" include debentures, bonds, deposits, notes or commercial paper, which are issued for a fixed term and redeemable by the issuer, as reported on our balance sheet within accounting categories at amortized cost and at fair value through other comprehensive income before deduction of allowance for credit losses, it also includes category at fair value through profit and loss; this includes "Traded bonds", which are bonds, deposits, notes or commercial paper that are bought and held for the purpose of selling them in the near term; from a regulatory perspective the latter category principally covers trading book positions
- "Repo and repo-style transactions" consist of reverse repurchase transactions, as well as securities or commodities borrowing transactions, only applying collateral received and netting eligible under IFRS.

Although considered in the monitoring of maximum credit exposures, the following are not included in the details of the Group's main credit exposure: brokerage and securities related receivables, cash and central bank balances, interbank balances (without central banks), assets held for sale, accrued interest receivables, traditional securitization positions.

Unless stated otherwise, the tables below reflect credit exposure before the consideration of collateral and risk mitigation or structural enhancements, except for OTC derivatives wherein they are post credit enhancements

Main Credit Exposure Categories by Business Divisions

				Loans		Off-balance sheet	Dec 31, 2023 OTC derivatives
in € m.	at amortized cost ¹	trading - at fair value through P&L	Designated / mandatory at fair value through P&L	at fair value through OCI ²	Revocable and irrevocable lending commitments ³	Contingent liabilities	at fair value through P&L ⁴
Corporate Bank	116,732	456	303	4,393	158,490	59,781	55
Investment Bank	100,645	7,614	582	474	56,939	2,169	18,991
Private Bank	261,250	0	0	0	39,515	3,128	301
Asset Management	3	0	0	0	99	9	0
Corporate & Other	248	165	3	0	365	44	3,208
Total	478,879	8,235	887	4,867	255,409	65,131	22,555

							Dec 31, 2023
in € m.	at amortized cost ⁵	at fair value through P&L	at fair value through OCI ⁶	at amortized cost	at fair value through P&L	at fair value through OCI	Total
Corporate Bank	294	19	0	595	0	0	341,118
Investment Bank	4,611	114,741	1,520	14,169	74,878	0	397,332
Private Bank	447	1	1	0	0	0	304,644
Asset Management	0	4,483	82	0	0	0	4,675
Corporate & Other	16,495	1,242	27,271	0	4,096	1,805	54,941
Total	21,847	120,485	28,874	14,764	78,973	1,805	1,102,711

¹ Includes stage 3 and stage 3 POCL loans at amortized cost amounting to € 13.4 billion as of December 31, 2023

² Includes stage 3 and stage 3 POCL loans at fair value through OCI amounting to € 44.2 million as of December 31, 2023

³ Includes stage 3 and stage 3 POCL off-balance sheet exposure amounting to € 2.3 billion as of December 31, 2023

⁴ Includes the effect of netting agreements and cash collateral received where applicable. Excludes derivatives qualifying for hedge accounting

⁵ Includes stage 3 and stage 3 POCL debt securities at amortized cost amounting to € 39.5 million as of December 31, 2023

⁶ Includes stage 3 and stage 3 POCL debt securities at fair value through OCI amounting to € 1.5 million as of December 31, 2023

⁷ Before reflection of collateral and limited to securities purchased under resale agreements and securities borrowed

							Dec 31, 2022
			Loans		Off-balance sheet	OTC derivatives	
in € m.	at amortized cost ¹	trading - at fair value through P&L	Designated / mandatory at fair value through P&L	at fair value through OCI ²	Revocable and irrevocable lending commitments ³	Contingent liabilities	at fair value through P&L ⁴
Corporate Bank	121,543	497	312	3,797	155,299	61,134	72
Investment Bank	103,072	7,198	883	272	51,299	3,515	24,353
Private Bank	264,893	7	7	0	43,737	2,503	388
Asset Management	23	0	0	0	92	9	0
Corporate & Other	(1,028) ⁵	253	3	0	594	52	4,154
Total	488,504	7,955	1,205	4,069	251,021	67,214	28,967

			Debt Securities		Repo and repo-style transactions ⁷		Dec 31, 2022
	at amortized cost ⁶	at fair value through P&L	at fair value through OCI ⁶	at amortized cost	at fair value through P&L	at fair value through OCI	Total
in € m.							
Corporate Bank	617	12	0	1,042	0	0	344,326
Investment Bank	4,800	82,947	1,606	10,437	74,662	0	365,044
Private Bank	804	3	2	0	0	0	312,345
Asset Management	0	3,728	80	0	0	0	3,932
Corporate & Other	19,375	1,334	23,763	0	6,607	2,156	57,263
Total	25,596	88,025	25,450	11,479	81,270	2,156	1,082,910

¹ Includes stage 3 and stage 3 POCI loans at amortized cost amounting to € 12.2 billion as of December 31, 2022

² Includes stage 3 and stage 3 POCI loans at fair value through OCI amounting to € 54.9 million as of December 31, 2022

³ Includes stage 3 and stage 3 POCI off-balance sheet exposure amounting to € 2.6 billion as of December 31, 2022

⁴ Includes the effect of netting agreements and cash collateral received where applicable. Excludes derivatives qualifying for hedge accounting

⁵ Includes stage 3 and stage 3 POCI debt securities at amortized cost amounting to € 327.6 million as of December 31, 2022

⁶ Includes stage 3 and stage 3 POCI debt securities at fair value through OCI amounting to € 15.1 million as of December 31, 2022

⁷ Before reflection of collateral and limited to securities purchased under resale agreements and securities borrowed

⁸ Negative balance in Corporate and Other business loans at amortized cost is due to portfolio hedge accounting program principally related to Private Bank's mortgages business

Deutsche Bank's total main credit exposure increased by € 19.8 billion year-on-year where € 32 billion of an increase in Investment Bank, is partially offset by decrease in the Private Bank by € 7.7 billion, Corporate Bank by € 3.2 billion and in Corporate & Other by € 2.3 billion. The business division Corporate & Other primarily contains exposures in Treasury and Capital Release Unit. Exposure increases have been observed primarily in Debt Securities and Off-Balance sheet which is partly offset by decrease in Loans and OTC Derivative products included in main credit exposures by business divisions.

Main Credit Exposure Categories by Industry Sectors

The below tables give an overview of the bank's credit exposure by industry based on the NACE code of the counterparty. NACE (Nomenclature des Activités Économiques dans la Communauté Européenne) is a standard European industry classification system and does not have to be congruent with an internal risk based view applied elsewhere in this report.

	Dec 31, 2023						
	Loans				Off-balance sheet	OTC derivatives	
in € m.	at amortized cost ¹	trading - at fair value through P&L	Designated / mandatory at fair value through P&L	at fair value through OCI ²	Revocable and irrevocable lending commitments ³	Contingent liabilities	at fair value through P&L ⁴
Agriculture, forestry and fishing	384	2	0	0	224	32	1
Mining and quarrying	2,774	230	126	0	4,893	1,409	47
Manufacturing	28,397	285	5	1,877	53,572	13,809	1,303
Electricity, gas, steam and air conditioning supply	4,081	307	75	272	6,475	2,967	142
Water supply, sewerage, waste management and remediation activities	486	0	0	0	523	148	38
Construction	4,257	217	1	20	2,965	3,060	7
Wholesale and retail trade, repair of motor vehicles and motorcycles	21,030	233	79	784	16,540	6,247	599
Transport and storage	4,924	616	13	63	6,088	1,108	173
Accommodation and food service activities	1,862	3	0	0	1,015	138	10
Information and communication	7,589	372	21	100	13,244	3,209	289
Financial and insurance activities ⁸	110,901	3,840	276	1,281	90,138	28,491	18,175
Real estate activities ⁹	49,267	1,302	103	122	7,061	183	304
Professional, scientific and technical activities	6,889	68	0	0	6,190	2,213	172
Administrative and support service activities	8,911	148	169	157	5,007	577	486
Public administration and defense, compulsory social security	5,731	364	10	27	6,759	123	303
Education	279	2	0	0	72	55	68
Human health services and social work activities	4,390	42	0	0	1,725	127	53
Arts, entertainment and recreation	1,017	22	0	33	1,402	102	49
Other service activities	4,727	183	10	130	4,534	850	165
Activities of households as employers, undifferentiated goods- and services-producing activities of households for own use	210,981	0	0	1	26,981	282	140
Activities of extraterritorial organizations and bodies	0	0	0	0	0	2	29
Total	478,879	8,235	887	4,867	255,409	65,131	22,555

							Dec 31, 2023
	Debt Securities			Repo and repo-style transactions ⁷			Total
in € m.	at amortized cost ⁸	at fair value through P&L	at fair value through OCI ⁹	at amortized cost	at fair value through P&L	at fair value through OCI	
Agriculture, forestry and fishing	0	0	0	0	0	0	643
Mining and quarrying	46	486	2	0	0	0	10,012
Manufacturing	0	1,481	54	0	0	0	100,783
Electricity, gas, steam and air conditioning supply	175	776	20	0	0	0	15,289
Water supply, sewerage, waste management and remediation activities	29	26	0	0	0	0	1,250
Construction	130	387	133	0	0	0	11,177
Wholesale and retail trade, repair of motor vehicles and motorcycles	0	458	2	0	0	0	45,973
Transport and storage	66	481	15	0	0	0	13,548
Accommodation and food service activities	5	90	0	0	0	0	3,124
Information and communication	95	531	0	0	0	0	25,449
Financial and insurance activities ⁸	4,639	25,416	4,789	14,695	76,785	1,805	381,232
Real estate activities ⁹	227	1,159	546	69	0	0	60,343
Professional, scientific and technical activities	49	151	111	0	0	0	15,843
Administrative and support service activities	51	436	8	0	0	0	15,950
Public administration and defense, compulsory social security	15,907	83,791	22,725	0	2,154	0	137,893
Education	0	160	9	0	0	0	645
Human health services and social work activities	99	95	11	0	0	0	6,543
Arts, entertainment and recreation	0	58	0	0	0	0	2,683
Other service activities	124	3,028	151	0	34	0	13,936
Activities of households as employers, undifferentiated goods- and services-producing activities of households for own use	0	0	0	0	0	0	238,385
Activities of extraterritorial organizations and bodies	205	1,476	298	0	0	0	2,010
Total	21,847	120,485	28,874	14,764	78,973	1,805	1,102,711

¹ Includes stage 3 and stage 3 POCI loans at amortized cost amounting to € 13.4 billion as of December 31, 2023

² Includes stage 3 and stage 3 POCI loans at fair value through OCI amounting to € 44.2 million as of December 31, 2023

³ Includes stage 3 and stage 3 POCI off-balance sheet exposure amounting to € 2.3 billion as of December 31, 2023

⁴ Includes the effect of netting agreements and cash collateral received where applicable. Excludes derivatives qualifying for hedge accounting

⁵ Includes stage 3 and stage 3 POCI debt securities at amortized cost amounting to € 39.5 million as of December 31, 2023

⁶ Includes stage 3 and stage 3 POCI debt securities at fair value through OCI amounting to € 1.5 million as of December 31, 2023

⁷ Before reflection of collateral and limited to securities purchased under resale agreements and securities borrowed

⁸ Includes exposure to Corporates including Holding Companies of € 96 billion, Asset-Backed Securities of € 44 billion, Banks of € 55 billion, Insurance of € 13 billion, Financial Intermediaries of € 10 billion and Public Sector of € 16 billion, all based on internal client classification

⁹ Non-recourse Commercial Real Estate portfolio based on Deutsche Bank's definition is € 38 billion

	Dec 31, 2022						
	Loans				Off-balance sheet	OTC derivatives	
in € m.	at amortized cost ¹	trading - at fair value through P&L	Designated / mandatory at fair value through P&L	at fair value through OCI ²	Revocable and irrevocable lending commitments ³	Contingent liabilities	at fair value through P&L ⁴
Agriculture, forestry and fishing	524	2	0	0	275	17	2
Mining and quarrying	2,392	248	40	0	5,636	2,644	41
Manufacturing	30,534	380	7	1,431	58,584	13,053	1,863
Electricity, gas, steam and air conditioning supply	4,893	107	75	28	6,479	3,779	145
Water supply, sewerage, waste management and remediation activities	725	0	0	0	457	158	245
Construction	4,239	233	0	21	3,198	2,927	75
Wholesale and retail trade, repair of motor vehicles and motorcycles	21,535	224	39	806	16,947	6,795	570
Transport and storage	5,547	409	22	90	6,254	1,061	170
Accommodation and food service activities	1,965	7	0	0	1,137	110	14
Information and communication	7,002	489	62	231	14,567	3,317	960
Financial and insurance activities ⁸	116,558	3,186	620	969	74,787	28,173	22,881
Real estate activities ⁹	47,973	1,556	101	41	7,251	192	452
Professional, scientific and technical activities	7,013	124	0	0	5,070	2,309	108
Administrative and support service activities	7,470	199	192	62	5,101	1,062	413
Public administration and defense, compulsory social security	5,287	552	10	128	6,767	60	398
Education	249	0	0	0	125	53	169
Human health services and social work activities	4,523	31	0	0	1,898	146	36
Arts, entertainment and recreation	1,128	1	0	50	1,507	106	83
Other service activities	4,152	206	39	210	4,037	793	68
Activities of households as employers, undifferentiated goods- and services-producing activities of households for own use	214,795	0	0	1	30,943	455	189
Activities of extraterritorial organizations and bodies	1	0	0	0	0	2	85
Total	488,504	7,955	1,205	4,069	251,021	67,214	28,967

							Dec 31, 2022
	Debt Securities			Repo and repo-style transactions ⁷			Total
in € m.	at amortized cost ⁸	at fair value through P&L	at fair value through OCI ⁹	at amortized cost	at fair value through P&L	at fair value through OCI	
Agriculture, forestry and fishing	0	8	0	0	0	0	828
Mining and quarrying	34	362	2	0	0	0	11,398
Manufacturing	64	983	41	0	0	0	106,939
Electricity, gas, steam and air conditioning supply	78	732	35	1,515	0	0	17,867
Water supply, sewerage, waste management and remediation activities	0	23	0	0	0	0	1,609
Construction	29	621	1	0	0	0	11,344
Wholesale and retail trade, repair of motor vehicles and motorcycles	0	357	2	0	0	0	47,275
Transport and storage	117	537	14	0	0	0	14,220
Accommodation and food service activities	0	26	0	0	0	0	3,259
Information and communication	108	579	2	0	0	0	27,317
Financial and insurance activities ⁸	4,669	18,440	4,421	9,965	75,497	2,156	362,322
Real estate activities ⁹	405	1,703	548	0	0	0	60,222
Professional, scientific and technical activities	27	206	115	0	0	0	14,973
Administrative and support service activities	39	268	5	0	0	0	14,811
Public administration and defense, compulsory social security	19,782	59,291	19,991	0	5,768	0	118,034
Education	0	113	17	0	0	0	727
Human health services and social work activities	88	49	12	0	0	0	6,783
Arts, entertainment and recreation	0	125	0	0	0	0	3,001
Other service activities	115	2,636	18	0	4	0	12,277
Activities of households as employers, undifferentiated goods- and services-producing activities of households for own use	0	0	0	0	0	0	246,383
Activities of extraterritorial organizations and bodies	40	964	229	0	0	0	1,322
Total	25,596	88,025	25,450	11,479	81,270	2,156	1,082,910

¹ Includes stage 3 and stage 3 POCI loans at amortized cost amounting to € 12.2 billion as of December 31, 2022

² Includes stage 3 and stage 3 POCI loans at fair value through OCI amounting to € 54.9 million as of December 31, 2022

³ Includes stage 3 and stage 3 POCI off-balance sheet exposure amounting to € 2.6 billion as of December 31, 2022

⁴ Includes the effect of netting agreements and cash collateral received where applicable. Excludes derivatives qualifying for hedge accounting

⁵ Includes stage 3 and stage 3 POCI debt securities at amortized cost amounting to € 327.6 million as of December 31, 2022

⁶ Includes stage 3 and stage 3 POCI debt securities at fair value through OCI amounting to € 15.1 million as of December 31, 2022

⁷ Before reflection of collateral and limited to securities purchased under resale agreements and securities borrowed

⁸ Includes exposure to Corporates including Holding Companies of € 85 billion, Asset-Backed Securities of € 43 billion, Banks of € 54 billion, Insurance of € 15 billion, Financial Intermediaries of € 22 billion and Public Sector of € 13 billion, all based on internal client classification

⁹ Non-recourse Commercial Real Estate portfolio based on Deutsche Bank's definition is € 39 billion

The portfolio is subject to the same credit underwriting requirements stipulated in the bank's "Principles for Managing Credit Risk", including various controls according to single name, country, industry and product/asset class-specific concentration.

Material transactions, such as loans underwritten with the intention to sell down or distribute part of the risk to third parties, are subject to review and approval by senior credit risk management professionals and (depending upon size) an underwriting committee and/or the Management Board. High emphasis is placed on structuring and pricing such transactions so that de-risking can be achieved in a timely manner and – where Deutsche Bank takes market price risk – to mitigate such market risk.

The Group's amortized cost loan exposure within above categories is mostly to good quality borrowers. Moreover, with the focus on the Corporate Bank and Investment Bank, loan exposure is subject to further risk mitigation through the bank's e.g., Strategic Corporate Lending unit.

Deutsche Bank's household loan exposure is principally associated with Private Bank portfolios.

The bank's amortized cost loan exposure of € 49.3 billion to Real Estate activities as reported above is based on NACE code classification and comprises of recourse and non-recourse financing, across various parts of the group and client segment. This includes 25.1 billion of loans which is based on Deutsche Bank's definition of non-recourse CRE loans. For more information on non-recourse CRE loans, see section Focus areas in 2023 in the chapter IFRS 9 Impairment.

The Group's commercial real estate loans, primarily originated in the U.S. and Europe, are generally secured by first mortgages on the underlying real estate property. Deutsche Bank originates fixed and floating rate loans and selectively acquires (generally at substantial discount) sub- /non-performing loans sold by financial institutions. The underwriting process is stringent and the exposure is managed under separate portfolio limits. Credit underwriting policy guidelines provide that LTV ratios of generally less than 75% are adhered to at loan origination. Additionally, given the significance of the underlying collateral, independent external appraisals are commissioned for all secured loans by a valuation team (part of the independent Credit Risk Management function) which is also responsible for reviewing and challenging the reported real estate values regularly. Deutsche Bank originates loans for distribution in the banking market or via securitization. In this context Deutsche Bank frequently retains a portion of the syndicated loans while securitized positions may be entirely sold (except where regulation requires retention of economic risk). Mezzanine or other junior tranches of debt are retained only in exceptional cases. The bank also participates in conservatively underwritten unsecured lines of credit to well-capitalized real estate investment trusts and other real estate operating companies.

Commercial real estate property valuations and rental incomes can be significantly impacted by macro-economic conditions and idiosyncratic events affecting the underlying properties. Accordingly, the portfolio is categorized as higher risk and hence subject to the aforementioned tight restrictions on concentration.

The Group's credit exposure to ten largest counterparties accounted for 12% of the bank's aggregated total credit exposure in these categories as of December 31, 2023, compared with 11% as of December 31, 2022. The top ten counterparty exposures were well-rated counterparties or otherwise related to structured trades which show high levels of risk mitigation.

Deutsche Bank's exposure to Financial and Insurance Activities is € 381.2 billion as of December 31, 2023 which also includes exposures to Asset Backed Securities, Banks, Insurance, Financial intermediaries, Public Sector as well as to Corporates including Holding Companies. Exposures are managed using bespoke risk management frameworks, trade-by-trade approvals and relevant risk appetite metrics. Total loans across all applicable measurement categories amounted to € 116.3 billion, total repo and repo style transactions across all applicable measurement categories amounted to € 93.3 billion and off-balance sheet activities amounted to € 118.6 billion as of December 31, 2023 and were principally associated with Investment Bank and Corporate Bank portfolios, which were majorly held in North America and Europe.

Main credit exposure categories by geographical region

				Loans		Off-balance sheet	OTC derivatives	Dec 31, 2023
	in € m.	at amortized cost ¹	trading - at fair value through P&L	Designated / mandatory at fair value through P&L	at fair value through OCI ²	Revocable and irrevocable lending commitments ³	Contingent liabilities	at fair value through P&L ⁴
Europe	332,859	2,906		516	1,698	148,778	39,716	14,813
Of which:								
Germany	225,639	321		70	409	76,810	16,532	4,146
United Kingdom	8,323	239		97	252	13,175	3,102	4,834
France	4,587	76		75	317	7,868	1,876	694
Luxembourg	18,056	612		23	142	8,493	641	970
Italy	23,490	138		32	16	4,842	5,021	219
Netherlands	8,996	248		8	252	9,279	2,863	1,463
Spain	16,073	230		24	91	3,738	4,330	219
Ireland	5,273	331		184	87	4,237	351	542
Switzerland	6,827	37		1	0	8,206	2,558	355
Poland	2,617	0		0	16	2,569	176	6
Belgium	1,742	23		0	58	1,551	623	144
Russian Federation ⁸	243	6		0	7	26	21	0
Ukraine ⁸	8	208 ⁹		0	0	3	5	0
Other Europe ⁸	10,984	435		2	50	7,981	1,617	1,222
North America	101,306	2,325		238	2,378	95,768	12,172	4,745
Of which:								
U.S.	89,570	2,202		178	2,247	89,460	10,754	3,269
Cayman Islands	4,985	50		0	0	2,383	787	963
Canada	1,396	49		3	106	2,048	226	324
Other North America	5,356	24		56	24	1,877	405	188
Asia/Pacific	35,807	1,746		123	597	9,031	12,093	2,745
Of which:								
Japan	1,404	328		34	10	481	451	459
Australia	3,203	250		0	0	2,652	830	153
India	7,576	78		88	23	921	3,774	53
China	4,254	1		0	22	413	1,442	762
Singapore	3,789	362		0	189	1,558	1,357	157
Hong Kong	2,259	64		0	82	836	607	242
Other Asia/Pacific	13,323	662		1	271	2,170	3,632	919
Other geographical areas	8,906	1,259		10	193	1,831	1,151	252
Total	478,879	8,235		887	4,867	255,409	65,131	22,555

	Dec 31, 2023						
	Debt Securities			Repo and repo-style transactions ⁷			Total
in € m.	at amortized cost ⁸	at fair value through P&L	at fair value through OCI ⁹	at amortized cost	at fair value through P&L	at fair value through OCI	
Europe	9,661	52,205	12,884	6,021	17,184	395	639,636
Of which:							
Germany	830	10,114	1,388	348	1,351	0	337,957
United Kingdom	219	10,475	1,504	461	3,773	0	46,454
France	0	7,756	2,901	657	5,100	0	31,906
Luxembourg	0	2,180	537	9	206	0	31,870
Italy	4,890	7,953	1,030	2,251	1,688	0	51,571
Netherlands	0	2,289	27	0	99	0	25,526
Spain	1,487	3,144	358	1,587	35	0	31,318
Ireland	1,563	1,269	7	0	960	0	14,804
Switzerland	0	1,289	1	0	225	0	19,499
Poland	0	473	2,899	0	98	0	8,852
Belgium	0	1,759	1,606	0	11	0	7,517
Russian Federation ⁸	0	31	0	0	0	0	333
Ukraine ⁸	0	73	7	0	0	0	305
Other Europe ⁸	672	3,401	619	707	3,638	395	31,724
North America	9,433	32,184	11,503	5,855	47,782	0	325,688
Of which:							
U.S.	9,415	31,042	11,320	2,979	14,357	0	266,793
Cayman Islands	0	495	0	2,876	33,284	0	45,823
Canada	0	546	183	0	54	0	4,936
Other North America	18	101	0	0	88	0	8,137
Asia/Pacific	2,428	31,297	4,295	2,620	13,860	858	117,499
Of which:							
Japan	22	3,017	485	431	8,818	0	15,941
Australia	1,725	2,387	315	0	284	0	11,800
India	414	5,858	62	0	0	279	19,126
China	0	7,977	98	0	1,365	0	16,334
Singapore	0	1,396	665	0	683	0	10,156
Hong Kong	9	738	463	0	124	0	5,424
Other Asia/Pacific	258	9,922	2,206	2,189	2,587	579	38,718
Other geographical areas	325	4,799	191	268	148	552	19,887
Total	21,847	120,485	28,874	14,764	78,973	1,805	1,102,711

¹ Includes stage 3 and stage 3 POCI loans at amortized cost amounting to € 13.4 billion as of December 31, 2023

² Includes stage 3 and stage 3 POCI loans at fair value through OCI amounting to € 44.2 million as of December 31, 2023

³ Includes stage 3 and stage 3 POCI off-balance sheet exposure amounting to € 2.3 billion as of December 31, 2023

⁴ Includes the effect of netting agreements and cash collateral received where applicable. Excludes derivatives qualifying for hedge accounting

⁵ Includes stage 3 and stage 3 POCI debt securities at amortized cost amounting to € 39.5 million as of December 31, 2023

⁶ Includes stage 3 and stage 3 POCI debt securities at fair value through OCI amounting to € 1.5 million as of December 31, 2023

⁷ Before reflection of collateral and limited to securities purchased under resale agreements and securities borrowed

⁸ Thematic addition on back of the ongoing border conflict between the Russian Federation and Ukraine

⁹ Ukraine trading loan exposure driven by financing, materially guaranteed by supranational development bank. Net exposure considering broader risk mitigation structure is de minimis

							Dec 31, 2022
				Loans		Off-balance sheet	OTC derivatives
in € m.	at amortized cost ¹	trading - at fair value through P&L	Designated / mandatory at fair value through P&L	at fair value through OCI ²	Revocable and irrevocable lending commitments ³	Contingent liabilities	at fair value through P&L ⁴
Europe	338,920	2,647	724	1,708	142,035	41,773	19,293
Of which:							
Germany	234,705	444	42	462	80,857	16,364	4,872
United Kingdom	7,937	184	229	329	9,759	4,067	6,673
France	3,696	99	75	70	7,264	2,095	1,364
Luxembourg	15,472	400	67	124	7,525	747	855
Italy	24,578	145	8	25	3,709	5,354	291
Netherlands	9,009	165	45	200	8,279	2,519	1,404
Spain	17,429	326	8	107	3,460	4,037	503
Ireland	5,234	125	234	129	3,234	266	565
Switzerland	6,772	32	0	117	7,277	2,897	294
Poland	2,324	0	0	26	758	190	7
Belgium	1,532	12	0	77	1,730	571	193
Russian Federation ⁸	537	18	0	41	75	64	0
Ukraine ⁸	44	270 ⁹	0	0	3	5	0
Other Europe ⁸	9,650	428	16	0	8,105	2,598	2,274
North America	101,736	2,998	350	1,687	98,137	11,766	5,542
Of which:							
U.S.	87,794	2,713	290	1,520	92,551	10,585	4,485
Cayman Islands	5,202	103	4	23	2,026	445	419
Canada	1,919	78	2	118	1,884	463	372
Other North America	6,821	104	54	25	1,676	274	266
Asia/Pacific	39,502	1,517	109	602	9,268	12,507	3,910
Of which:							
Japan	1,349	120	46	22	589	487	374
Australia	2,964	196	0	0	2,478	769	259
India	7,861	27	3	23	1,154	3,408	179
China	4,189	3	12	3	407	1,583	591
Singapore	5,402	390	22	164	1,408	1,258	277
Hong Kong	2,525	84	0	40	695	846	357
Other Asia/Pacific	15,213	698	25	351	2,537	4,154	1,873
Other geographical areas	8,346	793	22	72	1,580	1,168	222
Total	488,504	7,955	1,205	4,069	251,021	67,214	28,967

	Dec 31, 2022						
	Debt Securities			Repo and repo-style transactions ⁷			Total
in € m.	at amortized cost ⁸	at fair value through P&L	at fair value through OCI ⁹	at amortized cost	at fair value through P&L	at fair value through OCI	
Europe	10,218	40,948	7,321	4,912	26,494	418	637,411
Of which:							
Germany	701	7,968	672	1,795	3,035	12	351,927
United Kingdom	1,212	8,399	708	585	8,519	0	48,598
France	0	6,161	870	6	7,337	0	29,038
Luxembourg	0	1,816	702	0	549	0	28,257
Italy	4,868	3,570	953	200	480	0	44,180
Netherlands	0	2,057	24	177	212	0	24,091
Spain	1,486	3,390	1	1,485	24	0	32,256
Ireland	1,270	1,543	4	0	1,346	0	13,948
Switzerland	0	491	2	0	215	0	18,096
Poland	0	113	2,944	0	149	0	6,511
Belgium	40	2,271	342	0	1	0	6,769
Russian Federation ⁸	0	15	0	0	0	0	750
Ukraine ⁸	0	17	0	0	0	0	339
Other Europe ⁸	643	3,139	99	664	4,628	406	32,651
North America	12,359	24,416	14,616	4,365	43,893	0	321,863
Of which:							
U.S.	12,340	23,644	14,359	976	21,484	0	272,741
Cayman Islands	0	276	0	3,389	17,904	0	29,790
Canada	0	350	180	0	4,494	0	9,859
Other North America	19	146	77	0	11	0	9,473
Asia/Pacific	2,878	19,347	3,344	2,126	10,652	1,301	107,063
Of which:							
Japan	25	2,759	481	284	6,374	0	12,909
Australia	1,989	1,328	315	0	946	0	11,243
India	481	4,856	49	0	6	1,012	19,058
China	0	1,384	209	0	292	0	8,675
Singapore	0	847	159	0	210	0	10,136
Hong Kong	186	559	254	0	64	0	5,611
Other Asia/Pacific	196	7,613	1,877	1,842	2,761	290	39,430
Other geographical areas	141	3,314	170	77	232	437	16,573
Total	25,596	88,025	25,450	11,479	81,270	2,156	1,082,910

¹ Includes stage 3 and stage 3 POCI loans at amortized cost amounting to € 12.2 billion as of December 31, 2022

² Includes stage 3 and stage 3 POCI loans at fair value through OCI amounting to € 54.9 million as of December 31, 2022

³ Includes stage 3 and stage 3 POCI off-balance sheet exposure amounting to € 2.6 billion as of December 31, 2022

⁴ Includes the effect of netting agreements and cash collateral received where applicable. Excludes derivatives qualifying for hedge accounting

⁵ Includes stage 3 and stage 3 POCI debt securities at amortized cost amounting to € 327.6 million as of December 31, 2022

⁶ Includes stage 3 and stage 3 POCI debt securities at fair value through OCI amounting to € 15.1 million as of December 31, 2022

⁷ Before reflection of collateral and limited to securities purchased under resale agreements and securities borrowed

⁸ Thematic addition on back of the ongoing border conflict between the Russian Federation and Ukraine

⁹ Ukraine trading loan exposure driven by financing, materially guaranteed by supranational development bank. Net exposure considering broader risk mitigation structure is de minimis

The tables above provide an overview of Deutsche Bank's credit exposure by geographical region, allocated based on the counterparty's country of domicile. The domicile view might differ from any internal risk based view applied elsewhere in this report

The Group's largest concentration of credit risk within loans from a regional perspective is in its home market Germany, with a significant share in households, which includes the majority of the mortgage lending and home loan business.

Within OTC derivatives, tradable assets as well as repo and repo-style transactions, the largest concentrations from a regional perspective were in Europe and North America.

Credit Exposure Classification

Deutsche Bank also classifies its credit exposure along business divisions, which is in line with the divisionally aligned chief risk officer mandates. The section below discloses the credit exposure of the Corporate Bank and the Investment Bank together. The subsequent section provides the credit exposure for the Private Bank.

Corporate Bank and Investment Bank credit exposure

The tables below show the main Corporate Bank and Investment Bank Credit Exposure by product types and internal rating bands. Please refer to section "Measuring Credit Risk" for more details about the bank's internal ratings.

Main Corporate Bank and Investment Bank credit exposure categories according to the bank's internal creditworthiness categories of the counterparties – gross

								Dec 31, 2023
								OTC derivatives
in € m. (unless stated otherwise)								
Ratingband	Probability of default in % ¹	at amortized cost	trading - at fair value through P&L	Designated / mandatory at fair value through P&L	at fair value through OCI	Revocable and irrevocable lending commitments	Contingent liabilities	at fair value through P&L ²
iAAA–iAA	> 0.00 ≤ 0.04	21,676	149	14	188	24,401	4,461	7,388
iA	> 0.04 ≤ 0.11	38,612	344	167	663	65,969	29,510	5,409
iBBB	> 0.11 ≤ 0.5	72,532	922	307	3,546	84,267	19,602	3,807
iBB	> 0.5 ≤ 2.27	54,351	3,566	50	369	29,111	5,248	1,978
iB	> 2.27 ≤ 10.22	21,562	1,268	62	35	9,262	2,492	413
iCCC and below	> 10.22 ≤ 100	8,645	1,822	284	65	2,420	636	51
Total		217,378	8,070	884	4,867	215,429	61,950	19,046

								Dec 31, 2023
								OTC derivatives
in € m. (unless stated otherwise)								
Ratingband	Probability of default in % ¹	at amortized cost	at fair value through P&L	at fair value through OCI	at amortized cost	at fair value through P&L	at fair value through OCI	Total
iAAA–iAA	> 0.00 ≤ 0.04	1,085	60,918	71	1,267	24,801	–	146,419
iA	> 0.04 ≤ 0.11	1,614	18,476	23	4,244	7,727	–	172,758
iBBB	> 0.11 ≤ 0.5	1,181	18,180	180	2,467	9,207	–	216,197
iBB	> 0.5 ≤ 2.27	836	16,009	962	2,840	30,237	–	145,555
iB	> 2.27 ≤ 10.22	150	755	282	3,947	2,907	–	43,136
iCCC and below	> 10.22 ≤ 100	39	421	1	0	0	–	14,385
Total		4,905	114,760	1,520	14,764	74,878	–	738,451

¹ Reflects the probability of default for a one year time horizon

² Includes the effect of netting agreements and cash collateral received where applicable

Main Corporate Bank and Investment Bank credit exposure categories according to the bank's internal creditworthiness categories of the counterparties – net

								Dec 31, 2023 ¹
								OTC derivatives
in € m. (unless stated otherwise)								
Ratingband	Probability of default in % ²	at amortized cost	trading - at fair value through P&L	Designated / mandatory at fair value through P&L	at fair value through OCI	Revocable and irrevocable lending commitments	Contingent liabilities	at fair value through P&L
iAAA–iAA	> 0.00 ≤ 0.04	13,529	149	14	30	22,874	3,766	4,817
iA	> 0.04 ≤ 0.11	28,218	38	167	663	64,306	27,109	3,424
iBBB	> 0.11 ≤ 0.5	35,191	426	242	2,842	78,680	15,924	2,855
iBB	> 0.5 ≤ 2.27	21,830	2,947	24	256	25,986	3,611	1,833
iB	> 2.27 ≤ 10.22	6,239	831	45	5	8,674	1,234	374
iCCC and below	> 10.22 ≤ 100	4,155	1,387	70	65	2,336	365	50
Total		109,162	5,778	562	3,861	202,856	52,009	13,352

								Dec 31, 2023 ¹
								OTC derivatives
in € m. (unless stated otherwise)								
Ratingband	Probability of default in % ²	at amortized cost	at fair value through P&L	at fair value through OCI	at amortized cost	at fair value through P&L	at fair value through OCI	Total
iAAA–iAA	> 0.00 ≤ 0.04	1,085	60,918	71	50	0	–	107,303
iA	> 0.04 ≤ 0.11	1,614	18,476	23	105	16	–	144,160
iBBB	> 0.11 ≤ 0.5	600	17,959	180	0	4	–	154,903
iBB	> 0.5 ≤ 2.27	263	15,640	345	0	6	–	72,739
iB	> 2.27 ≤ 10.22	59	380	282	1,445	1,845	–	21,414
iCCC and below	> 10.22 ≤ 100	33	400	1	0	0	–	8,861
Total		3,653	113,773	903	1,600	1,870	–	509,380

¹ Net of eligible collateral, guarantees and hedges based on IFRS requirements

² Reflects the probability of default for a one year time horizon

The tables below show the main Corporate Bank and Investment Bank credit exposure for 2022 by product types and internal rating bands.

Main Corporate Bank and Investment Bank credit exposure categories according to the bank's internal creditworthiness categories of the counterparties – gross

		Dec 31, 2022						
in € m. (unless stated otherwise)		Loans				Off-balance sheet		OTC derivatives
Ratingband	Probability of default in % ¹	at amortized cost	trading - at fair value through P&L	Designated / mandatory at fair value through P&L	at fair value through OCI	Revocable and irrevocable lending commitments	Contingent liabilities	at fair value through P&L ²
iAAA–iAA	> 0.00 ≤ 0.04	22,753	179	128	137	32,252	6,145	8,138
iA	> 0.04 ≤ 0.11	43,603	344	282	1,481	56,873	28,877	9,535
iBBB	> 0.11 ≤ 0.5	58,909	974	249	1,476	64,674	17,103	4,040
iBB	> 0.5 ≤ 2.27	59,719	2,446	143	744	30,618	7,168	2,179
iB	> 2.27 ≤ 10.22	30,926	2,196	101	141	19,330	3,589	478
iCCC and below	> 10.22 ≤ 100	8,706	1,555	291	89	2,851	1,767	55
Total		224,616	7,694	1,195	4,069	206,598	64,649	24,425

		Dec 31, 2022						
in € m. (unless stated otherwise)		Debt Securities			Repo and repo-style transactions			
Ratingband	Probability of default in % ¹	at amortized cost	at fair value through P&L	at fair value through OCI	at amortized cost	at fair value through P&L	at fair value through OCI	Total
iAAA–iAA	> 0.00 ≤ 0.04	1,565	45,619	150	1,110	33,950	–	152,166
iA	> 0.04 ≤ 0.11	1,850	10,753	217	3,366	14,134	–	171,315
iBBB	> 0.11 ≤ 0.5	661	11,597	75	2,884	9,435	–	172,078
iBB	> 0.5 ≤ 2.27	664	12,999	727	2,714	16,825	–	136,946
iB	> 2.27 ≤ 10.22	347	1,502	421	1,404	279	–	60,714
iCCC and below	> 10.22 ≤ 100	331	489	15	0	0	–	16,150
Total		5,417	82,960	1,606	11,479	74,662	–	709,370

¹ Reflects the probability of default for a one-year time horizon

² Includes the effect of netting agreements and cash collateral received where applicable

Main Corporate Bank and Investment Bank credit exposure categories according to the bank's internal creditworthiness categories of the counterparties – net

		Dec 31, 2022 ¹						
in € m. (unless stated otherwise)		Loans				Off-balance sheet		OTC derivatives
Ratingband	Probability of default in % ²	at amortized cost	trading - at fair value through P&L	Designated / mandatory at fair value through P&L	at fair value through OCI	Revocable and irrevocable lending commitments	Contingent liabilities	at fair value through P&L
iAAA–iAA	> 0.00 ≤ 0.04	12,790	179	100	24	31,486	4,128	3,414
iA	> 0.04 ≤ 0.11	32,026	87	282	1,354	55,080	26,877	7,069
iBBB	> 0.11 ≤ 0.5	29,648	592	134	1,020	60,166	13,600	2,779
iBB	> 0.5 ≤ 2.27	24,889	1,479	101	538	27,922	5,724	1,831
iB	> 2.27 ≤ 10.22	9,078	1,553	51	132	17,751	2,262	424
iCCC and below	> 10.22 ≤ 100	4,025	1,047	123	89	2,765	984	49
Total		112,456	4,936	791	3,157	195,169	53,576	15,565

		Dec 31, 2022 ¹						
in € m. (unless stated otherwise)		Debt Securities			Repo and repo-style transactions			
Ratingband	Probability of default in % ²	at amortized cost	at fair value through P&L	at fair value through OCI	at amortized cost	at fair value through P&L	at fair value through OCI	Total
iAAA–iAA	> 0.00 ≤ 0.04	1,565	45,619	150	11	0	–	99,465
iA	> 0.04 ≤ 0.11	1,850	10,753	217	180	47	–	135,823
iBBB	> 0.11 ≤ 0.5	661	11,263	75	0	174	–	120,113
iBB	> 0.5 ≤ 2.27	391	12,687	202	171	1,909	–	77,845
iB	> 2.27 ≤ 10.22	143	922	368	0	0	–	32,682
iCCC and below	> 10.22 ≤ 100	120	394	15	0	0	–	9,611
Total		4,730	81,638	1,028	362	2,130	–	475,538

¹ Net of eligible collateral, guarantees and hedges based on IFRS requirements

² Reflects the probability of default for a one-year time horizon

The above tables show an overall increase in the Corporate Bank and Investment Bank gross exposure in 2023 of € 29.1 billion or 4%. Debt Securities at fair value through profit and loss increased by € 31.8 billion mainly due to increase in long bond inventory position in Government securities in Core rates business. Off-balance sheet positions increased by € 6.1 billion mainly driven by new commitments issued during the period. Repo and repo-style transactions increased by € 3.5 billion in Investment Bank. From a regional perspective, the increase was primarily attributable to counterparties domiciled in the Cayman Island, Italy, China and Germany. These increases were partly offset by a decrease in Loans at amortized cost of € 7.2 billion primarily in Corporate Bank and decrease in OTC Derivatives of € 5.4 billion due to reduction in Interest Rate and Foreign Exchange Derivative products.

The above table also shows a material shift in internal credit ratings, primarily from Non-Investment Grade to Investment Grade. This is attributable to a regulatory-driven recalibration of the Global Corporates and Leveraged Finance related scorecards to better reflect observed default histories.

The Group uses risk mitigation techniques as described above to optimize Corporate Bank and Investment Bank credit exposures and reduce potential credit losses. The tables for “net” exposure disclose the development of the bank’s Corporate Bank and Investment Bank credit exposures net of collateral, guarantees and hedges.

Risk Mitigation for Credit Exposure

Strategic Corporate Lending (“SCL”) unit helps to mitigate the risk of the bank’s corporate credit exposures. The notional amount of SCL’s risk reduction activities increased from € 33.9 billion as of December 31, 2022, to € 37.7 billion as of December 31, 2023.

As of year-end 2023, SCL mitigated the credit risk of € 32.0 billion of loans and lending-related commitments, through synthetic collateralized loan obligations supported predominantly by financial guarantees. This position totaled € 27.5 billion as of December 31, 2022.

SCL also held credit derivatives with an underlying notional amount of € 5.7 billion as of December 31, 2023. The position totaled € 6.4 billion as of December 31, 2022. The credit derivatives used for the bank’s portfolio management activities are accounted for at fair value.

The bank makes use of hedging also in other businesses to reduce single name concentration risks and utilizes private risk insurance and export credit agency cover to manage noncollateralized exposures.

Private Bank credit exposure

Private Bank credit exposure, credit exposure in stage 3 and net credit costs

	Total exposure in € m.		of which loan book in € m.		Credit exposure stage 3 in € m.		Net credit costs as a% of total exposure ¹	
	Dec 31, 2023	Dec 31, 2022	Dec 31, 2023	Dec 31, 2022	Dec 31, 2023	Dec 31, 2022	Dec 31, 2023	Dec 31, 2022
PB Germany	191,055	198,102	172,340	174,611	2,632	2,632	0.22%	0.11%
Consumer Finance	29,919	29,529	16,675	15,594	1,394	1,373	0.95%	0.80%
Mortgage	158,249	163,611	153,937	155,249	1,211	1,163	0.08%	(0.01%)
Business Finance	1,573	1,292	972	898	27	6	0.64%	0.04%
Other	1,315	3,670	756	2,870	0	90	0.04%	0%
International Private Bank	113,589	114,243	88,910	90,283	3,958	3,401	0.31%	0.32%
Consumer Finance	11,422	10,972	9,032	8,894	368	378	1.06%	1.11%
Mortgage	11,011	12,133	10,955	12,033	409	431	0.00%	(0.05%)
Business Finance	14,896	15,130	12,342	12,898	1,025	1,048	0.54%	0.76%
Wealth Management	75,467	75,214	56,567	56,425	2,155	1,543	0.21%	0.17%
Other	793	793.68	14	32.87	0	0	0.01%	0.02%
Total	304,644	312,345	261,250	264,893	6,589	6,033	0.26%	0.19%

¹ Net credit costs for the twelve months period ended at the respective balance sheet date divided by the total exposure at that balance sheet date

Consumer Finance is divided into personal instalment loans, credit lines and credit cards. Consumer Finance business is uncollateralized, loan risk depends on client quality. Various lending requirements are stipulated, including (but not limited to) client rating, maximum loan amounts and maximum tenors, and are adapted to regional conditions and/or circumstances of the borrower (i.e., for consumer loans a maximum loan amount taking into account customer net income). Given the largely homogeneous nature of this portfolio, counterparty credit-worthiness and ratings are predominately derived by utilizing an automated decision engine.

Mortgage business is the financing of residential properties (primarily owner-occupied) sold by various business channels in Europe, primarily in Germany but also in Spain and Italy. The level of credit risk of the mortgage loan portfolio is determined by assessing the quality of the client and the underlying collateral. The loan amounts are generally larger than Consumer Finance loans and they are extended for longer time horizons. Based on the bank's underwriting criteria and processes and the diversified portfolio (customers/properties) with respective collateralization, the mortgage portfolio is categorized as lower risk, while consumer finance is categorized as high risk.

Business Finance represents credit products for small businesses, SME up to large corporates. Products range from current accounts and credit lines to investment loans or revolving facilities, factoring, leasing and derivatives. Clients are located primarily in Italy and Spain, but credit can also be extended to subsidiaries abroad, mostly in Europe.

Wealth Management offers customized wealth management solutions and private banking services including discretionary portfolio management and traditional and alternative investment solutions, complemented by structured risk management, wealth planning, lending and family office services for wealth, high-net-worth (HNW) and ultra-high-net-worth (UHNW) individuals and family offices. Wealth Management's total exposure is divided into Lombard Lending (against readily marketable liquid collateral / securities) and Structured Lending (against less liquid collateral). While the level of credit risk for the Lombard portfolio is determined by assessing the quality of the underlying collateral, the level of credit risk for the structured portfolio is determined by assessing both the quality of the client and the collateral. Products range from secured Lombard and mortgage loans to current accounts (Europe only), credit lines and other loans; to a lesser extent derivatives and contingencies. Clients are located globally.

Private Bank mortgage loan-to-value¹

	Dec 31, 2023	Dec 31, 2022
≤ 50%	65%	63%
> 50 ≤ 70%	16%	17%
> 70 ≤ 90%	11%	11%
> 90 ≤ 100%	3%	3%
> 100 ≤ 110%	2%	2%
> 110 ≤ 130%	2%	2%
> 130%	1%	2%

¹ When assigning the exposure to the corresponding LTV buckets, the exposure amounts are distributed according to their relative share of the underlying assessed real estate value

The LTV expresses the amount of exposure as a percentage of the underlying real estate value.

The Group's LTV ratios are calculated using the total exposure divided by the current determined value of the respective properties. These values are monitored and updated if necessary, on a regular basis. The exposure of transactions that are additionally backed by liquid collateral is reduced by the respective collateral values, whereas any prior charges increase the corresponding total exposure. The LTV calculation includes exposure which is secured by real estate collateral. Any mortgage lending exposure that is collateralized exclusively by any other type of collateral is not included in the LTV calculation.

The creditor's creditworthiness, the LTV and the quality of collateral is an integral part of the Group's risk management when originating loans and when monitoring and steering the Group's credit risks. In general, the Group is willing to accept higher LTV's, the better the creditor's creditworthiness is. Nevertheless, restrictions of LTV apply e.g. for countries with negative economic outlook or expected declines of real estate values.

As of December 31, 2023, 65% of the Group's exposure related to the mortgage lending portfolio had an LTV ratio below or equal to 50% compared to 63% as on December 31, 2022.

Credit Exposure from Derivatives

All exchange traded derivatives are cleared through central counterparties (“CCPs”), the rules and regulations of which provide for daily margining of all current and future credit risk positions emerging out of such transactions. To the extent possible, the bank also uses CCP services for OTC derivative transactions (“OTC clearing”); thereby the bank benefits from the credit risk mitigation achieved through the CCP’s settlement system.

The Dodd-Frank Act provides for an extensive framework for the regulation of OTC derivatives, including mandatory clearing, platform trading and transaction reporting of certain OTC derivatives, as well as rules regarding registration, capital, margin, business conduct standards, recordkeeping and other requirements for swap dealers, security-based swap dealers, major swap participants and major security-based swap participants. The Dodd-Frank Act and related CFTC rules require OTC clearing in the United States for certain standardized OTC derivative transactions, including certain interest rate swaps and index credit default swaps. Margin requirements for non-cleared derivative transactions in the U.S. started in September 2016. The European Regulation (EU) No 648/2012 on OTC Derivatives, Central Counterparties and Trade Repositories (“EMIR”) introduced a number of risk mitigation techniques for non-centrally cleared OTC derivatives in 2013 and the reporting of OTC and exchange traded derivatives in 2014. Mandatory clearing of certain standardized OTC derivatives transactions in the EU began in June 2016, and margin requirements for un-cleared OTC derivative transactions in the EU started in February 2017. Deutsche Bank implemented the exchange of both initial and variation margin in the EU from February 2017 for the first category of counterparties subject to the EMIR margin for un-cleared derivatives requirements.

The CFTC has adopted rules implementing the most significant provisions of the Dodd-Frank Act. More recently, in September 2020, the CFTC issued a final rule on the cross-border application of U.S. swap rules, which builds on, and in some cases supersedes the CFTC’s cross-border guidance from 2013 and related no-action relief letters. In October 2020, also pursuant to the Dodd-Frank Act, the CFTC finalized regulations to impose position limits on certain commodities and economically equivalent swaps, futures and options.

The SEC has also finalized rules regarding registration, trade reporting, capital, margin, risk mitigation techniques, business conduct standards, trade acknowledgement and verification, recordkeeping and financial reporting, and cross-border requirements for security-based swap dealers and major security-based swap participants. Compliance with these requirements was generally required as of November 2021.

Finally, U.S. prudential regulators (the Federal Reserve, the FDIC, the Office of the Comptroller of the Currency, the Farm Credit Administration and the Federal Housing Finance Agency) have adopted final rules establishing margin requirements for non-cleared swaps and security-based swaps that are applicable to swap dealers and security-based swap dealers that are subject to U.S. prudential regulations (such as Deutsche Bank) in lieu of the CFTC’s and the SEC’s margin rules. Deutsche Bank implemented the exchange of both initial and variation margin for uncleared derivatives in the U.S. from September 2016, for the first category of counterparties subject to the U.S. prudential regulators’ margin requirements. Additional initial margin requirements for smaller counterparties have been phased in from September 2017 through September 2022, with the relevant compliance dates depending in each case on the transactional volume of the parties and their affiliates.

The following table shows a breakdown of notional amounts and gross market values for assets and liabilities of exchange traded and OTC derivative transactions on the basis of clearing channel.

Notional amounts of derivatives on basis of clearing channel and type of derivative

Dec 31, 2023

in € m.	Notional amount maturity distribution				Positive market value	Negative market value	Net market value
	Within 1 year	> 1 and ≤ 5 years	After 5 years	Total			
Interest rate related:							
OTC	17,224,862	13,754,903	9,568,113	40,547,878	124,837	112,997	11,840
Bilateral (Amt)	2,037,922	2,251,346	1,446,299	5,735,567	103,140	92,035	11,105
CCP (Amt)	15,186,940	11,503,557	8,121,813	34,812,311	21,696	20,961	735
Exchange-traded	1,916,294	403,196	47	2,319,537	418	493	(75)
Total Interest rate related	19,141,156	14,158,099	9,568,160	42,867,415	125,255	113,490	11,764
Currency related:							
OTC	6,609,578	1,055,879	427,832	8,093,289	108,652	105,818	2,834
Bilateral (Amt)	6,443,644	1,046,148	427,719	7,917,512	107,415	104,614	2,801
CCP (Amt)	165,933	9,730	113	175,777	1,237	1,204	33
Exchange-traded	11,265	0	0	11,265	1	17	(16)
Total Currency related	6,620,842	1,055,879	427,832	8,104,553	108,653	105,835	2,818
Equity/index related:							
OTC	17,014	7,937	647	25,599	1,209	2,574	(1,365)
Bilateral (Amt)	17,014	7,937	647	25,599	1,209	2,574	(1,365)
CCP (Amt)	0	0	0	0	0	0	0
Exchange-traded	164,955	25,648	1,523	192,126	2,391	2,103	288
Total Equity/index related	181,970	33,586	2,170	217,726	3,600	4,677	(1,077)
Credit derivatives related							
OTC	200,396	855,230	71,584	1,127,210	13,895	13,379	517
Bilateral (Amt)	72,835	94,804	33,716	201,355	3,142	2,715	427
CCP (Amt)	127,561	760,426	37,868	925,854	10,754	10,664	90
Exchange-traded	0	0	0	0	0	0	0
Total Credit derivatives related	200,396	855,230	71,584	1,127,210	13,895	13,379	517
Commodity related:							
OTC	7,150	31,576	2,037	40,764	203	140	63
Bilateral (Amt)	7,150	31,576	2,037	40,764	203	139	64
CCP (Amt)	0	0	0	0	0	1	(1)
Exchange-traded	25,369	1,347	0	26,716	141	139	2
Total Commodity related	32,519	32,923	2,037	67,479	344	279	65
Other:							
OTC	57,766	3,924	102	61,791	971	819	152
Bilateral (Amt)	57,750	3,924	102	61,776	956	819	137
CCP (Amt)	15	0	0	15	15	0	15
Exchange-traded	11,008	21	0	11,029	27	33	(6)
Total Other	68,774	3,945	102	72,820	998	852	146
Total OTC business	24,116,765	15,709,449	10,070,316	49,896,530	249,766	235,726	14,041
Total bilateral business	8,636,315	3,435,736	1,910,521	13,982,573	216,064	202,895	13,169
Total CCP business	15,480,450	12,273,713	8,159,794	35,913,958	33,702	32,830	872
Total exchange-traded business	2,128,891	430,212	1,570	2,560,673	2,979	2,786	193
Total	26,245,656	16,139,661	10,071,885	52,457,203	252,745	238,511	14,234
Positive market values after netting and cash collateral received	-	-	-	-	23,312	-	-

Dec 31, 2022

in € m.	Notional amount maturity distribution				Positive market value	Negative market value	Net market value
	Within 1 year	> 1 and ≤ 5 years	After 5 years	Total			
Interest rate related:							
OTC	14,487,820	10,421,941	7,332,258	32,242,019	144,155	132,350	11,805
Bilateral (Amt)	1,422,223	2,200,127	1,501,758	5,124,107	118,768	107,854	10,914
CCP (Amt)	13,065,597	8,221,814	5,830,501	27,117,911	25,387	24,496	891
Exchange-traded	515,543	117,763	45	633,351	663	624	39
Total Interest rate related	15,003,362	10,539,704	7,332,304	32,875,370	144,818	132,974	11,844
Currency related:							
OTC	6,368,113	1,007,862	403,215	7,779,190	141,531	135,670	5,861
Bilateral (Amt)	6,246,281	998,771	403,037	7,648,090	140,039	134,420	5,619
CCP (Amt)	121,831	9,090	178	131,100	1,492	1,250	242
Exchange-traded	19,869	0	0	19,869	17	20	(3)
Total Currency related	6,387,981	1,007,862	403,215	7,799,058	141,548	135,690	5,858
Equity/index related:							
OTC	14,769	8,447	1,021	24,236	598	2,012	(1,414)
Bilateral (Amt)	14,769	8,447	1,021	24,236	598	2,012	(1,414)
CCP (Amt)	0	0	0	0	0	0	0
Exchange-traded	156,839	44,868	1,078	202,784	3,213	2,978	234
Total Equity/Index related	171,607	53,315	2,099	227,021	3,811	4,991	(1,179)
Credit derivatives related							
OTC	193,047	1,238,463	91,903	1,523,414	9,899	8,311	1,589
Bilateral (Amt)	101,699	87,969	30,933	220,600	3,611	2,078	1,533
CCP (Amt)	91,348	1,150,495	60,970	1,302,813	6,288	6,233	55
Exchange-traded	0	0	0	0	0	0	0
Total Credit derivatives related	193,047	1,238,463	91,903	1,523,414	9,899	8,311	1,589
Commodity related:							
OTC	1,827	16,546	1,492	19,865	86	231	(144)
Bilateral (Amt)	1,827	16,546	1,492	19,865	86	230	(145)
CCP (Amt)	0	0	0	0	0	0	0
Exchange-traded	21,943	1,860	0	23,803	177	186	(9)
Total Commodity related	23,770	18,405	1,492	43,668	263	416	(154)
Other:							
OTC	48,427	4,877	106	53,410	752	747	5
Bilateral (Amt)	48,427	4,877	106	53,410	752	747	5
CCP (Amt)	0	0	0	0	0	0	0
Exchange-traded	5,250	0	0	5,250	12	11	1
Total Other	53,676	4,877	106	58,660	764	758	6
Total OTC business	21,114,002	12,698,136	7,829,996	41,642,134	297,022	279,320	17,702
Total bilateral business	7,835,226	3,316,737	1,938,347	13,090,309	263,854	247,341	16,513
Total CCP business	13,278,776	9,381,399	5,891,650	28,551,825	33,168	31,979	1,189
Total exchange-traded business	719,442	164,491	1,123	885,056	4,081	3,819	262
Total	21,833,444	12,862,626	7,831,119	42,527,190	301,103	283,139	17,964
Positive market values after netting and cash collateral received	-	-	-	-	29,744	-	-

Equity Exposure

The table below presents the carrying values of equity investments split by trading and non-trading for the respective reporting dates. Deutsche Bank manages its respective positions within market risk and other appropriate risk frameworks.

Composition of Equity Exposure

in € m.	Dec 31, 2023	Dec 31, 2022
Trading Equities	1,984	2,374
Non-trading Equities ¹	2,008	2,077
Total Equity Exposure	3,992	4,451

¹ Includes equity investment funds amounting to € 113 million as of December 31, 2023 and € 101 million as of December 31, 2022

As of December 31, 2023, the group's trading equities exposure in Investment Bank was € 1.7 billion compared to € 2.1 billion in December 31, 2022.

Trading Market Risk Exposures

Value-at-Risk Metrics of Trading Units of Deutsche Bank Group

The tables and graph below present the Historic Simulation value-at-risk metrics calculated with a 99% confidence level and a one-day holding period for the Group's trading units.

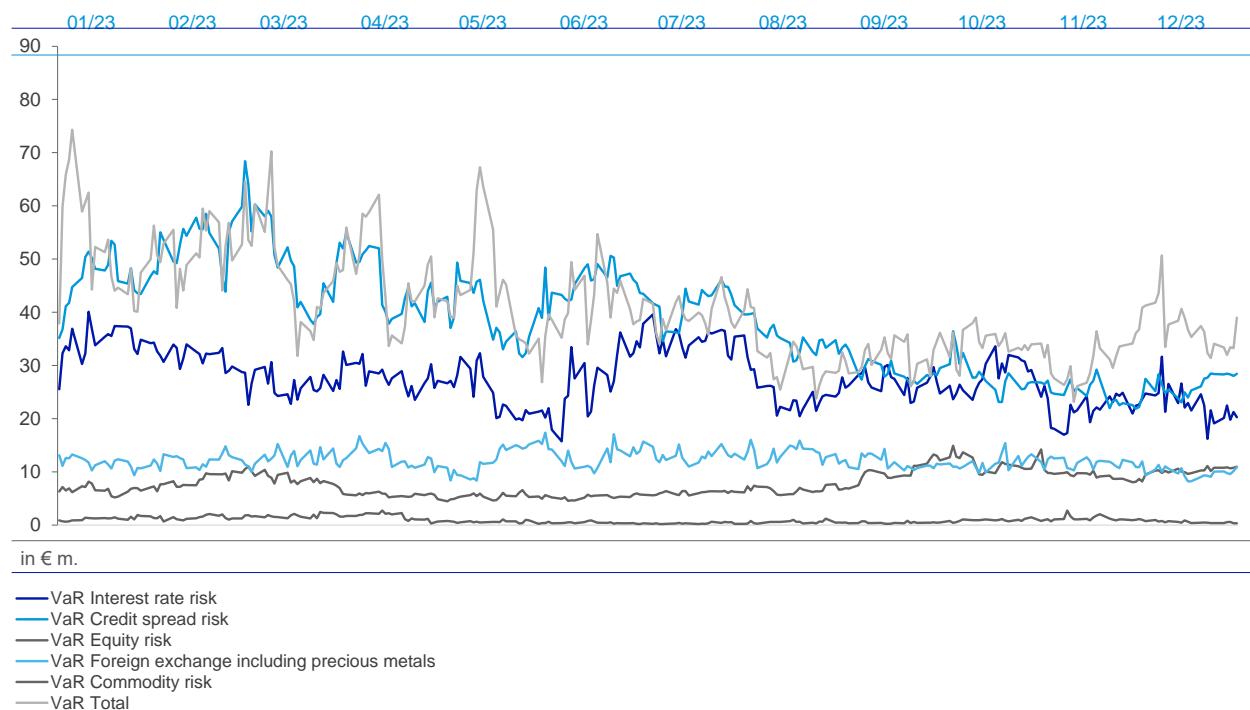
Value-at-Risk of Trading Units by Risk Type¹

in € m.	Total		Diversification effect		Interest rate risk		Credit spread risk		Equity price risk		Foreign exchange risk ²		Commodity price risk	
	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022
Average	40.7	44.0	(46.3)	(43.3)	27.5	29.4	38.6	35.4	7.8	11.4	12.1	9.7	0.9	1.5
Maximum	74.3	71.4	(21.2)	(21.7)	40.1	48.1	68.4	58.7	14.9	21.7	17.4	15.0	2.8	4.3
Minimum	23.2	24.9	(64.9)	(67.1)	15.7	13.4	21.9	19.3	4.5	5.4	8.2	5.8	0.2	0.3
Period-end	39.0	38.3	(31.9)	(43.3)	20.3	26.0	28.4	35.0	11.0	6.4	10.9	13.6	0.3	0.5

¹ Figures for 2023 as of December 31, 2023. Figures for 2022 as of December 31, 2022

² Includes value-at-risk from gold and other precious metal positions

Development of historic simulation value-at-risk by risk types in 2023



The average value-at-risk over 2023 was € 41 million, which decreased by € 3.3 million (-8%) compared to the average for 2022; this was primarily driven by roll-off of market volatility in the rolling 1yr period of value-at-risk model. Additionally reduced cross currency interest rates exposures under Global Foreign Exchange business as it focused on its flow businesses and changes in sovereign bond curve positioning and reduction in overall interest rates exposure under Global Rates business also contributed towards lower average value-at-risk for 2023.

For regulatory reporting purposes, the incremental risk charge for the respective reporting dates represents the higher of the spot value at the reporting dates, and their preceding 12-week average calculation.

Average, Maximum and Minimum Incremental Risk Charge of Trading Units (with a 99.9% confidence level and one-year capital horizon)^{1,2,3}

in € m.	Total		Credit Trading		Global Rates		Emerging Markets		Other	
	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022
Average	563.3	319.0	(15.0)	54.5	363.4	137.0	228.1	110.2	(13.2)	17.4
Maximum	904.6	414.0	121.4	130.6	892.5	305.0	349.9	332.4	32.0	51.2
Minimum	330.3	272.4	(130.9)	(33.2)	198.7	53.2	122.4	39.3	(80.6)	(31.7)
Period-end	570.3	291.2	90.8	11.6	198.7	161.9	284.5	100.2	(3.6)	17.4

¹ Amounts show the bands within which the values fluctuated during the 12-weeks preceding December 31, 2023 and December 31, 2022, respectively

² Business line breakdowns have been updated for 2023 reporting to better reflect the current business structure

³ All liquidity horizons are set to 12 months

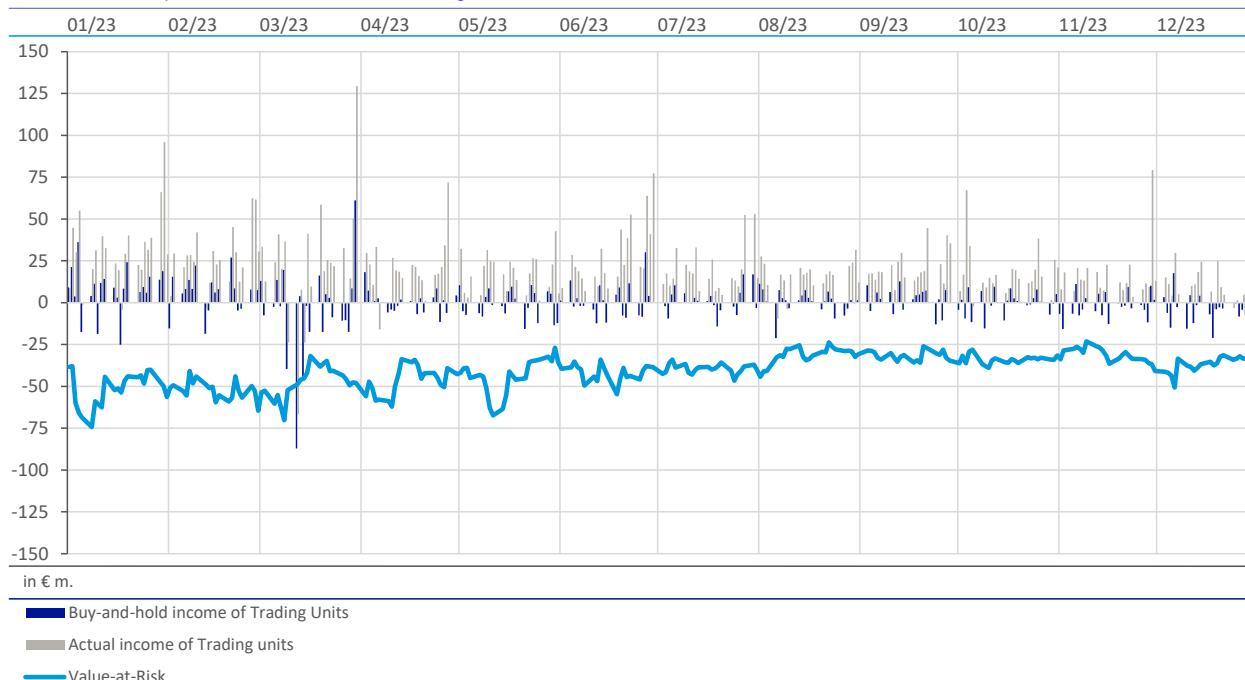
The incremental risk charge as at the end of 2023 was € 570 million, which has increased by € 279 million (+96%) compared to year-end 2022. The change was driven by increase in sovereign bond inventory for facilitating market making under Global Rates and Global Emerging Markets business.

Results of Regulatory Backtesting of Trading Market Risk

In 2023, the Group observed one outlier where the Group's loss on a buy-and-hold and actual basis exceeded the value-at-risk of the Trading books. This was driven by an increase in market volatility following the Silicon Valley Bank crisis in the first quarter of 2023. The market volatility led to moves in interest rates that were larger than those within the preceding one-year period used in the value-at-risk calculation.

The following graph shows the trading units daily buy-and-hold and Actual income in comparison to the value-at-risk as of the close of the previous business day for the trading days of the reporting period. The value-at-risk is presented in negative amounts to visually compare the estimated potential loss of the trading positions with the buy and hold income given buy-and-hold is the relevant portion of daily profit and loss for comparison against the previous day's value at risk which excludes new trades, reserves, and any carry profit and loss ordinarily part of actual income. Figures are shown in millions of euro. The chart shows that the trading units achieved a positive buy and hold income for 54% of the trading days in 2023 as well as displays the global outlier experienced in 2023.

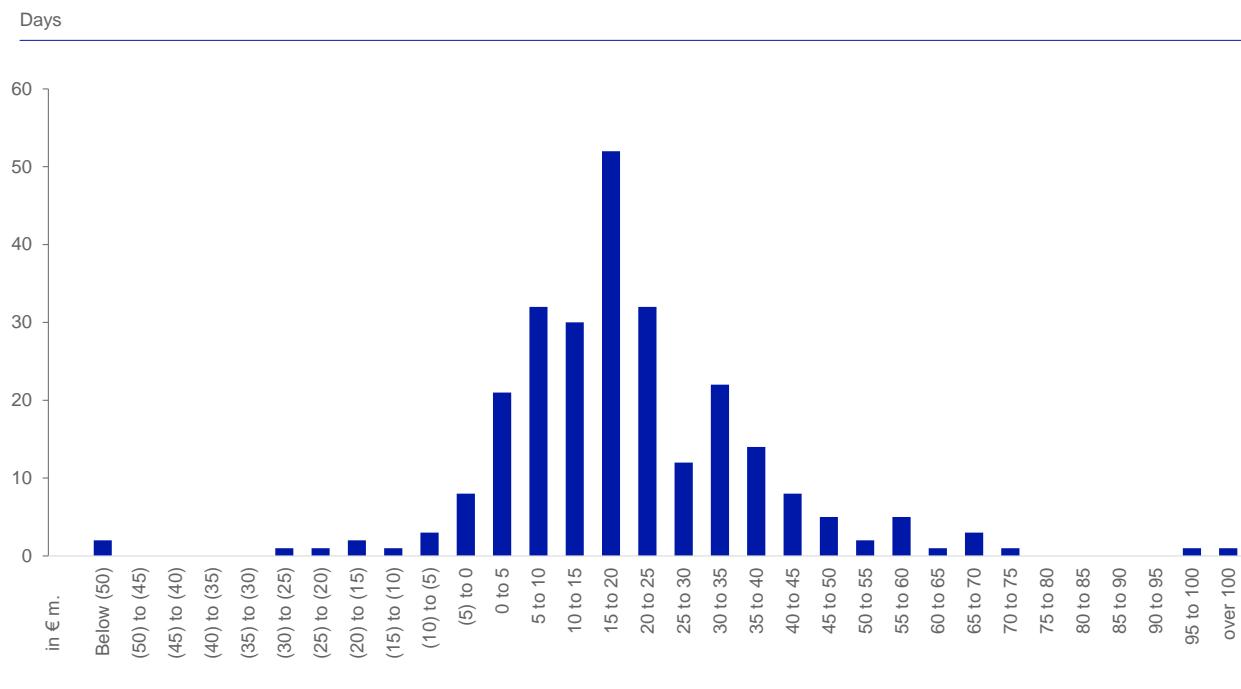
EU MR4 – Comparison of VAR estimates with gains/losses



Daily Income of Deutsche Bank Group Trading Units

The following histogram shows the distribution of daily income of Group trading units. Daily income is defined as total income which consists of new trades, fees & commissions, buy & hold income, reserves, carry and other income. It displays the number of trading days on which the Group reached each level of trading income shown on the horizontal axis in millions of euro.

Distribution of daily income of Group's trading units in 2023



The trading units achieved a positive revenue for 93% of the trading days in 2023 compared with 84% in the full year 2022.

Non-trading Market Risk Exposures

Economic Capital Usage for Non-trading Market Risk

The following table shows the Non-trading Market Risk economic capital usage by risk type:

Economic Capital Usage by risk type.

in € m.	Economic capital usage	
	Dec 31, 2023	Dec 31, 2022
Interest rate risk	2,980	1,752
Credit spread risk	60	29
Equity and Investment risk	1,044	841
Foreign exchange risk	1,273	1,460
Pension risk	1,106	803
Guaranteed funds risk	59	82
Total non-trading market risk portfolios	6,523	4,968

The economic capital figures do take into account diversification benefits between the different risk types.

Economic Capital Usage for Non-trading Market Risk totaled € 6.5 billion as of December 31, 2023, which is € 1.6 billion above the economic capital usage at year-end 2022. The increase in economic capital was predominantly driven by additional interest rate risk positions taken to mitigate downside risk to the Group's net interest income, higher risk related to behavioral modelling assumption for our non-maturity deposit portfolio and a higher market risk contribution from our defined benefit pension plans.

- Interest rate risk; economic capital charge for interest rate risk in the banking book, including gap risk, basis risk and option risk, such as the risk of a change in client behavior embedded in modelled non-maturity deposits or prepayment risk; in total the economic capital usage for December 31, 2023 was € 3.0 billion, compared to € 1.8 billion for December 31, 2022
- Credit spread risk; economic capital charge for portfolios in the banking book subject to credit spread risk; economic capital usage was € 60 million as of December 31, 2023, versus € 29 million as of December 31, 2022
- Equity and Investment risk; economic capital charge for equity risk from a structural short position in the bank's own share price arising from the Group's equity compensation plans, and from the non-consolidated investment holdings, such as strategic investments and alternative assets the economic capital usage was € 1.0 billion as of December 31, 2023, compared to € 841 million as of December 31, 2022
- Foreign exchange risk; foreign exchange risk predominantly arises from the Group's structural position taken to immunize the sensitivity of the bank's capital ratio against changes in the exchange rates. The economic capital usage was € 1.3 billion as of December 31, 2023, versus € 1.5 billion as of December 31, 2022
- Pension risk; this risk arises from the Group's defined benefit obligations, including interest rate risk and inflation risk, credit spread risk, equity risk and longevity risk. The economic capital usage was € 1.1 billion as of December 31, 2023, compared to € 803 million as of December 31, 2022
- Guaranteed funds risk; economic capital usage was € 59 million as of December 31, 2023, versus € 82 million as of December 31, 2022

Interest Rate Risk in the Banking Book

The following table shows the impact on the Group's net interest income in the banking book as well as the change of the economic value for the banking book positions from interest rate changes under the six standard scenarios defined by the EBA:

Economic value & net interest income interest rate risk in the banking book by EBA scenario

in € bn.	Delta EVE		Delta NII ¹	
	Dec 31, 2023	Dec 31, 2022	Dec 31, 2023	Dec 31, 2022
Parallel up	(5.1)	(4.6)	0.3	1.9
Parallel down	1.8	1.3	(0.3)	(1.1)
Steeperener	(0.8)	(0.1)	0.1	(0.4)
Flattener	(0.3)	(1.4)	(0.1)	1.5
Short rates up	(1.6)	(2.4)	(0.0)	2.3
Short rates down	0.8	1.2	(0.1)	(1.2)
Maximum	(5.1)	(4.6)	(0.3)	(1.2)

in € bn.	Dec 31, 2023	Dec 31, 2022
Tier 1 Capital	56.4	56.6

¹ Delta Net Interest Income (NII) reflects the difference between projected NII in the respective scenario with shifted rates vs. market implied rates. Sensitivities are based on a static balance sheet at constant exchange rates, excluding trading positions and DWS. Figures do not include Mark-to-Market (MtM) / Other Comprehensive Income (OCI) effects on centrally managed positions not eligible for hedge accounting

The maximum economic value of equity loss was € (5.1) billion as of December 2023, compared to € (4.6) billion as of December 2022. As per December 2023 the maximum EVE loss represents 9.0% of Tier 1 Capital.

The maximum economic value of equity (EVE) loss due to a +200 basis points parallel shift of the yield curve across all currencies as defined by the BaFin was € (5.1) billion as of December 2023, representing 7.7% of Total Capital.

The moderate change in economic value of equity loss for the “Parallel up” interest rate scenario was driven by rebalancing activities related to the interest rate risk position within the Bank’s Treasury portfolio. Deutsche Bank’s overall interest rate risk positioning remains largely unchanged and is managed via defined risk management as part of the IRRBB framework.

The maximum one-year loss in net interest income (NII) was € (0.3) billion as of December 2023, compared to € (1.2) billion as of December 2022.

The maximum loss for the 12M net interest income sensitivity for “Parallel down” scenario decreased by circa € 0.8 billion.

The reduction in the maximum net interest income loss in the “Parallel down” scenario was mainly driven by a combination of methodology enhancements to better reflect client behavior and changes of our interest rate risk position in Treasury in response to the change in interest rate environment.

The following table shows the variation of the economic value for Deutsche Bank’s banking book positions resulting from downward and upward interest rate shocks by currency:

Economic value interest rate risk in the banking book by currency

in € bn.	Dec 31, 2023	
	Parallel up	Parallel down
EUR	(4.0)	1.4
USD	(1.1)	0.6
Other	(0.0)	(0.2)
Total	(5.1)	1.8

Operational risk exposure

Operational risk – risk profile

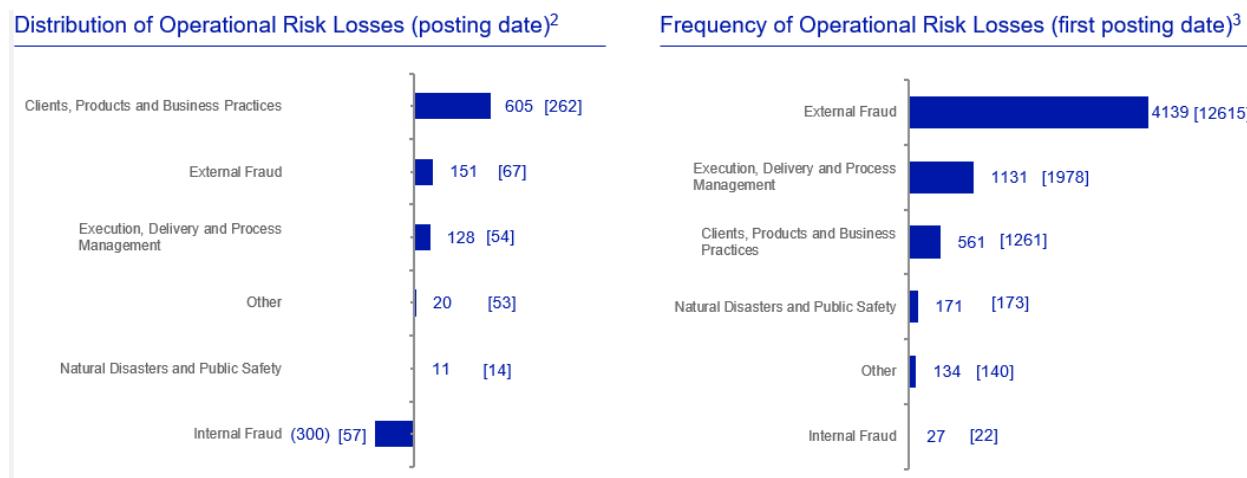
Operational risk losses by event type (profit and loss view)

in € m.	2023	2022 ¹
Clients, Products and Business Practices	605	278
External Fraud	151	65
Execution, Delivery and Process Management	128	81
Others	20	157
Natural Disasters and Public Safety	11	6
Internal Fraud	(333)	16
Group	582	602

¹ Prior year's comparatives aligned to presentation in the current year. Losses are reported after offsetting insurance

As of December 31, 2023, operational risk losses decreased by € 20 million, or 3%, to € 582 million. This was primarily driven by a gain of € 333 million related to the event type "Internal Fraud", which reflects a release of litigation provisions. Losses under Clients, Products and Business Practices" increased year on year due to increased provisions from civil litigation. Legal losses are broadly stable when aggregating settled matters and changes in litigation reserves for unsettled matters across categories.

Operational risk losses by event type occurred in the period 2023 (2018 - 2022)¹



¹ Figures in square brackets are averages between 2018-2022. Prior year's comparatives aligned to presentation in the current year

² Distribution of operational risk losses is based on posting date

³ Frequency of operational risk losses is based on first posting date

The diagram "Distribution of Operational Risk Losses" summarizes the value of net operational risk loss postings by event type in 2023, against the average for the comparative five-year period 2018-2022 (in square brackets). The event type "Clients, Products and Business Practices" forms the most significant portion of operational losses with a share of € 605 million largely made up of settled matters and changes in litigation reserves for unsettled matters. The event type 'External Fraud' saw a substantial year on year increase, driven by two material litigation cases. The event type 'Execution, Delivery and Process Management' also significantly increased, primarily due to non-litigation losses. The reduction of losses in event type "Internal Fraud" is driven by a release of litigation provisions.

The diagram "Frequency of Operational Losses" summarizes the operational risk events by event type (based on a count of events where losses were first recognized in 2023), related to the average for the comparative five-year period 2018-2022 (in brackets). "External Fraud" remains the highest frequency event type although there has been a notable reduction versus the five year average.

Whilst the bank seeks to ensure the comprehensive capture of all operational risk loss events with a net operational risk loss impact of € 10,000 or greater, the totals shown in this section may be underestimated due to delayed detection and recording of loss events.

Liquidity Risk Exposure

Funding Markets and Capital Markets Issuance

Multiple macro topics emerged during 2023 and weighed on markets, following a normalization after geopolitical events in the past years. Particularly impactful were the high inflation countered by unprecedented rate hikes, continued geopolitical uncertainties, the default of some regional US banks and the takeover of Credit Suisse by UBS. Notwithstanding this backdrop, the Bank navigated markets well and successfully concluded its issuance activity at 17.2 billion euros. After deducting the 1.5 billion USD senior-non preferred note issued in November as pre-funding, the overall volume was within the plan of 13-18 billion euros which was narrowed to a guidance of 14 to 16 billion euros during Q4.

Looking at the whole year, credit markets showed a constructive performance despite the multiple disruptions with broader indices trading tighter versus year end 2022. The bank's senior non-preferred cash bonds widened on account of the market turmoil in March relating to regional U.S. banks and Credit Suisse and underperformed peers until April 2023. Thereafter DB's spreads tightened and outperformed peers. The positive development of DB's spreads was supported by three rating upgrades from DBRS, Fitch and S&P throughout the year. As of year end 2023, DB's spreads are tighter than at the beginning of the year.

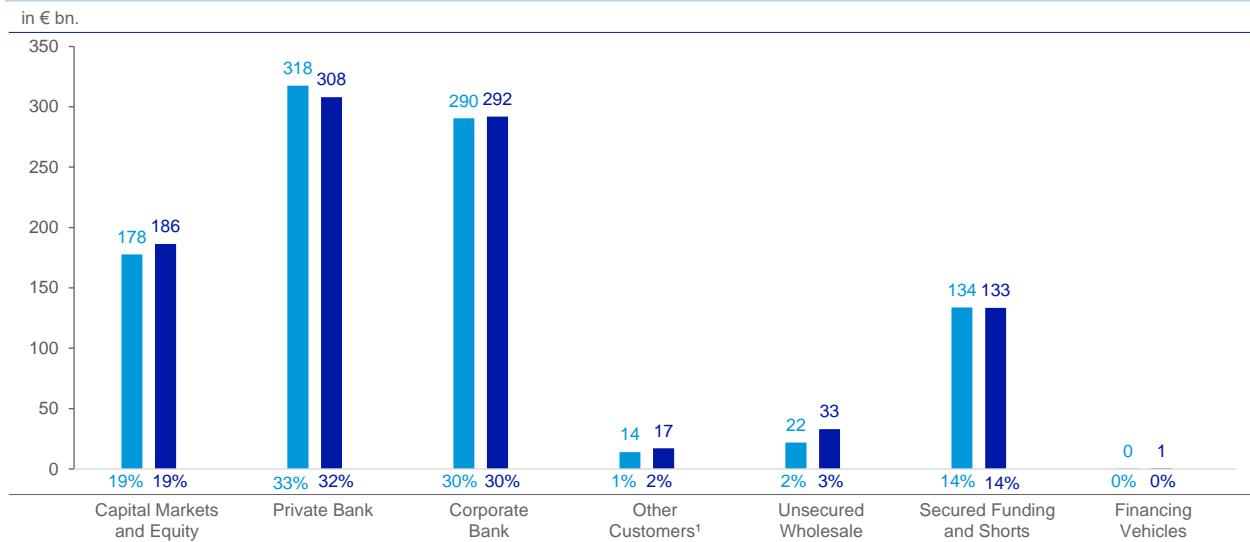
The total issuance volume of € 17.2 billion is split as follows: € 1.4 billion in capital issuances, € 6.7 billion of senior non-preferred funding, € 6.0 billion in senior preferred. The Group also issued € 2.6 billion Pfandbriefe and € 0.5 billion Cédulas. From a currency perspective, the total issuance volume is divided as follows: Euros (€ 8.5 billion), U.S. dollars (€ 6.9 billion), Pounds Sterling (€ 0.8 billion) and other currencies aggregated (€ 1.0 billion). The Group's investor base for 2023 issuances was as follows: asset managers and pension funds (34%), retail customers (17%), banks (16%), insurance companies (8%), Corporates (1%), Governments and agencies (4%) and other institutional investors (20%). The geographical distribution was split between Germany (41%), rest of Europe (24%), U.S. (26%), Asia/Pacific (8%) and Other (1%). The average spread of issuance over 3-months-Euribor/RFR (Risk Free Rate) was 164bp for the full year. The average tenor was 5.1 years. The Group issued the following volumes over each quarter: Q1: € 7.5 billion, Q2: € 2.0 billion, Q3: € 3.1 billion and Q4: € 4.7 billion.

Deutsche Bank's issuance plan for 2024 is € 13-18 billion and similar to 2023. It comprises capital instruments, senior non-preferred, senior preferred and covered bonds. The Group also plans to raise a portion of this funding in U.S. dollar and may enter into cross currency swaps to manage any residual requirements. The Bank has total capital markets maturities, excluding legally exercisable calls, of approximately € 11 billion. Furthermore, the Bank issued structured notes with a volume of EUR 5.3bn in 2013 and plans to issue € 6-7 billion in 2024. This activity is conducted by the FIC division and not part of the Treasury issuance plan.

Funding Diversification

In 2023, total external funding increased by € 14.6 billion from € 955.7 billion at December 31, 2022, to € 970.3 billion at December 31, 2023. Funding from the Corporate Bank has increased by € 1.5 billion, whereas deposits in the Private Bank have decreased by € 9.6 billion. For both divisions, there has been a shift from sight to term deposits. The unsecured Wholesale Funding portfolio increased by € 11.4 billion, thereof € 2.5 billion from Investment Bank deposits. In addition, Capital Markets and Equity increased by € 8.5 billion driven by an increase of € 2.5 billion in Equity and € 6.0 billion in long-term Debt Issuances. Secured funding and shorts have been overall stable compared to December 31, 2022, with reductions from the repayment of TLTRO (Targeted Longer-Term Refinancing Operations) of € 18.7 billion as well as a decrease of € 6.6 billion in trading liabilities has been offset by an increase of € 23.9 billion in repurchase operations.

Composition of External Funding Sources



■ December 31, 2022: total € 955.7 billion

■ December 31, 2023: total € 970.3 billion

¹ Other Customers includes fiduciary deposits, X-markets notes and margin/Prime Brokerage cash balances (shown on a net basis)

Reference: Reconciliation to total balance sheet of € 1,312.3 billion (€ 1,336.8 billion): Derivatives & settlement balances € 266.5 billion (€ 296.5 billion), add-back for netting effect for margin/Prime Brokerage cash balances (shown on a net basis) € 40.2 billion (€ 50.4 billion), other non-funding liabilities € 35.4 billion (€ 34.2 billion) for December 31, 2023, and December 31, 2022, respectively

Maturity of unsecured wholesale funding, ABCP and capital markets issuance¹

	Dec 31, 2023							
in € m.	Not more than 1 month	Over 1 month but not more than 3 months	Over 3 months but not more than 6 months	Over 6 months but not more than 1 year	Sub-total less than 1 year	Over 1 year but not more than 2 years	Over 2 years	Total
Deposits from banks	1,942	1,419	692	402	4,455	558	103	5,117
Deposits from other wholesale customers	9,838	4,740	3,475	1,984	20,038	422	633	21,093
CDs and CP	1,085	2,143	2,041	1,623	6,891	84	0	6,976
ABCP	0	0	0	0	0	0	0	0
Senior non-preferred plain vanilla	91	1,173	2,852	4,146	8,261	7,700	36,328	52,289
Senior preferred plain vanilla	198	442	1,293	718	2,650	3,494	5,325	11,470
Senior structured	121	458	748	1,275	2,603	2,919	12,401	17,923
Covered bonds/ABS	21	2,065	235	750	3,070	1,867	13,063	18,000
Subordinated liabilities	10	15	291	94	410	5,887	14,039	20,336
Other	0	0	0	0	0	0	0	0
Total	13,306	12,454	11,627	10,992	48,380	22,931	81,892	153,204
Of which:								
Secured	21	2,065	235	750	3,070	1,867	13,063	18,000
Unsecured	13,285	10,389	11,392	10,242	45,309	21,065	68,829	135,203

¹ Includes additional Tier 1 notes reported as additional equity components in the financial statements. Liabilities with call features are shown at earliest legally exercisable call date. No assumption is made as to whether such calls would be exercised

Secured funding volume reported post own debt elimination

The total volume of unsecured wholesale liabilities, ABCP and capital markets issuance maturing within one year amount to € 45 billion as of December 31, 2023, and should be viewed in the context of our total High Quality Liquid Assets (HQLA) of € 219 billion.

Dec 31, 2022

	Not more than 1 month	Over 1 month but not more than 3 months	Over 3 months but not more than 6 months	Over 6 months but not more than 1 year	Sub-total less than 1 year	Over 1 year but not more than 2 years	Over 2 years	Total
in € m.								
Deposits from banks	549	156	528	1,200	2,432	0	526	2,958
Deposits from other wholesale customers	4,477	4,448	3,502	1,690	14,118	869	927	15,915
CDs and CP	88	801	1,438	782	3,109	0	9	3,118
ABCP	0	0	0	0	0	0	0	0
Senior non-preferred plain vanilla	2,271	285	1,920	823	5,299	13,284	33,478	52,061
Senior preferred plain vanilla	19	0	125	1,077	1,221	3,610	3,897	8,727
Senior structured	143	542	1,392	940	3,017	1,958	11,064	16,040
Covered bonds/ABS	518	0	599	389	1,506	3,084	11,799	16,389
Subordinated liabilities	0	10	2,581	307	2,899	1,723	16,151	20,773
Other	0	0	0	0	0	0	0	0
Total	8,066	6,242	12,086	7,208	33,601	24,528	77,851	135,980
Of which:								
Secured	518	0	599	389	1,506	3,084	11,799	16,389
Unsecured	7,548	6,242	11,487	6,818	32,095	21,444	66,051	119,591

The following table shows the currency breakdown of our short-term unsecured wholesale funding, of our ABCP funding and of our capital markets issuance.

Unsecured wholesale funding, ABCP and capital markets issuance (currency breakdown)

	Dec 31, 2023					Dec 31, 2022				
in € m.	in EUR	in USD	in GBP	in other CCYs	Total	in EUR	in USD	in GBP	in other CCYs	Total
Deposits from banks	666	2,409	108	1,934	5,117	1,216	963	47	732	2,958
Deposits from other wholesale customers	8,857	9,128	248	2,860	21,093	4,437	9,047	278	2,152	15,915
CDs and CP	3,776	2,816	0	383	6,976	1,035	1,423	133	527	3,118
ABCP	0	0	0	0	0	0	0	0	0	0
Senior non-preferred plain vanilla	22,309	23,199	3,611	3,171	52,289	24,052	21,826	2,735	3,448	52,061
Senior preferred plain vanilla	6,445	4,424	8	593	11,470	3,125	5,415	0	186	8,727
Senior structured	8,278	7,502	43	2,100	17,923	6,712	7,517	24	1,785	16,040
Covered bonds/ABS	17,710	290	0	0	18,000	16,387	2	0	0	16,389
Subordinated liabilities	9,845	9,380	932	179	20,336	10,070	9,597	917	189	20,773
Other	0	0	0	0	0	0	0	0	0	0
Total	77,886	59,148	4,949	11,220	153,204	67,035	55,792	4,134	9,019	135,980
Of which:										
Secured	17,710	290	0	0	18,000	16,387	2	0	0	16,389
Unsecured	60,176	58,858	4,949	11,220	135,203	50,648	55,790	4,134	9,019	119,591

High quality liquid assets

During 2023, the Group has transitioned its risk appetite from Liquidity Reserves to HQLA (as defined in the Commission Delegated Regulation (EU) 2015/61).

Composition of Group's HQLA by parent company (including branches) and subsidiaries

in € bn.	Dec 31, 2023		Dec 31, 2022	
	Market Value	Value according to Article 9 CRR	Market Value	Value according to Article 9 CRR
Available-Cash and Central Bank Reserves	156	156	154	154
Parent (incl. foreign branches)	133	133	132	132
Subsidiaries	23	23	22	22
High Quality liquid securities (includes government, government guaranteed and agency securities	66	63	66	64
Parent (incl. foreign branches)	54	51	55	54
Subsidiaries	12	12	11	10
Total HQLA	222	219	220	219
Parent (incl. foreign branches)	187	184	188	186
Subsidiaries	35	35	33	32

As of December 31, 2023, the Group's HQLA remained stable compared to December 31, 2022, at € 219 billion. This is primarily due to the repayment of TLTRO liabilities offset by business portfolio movements. The Group maintains additional highly liquid central bank eligible assets, not qualifying as HQLA or subject to transfer restrictions under the HQLA definition. These additional liquid assets were € 42 billion, such that the Group's total Liquidity Reserves were € 261 billion as at the end of December 31, 2023. As at the end of December 31, 2022, these additional liquid assets were € 37 billion, such that the Group's total Liquidity Reserves were € 256 billion. The 12 month average HQLA in 2023 was € 215 billion as compared with € 218 billion during 2022.

Liquidity Coverage Ratio

The Liquidity Coverage Ratio was 140% at the end fourth quarter of 2023, a surplus to regulatory requirements of € 62 billion as compared to 142% as at the end of fourth quarter of 2022, a surplus to regulatory requirements of € 64 billion. This was primarily driven by the ECB TLTRO repayments offset by business portfolio movements.

The Group's twelve month weighted average LCR was 137%. This has been calculated in accordance with the Commission Delegated Regulation (EU) 2015/61 and the EBA Guidelines on LCR disclosure to complement the disclosure of liquidity risk management under Article 435 CRR.

LCR components

in € bn. (unless stated otherwise)	Dec 31, 2023		Dec 31, 2022	
	Total adjusted weighted value (average)			
Number of data points used in the calculation of averages	12		12	
High Quality Liquid Assets	215		218	
Total net cash outflows	157		161	
Liquidity Coverage Ratio (LCR) in %	137%		135%	

Funding Risk Management

Structural Funding

All funding matrices (the aggregate currency, the USD and the GBP funding matrix) were in line with the targets as of year ends 2023 and 2022.

Stress Testing and Scenario Analysis

At the end of 2023, the Group's stressed Net Liquidity Position stood at € 58 billion compared to € 48 billion as at the end of 2022. This was primarily driven by business portfolio movements and methodology changes offset by ECB TLTRO repayments.

Global All Currency Daily Stress Testing Results

in € bn.	Dec 31, 2023			Dec 31, 2022		
	Funding Gap ¹	Gap Closure ²	Net Liquidity Position	Funding Gap ¹	Gap Closure ²	Net Liquidity Position
Systemic market risk	123	242	119	120	234	114
1 notch downgrade (DB specific)	38	180	142	90	234	145
Severe downgrade (DB specific)	161	259	97	154	251	97
Combined ³	203	261	58	205	254	48

¹ Funding gap caused by impaired rollover of liabilities and other projected outflows

² Based on liquidity generation through Liquidity Reserves and other business mitigants

³ Combined impact of systemic market risk and severe downgrade

Global EUR Daily Stress Testing Results

in € bn.	Dec 31, 2023			Dec 31, 2022		
	Funding Gap ¹	Gap Closure ²	Net Liquidity Position	Funding Gap ¹	Gap Closure ²	Net Liquidity Position
Combined ³	90	116	25	95	109	14

¹ Funding gap caused by impaired rollover of liabilities and other projected outflows

² Based on liquidity generation through Liquidity Reserves and other business mitigants

³ Combined impact of systemic market risk and severe downgrade

Global USD Daily Stress Testing Results

in € bn.	Dec 31, 2023			Dec 31, 2022		
	Funding Gap ¹	Gap Closure ²	Net Liquidity Position	Funding Gap ¹	Gap Closure ²	Net Liquidity Position
Combined ³	91	102	11	81	103	22

¹ Funding gap caused by impaired rollover of liabilities and other projected outflows

² Based on liquidity generation through Liquidity Reserves and other business mitigants

³ Combined impact of systemic market risk and severe downgrade

Global GBP Daily Stress Testing Results

in € bn.	Dec 31, 2023			Dec 31, 2022		
	Funding Gap ¹	Gap Closure ²	Net Liquidity Position	Funding Gap	Gap Closure	Net Liquidity Position
Combined ³	4	5	1	6	11	5

¹ Funding gap caused by impaired rollover of liabilities and other projected outflows

² Based on liquidity generation through Liquidity Reserves and other business mitigants

³ Combined impact of systemic market risk and severe downgrade

The following table presents the amount needed to meet collateral requirements from contractual obligations in the event of a one- or two-notch downgrade by rating agencies for all currencies.

Contractual Obligations

in € m.	Dec 31, 2023		Dec 31, 2022	
	One-notch downgrade	Two-notch downgrade	One-notch downgrade	Two-notch downgrade
Contractual derivatives funding or margin requirements	402	526	389	434
Other contractual funding or margin requirements	0	0	0	0

Net stable funding ratio

The Net Stable Funding Ratio was 121% at the end the fourth quarter of 2023, a surplus to regulatory requirements of € 107 billion as compared to 120% as at the end of the fourth quarter of 2022, a surplus to regulatory requirements of € 99 billion. This was primarily driven by business portfolio movements offset by ECB TLTRO repayments.

in € bn. (unless stated otherwise)	Dec 31, 2023		Dec 31, 2022	
	Total adjusted weighted value	Total adjusted weighted value (average)	Total adjusted weighted value	Total adjusted weighted value (average)
Available stable funding (ASF)	605	606	606	606
Required stable funding (RSF)	499	507	507	507
Net Stable Funding Ratio (NSFR) in %	121%	120%	120%	120%

Asset Encumbrance

This section refers to asset encumbrance in the group of institutions consolidated for banking regulatory purposes pursuant to the German Banking Act. Therefore, this excludes insurance companies or companies outside the finance sector. Assets pledged by our insurance subsidiaries are included in Note 20 "Assets Pledged and Received as Collateral" of the consolidated financial statements, and restricted assets held to satisfy obligations to insurance companies' policy holders are included within Note 37 "Information on Subsidiaries" of the consolidated financial statements.

Encumbered assets primarily comprise those on- and off-balance sheet assets that are pledged as collateral against secured funding, collateral swaps, and other collateralized obligations. Additionally, in line with EBA technical standards on regulatory asset encumbrance reporting, assets placed with settlement systems, including default funds and initial margins, as well as other assets pledged which cannot be freely withdrawn such as mandatory minimum reserves at central banks, are considered encumbered. We also include derivative margin receivable assets as encumbered under these EBA guidelines.

Readily available assets are those on- and off-balance sheet assets that are not otherwise encumbered, and which are in freely transferable form. Unencumbered financial assets at fair value, other than securities borrowed or purchased under resale agreements and positive market value from derivatives, and available for sale investments are all assumed to be readily available.

The readily available value represents the on- and off-balance sheet carrying amount or fair value rather than any form of stressed liquidity value (see the "High Quality Liquid Assets" for an analysis of unencumbered liquid assets available under a liquidity stress scenario). Other unencumbered on- and off-balance sheet assets are those assets that have not been pledged as collateral against secured funding or other collateralized obligations or are otherwise not considered to be readily available. Included in this category are securities borrowed or purchased under resale agreements and positive market value from derivatives. Similarly, for loans and other advances to customers, these would only be viewed as readily available to the extent they are already in a pre-packaged transferrable format and have not already been used to generate funding. This represents the most conservative view given that an element of such loans currently shown in Other assets could be packaged into a format that would be suitable for use to generate funding.

Encumbered and unencumbered assets

in € bn. (unless stated otherwise)	Dec 31, 2023			
	Carrying value			
	Assets	Encumbered assets	Readily available	Unencumbered assets
Debt securities	167	84	83	0
Equity instruments	3	0	3	0
Other assets:				
Cash and due from banks & Interest earning deposits with Banks	184	12	172	0
Securities borrowed or purchased under resale agreements ¹	15	0	0	15
Financial assets at fair value through profit and loss ²				
Trading assets	9	0	9	0
Positive market value from derivative financial instruments	252	0	0	252
Securities borrowed or purchased under resale agreements ¹	79	0	0	79
Other financial assets at fair value through profit or loss	1	0	1	0
Financial assets at fair value through other comprehensive income ²	7	0	5	2
Loans	528	57	14	457
Other assets	69	36	0	34
Total	1,314	189	287	838

¹ Securities borrowed and securities purchased under resale agreements are all shown as other unencumbered. The use of the underlying collateral is separately captured in the off-balance sheet table below

² Excludes Debt securities and Equity instruments (separately disclosed above)

in € bn. (unless stated otherwise)	Dec 31, 2023			
	Fair value of collateral received			
	Assets	Encumbered assets	Readily available	Unencumbered assets
Collateral received:				
Debt securities	379	325	49	6
Equity instruments	370	321	48	0
Other collateral received	1	1	0	0
	8	3	0	6

in € bn. (unless stated otherwise)	Dec 31, 2022			
	Carrying value			
	Assets	Encumbered assets	Unencumbered assets	Other
Debt securities	136	59	77	0
Equity instruments	3	1	2	0
Other assets:				
Cash and due from banks & Interest earning deposits with Banks	186	14	172	0
Securities borrowed or purchased under resale agreements ¹	11	0	0	11
Financial assets at fair value through profit and loss ²				
Trading assets	8	0	8	0
Positive market value from derivative financial instruments	300	0	0	300
Securities borrowed or purchased under resale agreements ¹	82	0	0	82
Other financial assets at fair value through profit or loss	1	0	1	0
Financial assets at fair value through other comprehensive income ²	6	0	4	2
Loans	525	74	14	438
Other assets	80	47	0	33
Total	1,339	194	279	866

¹ Securities borrowed and securities purchased under resale agreements are all shown as other unencumbered. The use of the underlying collateral is separately captured in the off-balance sheet table below.

² Excludes Debt securities and Equity instruments (separately disclosed above)

in € bn. (unless stated otherwise)	Dec 31, 2022			
	Fair value of collateral received			
	Assets	Encumbered assets	Unencumbered assets	Other
Collateral received:				
Debt securities	309	255	49	6
Equity instruments	299	250	48	0
Other collateral received	2	1	0	0
	9	3	0	6

Maturity Analysis of Assets and Financial Liabilities

Treasury manages the maturity analysis of assets and liabilities. Modeling of assets and liabilities is necessary in cases where the contractual maturity does not adequately reflect the liquidity risk position. The most significant example in this context would be immediately repayable deposits from retail and transaction banking customers which have consistently displayed high stability throughout even the most severe financial crises.

The modeling profiles are part of the overall liquidity risk management framework (see section “Liquidity Stress Testing and Scenario Analysis” for short-term liquidity positions ≤ 1 year and section “Structural Funding” for long-term liquidity positions > 1 year) which is defined and approved by the Management Board.

The following tables present a maturity analysis of total assets based on carrying value and upon earliest legally exercisable maturity as of December 31, 2023 and 2022, respectively.

Analysis of the earliest contractual maturity of assets

	Dec 31, 2023									
in € m.	On demand (incl. Overnight and one day notice)	Up to one month	Over 1 month to no more than 3 months	Over 3 months but no more than 6 months	Over 6 months but no more than 9 months	Over 9 months but no more than 1 year	Over 1 year but no more than 2 years	Over 2 years but no more than 5 years	Over 5 years	Total
Cash and central bank balances ¹	164,942	11,301	1,905	185	39	45	0	0	0	178,416
Interbank balances (w/o central banks) ¹	4,599	653	42	63	78	100	0	0	606	6,140
Central bank funds sold	0	0	0	0	0	0	0	0	0	0
Securities purchased under resale agreements	16	2,010	3,388	514	1,434	901	4,180	2,282	0	14,725
With banks	7	393	1,250	93	936	862	2,389	2,282	0	8,212
With customers	10	1,617	2,138	421	497	39	1,791	0	0	6,513
Securities borrowed	0	33	0	0	0	0	6	0	0	39
With banks	0	0	0	0	0	0	0	0	0	0
With customers	0	33	0	0	0	0	6	0	0	39
Financial assets at fair value through profit or loss	390,279	51,826	11,152	3,130	563	2,655	700	1,287	3,660	465,252
Trading assets	123,907	0	0	0	0	1,353	0	0	16	125,275
Fixed-income securities and loans	120,731	0	0	0	0	0	0	0	0	120,731
Equities and other variable-income securities	1,968	0	0	0	0	1,353	0	0	16	3,336
Other trading assets	1,207	0	0	0	0	0	0	0	0	1,207
Positive market values from derivative financial instruments	251,855	0	0	0	0	0	0	0	1	251,856
Non-trading financial assets mandatory at fair value through profit or loss	14,517	51,826	11,152	3,130	563	1,302	626	1,287	3,643	88,047
Securities purchased under resale agreements	5,331	48,697	7,987	2,242	299	550	161	669	0	65,937
Securities borrowed	9,159	2,001	1,859	0	0	0	17	0	0	13,036
Fixed-income securities and loans	12	521	1,301	861	264	136	386	580	2,373	6,434
Other non-trading financial assets mandatory at fair value through profit or loss	16	607	5	27	0	616	62	38	1,270	2,640
Financial assets designated at fair value through profit or loss	0	0	0	0	0	0	74	0	1	75
Positive market values from derivative financial instruments qualifying for hedge accounting	0	337	211	104	55	38	18	79	46	889
Financial assets at fair value through other comprehensive income	36	3,590	1,514	1,106	666	482	2,314	8,761	17,077	35,546
Securities purchased under resale agreements	0	1,805	0	0	0	0	0	0	0	1,805
Securities borrowed	0	0	0	0	0	0	0	0	0	0
Debt securities	0	1,476	980	771	475	336	1,548	6,337	16,951	28,874
Loans	36	309	534	335	190	146	767	2,424	126	4,867
Other	0	0	0	0	0	0	0	0	0	0
Loans	15,107	37,104	31,048	17,534	12,418	14,272	38,335	91,628	216,259	473,705
To banks	227	537	348	332	41	1,535	862	519	801	5,202
To customers	14,880	36,567	30,700	17,201	12,377	12,736	37,473	91,108	215,459	468,502
Retail	2,375	5,803	4,879	1,721	1,302	2,170	4,786	16,929	168,184	208,148
Corporates and other customers	12,505	30,763	25,822	15,480	11,075	10,567	32,688	74,180	47,275	260,354
Other financial assets	68,187	9,243	3,875	2,729	778	1,445	1,136	4,225	15,204	106,823
Total financial assets	643,167	116,096	53,134	25,365	16,030	19,936	46,691	108,263	252,853	1,281,535
Other assets	9,124	269	1	4,169	2	4,185	194	2,080	10,771	30,796
Total assets	652,291	116,366	53,135	29,534	16,032	24,121	46,885	110,342	263,624	1,312,331

¹ The positions "Cash and central bank balances" and "Interbank balances (w/o central banks)" include € 614 million cash held with Russian Banks, predominantly with the Central Bank of Russia

Dec 31, 2022

	On demand (incl. Overnight and one day notice)	Up to one month	Over 1 month to no more than 3 months	Over 3 months but no more than 6 months	Over 6 months but no more than 9 months	Over 9 months but no more than 1 year	Over 1 year but no more than 2 years	Over 2 years but no more than 5 years	Over 5 years	Total
in € m.										
Cash and central bank balances ¹	164,090	13,138	1,639	0	0	29	0	0	0	178,897
Interbank balances (w/o central banks) ¹	6,315	265	181	83	166	181	0	0	6	7,195
Central bank funds sold	0	0	0	0	0	0	0	0	0	0
Securities purchased under resale agreements	9	2,646	3,990	356	519	895	1,721	1,342	0	11,478
With banks	3	305	869	22	5	600	1,626	1,322	0	4,750
With customers	6	2,342	3,121	334	514	295	95	21	0	6,728
Securities borrowed	0	0	0	0	0	0	0	0	0	0
With banks	0	0	0	0	0	0	0	0	0	0
With customers	0	0	0	0	0	0	0	0	0	0
Financial assets at fair value through profit or loss	410,982	47,537	6,495	3,577	3,381	3,973	2,130	655	3,646	482,376
Trading assets	91,150	0	0	0	0	1,437	0	0	280	92,867
Fixed-income securities and loans	88,153	0	0	0	0	0	0	0	4	88,156
Equities and other variable-income securities	2,098	0	0	0	0	1,437	0	0	276	3,811
Other trading assets	900	0	0	0	0	0	0	0	0	900
Positive market values from derivative financial instruments	299,686	0	0	0	0	0	0	0	0	299,686
Non-trading financial assets mandatory at fair value through profit or loss	20,145	47,537	6,495	3,577	3,381	2,443	2,130	582	3,365	89,654
Securities purchased under resale agreements	7,623	42,880	4,868	2,274	3,142	1,647	1,207	215	0	63,855
Securities borrowed	12,445	3,594	1,167	202	0	0	7	0	0	17,414
Fixed-income securities and loans	77	390	460	1,096	239	153	810	328	2,842	6,396
Other non-trading financial assets mandatory at fair value through profit or loss	0	673	0	4	0	643	106	39	523	1,989
Financial assets designated at fair value through profit or loss	0	0	0	0	0	94	0	74	1	168
Positive market values from derivative financial instruments qualifying for hedge accounting	0	260	441	225	88	49	15	65	275	1,417
Financial assets at fair value through other comprehensive income	3	3,857	1,557	803	696	380	1,606	11,093	11,681	31,675
Securities purchased under resale agreements	0	2,156	0	0	0	0	0	0	0	2,156
Securities borrowed	0	0	0	0	0	0	0	0	0	0
Debt securities	0	1,305	883	426	413	184	1,088	9,570	11,581	25,450
Loans	3	396	673	377	283	195	518	1,523	100	4,069
Other	0	0	0	0	0	0	0	0	0	0
Loans	18,559	29,007	28,590	19,767	10,310	12,875	39,165	99,180	226,246	483,700
To banks	199	530	415	490	154	178	2,157	2,119	906	7,148
To customers	18,360	28,477	28,175	19,277	10,156	12,697	37,008	97,061	225,340	476,552
Retail	3,040	1,475	5,077	1,760	1,344	1,389	5,222	16,190	176,847	212,344
Corporates and other customers	15,320	27,001	23,098	17,517	8,813	11,308	31,786	80,871	48,493	264,208
Other financial assets	66,077	9,465	2,339	3,385	1,155	3,549	3,488	4,134	16,595	110,187
Total financial assets	666,034	106,175	45,231	28,196	16,316	21,931	48,124	116,469	258,448	1,306,924
Other assets	9,158	754	2	3,592	5	3,442	231	1,270	11,410	29,865
Total assets	675,193	106,929	45,232	31,788	16,321	25,373	48,355	117,740	269,858	1,336,788

¹ The positions "Cash and central bank balances" and "Interbank balances (w/o central banks)" include € 761 million cash held with Russian Banks, predominantly with the Central Bank of Russia

The following tables present a maturity analysis of total liabilities based on carrying value and upon earliest legally exercisable maturity as of December 31, 2023 and 2022, respectively.

Analysis of the earliest contractual maturity of liabilities

	Dec 31, 2023									
	On demand (incl. Over-night and one day notice)	Up to one month	Over 1 month to no more than 3 months	Over 3 months but no more than 6 months	Over 6 months but no more than 9 months	Over 9 months but no more than 1 year	Over 1 year but no more than 2 years	Over 2 years but no more than 5 years	Over 5 years	Total
in € m.										
Deposits	346,071	55,380	93,682	61,316	23,849	18,642	7,724	5,065	10,305	622,035
Due to banks	48,482	1,741	10,139	8,791	5,902	478	3,126	3,398	8,977	91,034
Due to customers	297,589	53,639	83,543	52,525	17,947	18,164	4,598	1,667	1,328	531,001
Retail	130,097	9,882	47,506	34,857	8,635	7,031	1,272	502	43	239,826
Corporates and other customers	167,492	43,758	36,036	17,669	9,312	11,133	3,326	1,166	1,285	291,176
Trading liabilities	282,264	0	0	0	0	0	0	0	0	282,264
Trading securities	43,114	0	0	0	0	0	0	0	0	43,114
Other trading liabilities	890	0	0	0	0	0	0	0	0	890
Negative market values from derivative financial instruments	238,260	0	0	0	0	0	0	0	0	238,260
Financial liabilities designed at fair value through profit or loss	33,974	24,883	11,547	3,081	217	499	1,727	5,770	2,025	83,722
Securities sold under repurchase agreements	32,183	24,790	11,422	2,748	58	301	537	339	0	72,377
Long-term debt	1,618	6	43	275	139	89	1,147	5,368	2,024	10,709
Other financial liabilities designated at fair value through profit or loss	173	87	82	58	20	109	43	62	1	636
Investment contract liabilities	0	0	0	0	0	484	0	0	0	484
Negative market values from derivative financial instruments qualifying for hedge accounting	0	40	92	10	9	4	14	12	70	252
Central bank funds purchased	1,057	0	0	0	0	0	0	0	0	1,057
Securities sold under repurchase agreements	274	288	295	302	0	0	2	773	48	1,981
Due to banks	63	265	7	302	0	0	2	771	0	1,410
Due to customers	211	23	287	0	0	0	0	2	48	571
Securities loaned	3	0	0	0	0	0	0	0	0	3
Due to banks	0	0	0	0	0	0	0	0	0	0
Due to customers	3	0	0	0	0	0	0	0	0	3
Other short-term borrowings	1,479	2,973	2,345	1,522	493	808	0	0	0	9,620
Long-term debt	0	435	15,286	6,016	3,601	5,604	17,936	41,861	28,652	119,390
Debt securities - senior	0	378	3,991	4,487	858	5,408	14,665	35,848	16,050	81,685
Debt securities - subordinated	0	10	9	0	26	8	2,703	4,356	4,051	11,163
Other long-term debt - senior	0	47	11,287	1,529	2,680	161	568	1,594	8,529	26,394
Other long-term debt - subordinated	0	0	0	0	37	27	0	62	22	149
Trust Preferred Securities	0	0	0	289	0	0	0	0	0	289
Other financial liabilities	89,980	754	635	1,837	173	308	733	1,209	2,478	98,108
Total financial liabilities	755,102	84,754	123,882	74,374	28,342	26,349	28,136	54,689	43,578	1,219,206
Other liabilities	18,307	0	0	0	0	0	0	0	0	18,307
Total equity	0	0	0	0	0	0	0	0	74,818	74,818
Total liabilities and equity	773,409	84,754	123,882	74,374	28,342	26,349	28,136	54,689	118,396	1,312,330
Off-balance sheet commitments given	42,501	10,875	21,158	15,720	14,318	24,459	37,389	113,593	40,527	320,540
Banks	1,016	1,177	2,354	2,242	2,090	2,278	2,289	2,820	5,829	22,095
Retail	14,707	1,354	1,206	503	718	2,281	971	583	4,940	27,262
Corporates and other customers	26,778	8,344	17,597	12,976	11,510	19,899	34,130	110,190	29,758	271,182

Dec 31, 2022

	On demand (incl. Over-night and one day notice)	Up to one month	Over 1 month to no more than 3 months	Over 3 months but no more than 6 months	Over 6 months but no more than 9 months	Over 9 months but no more than 1 year	Over 1 year but no more than 2 years	Over 2 years but no more than 5 years	Over 5 years	Total
in € m.										
Deposits	378,174	34,971	97,284	55,043	16,398	14,629	7,638	7,975	9,344	621,456
Due to banks	41,570	1,052	9,089	8,984	6,248	1,592	2,965	5,699	7,853	85,053
Due to customers	336,605	33,919	88,196	46,059	10,150	13,038	4,673	2,276	1,491	536,404
Retail	155,180	5,491	58,382	28,637	1,334	1,273	943	579	84	251,903
Corporates and other customers	181,425	28,428	29,813	17,422	8,816	11,764	3,730	1,697	1,407	284,500
Trading liabilities	332,969	0	0	0	0	0	0	0	0	332,969
Trading securities	49,860	0	0	0	0	0	0	0	0	49,860
Other trading liabilities	756	0	0	0	0	0	0	0	0	756
Negative market values from derivative financial instruments	282,353	0	0	0	0	0	0	0	0	282,353
Financial liabilities designed at fair value through profit or loss	9,686	27,208	10,285	2,175	774	388	852	2,355	911	54,634
Securities sold under repurchase agreements	7,484	27,026	10,131	2,028	658	228	554	351	55	48,517
Long-term debt	1,740	60	64	116	113	115	292	1,895	854	5,250
Other financial liabilities designated at fair value through profit or loss	462	122	90	31	2	45	6	109	2	868
Investment contract liabilities	0	0	0	0	0	469	0	0	0	469
Negative market values from derivative financial instruments qualifying for hedge accounting	0	144	182	94	78	16	46	47	181	787
Central bank funds purchased	0	0	0	0	0	0	0	0	0	0
Securities sold under repurchase agreements	170	182	144	20	0	0	25	16	15	573
Due to banks	59	101	122	3	0	0	0	0	9	293
Due to customers	111	81	23	17	0	0	25	16	6	279
Securities loaned	12	0	0	0	0	0	0	0	0	13
Due to banks	1	0	0	0	0	0	0	0	0	1
Due to customers	12	0	0	0	0	0	0	0	0	12
Other short-term borrowings	3,002	1,878	135	34	9	61	0	0	0	5,118
Long-term debt	0	3,085	27,434	6,756	4,994	4,355	17,537	43,826	23,539	131,525
Debt securities - senior	0	3,050	2,068	2,510	3,206	3,791	13,091	35,427	15,413	78,556
Debt securities - subordi-nated	0	0	25	1,309	0	0	36	7,095	2,670	11,135
Other long-term debt - senior	0	34	25,340	2,882	1,770	501	4,385	1,242	5,433	41,588
Other long-term debt - subordinated	0	0	0	55	18	63	25	62	23	245
Trust Preferred Securities	0	0	0	500	0	0	0	0	0	500
Other financial liabilities	90,316	776	996	470	160	1,779	723	1,136	2,517	98,873
Total financial liabilities	814,329	68,243	136,461	65,092	22,411	21,697	26,821	55,355	36,507	1,246,916
Other liabilities	17,544	0	0	0	0	0	0	0	0	17,544
Total equity	0	0	0	0	0	0	0	0	72,328	72,328
Total liabilities and equity	831,874	68,243	136,461	65,092	22,411	21,697	26,821	55,355	108,835	1,336,788
Off-balance sheet commitments given	45,318	11,115	15,621	22,407	12,160	24,447	43,057	105,306	38,803	318,234
Banks	1,150	1,021	1,561	1,886	1,894	2,366	2,748	2,634	4,955	20,214
Retail	15,916	820	1,005	335	608	2,212	875	727	8,900	31,398
Corporates and other customers	28,253	9,274	13,055	20,186	9,659	19,869	39,434	101,945	24,948	266,622

Sustainability

Sustainability, which encompasses ESG dimensions, has been a key element of Deutsche Bank's strategy since 2019 and one of the three thematic pillars that underpin Deutsche Bank's corporate strategy – along with macro-economic shifts and technology. In 2023, the bank continued to focus on four pillars of its sustainability strategy: Sustainable Finance, Policies & Commitments, People & Own Operations as well as Thought Leadership & Stakeholder Engagement. Making progress along these four pillars is aimed at enabling the bank to maximize its contribution to the achievement of the Paris Climate Agreement's targets and the United Nations (UN) Sustainable Development Goals. Deutsche Bank endorsed multiple universal sustainability frameworks and initiatives. The bank is a member of the UN's Environment Programme Finance Initiative (1992) and signatory to the ten principles of the UN Global Compact (2000), the Principles for Responsible Investment (through DWS, 2008), the Principles for Responsible Banking (2019) and the Net-Zero Banking Alliance (2021).

The bank further integrated the oversight of sustainability-related issues into governance structures on several levels, ranging from the Supervisory Board and the Group Sustainability Committee to senior business leadership, key infrastructure and control functions as well as specialist teams. The bank's sustainability governance includes two key committees and one council devoted entirely to sustainability.

The Group Sustainability Committee acts as the main governance and decision-making body for sustainability related matters across the Deutsche Bank Group. The committee is chaired by the Chief Executive Officer and the Chief Sustainability Officer (Vice Chair). Its "run the bank"-mandate has oversight of sustainability strategy implementation across divisions and ensures alignment of the sustainability strategy with the bank's corporate strategy. The Sustainability Strategy Steering Committee oversees the implementation of Deutsche Bank's sustainability strategy as one of the bank's "Key Deliverables" ("change the bank" priorities). The Sustainability Council fosters knowledge exchange between the bank's sustainability champions to support bank-wide change and to identify new topics.

Deutsche Bank's Chief Sustainability Officer reports to the Chief Executive Officer. He has the mandate to develop the bank's sustainability strategy across businesses, infrastructure functions and regions and drive its implementation. The Chief Sustainability Office consists of three areas: the Strategy & Regional Governance team, which is responsible for the development of the corporate sustainability strategy and regional governance set-up. The Regional Governance sub-team was established in 2023 with a mandate to define and implement regional sustainability governance structures globally. Furthermore, the Execution, Data & Regulatory team, which is responsible for driving the strategic transformation program and identifying and assessing relevant regulations. In 2023, the bank's Sustainability Regulation function was established as a central function focusing on interpretation of key sustainability regulations and standards globally on a group wide basis within the Execution, Data & Regulatory team. The third team, Group Sustainability, is responsible for advancing the bank's sustainability policies and commitments, human rights issues and their monitoring and the dialogue with external stakeholders, including ESG rating management. In 2023, Deutsche Bank appointed a dedicated Head of Human Rights within Group Sustainability to further strengthen its human rights management. Moreover, the bank's business divisions and infrastructure functions established ESG expert teams to foster the sustainability strategy implementation on divisional level and to enable swift response to emerging business opportunities and risks.

The transformation of the bank with regard to sustainability-related targets and goals is a component for the bank's top executives' performance-based compensation.

In DWS, the DWS Executive Board is supported by the DWS Group Sustainability Committee, which is empowered to take decisions that implement the sustainability strategy.

Sustainable Finance

Deutsche Bank set the target to achieve cumulative sustainable financing and ESG investment volumes of € 500 billion in the period from January 2020 to end of 2025 (excluding DWS); which transactions can be classified as sustainable is documented in Deutsche Bank's Sustainable Finance Framework and published on Deutsche Bank's website.

Policies and Commitments

In March 2023, Deutsche Bank updated its thermal coal guideline by tightening the criteria when a company is deemed a thermal coal company and in scope of the guideline, as well as specifying the requirements to be applied to clients in scope of the updated guideline.

As the first banking partner of the Ocean Risk and Resilience Action Alliance (ORRAA), Deutsche Bank signed the #BackBlue ocean finance commitment, which ensures that ocean protection is incorporated in finance and insurance decisions, in December 2023. Moreover, the bank engaged in the Impact Disclosure Taskforce along with other financial institutions with the aim to scale financing of the United Nations Sustainable Development Goals.

The bank further enhanced its risk management and related processes to prevent human rights violations in its supply chain in accordance with the German Supply Chain Due Diligence Act (SCDDA).

As part of its Net-Zero Banking Alliance commitment, Deutsche Bank published its initial Transition Plan in October 2023, summarizing its decarbonization strategy and actions along three dimensions: own operations (Scope 1 and 2), supply chain (disclosed Scope 3: Category 1 to 14); and the financing the bank provides to its clients (Scope 3: Category 15). Along with this publication, the bank announced three additional sectoral emission reduction targets in the corporate loan portfolio for Shipping, Cement and Coal Mining after having published pathway targets for four sectors in the previous year (i.e., Oil & Gas, Automotive, Power Generation and Steel). In addition to that, the bank set the ambition that from 2026 onwards, at least 90% of the high emitting clients in the most carbon intensive sectors that engage in new corporate lending transactions with Deutsche Bank shall have a net-zero commitment in place.

People and Own Operations

From end of 2019 to end of September 2023, Deutsche Bank reduced Scope 1 and 2 emissions by 71%, to 44,814 tones of CO₂e. In 2023, the bank received 97% of its own global electricity consumption from renewable sources and is on its way to achieve its 100% renewable electricity target by 2025.

Deutsche Bank continued to engage with vendors to reduce Scope 3 carbon emissions focusing on Purchased Goods and Services (Scope 3: Category 1), representing 78% of total operational Scope 3 emissions from October 2022 to September 2023 (excluding financed emissions, Scope 3: Category 15).

32.3% of Managing Director, Director and Vice President positions were held by women by end of 2023.

In addition, Deutsche Bank rolled out a “Sustainable Finance” training for client facing staff, contributed to conserve marine biodiversity as part of one of the bank’s environmental CSR programs “How We Live” and funded community conservation projects in several Asian-Pacific countries by partnering with The Nature Conservancy.

Thought Leadership and Stakeholder Engagement

Deutsche Bank’s Chief Executive Officer Christian Sewing became a member in the Glasgow Financial Alliance for Net-Zero (GFANZ) Principals Group in July 2023.

In March 2023, Deutsche Bank hosted its second Sustainability Deep Dive. At the event senior leaders spoke to almost 1,700 clients, investors, analysts, and employees about the sustainability strategy and how Deutsche Bank supports its clients on their way to net-zero. At the 2023 UN climate conference in Dubai (United Arab Emirates), Deutsche Bank co-hosted a client event and panel discussions on “Decarbonizing Industry: A German Lense” with six German industry partners as well as the Future Institute for Sustainable Transformation of the European School of Management and Technology in Berlin.

In October 2023, the bank set up a Nature Advisory Panel, which aims to help the bank assess nature-related risks and identify new financial product offerings tied to the challenge of reversing biodiversity loss. In addition to that, Deutsche Bank acted as Co-Lead of Net-Zero Banking Alliance’s Real Estate Working Group and played a major role in the publication of its emerging practice paper on “Climate Target Setting for Real Estate Sector Financing”.

Employees

Group Headcount

As of December 31, 2023, the bank employed a total of 90,130 staff members compared to 84,930 as of December 31, 2022. The bank calculates its employee figures on a full-time equivalent basis, meaning it includes proportionate numbers of part-time employees.

The following table shows the bank's numbers of full-time equivalent employees as of December 31, 2023, 2022 and 2021.

Employees ¹	Dec 31, 2023	Dec 31, 2022	Dec 31, 2021
Germany	36,195	35,594	35,741
Europe (outside Germany), Middle East and Africa	18,609	18,379	19,311
Asia/Pacific	27,095	23,236	20,215
North America ²	8,033	7,534	7,556
Latin America	199	187	145
Total employees	90,130	84,930	82,969

¹ Full-time equivalent employees, numbers may not add up due to rounding

² Primarily the United States

In 2023, the number of the bank's employees increased by 5,200 or 6.1% mainly due to business growth, strengthening the IT and control functions, as well as internalizations.

- Germany (+600; +1.7%) mainly driven by increases in the Corporate Bank and by strengthening the IT- and control functions, partly offset by the implementation of restructuring measures, primarily in the Private Bank
- North America (+499; +6.6%) mainly driven by increases in the Investment Bank and by strengthening the IT- and control functions
- EMEA ex Germany (+230; +1.3%) mainly driven by increases in the UK impacted by the acquisition of Numis and by increases in Romania and its Operations Center, partly offset by the reduction of the bank's presence in Russia
- Asia/Pacific (+3,859; +16.6%) primarily driven by increases in India and its Operations Center

The following table shows the distribution of full-time equivalent employees by division as of December 31, 2023, 2022 and 2021.

Employees ¹	Dec 31, 2023	Dec 31, 2022	Dec 31, 2021
Corporate Bank (CB)	17.4%	16.4%	16.0%
Investment Bank (IB)	8.9%	9.0%	8.6%
Private Bank (PB)	29.1%	31.7%	33.8%
Asset Management (AM)	4.9%	5.0%	4.9%
Infrastructure	39.6%	37.7%	36.5%
Corporate & Other	0.1%	0.2%	0.2%

¹ Prior year's comparatives aligned to presentation in the current year, numbers may not add up due to rounding

- Corporate Bank (+1,760; +12.6%) mainly driven by increases in Operations and control functions
- Investment Bank (+358; +4.7%) mainly driven by increases in Operations and control functions also acquisition of Numis
- Private Bank (-672; -2.5%) mainly driven by reductions in Germany
- Asset Management (+104; +2.4%) primarily driven by strengthening the IT- and control functions
- Infrastructure functions (+3,674; +11.5%) primarily driven primarily driven by strengthening control functions (e.g., Anti-Financial Crime & Group Audit) and in Technology, Data & Innovation due to the bank's internalization strategy

Post-Employment Benefit Plans

The Group sponsors a number of post-employment benefit plans on behalf of the Group's employees, both defined contribution plans and defined benefit plans.

In the Group's globally coordinated accounting process covering defined benefit plans with a defined benefit obligation exceeding € 2 million the Group's global actuary reviews the valuations provided by locally appointed actuaries in each country.

By applying the Group's global principles for determining the financial and demographic assumptions the Group ensures that the assumptions are best-estimate, unbiased and mutually compatible, and that they are globally consistent.

For a further discussion on the Group's employee benefit plans see Note 33 "Employee Benefits" to the Group's consolidated financial statements.

Talent acquisition

In 2023, labor market conditions normalized and as a result employee turnover rates decreased significantly in all regions. Voluntary staff turnover rates declined from 10.1% in 2022 to 5.6% in 2023.

In 2023, recruiting talent remained a key priority for the bank. Hiring focused on filling front office roles in growth areas (such as at Corporate Bank, Investment Bank, Private Bank and Asset Management), strengthening the control- and IT-function, replacing operation-center employees who left voluntarily and onboarding talents to meet the growing demand for regulatory roles (such as Client Lifecycle Management and Anti-Financial Crime).

The bank remains committed to its strategic priority of hiring university graduates. In 2023, the bank hired 1,177 university graduates (2022: 793). The bank also insourced 1,308 external roles (2022: 1,806), particularly in IT.

Promoting internal career mobility

Internal mobility plays a vital role in developing and retaining qualified, talented employees and ensuring that the bank continues to benefit from their expertise and experience. The bank fosters mobility between divisions, which enables employees to broaden their skills and experience. Moreover, internal mobility helps reduce the bank's redundancy and recruitment costs.

In 2023, Deutsche Bank continued to implement its internal mobility strategy and live up to its commitment to filling one-third of all vacant positions with suitable candidates from within the organization. Vacant positions are typically first advertised inside the group for at least two weeks. Prioritizing internal candidates helps employees affected by restructuring find new roles in the bank.

In 2023, 29.9% (2022: 27.3%) of all job vacancies were filled internally (2022 excluding Postbank). On average, it took 89 days to fill vacant positions (2022: 86 days).

Diversity, equity, and Inclusion

Diversity, equity and inclusion (DEI) are the foundations on which the bank's values are built and are pre-requisites for its Global Hausbank ambitions. The bank aims to attract, develop, and retain talented employees from all cultures, countries, races, ethnicities, genders, sexual orientations, disabilities, beliefs, backgrounds, and experiences. To better reflect the diversity of the societies in which it operates and the clients it serves, the bank has an ambition to increase the number of women and people of all ethnicities in senior, decision-making and client facing roles. The bank wants all its employees to feel a sense of belonging by creating an inclusive work environment where everyone feels welcomed, respected, listened to, treated fairly, and can contribute and grow.

Throughout 2023 the bank continued to embed diversity, equity and inclusion in its culture and employee practices by including supporting the advancement of women and members of other under-represented, groups. The bank takes a multi-dimensional approach including targeted outreach to attract and hire diverse talent, enhanced career planning, leadership development, exposure opportunities and senior leader sponsorship. The bank continues to equip its people with resources to practice inclusion and understand how to make equitable people-related decisions.

At year-end 2023, eight or 40% of Supervisory Board members were women (2022: 30%). This met the statutory requirement of 30% for publicly listed and codetermined German companies pursuant to gender quota legislation that took effect in 2015.

The current German Gender Quota Law (Zweites Führungspositionen-Gesetz, FüPoG II) requires appointing at least one woman and one man to a management board with more than three members, no additional goals must be laid down. With Rebecca Short on the Management Board the bank met this requirement as of December 31, 2023.

As part of the bank's 35 by 25 commitment, the bank aims to have women to represent at least 35% of its Managing Director, Director, and Vice President population by 2025 (Business Divisions (excluding Asset Management) and Infrastructure Functions). This goal also forms part of the key performance indicators on the "Balanced Scorecard" assessing the Management Board and Group Management Committee. Gender diversity for senior corporate titles increased by 1.6%-points to 32.3% in 2023 (2022: 30.7%).

The bank also plans to have at least 30% women in the positions one and two levels below the Management Board (Business Divisions (excluding Asset Management) and Infrastructure Functions). Gender diversity in position one below the Management Board increased by 2.9%-points to 20.0% in 2023 (2022: 17.1%) and decreased in position two below the Management Board by 2.0%-points to 27.6% in 2023 (2022: 29.6%).

The bank is committed to increasing the proportion of women in senior leadership positions across the organization, but it is the bank's individual businesses that deliver on this commitment. Since cultures and social challenges vary by country and type of business, each of the bank's regions and business has its own diversity, equity, and inclusion efforts. The bank has put in place targeted initiatives to accelerate change. These initiatives have been implemented along the full employee life cycle, from attracting and hiring talent to developing, retaining, and promoting it. The 35 by 25 program is sponsored and actively supported by the Management Board and Group Management Committee. Since 2023, each of the bank's decision-making committees is required to regularly review its composition to improve diversity of thought and support the bank's commitment to increase the proportion of women in senior, decision making roles.

Key employee figures

A few selected employee figures and KPIs are set forth below. For full details on Deutsche Bank's people metrics, as well as its strategic HR priorities and achievements, please refer to the bank's Non-Financial Report 2023.

	Dec 31, 2023	Dec 31, 2022	Dec 31, 2021
Female staff (in %, Headcount)¹			
Female Managing Directors	22.3%	20.9%	19.3%
Female Directors	28.0%	26.7%	25.7%
Female Vice Presidents	34.8%	33.5%	32.8%
Female Assistant Vice Presidents & Associates	41.9%	41.8%	41.3%
Female Non Officers	59.0%	59.7%	60.4%
Total female staff	46.3%	46.4%	46.6%
Age (in %, headcount)²			
15 - 29 years	16.5%	15.4%	14.7%
30 - 39 years	28.6%	28.1%	28.1%
40 - 49 years	25.9%	26.7%	27.1%
50 - 59 years	23.8%	25.0%	25.7%
over 59 years	5.1%	4.8%	4.5%
Part-time employment (in % of total staff)			
Germany	24.9%	26.0%	26.8%
Europe (outside Germany), Middle East and Africa	5.0%	5.4%	5.6%
Americas	0.4%	0.3%	0.3%
Asia/Pacific	0.1%	0.1%	0.2%
Total part-time employment	11.8%	12.9%	13.8%
Apprentices ratio in Germany	3.6%	3.5%	4.1%
	2023	2022	2021
Commitment index	70%	69%	71%
Enablement index	71%	73%	73%
Voluntary staff turnover rate			
Germany	2.5%	3.7%	2.2%
Europe (outside Germany), Middle East and Africa	5.3%	9.7%	7.9%
Americas	7.7%	18.2%	17.0%
Asia/Pacific	9.5%	18.4%	14.6%
Total voluntary staff turnover rate	5.6%	10.1%	7.9%
Health rate (in %)³	92.6%	91.8%	93.1%

¹ Declared corporate titles of Postbank (incl. subsidiaries) are only alternative, technically derived, and not contractually defined or agreed

² Numbers may not add up due to rounding

³ Health rate: 100 - ((total sickness days x 100)/total regular working days), Germany

Internal Control over Financial Reporting

General

Management of Deutsche Bank and its consolidated subsidiaries is responsible for establishing and maintaining adequate Internal Control over Financial Reporting (ICOFR). Our internal control over financial reporting is a process designed under the supervision of our Chairman of the Supervisory Board and our Chief Financial Officer to provide reasonable assurance regarding the reliability of financial reporting. In addition to the preparation of the company's consolidated financial statements for external reporting purposes in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and endorsed by the European Union (EU). Our Internal control over financial reporting includes our disclosure controls and procedures designed to prevent misstatements.

Risks in Financial Reporting

The primary risks in financial reporting are that either financial statements do not present a true and fair view due to inadvertent or intentional errors (fraud) or the publication of financial statements is not performed on a timely basis. These risks may reduce investor confidence or cause reputational damage and may have legal consequences including banking regulatory interventions. A lack of fair presentation arises when one or more financial statement amounts, or disclosures contain misstatements (or omissions) that are material. Misstatements are deemed material if they could, individually or in aggregate, influence economic decisions that users make because of the financial statements.

To confine those risks of financial reporting, management of the Group has established internal control over financial reporting with the aim of providing reasonable but not absolute assurance against material misstatements. In addition, an assessment was conducted of the effectiveness of the Group's internal control over financial reporting. This was based on the Internal Control Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). COSO recommends the establishment of specific objectives to facilitate the design and evaluate adequacy of a control system. As a result, in establishing internal control over financial reporting, management has adopted the following financial statement objectives:

- Existence - assets and liabilities exist and transactions have occurred;
- Completeness - all transactions are recorded and account balances are included in the financial statements;
- Valuation - assets, liabilities and transactions are recorded in the financial statements at the appropriate amounts;
- Rights, Obligations and Ownership – rights, obligations and ownership are appropriately recorded as assets and liabilities;
- Presentation and Disclosures - classification, disclosure and presentation of financial reporting is appropriate;
- Safeguarding of assets - unauthorized acquisition, use or disposition of assets is prevented or detected in a timely manner.

However, any internal control system, including internal control over financial reporting, no matter how well conceived and operated, can provide only reasonable, but not absolute assurance that the objectives of that control system are met. As such, disclosure controls and procedures or systems for internal control over financial reporting may not prevent all errors; inadvertent or intentional errors (fraud). Furthermore, projections of any evaluation of effectiveness to future periods, are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with policies or procedures may deteriorate over time. In addition, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs.

Controls to Minimize the Risk of Financial Reporting Misstatement

The system of internal control over financial reporting includes those policies and procedures that:

- Pertain to the maintenance of records, that, in reasonable detail accurately and fairly reflect the transactions and dispositions of the company's assets;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are made only in accordance with authorizations of the company's management and;
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Measuring Effectiveness of Internal Control

Each year, management of the Group undertakes a formal evaluation of the adequacy and effectiveness of the system of internal control over financial reporting. This evaluation incorporates an assessment of the effectiveness of the control environment as well as individual controls which make up the system of internal control over financial reporting and considers:

- The financial misstatement risk of the financial statement line items, considering such factors as materiality and the susceptibility of the financial statement item to misstatement; and,
- The susceptibility of identified controls to failure, considering such factors as the degree of automation, complexity, and risk of management override, competence of personnel and the level of judgment required.

These factors determine in their entirety the type and scope of the evidence required by § 315 HGB, which the management needs to assess whether or not the established internal control over financial reporting is effective. The evidence itself is generated from procedures integrated within the daily responsibilities of staff or from procedures implemented specifically for purposes of the internal control over financial reporting evaluation. Information from other sources also form an important component of the evaluation since such evidence may either bring additional control issues to the attention of management or may corroborate findings. Such information sources may include:

- Reports on audits carried out by or on behalf of regulatory authorities;
- External Auditor reports; and,
- Reports commissioned to evaluate the effectiveness of outsourced processes to third parties.

In addition, Group Audit evaluates the design and operating effectiveness of internal control over financial reporting by performing periodic and ad-hoc risk-based audits. Reports are produced summarizing the results from each audit which are distributed to the responsible managers for the activities concerned. These reports also provide evidence to support the annual evaluation by management of the overall operating effectiveness of internal control over financial reporting.

As a result of the evaluation, management has concluded that internal control over financial reporting is appropriately designed and operating effectively as of December 31, 2023.

Information pursuant to Section 315a (1) of the German Commercial Code and Explanatory Report

Structure of the Share Capital including Authorized and Conditional Capital

For information regarding Deutsche Bank's share capital please refer to Note 32 "Common Shares" to the Consolidated Financial Statements.

Restrictions on Voting Rights or the Transfer of Shares

Under Section 136 of the German Stock Corporation Act the voting right of the affected shares is excluded by law. As far as the bank or its subsidiaries held own shares during the year of 2023 in its portfolio according to Section 71b of the German Stock Corporation Act no rights could be exercised. Similar restrictions combined with restrictions on disposal are contractually imposed on employees who have been granted shares as deferred compensation with a holding obligation. The bank is not aware of any other restrictions on voting rights or the transfer of shares.

Shareholdings which Exceed 10% of the Voting Rights

The German Securities Trading Act (Wertpapierhandelsgesetz) requires that any investor whose share of voting rights reaches, exceeds or falls below certain thresholds as the result of purchases, disposals or otherwise, must notify the bank and the German Federal Financial Supervisory Authority (BaFin) thereof. The lowest threshold is 3%. The bank is not aware of any shareholder holding directly or indirectly 10% or more of the voting rights.

Shares with Special Control Rights

Shares which confer special control rights have not been issued.

System of Control of any Employee Share Scheme where the Control Rights are not Exercised Directly by the Employees

The employees, who hold Deutsche Bank shares, exercise their control rights as other shareholders in accordance with applicable law and the Articles of Association (Satzung).

Rules Governing the Appointment and Replacement of Members of the Management Board

Pursuant to the German Stock Corporation Act (Section 84) and the Articles of Association of Deutsche Bank (Section 6) the members of the Management Board are appointed by the Supervisory Board. The number of Management Board members is determined by the Supervisory Board. According to the Articles of Association, the Management Board has at least three members. The Supervisory Board may appoint one or two members of the Management Board as Chairpersons of the Management Board. Members of the Management Board may be appointed for a maximum term of up to five years. They may be reappointed or have their term extended for one or more terms of up to a maximum of five years each. The German Co-Determination Act (Mitbestimmungsgesetz; Section 31) requires a majority of at least two thirds of the members of the Supervisory Board to appoint members of the Management Board. If such majority is not achieved, the Mediation Committee shall give, within one month, a recommendation for the appointment to the Management Board. The Supervisory Board will then appoint the members of the Management Board with the majority of its members. If such appointment fails, the Chairperson of the Supervisory Board shall have two votes in a new vote. If a required member of the Management Board has not been appointed, the Local Court (Amtsgericht) in Frankfurt am Main shall, in urgent cases, make the necessary appointments upon motion by any party concerned (Section 85 of the Stock Corporation Act).

Pursuant to the German Banking Act (Kreditwesengesetz) and Regulation (EU) No 468/2014 of the European Central Bank (SSM Framework Regulation) evidence must be provided to the European Central Bank (ECB), the German Federal Financial Supervisory Authority (BaFin) and the Deutsche Bundesbank that the member of the Management Board has adequate theoretical and practical experience of the businesses of the Bank as well as managerial experience before the member is appointed (Sections 24 (1) No. 1 and 25c (1) of the Banking Act, Article 93 of the SSM Framework Regulation).

The Supervisory Board may revoke the appointment of an individual as member of the Management Board or as Chairperson of the Management Board for good cause. Such cause includes in particular a gross breach of duties, the inability to manage the Bank properly or a vote of no-confidence by the shareholders' meeting (Hauptversammlung, referred to as the General Meeting), unless such vote of no-confidence was made for obviously arbitrary reasons.

The ECB or the BaFin may appoint a special representative and transfer to such special representative the responsibility and powers of individual members of the Management Board if such members are not trustworthy or do not have the required competencies or if the credit institution does not have the required number of Management Board members. In any such case, the responsibility and powers of the Management Board members concerned are suspended (Section 45c (1) through (3) of the Banking Act, Article 93 (2) of the SSM Framework Regulation).

Rules Governing the Amendment of the Articles of Association

Any amendment of the Articles of Association requires a resolution of the General Meeting (Section 179 of the Stock Corporation Act). The authority to amend the Articles of Association in so far as such amendments merely relate to the wording, such as changes of the share capital as a result of the issuance out of authorized capital, has been assigned to the Supervisory Board by the Articles of Association of Deutsche Bank (Section 20 (3)). Pursuant to the Articles of Association, the resolutions of the General Meeting are taken by a simple majority of votes and, in so far as a majority of capital stock is required, by a simple majority of capital stock, except where law or the Articles of Association determine otherwise (Section 20 (1)). Amendments to the Articles of Association become effective upon their entry in the Commercial Register (Section 181 (3) of the Stock Corporation Act).

Powers of the Management Board to Issue or Buy Back Shares

The Annual General Meeting of May 27, 2021 authorized the Management Board pursuant to Section 71 (1) No. 7 of the Stock Corporation Act to buy and sell, for the purpose of securities trading, own shares of Deutsche Bank AG on or before April 30, 2026, at prices which do not exceed or fall short by more than 10% of the average of the share prices (closing auction prices of the Deutsche Bank share in Xetra trading and/or in a comparable successor system on the Frankfurt Stock Exchange) on the respective three preceding stock exchange trading days. In this context, the shares acquired for this purpose may not, at the end of any day, exceed 5% of the share capital of Deutsche Bank AG.

The Annual General Meeting of May 17, 2023 authorized the Management Board pursuant to Section 71 (1) No. 8 of the Stock Corporation Act to buy, on or before April 30, 2028, own shares of Deutsche Bank AG in a total volume of up to 10% of the share capital at the time the resolution was taken or – if the value is lower – of the share capital at the time this authorization is exercised. Together with own shares acquired for trading purposes and/or for other reasons and which are from time to time in the company's possession or attributable to the company pursuant to Sections 71a et seq. of the Stock Corporation Act, the own shares purchased on the basis of this authorization may not at any time exceed 10% of the company's respectively applicable share capital. The own shares may be bought through the stock exchange or by means of a public purchase offer to all shareholders. The consideration for the purchase of shares (excluding ancillary purchase costs) through the stock exchange may not be more than 10% higher or more than 20% lower than the average of the share prices (closing auction prices of the Deutsche Bank share in Xetra trading and/or in a comparable successor system on the Frankfurt Stock Exchange) on the last three stock exchange trading days before the obligation to purchase. In the case of a public purchase offer, it may not be more than 10% higher or more than 20% lower than the average of the share prices (closing auction prices of the Deutsche Bank share in Xetra trading and/or in a comparable successor system on the Frankfurt Stock Exchange) on the last three stock exchange trading days before the day of publication of the offer. If the volume of shares offered in a public purchase offer exceeds the planned buyback volume, acceptance must be in proportion to the shares offered in each case. The preferred acceptance of small quantities of up to 50 of the company's shares offered for purchase per shareholder may be defined.

The Management Board has also been authorized to dispose of the purchased shares and of any shares purchased on the basis of previous authorizations pursuant to Section 71 (1) No. 8 of the Stock Corporation Act on the stock exchange or by an offer to all shareholders. The Management Board has been authorized to dispose of the purchased shares against contribution-in kind and with the exclusion of shareholders' pre-emptive rights for the purpose of acquiring companies or shareholdings in companies or other assets that serve the company's business operations.

The Management Board has also been authorized to use shares purchased on the basis of authorizations pursuant to Section 71 (1) No. 8 Stock Corporation Act to issue staff shares, with the exclusion of shareholders' pre-emptive rights, to employees and retired employees of the company and its affiliated companies or to use them to service option rights on shares of the company and/or rights or duties to purchase shares of the company granted to employees or members of executive or non-executive management bodies of the company and of affiliated companies.

Furthermore, the Management Board has been authorized, with the exclusion of shareholders' pre-emptive rights, to sell such own shares to third parties against cash payment if the purchase price is not substantially lower than the price of the shares on the stock exchange at the time of sale. Use may only be made of this authorization if it has been ensured that the number of shares sold on the basis of this authorization does not exceed 10% of the company's share capital at the time this authorization becomes effective or – if the amount is lower – at the time this authorization is exercised. Shares that are issued or sold during the validity of this authorization with the exclusion of pre-emptive rights, in direct or analogous application of Section 186 (3) sentence 4 Stock Corporation Act, are to be included in the maximum limit of 10% of the share capital. Also to be included are shares that are to be issued to service option and/or conversion rights from convertible bonds, bonds with warrants, convertible participatory rights or participatory rights, if these bond or participatory rights are issued during the validity of this authorization with the exclusion of pre-emptive rights in corresponding application of Section 186 (3) sentence 4 Stock Corporation Act.

The Management Board has also been authorized to cancel shares acquired on the basis of this or a preceding authorization without the execution of this cancellation process requiring a further resolution by the General Meeting.

The Annual General Meeting of May 17, 2023 authorized the Management Board pursuant to Section 71 (1) No. 8 of the Stock Corporation Act to execute the purchase of shares under the resolved authorization also with the use of put and call options or forward purchase contracts. The company may accordingly sell to third parties put options based on physical delivery and buy call options from third parties if it is ensured by the option conditions that these options are fulfilled only with shares which themselves were acquired subject to compliance with the principle of equal treatment. All share purchases based on put or call options are limited to shares in a maximum volume of 5% of the actual share capital at the time of the resolution by the General Meeting on this authorization. The term of the options must be selected such that the share purchase upon exercising the option is carried out at the latest on April 30, 2028.

The purchase price to be paid for the shares upon exercise of the put options or upon the maturity of the forward purchase may not exceed more than 10% or fall below 10% of the average of the share prices (closing auction prices of the Deutsche Bank share in Xetra trading and/or in a comparable successor system on the Frankfurt Stock Exchange) on the last three stock exchange trading days before conclusion of the respective transaction in each case excluding ancillary purchase costs but taking into account the option premium received. The call options may only be exercised if the purchase price to be paid does not exceed by more than 10% or fall below 10% of the average of the share prices (closing auction prices of the Deutsche Bank share in Xetra trading and/or in a comparable successor system on the Frankfurt Stock Exchange) on the last three stock exchange trading days before the acquisition of the shares.

To the sale and cancellation of shares acquired with the use of derivatives the general rules established by the General Meeting apply.

Own shares may continue to be purchased using existing derivatives that were agreed on the basis and during the existence of previous authorizations.

Significant Agreements which Take Effect, Alter or Terminate upon a Change of Control of the Company Following a Takeover Bid

Significant agreements which take effect, alter or terminate upon a change of control of the company following a takeover bid have not been entered into.

Corporate Governance Statement pursuant to Sections 289f and 315d of the German Commercial Code

The entire Corporate Governance Statement according to sections 289f and 315d of the German Commercial Code is available on the Group's website under <https://www.db.com/ir/en/reports.htm> as well as in the chapter "4 – Corporate Governance Statement according to Sections 289f, 315d of the German Commercial Code / Corporate Governance Report".

Standalone parent company information (HGB)

Introduction

Deutsche Bank AG is the parent company of Deutsche Bank Group and its most material component. The management of Deutsche Bank Group is based on IFRS results of the bank's corporate divisions. Deutsche Bank AG is fully integrated in the initiatives and target setting of Deutsche Bank Group. The performance of the Group is ultimately driving the performance of Deutsche Bank AG. Further, the bank has utilized the option under Section 2a of the German Banking Act (KWG) with respect to regulatory capital so that regulatory capital ratios are only applicable on Group level.

Therefore, information that has been provided regarding Deutsche Bank Group in this combined management report in general also is relevant and applies to Deutsche Bank AG. Additional information that facilitates an understanding of Deutsche Bank AG is contained in this section. The financial information in this section has been prepared in accordance with the German Commercial Code ("Handelsgesetzbuch", HGB), unless stated otherwise. Further details on financial information prepared in accordance with HGB can be found in the notes to the financial statements for Deutsche Bank AG in a separate report.

Deutsche Bank AG Performance

One parameter to evaluate the performance of the Group is the ability to make distributions to shareholders. This ability depends on the availability of distributable profits of Deutsche Bank AG determined in accordance with HGB. Beyond that the financial information of Deutsche Bank AG prepared in accordance with HGB is generally less relevant to assess or steer the Group's financial performance due to the circumstances set forth in the introduction above.

In 2023, Deutsche Bank AG recorded a net profit of € 5.0 billion compared to net profit of € 5.5 billion in 2022.

The operating profit of € 5.5 billion was higher by € 5.7 billion compared to prior year. Improved trading results and higher current income led to an increase of total revenues by € 2.2 billion compared to prior year. In addition, lower interest rate levels at year end drove an increase in the return from pension plan assets by € 1.9 billion and higher result from securities of the liquidity reserve, up by € 1.1 billion.

The result outside operating profit was mainly driven by net negative valuation adjustments of investments in affiliated companies of € 740 million and by a net extraordinary result of negative € 157 million. Partly offsetting, a tax benefit of € 646 million contributed to the net income of € 5.0 billion.

The Management Board and the Supervisory Board will propose to the Annual General Meeting to pay a dividend of € 0.45 per share, appropriate € 2.0 billion to the revenue reserves and to carry forward the remaining distributable profit.

Income Statement

The table below provides an overview of Deutsche Bank AG's income statement, which is followed by further information on the individual line items.

Condensed income statement

	2023	2022	in € m.	Change in %
Interest income ¹	57,802	23,911	33,891	142
Current income ²	2,465	1,840	625	34
Total interest income	60,267	25,751	34,516	134
Interest expenses	49,811	15,550	34,261	N/M
Net interest income	10,456	10,201	255	2
Commission income	8,109	8,767	(657)	(7)
Commission expenses	1,886	2,672	(786)	(29)
Net commission income	6,224	6,095	129	2
Net trading result	4,762	2,898	1,864	64
thereof release of trading-related special reserve according to Section 340e HGB	0	0	0	N/M
Total revenues	21,442	19,195	2,247	12
Wages and salaries	4,997	4,687	310	7
Compulsory social security contributions ³	1,283	2,032	(749)	(37)
Staff expenses	6,281	6,720	(439)	(7)
Other administrative expenses ⁴	10,110	9,788	322	3
Administrative expenses	16,391	16,508	(117)	(1)
Balance of other operating income/expenses	929	(1,308)	2,238	N/M
Risk provisioning	514	1,596	(1,082)	(68)
Operating profit	5,466	(217)	5,684	N/M
Balance of other ordinary income/expenses	(956)	3,816	(4,772)	N/M
Extraordinary result	(157)	95	(252)	N/M
Releases from/(Additions) to the fund for general banking risks	0	0	0	N/M
Income before taxes	4,353	3,694	659	18
Taxes	(646)	(1,813)	1,167	(64)
Net income (loss)	4,999	5,506	(507)	(9)
Profit carried forward from the previous year	459	562	(103)	(18)
	5,458	6,068	(610)	(10)
Withdrawal from capital reserves	0	0	0	N/M
Allocations to revenue reserves	2,000	2,500	(500)	(20)
– to other revenue reserves	2,000	2,500	(500)	(20)
Distributable profit	3,458	3,569	(111)	(3)

N/M - Not meaningful

¹ From lending and money market business, fixed-income securities and government inscribed debt

² From equity shares and other variable-yield securities, participating interests and investments in affiliated companies (including profit transfer agreements)

³ Including expenses for pensions and other employee benefits

⁴ Including depreciation on tangible and intangible assets

Net interest income

Net interest income increased by € 255 million to € 10.5 billion in 2023. Current income, up by € 625 million, benefitted from contributions from affiliated companies. The net interest result from lending and securities less interest expenses decreased slightly by € 370 million, mainly driven by a higher increase of interest on liabilities compared to interest revenue from assets.

Net commission income

Net commission income of € 6.2 billion increased by € 129 million compared to the prior year, primarily driven by higher fee net income from intermediary and other services rendered.

Net trading result

Net trading result in 2023 was € 4.8 billion, an increase of € 1.9 billion compared to prior year. This increase was mainly driven by reduced expenses for currency translation.

Staff expenses and operating costs

Staff expenses were € 6.3 billion, a reduction of € 439 million compared to 2022, mainly driven by lower expenses for defined benefit plans which incurred valuation losses driven by increased interest rate levels in prior year.

Geographical breakdown of the bank's staff (full-time-equivalent)

Staff (full-time equivalents) ¹	Dec 31, 2023	Dec 31, 2022	Change
Germany	23,470	22,201	+1,269
Europe excl. Germany	7,783	7,522	+261
Americas	465	447	+18
Africa/Asia/Australia	5,191	5,115	+76
Total	36,910	35,285	+1,625

¹ Staff (full-time equivalent) = total headcount adjusted proportionately for part time staff, excluding apprentices and interns

The number of employees in Germany increased mainly driven by increases in the Corporate Bank and by strengthening the IT- and control functions. In Europe excluding Germany the number of employees increased primarily in UK mainly driven by increases in the Investment Bank and by strengthening the control functions.

Other administrative costs were € 10.1 billion in 2023, an increase of € 322 million from € 9.8 billion in 2022. Other administrative expenses (excluding scheduled depreciation and amortization on tangible and intangible assets) increased by € 290 million to € 8.9 billion. This development was mainly driven by higher costs for services rendered by group companies, up by € 328 million and higher operating and maintenance costs, up by € 127 million, partly offset by lower bank levies, down by € 219 million. Scheduled depreciation and amortization of tangible and intangible assets were € 1.2 billion in 2023, up by € 32 million.

Net balance of operating income and expenses

The balance of other operating income/expenses amounted to positive € 929 million in 2023 after negative € 1.3 billion in 2022. This improvement of € 2.2 billion was mainly driven by lower net expenses on pension plan assets and staff related provisions, down by € 1.9 billion.

Net risk provisioning

In 2023, total net risk provisioning, consisting of changes in credit related risk provisioning and the net result from securities held in the liquidity reserve, amounted to € 514 million, a reduction by € 1.1 billion compared to 2022. This development was almost completely attributable to an improved net result from securities held in the liquidity reserve, up by € 1.1 billion, whereas provisioning in the loan business remained nearly unchanged. The improved net result from securities held in the liquidity reserve was caused by the decrease in interest rate levels at year-end 2023, leading to higher valuations.

Net balance of other ordinary income/expenses

The balance of other ordinary income and expenses was negative € 956 million (2022: positive € 3.8 billion), consisting of net valuation adjustments of investments in affiliated companies, write-downs and non-scheduled depreciation of tangible and intangible assets and expenses from loss take-over.

Net valuation adjustments and net results from disposals of investments in affiliated companies amounted to negative € 740 million (2022: positive € 4.2 billion), mainly relating to various banking subsidiaries in Europe.

In addition, write-downs and non-scheduled depreciation of tangible and intangible assets amounted to € 103 million in 2023, mainly related to furniture and equipment (2022: € 92 million).

Expenses from loss take-over amounted to € 113 million in 2023 (2022: € 281 million).

Extraordinary result

Net extraordinary income and expenses were negative € 157 million, mainly relating to restructuring activities (2022: positive € 95 million).

Taxes

In 2023, the bank recorded a tax benefit of € 646 million compared to a tax benefit of € 1.8 billion in the prior year. The current year's tax benefit was mainly driven by changes in the recognition and measurement of deferred tax assets.

Net profit and proposed appropriation

Deutsche Bank AG recorded a net profit of € 5.0 billion in 2023, compared to a net profit of € 5.5 billion in 2022.

After an addition to revenue reserves of € 2.0 billion, the 2023 distributable profit amounted to € 3.5 billion. The Bank will propose to the Annual General Meeting a dividend of € 0.45 per share. This will reduce the distributable profit by up to € 918 million, depending on the number of shares outstanding at the record date. It will also be proposed to appropriate additional € 2.0 billion to revenue reserves and to carry forward the remaining distributable profit.

Balance Sheet

The table below provides an overview of Deutsche Bank AG's balance sheet, which is followed by further information on the individual line items.

Condensed balance sheet

in € m.	Dec 31, 2023	Dec 31, 2022	Change	
			in € m.	in %
Assets				
Receivables from banks and customers incl. balances with central banks and debt instruments of public-sector entities	688,265	694,455	(6,190)	(1)
Participating interests and investments in affiliated companies	29,488	30,927	(1,438)	(5)
Bonds and other securities and equity shares	71,724	70,912	812	1
Trading Assets	247,596	234,670	12,926	6
Remaining other assets	23,158	21,379	1,778	8
Total assets	1,060,231	1,052,343	7,888	1
Liabilities and Shareholders' Equity				
Liabilities to banks and customers	662,954	673,859	(10,904)	(2)
Liabilities in certificate form	92,132	87,090	5,042	6
Trading liabilities	191,329	178,394	12,935	7
Provisions	7,100	7,457	(357)	(5)
Capital and reserves	43,552	39,625	3,927	10
Subordinated liabilities, Participation rights capital, Instruments for Additional Tier 1 Regulatory Capital and Fund for general banking risks	24,328	24,747	(419)	(2)
Remaining other liabilities	38,835	41,171	(2,336)	(6)
Total liabilities and shareholders' equity	1,060,231	1,052,343	7,888	1

Total assets of Deutsche Bank AG amounted to € 1,060 billion as of December 31, 2023. The 1% increase compared to December 31, 2022, was mainly driven by increases in Trading Assets. The net growth was mainly funded by higher Trading Liabilities.

Total credit extended

Total credit extended (excluding reverse repos and securities spot deals) decreased by € 7.0 billion (1%), to € 474.9 billion. This development was primarily driven by a decrease in Claims on customers by € 21.3 billion (5%) to € 412.7 billion and partly offset by an increase in Loans to banks, which are reported under total credit extended, by € 14.4 billion (30%) to € 62.2 billion.

Total credit extended (excluding reverse repos and securities spot deals)

in € bn.	Dec 31, 2023	Dec 31, 2022	in € bn.	Change in %
Claims on customers	413	434	(21)	(5)
with a residual period of				
up to 5 years ¹	293	318	(25)	(8)
over 5 years	119	116	3	3
Loans to banks	62	48	14	30
with a residual period of				
up to 5 years ¹	48	36	12	34
over 5 years	14	12	2	18
Total	475	482	(7)	(1)

¹ Including those repayable on demand and those with an indefinite period

Receivables from banks (excluding loans) outside trading decreased by € 11.9 billion to € 113.2 billion compared to December 31, 2022.

Investments in affiliated companies

Investments in affiliated companies decreased by € 1.5 billion to € 29.3 billion; this decrease was attributable to write-downs (€ 0.9 billion), capital repayments (€ 0.8 billion), the merger of an affiliated company into Deutsche Bank AG (€ 0.4 billion), and a negative impact of foreign currency translation (€ 0.3 billion), partly offset by purchases of affiliated companies (€ 0.5 billion) and capital increases (€ 0.4 billion).

Securities

The bank's securities portfolio (excluding trading assets) increased by € 0.8 billion to € 71.7 billion, mainly driven by an increase in bonds.

Trading assets

Trading assets amounted to € 247.6 billion, an increase of € 12.9 billion (6%) compared to December 31, 2022. This was mainly driven by an increase in securities qualifying as trading, which grew by € 31.4 billion (49%) to € 95.9 billion, as well by an increase of receivables qualifying as trading, higher by € 2.9 billion (4%) to € 76.2 billion, partly offset by a decrease of € 21.8 billion (23%) to € 74.5 billion in positive market values from trading derivatives.

Deposits and securitized liabilities

Liabilities to banks decreased slightly and amounted to € 145.2 billion for 2023, while liabilities to customers remained almost stable at to € 517.7 billion, lower by € 7.6 billion (1%) compared to December 31, 2022. Within this item, the composition changed. Other liabilities repayable on demand decreased by € 40.6 billion (12%) from € 345.0 billion to € 304.4 billion. This was partly offset by an increase in savings deposits by € 4.6 billion (8%) from € 59.6 billion to € 64.3 billion and by an increase in other liabilities with agreed period or notice period by € 28.4 billion from € 120.6 billion to € 149.0 billion.

Liabilities in certificate form amounted to € 92.1 billion, up € 5.0 billion (6%) in comparison to December 31, 2022. The increase was partly driven by an increase of bonds and notes issued by € 1.7 billion (2%) compared to December 31, 2022, and other liabilities in certificate form by € 3.3 billion (102%) to € 6.5 billion.

Breakdown of liabilities

in € bn.	Dec 31, 2023	Dec 31, 2022	in € bn.	Change in %
Liabilities to banks	145	149	(3)	(2)
repayable on demand	69	64	6	9
with agreed period or notice period	76	85	(9)	(11)
Liabilities to customers	518	525	(8)	(1)
savings deposits	64	60	5	8
other liabilities				
repayable on demand	304	345	(41)	(12)
with agreed period or notice period	149	121	28	24
Liabilities in certificate form	92	87	5	6
bonds and notes issued	86	84	2	2
other liabilities in certificate form	7	3	3	102
thereof: money market instruments	6	3	3	117

Trading liabilities

Trading liabilities amounted to € 191.3 billion, an increase of € 12.9 billion (7%) in comparison to December 31, 2022. This was mainly driven by increases in other liabilities qualifying as trading by € 34.1 billion (61%) to € 89.7 billion partly offset by a decrease of € 16.2 billion (19%) in negative market values from trading derivatives to € 68.8 billion and a decrease in securities (short positions) of € 4.9 billion (13%) to € 32.8 billion.

Provisions

Provisions amounted to € 7.1 billion, down € 0.4 billion (5%) compared to December 31, 2022. An increase of provisions for taxes by € 0.2 billion (38%) was more than offset by a decrease in provisions for pensions and similar obligation by € 0.3 billion (11%) and of other provisions by € 0.3 billion (6%).

Instruments for additional tier 1 regulatory capital

Instruments for additional Tier 1 Regulatory Capital amounted to € 8.9 billion compared to € 9.0 billion last year. The year-on-year movement is the result of currency translation effects.

Capital and reserves

Capital and reserves of Deutsche Bank AG amounted to € 43.5 billion. The increase of € 3.9 billion is mainly attributable to the distributable profit generated in 2023 as well as an increase in other revenue reserves.

Consistent with prior years, the Bank has utilized the option available under Section 2a of the German Banking Act (KWG) with respect to its regulatory capital and presents capital requirements for Deutsche Bank Group only.

In summary: The bank maintained its stable funding, high liquidity base and solid regulatory capital position which is based on Group capital. For further details, please refer to the liquidity risk and capital adequacy sections in the Risk Report.

Management of Deutsche Bank AG within the Group

The content in this chapter should be read in conjunction with the respective group sections in this Annual Report, especially “Risk Report”, “Outlook”, “Risks and Opportunities” and “Internal control over financial reporting”.

Risk Management

The impact of the risks on Deutsche Bank AG cannot be isolated from the effects on Deutsche Bank's other legal entities, mainly driven by:

- The Group's management structure, including its corporate divisions follows its customers' needs. The legal structure is determined by local legislation and therefore does not necessarily follow the management structure. For example, local legislation can determine whether the Group's business in a certain country is conducted by a branch of Deutsche Bank AG or by a separate subsidiary. However, the management has to monitor the risks in the bank's business – irrespective of whether it is transacted by a branch or a subsidiary.
- Adequate risk monitoring and management requires knowledge of the extent to which the Group's profit situation depends on the development of certain risk factors, i.e., on the creditworthiness of individual customers or securities issuers or on movements in market prices. The respective exposures therefore need to be analyzed across legal entities. Especially for the credit risk attached to a borrower, as it is irrelevant whether the credit exposure to a company is spread over several Group companies or concentrated on Deutsche Bank AG. Separate monitoring of the risk affecting Deutsche Bank AG alone would neglect the potential exposure facing the Group and, indirectly, Deutsche Bank AG – as the parent – if the company became insolvent.
- Individual risk factors are sometimes correlated, and in some cases, they are independent of each other. If estimates of the nature and extent of this correlation are available, the Group's management can significantly reduce the overall risk by diversifying its businesses across customer groups, issuers and countries. The risk correlation is also independent of the Group's legal and divisional structure. Therefore, management can only optimize the risk-mitigating effects of diversification if it manages them Group-wide and across legal entities.

For the reasons mentioned, the identification, monitoring and management of all risks in Deutsche Bank AG are integrated into the Group-wide risk management process. Following Group policies, Deutsche Bank AG adheres to the respective legal and regulatory requirements.

The Liquidity Coverage Ratio (LCR) of Deutsche Bank AG stands at 127.5% as of December 31, 2023, compared to 130.8% as of December 31, 2022. The Net Stable Funding Ratio (NSFR) amounts to 110.1% as of December 31, 2023, compared to 108.7% as of December 31, 2022. Both ratios are calculated separately to ensure an appropriate level of liquidity and stable funding at Deutsche Bank AG.

Outlook and Strategy

Deutsche Bank AG as the parent company of the Group defines the strategy and planning for the individual Group Divisions. Deutsche Bank AG participates in the results of the Group Divisions through own activities and profit distribution from subsidiaries. Therefore, the Group's outlook encompasses all Group Divisions and is not limited to the parent company. In addition, financial key performance indicators are solely defined on Group level, except for the amount of distributable profit.

Risks and Opportunities

Risks

Deutsche Bank AG as a solo entity reporting under HGB faces additional risks compared to the Group in that certain transactions in a given year may lead to higher or lower losses than in the Group financial statements prepared under IFRS. The following items carry significant risk in this respect:

- Potential valuation adjustments of investments in affiliated companies, driven by local political and economic environment, increased local regulatory requirements, restructuring or changes of share prices of listed investments.
- Increase in long-term provisions, especially pension obligations, despite rises in interest rate levels caused by the discounting with average interest rates according to Section 253 (2) German Commercial Code.
- Negative valuation adjustments to plan assets, especially in an environment of rising interest rate levels. Due to the above-mentioned valuation methodology, there might be no offsetting effect from lower pension obligations if interest rates are rising.
- Potential requirement to set up a provision according to German accounting pronouncement IDW RS BFA 3 in case the interest-bearing banking book does not generate an interest margin sufficient to cover expected credit risk costs and administrative expenses. A persisting low interest rate environment and the treatment of coupon payments related to the AT1 instruments as expenses under HGB increase this risk.

In addition, profits or retained earnings from affiliated companies might not allow for sufficient dividend payments to Deutsche Bank AG to facilitate dividend payments by Deutsche Bank AG as targeted.

Opportunities

Deutsche Bank AG as a solo entity reporting under HGB may have additional opportunities compared to the Group in that respect that certain transactions in a given year are reported in a more beneficial manner than for the Group under IFRS, such as realized gains which may be recognized in the income statement under IFRS in an earlier period.

In addition, there is the possibility that Deutsche Bank AG as parent entity shows profits in a given year that are higher than its contribution to the Group's net income, resulting from increased profit distributions from affiliated companies.

Internal control over financial reporting

The controls that are performed for the Group's Annual Statements under IFRS apply to the bank's financial statements under HGB accordingly. In addition to these controls, specific HGB related controls are implemented which include:

- **Inter-branch reconciliation and elimination** are performed for HGB specific balances; and,
- **Analytical reviews** of revaluation and reclassification items between IFRS and HGB on the level of foreign branches and the German headquarters.

Non-financial Statement for Deutsche Bank AG

The details pursuant to Section 340a (1a) German Commercial Code (HGB) in conjunction with Section 289b (3) HGB can be found as a combined separate non-financial report under <https://investor-relations.db.com/reports-and-events/annual-reports/>.

2

Consolidated Financial Statements

211	Consolidated Statement of Income	
212	Consolidated Statement of Comprehensive Income	
213	Consolidated Balance Sheet	
214	Consolidated Statement of Changes in Equity	289 20 – Transfer of financial assets, assets pledged and received as collateral
215	Consolidated Statement of Cash Flows	292 21 – Property and equipment
217	Notes to the Consolidated Financial Statements	294 22 – Leases
217	1 – Material accounting policies and critical accounting estimates	295 23 – Goodwill and other intangible assets
240	2 – Recently adopted and new accounting pronouncements	300 24 – Non-current assets and disposal groups held for sale
242	3 – Acquisitions and dispositions	301 25 – Other assets and other liabilities
244	4 – Business segments and related information	301 26 – Deposits
255	Notes to the Consolidated Income Statement	302 27 – Provisions
255	5 – Net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss	313 28 – Credit related commitments and contingent liabilities
257	6 – Commissions and fee income	315 29 – Other short-term borrowings
259	7 – Net gains (losses) from derecognition of financial assets measured at amortized cost	315 30 – Long-term debt and trust preferred securities
259	8 – Other income (loss)	316 31 – Maturity analysis of the earliest contractual undiscounted cash flows of financial liabilities
259	9 – General and administrative expenses	
260	10 – Restructuring	
261	11 – Earnings per share	
262	Notes to the Consolidated Balance Sheet	
262	12 – Financial assets/liabilities at fair value through profit or loss	317 Additional Notes
264	13 – Financial Instruments carried at fair value	317 32 – Common Shares
279	14 – Fair value of financial instruments not carried at fair value	318 33 – Employee benefits
281	15 – Financial assets at fair value through other comprehensive income	334 34 – Income taxes
281	16 – Equity method investments	337 35 – Derivatives
283	17 – Offsetting financial assets and financial liabilities	341 36 – Related Party Transactions
286	18 – Loans	343 37 – Information on Subsidiaries
287	19 – Allowance for credit losses	344 38 – Structured entities
		348 39 – Current and non-current assets and liabilities
		349 40 – Events after the reporting period
		350 41 – Regulatory capital information
		355 42 – Supplementary information (to the consolidated financial statements according to sections 297 (1a) / 315a HGB and the return on assets according to article 26a of the German Banking Act) !!??
		357 43 – Country by country reporting
		359 44 – Shareholdings
		374 45 – Interest rate benchmark reform
		375 Confirmations

Consolidated Statement of Income

in € m.	Notes	2023	2022	2021
Interest and similar income ¹	5	44,074	24,299	16,599
Interest expense	5	30,472	10,649	5,444
Net interest income	5	13,602	13,650	11,155
Provision for credit losses	19	1,505	1,226	515
Net interest income after provision for credit losses		12,097	12,425	10,640
Commissions and fee income	6	9,206	9,838	10,934
Net gains (losses) on financial assets/liabilities at fair value through profit or loss	5	4,947	2,999	3,045
Net gains (losses) from derecognition of financial assets measured at amortized cost	7	(96)	(2)	1
Net gains (losses) on financial assets at fair value through other comprehensive income		(0)	(216)	237
Net income (loss) from equity method investments	16	(38)	152	98
Other income (loss)	8	1,259	789	(58)
Total noninterest income		15,277	13,560	14,255
Compensation and benefits	33	11,131	10,712	10,418
General and administrative expenses	9	10,112	9,728	10,821
Impairment of goodwill and other intangible assets	23	233	68	5
Restructuring activities	10	220	(118)	261
Total noninterest expenses		21,695	20,390	21,505
Profit (loss) before income taxes		5,678	5,594	3,390
Income tax expense (benefit)	34	787	(64)	880
Profit (loss)		4,892	5,659	2,510
Profit (loss) attributable to noncontrolling interests		120	134	144
Profit (loss) attributable to Deutsche Bank shareholders and additional equity components		4,772	5,525	2,365

¹ Interest and similar income included € 34.5 billion, € 19.6 billion and € 13.2 billion for the year ended December 31, 2023, 2022 and 2021, respectively, calculated based on effective interest method

Earnings per Share

	Notes	2023	2022	2021
Earnings per share:¹	11			
Basic		€ 2.07	€ 2.42	€ 0.96
Diluted		€ 2.03	€ 2.37	€ 0.93
Number of shares in million:				
Denominator for basic earnings per share – weighted-average shares outstanding		2,064.1	2,084.9	2,096.5
Denominator for diluted earnings per share – adjusted weighted-average shares after assumed conversions		2,104.0	2,125.6	2,143.2

¹ Earnings were adjusted by € 498 million, € 479 million and € 363 million before tax for the coupons paid on Additional Tier 1 Notes in May 2023, May 2022 and April 2021; in accordance with IAS 33 the coupons paid on Additional Tier 1 Notes are not attributable to Deutsche Bank shareholders and therefore need to be deducted in the calculation

The accompanying notes are an integral part of the Consolidated Financial Statements.

Consolidated Statement of Comprehensive Income

in € m.	2023	2022	2021
Profit (loss) recognized in the income statement	4,892	5,659	2,510
Other comprehensive income			
Items that will not be reclassified to profit or loss			
Remeasurement gains (losses) related to defined benefit plans, before tax	(286)	1,203	804
Net fair value gains (losses) attributable to credit risk related to financial liabilities designated as at fair value through profit or loss, before tax	(62)	91	(15)
Total of income tax related to items that will not be reclassified to profit or loss	155	(667)	(202)
Items that are or may be reclassified to profit or loss			
Financial assets at fair value through other comprehensive income			
Unrealized net gains (losses) arising during the period, before tax	25	(1,285)	(344)
Realized net (gains) losses arising during the period (reclassified to profit or loss), before tax	0	216	(237)
Derivatives hedging variability of cash flows			
Unrealized net gains (losses) arising during the period, before tax	439	(819)	1
Realized net (gains) losses arising during the period (reclassified to profit or loss), before tax	395	71	(54)
Assets classified as held for sale			
Unrealized net gains (losses) arising during the period, before tax	0	0	0
Realized net (gains) losses arising during the period (reclassified to profit or loss), before tax	0	0	0
Foreign currency translation			
Unrealized net gains (losses) arising during the period, before tax	(1,294)	329	1,117
Realized net (gains) losses arising during the period (reclassified to profit or loss), before tax	(3)	(20)	(14)
Equity Method Investments			
Net gains (losses) arising during the period	(25)	20	(5)
Total of income tax related to items that are or may be reclassified to profit or loss	18	596	285
Other comprehensive income (loss), net of tax	(637)	(267)	1,334
Total comprehensive income (loss), net of tax	4,255	5,392	3,844
Attributable to:			
Noncontrolling interests	77	185	212
Deutsche Bank shareholders and additional equity components	4,178	5,207	3,632

The accompanying notes are an integral part of the Consolidated Financial Statements.

Consolidated Balance Sheet

in € m.	Notes	Dec 31, 2023	Dec 31, 2022
Assets:			
Cash and central bank balances		178,416	178,896
Interbank balances (w/o central banks)		6,140	7,195
Central bank funds sold and securities purchased under resale agreements	20	14,725	11,478
Securities borrowed	20	39	0
Financial assets at fair value through profit or loss			
Trading assets		125,275	92,867
Positive market values from derivative financial instruments		251,856	299,686
Non-trading financial assets mandatory at fair value through profit and loss		88,047	89,654
Financial assets designated at fair value through profit or loss		75	168
Total financial assets at fair value through profit or loss	12, 13, 20, 35	465,252	482,376
Financial assets at fair value through other comprehensive income	15	35,546	31,675
Equity method investments	16	1,013	1,124
Loans at amortized cost	18, 19, 20	473,705	483,700
Property and equipment	21, 22	6,185	6,103
Goodwill and other intangible assets	23	7,327	7,092
Other assets ¹	24, 25	114,697	118,293
Assets for current tax		1,513	1,584
Deferred tax assets	34	7,773	7,272
Total assets		1,312,331	1,336,788
Liabilities and equity:			
Deposits	26	622,035	621,456
Central bank funds purchased and securities sold under repurchase agreements	20	3,038	573
Securities loaned	20	3	13
Financial liabilities at fair value through profit or loss			
Trading liabilities		44,005	50,616
Negative market values from derivative financial instruments		238,260	282,353
Financial liabilities designated at fair value through profit or loss		83,727	54,634
Investment contract liabilities		484	469
Total financial liabilities at fair value through profit or loss	12, 13, 20, 35	366,475	388,072
Other short-term borrowings	29	9,620	5,122
Other liabilities ¹	22, 24, 25	113,036	113,714
Provisions	19, 27	2,448	2,449
Liabilities for current tax		631	388
Deferred tax liabilities	34	546	650
Long-term debt	30	119,390	131,525
Trust preferred securities	30	289	500
Total liabilities		1,237,513	1,264,460
Common shares, no par value, nominal value of € 2.56	32	5,223	5,291
Additional paid-in capital		40,187	40,513
Retained earnings		21,316	17,800
Common shares in treasury, at cost	32	(481)	(331)
Accumulated other comprehensive income (loss), net of tax		(1,760)	(1,314)
Total shareholders' equity		64,486	61,959
Additional equity components		8,569	8,578
Noncontrolling interests		1,763	1,791
Total equity		74,818	72,328
Total liabilities and equity		1,312,331	1,336,788

¹ Includes non-current assets and disposal groups held for sale

The accompanying notes are an integral part of the Consolidated Financial Statements.

Consolidated statement of changes in equity

	Unrealized net gains (losses)												Accumulated other comprehensive income, net of tax ¹	Total shareholders' equity	Additional equity components ³	Noncontrolling interests	Total equity
	Common shares (no par value)	Additional paid-in capital	Retained earnings	Common shares in treasury, at cost	On financial assets at fair value through other comprehensive income, net of tax ²	Attributable to change in own credit risk of financial liabilities designated as at fair value through profit and loss, net of tax ²	On derivatives hedging variability of cash flows, net of tax ²	On assets classified as held for sale, net of tax ²	Foreign currency translation, net of tax ²	Unrealized net gains (losses) from equity method investments	Total						
in € m.																	
Balance as of December 31, 2020	5,291	40,606	10,014	(7)	278	7	7	0	(1,411)	(1)	(1,118)	54,786	5,824	1,587	62,196		
Total comprehensive income (loss), net of tax ¹	0	0	2,365	0	(398)	(13)	(40)	0	1,129	(5)	672	3,038	0	207	3,245		
Gains (losses) attributable to equity instruments designated as at fair value through other comprehensive income, net of tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Gains (losses) upon early extinguishment attributable to change in own credit risk of financial liabilities designated as at fair value through profit and loss, net of tax	0	0	(2)	0	0	2	0	0	0	0	2	0	0	0	0		
Common shares cancelled	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Cash dividends paid	0	0	0	0	0	0	0	0	0	0	0	0	0	(85)	(85)		
Coupon on additional equity components, before tax	0	0	(363)	0	0	0	0	0	0	0	0	(363)	0	0	(363)		
Remeasurement gains (losses) related to defined benefit plans, net of tax	0	0	592	0	0	0	0	0	0	0	0	592	0	4	597		
Net change in share awards in the reporting period	0	(99)	0	0	0	0	0	0	0	0	0	(99)	0	0	(101)		
Treasury shares distributed under share-based compensation plans	0	0	0	312	0	0	0	0	0	0	0	312	0	0	312		
Tax benefits related to share-based compensation plans	0	29	0	0	0	0	0	0	0	0	0	29	0	0	29		
Option premiums and other effects from options on common shares	0	(50)	0	0	0	0	0	0	0	0	0	(50)	0	0	(50)		
Purchases of treasury shares	0	0	0	(346)	0	0	0	0	0	0	0	(346)	0	0	(346)		
Sale of treasury shares	0	0	0	35	0	0	0	0	0	0	0	35	0	0	35		
Net gains (losses) on treasury shares sold	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Other	0	94	0	0	0	0	0	0	0	0	0	94	2,481 ⁴	(13)	2,562		
Balance as of December 31, 2021	5,291	40,580	12,607	(6)	(120)	(3)	(33)	0	(282)	(6)	(444)	58,027	8,305	1,698	68,030		
Total comprehensive income (loss), net of tax ¹	0	0	5,525	0	(867)	65	(537)	0	452	16	(870)	4,655	0	177	4,832		
Gains (losses) attributable to equity instruments designated as at fair value through other comprehensive income, net of tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Gains (losses) upon early extinguishment attributable to change in own credit risk of financial liabilities designated as at fair value through profit and loss, net of tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Common shares cancelled	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Cash dividends paid	0	0	(406)	0	0	0	0	0	0	0	0	(406)	0	(96)	(502)		
Coupon on additional equity components, before tax	0	0	(479)	0	0	0	0	0	0	0	0	(479)	0	0	(479)		
Remeasurement gains (losses) related to defined benefit plans, net of tax	0	0	553	0	0	0	0	0	0	0	0	553	0	8	561		
Net change in share awards in the reporting period	0	(48)	0	0	0	0	0	0	0	0	0	(48)	0	(1)	(49)		
Treasury shares distributed under share-based compensation plans	0	0	0	370	0	0	0	0	0	0	0	370	0	0	370		
Tax benefits related to share-based compensation plans	0	17	0	0	0	0	0	0	0	0	0	17	0	0	17		
Option premiums and other effects from options on common shares	0	(58)	0	0	0	0	0	0	0	0	0	(58)	0	0	(58)		
Purchases of treasury shares	0	0	0	(695)	0	0	0	0	0	0	0	(695)	0	0	(695)		
Sale of treasury shares	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Net gains (losses) on treasury shares sold	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Other	0	22	1	0	0	0	0	0	0	0	0	24	273 ⁴	5	301		
Balance as of December 31, 2022	5,291	40,513	17,800	(331)	(986)	62	(570)	0	171	10	(1,314)	61,959	8,578	1,791	72,328		
Total comprehensive income (loss), net of tax ¹	0	0	4,772	0	133	(43)	592	0	(1,111)	(16)	(445)	4,327	0	78	4,404		
Gains (losses) attributable to equity instruments designated as at fair value through other comprehensive income, net of tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Gains (losses) upon early extinguishment attributable to change in own credit risk of financial liabilities designated as at fair value through profit and loss, net of tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Common shares cancelled ⁵	(68)	(232)	0	300	0	0	0	0	0	0	0	0	0	0	0		
Cash dividends paid	0	0	(610)	0	0	0	0	0	0	0	0	(610)	0	(100)	(710)		
Coupon on additional equity components, before tax	0	0	(498)	0	0	0	0	0	0	0	0	(498)	0	0	(498)		
Remeasurement gains (losses) related to defined benefit plans, net of tax	0	0	(148)	0	0	0	0	0	0	0	0	(148)	0	(1)	(149)		
Net change in share awards in the reporting period	0	(94)	0	0	0	0	0	0	0	0	0	(94)	0	(1)	(95)		
Treasury shares distributed under share-based compensation plans	0	0	0	407	0	0	0	0	0	0	0	407	0	0	407		
Tax benefits related to share-based compensation plans	0	27	0	0	0	0	0	0	0	0	0	27	0	(1)	26		
Option premiums and other effects from options on common shares	0	(65)	0	0	0	0	0	0	0	0	0	(65)	0	0	(65)		
Purchases of treasury shares	0	0	0	(857)	0	0	0	0	0	0	0	(857)	0	0	(857)		
Sale of treasury shares	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Net gains (losses) on treasury shares sold	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Other	0	39	0	0	0	0	0	0	0	0	0	39	(9) ⁴	(4)	26		
Balance as of December 31, 2023	5,223	40,187	21,316	(481)	(853)	18	22	0	(941)	(6)	(1,760)	64,486	8,569	1,763	74,818		

¹ Excluding remeasurement gains (losses) related to defined benefit plans, net of tax

² Excluding unrealized net gains (losses) from equity method investments

³ Includes Additional Tier 1 Notes, which constitute unsecured and subordinated notes of Deutsche Bank and are classified as equity in accordance with IFRS

⁴ Includes net proceeds from issuance, purchase and sale of Additional Equity Components

⁵ At February 28, 2023, Deutsche Bank cancelled 26.5 million of its common shares; the cancellation reduced the nominal value of the shares by € 68 million; the cancelled shares had been held in common shares in treasury, at their acquisition cost of € 300 million; the difference between the common shares at cost and their nominal value has reduced additional paid-in capital by € 232 million

Consolidated Statement of Cash Flows

in € m.	2023	2022	2021
Net Income (loss)	4,892	5,659	2,510
Cash flows from operating activities:			
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Provision for credit losses	1,505	1,226	515
Restructuring activities	220	(118)	261
Gain on sale of financial assets at fair value through other comprehensive income, equity method investments and other	(84)	128	(276)
Deferred income taxes, net	(553)	(852)	19
Impairment, depreciation and other amortization, and accretion	3,111	3,529	3,568
Share of net income from equity method investments	107	(129)	(197)
Income (loss) adjusted for noncash charges, credits and other items	9,197	9,443	6,400
Adjustments for net change in operating assets and liabilities:			
Interest-earning time deposits with central banks and banks	(699)	102	97
Central bank funds sold, securities purchased under resale agreements, securities borrowed	(3,285)	(3,046)	102
Non-Trading financial assets mandatory at fair value through profit and loss	793	1,511	(12,124)
Financial assets designated at fair value through profit or loss	93	(31)	309
Loans at amortized cost	8,556	(5,101)	(41,628)
Other assets	(1,384)	(459)	8,046
Deposits	1,771	11,686	33,269
Financial liabilities designated at fair value through profit or loss and investment contract liabilities ¹	29,493	(6,046)	11,144
Central bank funds purchased, securities sold under repurchase agreements, securities loaned	2,456	(187)	(3,249)
Other short-term borrowings	4,534	1,065	477
Other liabilities	777	12,377	(17,823)
Senior long-term debt ²	(11,880)	(17,019)	(6,191)
Trading assets and liabilities, positive and negative market values from derivative financial instruments, net	(35,616)	2,249	19,559
Other, net	801	(8,658)	(1,341)
Net cash provided by (used in) operating activities	5,606	(2,113)	(2,952)
Cash flows from investing activities:			
Proceeds from:			
Sale of financial assets at fair value through other comprehensive income	15,646	15,450	52,131
Maturities of financial assets at fair value through other comprehensive income	19,437	21,557	21,424
Sale of debt securities held to collect at amortized cost	(0)	0	67
Maturities of debt securities held to collect at amortized cost	8,025	6,519	5,468
Sale of equity method investments	20	118	23
Sale of property and equipment	33	22	114
Purchase of:			
Financial assets at fair value through other comprehensive income	(38,648)	(42,991)	(46,801)
Debt Securities held to collect at amortized cost	(4,859)	(16,696)	(7,166)
Equity method investments	(60)	(171)	(100)
Property and equipment	(422)	(337)	(550)
Net cash received in (paid for) business combinations/divestitures	(361)	439	(5)
Other, net	(1,386)	(1,086)	(1,010)
Net cash provided by (used in) investing activities	(2,576)	(17,175)	23,595
Cash flows from financing activities:			
Issuances of subordinated long-term debt	1,432 ³	2,716	1,146
Repayments and extinguishments of subordinated long-term debt	(1,471) ³	(90)	(42)
Issuances of trust preferred securities	0 ⁴	0	0
Repayments and extinguishments of trust preferred securities	(225) ⁴	0	(504)
Principal portion of lease payments	(534)	(607)	(679)
Common shares issued	0	0	0
Purchases of treasury shares	(857)	(695)	(346)
Sale of treasury shares	0	0	35
Additional Equity Components (AT1) issued	0	2,000	2,500
Additional Equity Components (AT1) repaid	0	(1,750)	0
Purchases of Additional Equity Components (AT1)	(400)	(4,058)	(2,662)
Sale of Additional Equity Components (AT1)	415	4,074	2,642
Coupon on additional equity components, pre tax	(498)	(479)	(363)
Dividends paid to noncontrolling interests	(100)	(96)	(85)
Net change in noncontrolling interests	(5)	5	(13)
Cash dividends paid to Deutsche Bank shareholders	(610)	(406)	0
Net cash provided by (used in) financing activities	(2,852)	614	1,630
Net effect of exchange rate changes on cash and cash equivalents	(2,036)	4,354	1,345
Net increase (decrease) in cash and cash equivalents	(1,857)	(14,320)	23,618
Cash and cash equivalents at beginning of period	165,626	179,946	156,328
Cash and cash equivalents at end of period	163,768	165,626	179,946
Net cash provided by (used in) operating activities include			

	2023	2022	2021
in € m.			
Income taxes paid (received), net	955	1,288	1,031
Interest paid ⁷	28,502	9,468	5,557
Interest received ⁷	43,413	22,667	15,807
Dividends received	106	87	364
Cash and cash equivalents comprise			
Cash and central bank balances ⁵	159,326	159,876	174,089
Interbank balances (w/o central banks) ⁶	4,442	5,749	5,857
Total	163,768	165,626	179,946

¹ Included are senior long-term debt issuances of € 6.5 billion and € 2.5 billion and repayments and extinguishments of € 1.2 billion and € 738 million through December 31, 2023 and December 31, 2022, respectively

² Included are issuances of € 26.8 billion and € 36.4 billion and repayments and extinguishments of € 40.1 billion and € 44.2 billion through December 31, 2023 and December 31, 2022, respectively

³ Non-cash changes for Subordinated Long-Term Debt are € (31) million in total and mainly driven by Fair Value changes of € 139 million and Foreign Exchange movements of € (173) million through December 31, 2023 and (141) million in total mainly driven by Fair Value changes of € (464) million and Foreign Exchange movements of € 321 million through December 31, 2022

⁴ Non-cash changes for Trust Preferred Securities are € 15 million in total and mainly driven by Fair Value changes of € 8 million through December 31, 2023 and € (28) million in total and mainly driven by Fair Value changes of € (33) million through December 31, 2022

⁵ Not included: Interest-earning time deposits with central banks of € 19.1 billion as of December 31, 2023 and € 19.0 billion as of December 2022

⁶ Not included: Interest-earning time deposits with banks of € 1.7 billion as of December 31, 2023 and € 1.4 billion as of December 31, 2022

⁷ Included interest paid and interest received from derivatives qualifying as hedging instruments under the Group's fair value hedge accounting application, which includes portfolio hedges of interest rate risk in accordance with the EU carve-out version of IAS 39

As of December 31, 2023 cash and central bank balances include time and demand deposits at the Russian Central Bank of € 612 million (€ 759 million as of December 31, 2022). These are subject to foreign exchange restrictions. Thereof, demand deposits of € 30 million (€ 40 million as of December 2022) qualify as Cash and cash equivalents at end of period.

The accompanying notes are an integral part of the Consolidated Financial Statements.

Notes to the consolidated financial statements

01 – Material accounting policies and critical accounting estimates

Basis of accounting

Deutsche Bank Aktiengesellschaft, Taunusanlage 12, 60325 Frankfurt am Main, Germany ("Deutsche Bank" or the "Parent") is a stock corporation organized under the laws of the Federal Republic of Germany. Deutsche Bank together with all entities in which Deutsche Bank has a controlling financial interest (collectively the "Group", or "Deutsche Bank") is a global provider of a full range of corporate and investment banking, private clients and asset management products and services.

The accompanying consolidated financial statements are stated in euros, the presentation currency of the Group. All financial information presented in million euros has been rounded to the nearest million. The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB") and endorsed by the European Union (EU).

Prior to publication on March 14, 2024, the Supervisory Board approved the Consolidated Financial Statements 2023 of the Group on March 13, 2024, which were drawn up by the Management Board on March 7, 2024.

EU carve-out

The Group applies fair value hedge accounting for portfolio hedges of interest rate risk (fair value macro hedges) in accordance with the EU carve-out version of IAS 39. The purpose of applying the EU carve-out version of IAS 39 is to align the Group's hedge accounting approach with its risk management practice and the accounting practice of its major European peers. Under the EU carve-out version of IAS 39, fair value macro hedge accounting may be applied to core deposits and hedge ineffectiveness is generally only recognized when the revised estimate of the amount of cash flows in scheduled time buckets falls below the original designated amount of that bucket. If the revised amount of cash flows in scheduled time buckets is more than the original designated amount then there is no hedge ineffectiveness. Under IFRS as issued by the IASB, hedge accounting for fair value macro hedges cannot be applied to core deposits. In addition, under IFRS as issued by the IASB hedge ineffectiveness arises for all fair value macro hedge accounting relationships whenever the revised estimate of the amount of cash flows in scheduled time buckets is either more or less than the original designated amount of that bucket. The EU carve out version of IAS 39 also removes the prohibition on identifying a benchmark risk component in a financial instrument priced at sub-benchmark. This may arise when financial instruments carry a negative spread such that the identified non-contractually specified risk component is larger than the interest carry on the contract itself.

For the financial year ended December 31, 2023, the application of the EU carve-out version of IAS 39 had a negative impact of € 2.3 billion on profit before tax and of € 1.6 billion on profit after tax. For the financial year ended December 31, 2022, the application of the EU carve-out had a positive impact of € 147 million on profit before taxes and of € 105 million on profit post taxes.

The Group's regulatory capital and ratios thereof are also reported on the basis of the EU carve-out version of IAS 39. The impact on total equity also impacts the calculation of the CET1 capital ratio. For the financial year ended December 31, 2023, application of the EU carve-out had a negative impact on the CET1 capital ratio of about 43 basis points and a positive impact of about 5 basis points for the financial year ended December 31, 2022.

IFRS 7 disclosures (including war in Ukraine and climate risk related disclosures)

Disclosures on risks related to the macroeconomic environment can be found in the sections in "IFRS 9 Impairment", line item "Focus areas in 2023" in the Risk Report, Note 35 "Derivatives", section "Derivatives qualifying for hedge accounting", Note 13 "Financial Instruments carried at Fair Value", sections "Valuations techniques" and "Sensitivity analysis of unobservable parameters" as well as Note 14 "Fair Value of Financial Instruments not carried at Fair Value".

Disclosures about the nature and the extent of risks arising from financial instruments as required by IFRS 7, "Financial Instruments: Disclosures" are set forth in the Risk Report section of the Combined Management Report and are an integral part of the Consolidated Financial Statements.

Details on exposures and the impact on financial instrument impairment from the war in Ukraine can be found in the sections, “IFRS 9 impairment” and “Exposure to Russia” in the Risk Report. As of December 31, 2023, the Group discontinued its disclosure relating to Market Risk to Russia, Russian operations and Compliance and Anti Financial Crime risks. This considers the de-risking efforts the Group has undertaken. The Group continues to monitor its risks related to Russia and Ukraine as part of its regular risk management activities and enhanced governance oversight in place.

Disclosures on climate related risk can be found in the sections, “Enterprise Risk Management”, line item “Environmental, social and governance risk” in the Risk Report. The Group is exposed to environmental, social and governance (ESG) risk. The following are examples of how such risk may impact the financial results of the Group:

- Increases in the frequency and severity of climate events could impact client ability to service principal and interest payments under instruments subject to IFRS 9.
- Failure to comply with environmental and social legislation may impact client ability to generate sustainable returns to service their loans.
- If in the future clients do not hold sufficient insurance for physical assets against certain risks (e.g., flooding), this may impact the value of collateral held against certain type of loans.

The Group considers such ESG risk as part of the credit risk assessment and due diligence process before relevant clients are granted credit. The Group also manages its credit portfolio within the established risk appetite and limits. Further accounting considerations, including risk consideration, for ESG indexed loans can be found in the section “Financial assets” in the description of the material accounting policies below.

These audited disclosures are marked in light blue in the Risk Report.

Critical accounting estimates

The preparation of financial statements under IFRS requires management to make estimates and assumptions for certain categories of assets and liabilities. These estimates and assumptions affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the balance sheet date, and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from management’s estimates. The Group’s material accounting policies are described in “Material Accounting Policies”.

Certain of the Group’s accounting policies require critical accounting estimates that involve complex and subjective judgments and the use of assumptions, some of which may be for matters that are inherently uncertain and susceptible to change. Such critical accounting estimates could change from period to period and may have a material impact on the Group’s financial condition, changes in financial condition or results of operations. Critical accounting estimates could also involve estimates where management could have reasonably used another estimate in the current accounting period. The Group has identified the following material accounting policies that involve critical accounting estimates:

- Impairment of financial assets at fair value through other comprehensive income (see “Impairment of Loans and Provision for Off-balance Sheet Positions” below)
- Determination of fair value (see “Determination of Fair Value” below)
- Recognition of trade date profit (see “Recognition of Trade Date Profit” below)
- Impairment of loans and provisions for off-balance sheet positions (see “Impairment of Loans and Provision for Off-balance Sheet Positions” below)
- Impairment of goodwill and other intangibles (see “Goodwill and Other Intangible Assets” below)
- Recognition and measurement of deferred tax assets (see “Income Taxes” below)
- Accounting for legal and regulatory contingencies and uncertain tax positions (see “Provisions” below)

Material accounting policies

The following is a description of the material accounting policies of the Group. Except for the changes in accounting policies and changes in accounting estimates described previously and noted below these policies have been consistently applied for 2021, 2022 and 2023.

Principles of consolidation

The financial information in the Consolidated Financial Statements includes the parent company, Deutsche Bank AG, together with its consolidated subsidiaries, including certain structured entities presented as a single economic unit.

Subsidiaries

The Group's subsidiaries are those entities which it directly or indirectly controls. Control over an entity is evidenced by the Group's ability to exercise its power in order to affect any variable returns that the Group is exposed to through its involvement with the entity.

The Group sponsors the formation of structured entities and interacts with structured entities sponsored by third parties for a variety of reasons, including allowing clients to hold investments in separate legal entities, allowing clients to invest jointly in alternative assets, for asset securitization transactions, and for buying or selling credit protection.

When assessing whether to consolidate an entity, the Group evaluates a range of control factors, namely:

- Purpose and design of the entity
- Relevant activities and how these are determined
- Whether the Group's rights result in the ability to direct the relevant activities
- Whether the Group has exposure or rights to variable returns
- Whether the Group has the ability to use its power to affect the amount of its returns

Where voting rights are relevant, the Group is deemed to have control where it holds, directly or indirectly, more than half of the voting rights over an entity unless there is evidence that another investor has the practical ability to unilaterally direct the relevant activities.

Potential voting rights that are deemed to be substantive are also considered when assessing control.

Likewise, the Group also assesses existence of control where it does not control the majority of the voting power but has the practical ability to unilaterally direct the relevant activities. This may arise in circumstances where the size and dispersion of holdings of the shareholders give the Group the power to direct the activities of the investee.

Associates

Investments in associates are accounted for under the equity method of accounting. An associate is an entity in which the Group has significant influence, but not a controlling interest, over the operating and financial management policy decisions of the entity. Significant influence is generally presumed when the Group holds between 20% and 50% of the voting rights. The existence and effect of potential voting rights that are currently exercisable or convertible are considered in assessing whether the Group has significant influence. Among the other factors that are considered in determining whether the Group has significant influence are representation on the board of directors (supervisory board in the case of German stock corporations) and material intercompany transactions. The existence of these factors could require the application of the equity method of accounting for a particular investment even though the Group's investment is less than 20% of the voting stock.

Under the equity method of accounting, the Group's investments in associates and jointly controlled entities are initially recorded at cost including any directly related transaction costs incurred in acquiring the associate, and subsequently increased (or decreased) to reflect both the Group's pro-rata share of the post-acquisition net income (or loss) of the associate or jointly controlled entity and other movements included directly in the equity of the associate or jointly controlled entity. The Group's share of the results of associates is adjusted to conform to the accounting policies of the Group and is reported in the Consolidated Statement of Income as Net income (loss) from equity method investments.

If there is objective evidence of impairment, an impairment test is performed by comparing the investment's recoverable amount, which is the higher of its value in use and fair value less costs to sell, with its carrying amount.

Foreign currency translation

The Consolidated Financial Statements are prepared in euro, which is the presentation currency of the Group. Various entities in the Group use a different functional currency, being the currency of the primary economic environment in which the entity operates.

An entity records foreign currency revenues, expenses, gains and losses in its functional currency using the exchange rates prevailing at the dates of recognition.

Monetary assets and liabilities denominated in currencies other than the entity's functional currency are translated at the period end closing rate. Foreign exchange gains and losses resulting from the translation and settlement of these items are recognized in the Consolidated Statement of Income as net gains (losses) on financial assets/liabilities at fair value through profit or loss in order to align the translation amounts with those recognized from foreign currency related transactions (derivatives) which hedge these monetary assets and liabilities.

Non-monetary items that are measured at historical cost are translated using the historical exchange rate at the date of the transaction. Translation differences on non-monetary items which are held at fair value through profit or loss are recognized in profit or loss.

For purposes of translation into the presentation currency, assets and liabilities of foreign operations are translated at the period end closing rate and items of income and expense are translated into euros at the rates prevailing on the dates of the transactions, or average rates of exchange where these approximate actual rates. The exchange differences arising on the translation of a foreign operation are included in other comprehensive income. For foreign operations that are subsidiaries, the amount of exchange differences attributable to any noncontrolling interests is recognized in noncontrolling interests.

Upon disposal of a foreign subsidiary and associate (which results in loss of control or significant influence over that operation) the total cumulative exchange differences recognized in other comprehensive income are reclassified to profit or loss.

Upon partial disposal of a foreign operation that is a subsidiary and which does not result in loss of control, the proportionate share of cumulative exchange differences is reclassified from other comprehensive income to noncontrolling interests as this is deemed a transaction with equity holders. For a partial disposal of an associate which does not result in a loss of significant influence, the proportionate share of cumulative exchange differences is reclassified from other comprehensive income to profit or loss.

Interest, commissions and fees

Net interest income – Interest income and expense from all interest-bearing assets and liabilities is recognized as net interest income using the effective interest rate method. The effective interest rate (EIR) is a method of calculating the amortized cost of a financial asset or a financial liability and of allocating the interest income or expense over the relevant period using the estimated future cash flows.

The estimated future cash flows used in the EIR calculation include those determined by all of the contractual terms of the asset or liability, all fees (including commissions) that are considered to be integral to the effective interest rate, direct and incremental transaction costs and all other premiums or discounts. However, if the financial instrument is carried at fair value through profit or loss, any associated fees are recognized in trading income when the instrument is initially recognized, provided there are no significant unobservable inputs used in determining its fair value.

If a financial asset is credit-impaired, interest revenue is calculated by applying the effective interest rate to the amortized cost amount. The amortized cost amount of a financial asset is the gross carrying amount of a financial asset after adjusting for any impairment allowance. For assets which are initially recognized as purchased or credit-impaired, interest revenue is calculated through the use of a credit-adjusted effective interest rate which takes into consideration expected credit losses.

The Group presents negative interest paid on interest-bearing assets as interest expense, and interest revenue received from interest-bearing liabilities as interest income.

The Group presents interest income and expense calculated using the EIR method separately in the Group's consolidated statement of income.

Commissions and fee income –The Group applies the IFRS 15, "Revenue from Contracts with Customers" five-step revenue recognition model to the recognition of Commissions and Fee Income, under which income must be recognized when control of goods and services is transferred, hence the contractual performance obligations to the customer has been satisfied.

Accordingly, after a contract with a customer has been identified in the first step, the second step is to identify the performance obligation – or a series of distinct performance obligations – provided to the customer. The Group must examine whether the service is capable of being distinct and is actually distinct within the context of the contract. A promised service is distinct if the customer can benefit from the service either on its own or together with other resources that are readily available to the customer, and the promise to transfer the service to the customer is separately identifiable from other promises in the contract. The amount of income is measured on the basis of the contractually agreed transaction price for the performance obligation defined in the contract. If a contract includes a variable consideration, the Group estimates the amount of consideration to which it will be entitled in exchange for transferring the promised goods or services to a customer. Income is recognized in profit and loss when the identified performance obligation has been satisfied. The Group does not present information about its remaining performance obligations if it is part of a contract that has an original expected duration of one year or less.

The Group determines the stand-alone selling price at contract inception of a distinct service underlying each performance obligation in the contract and allocates the transaction price in proportion to those stand-alone selling prices. The stand-alone selling price is the price at which DB would sell a promised service separately to a customer on an unbundled basis. The best evidence of a stand-alone selling price is the observable price of a service when the Group sells that service separately in similar circumstances and to similar customers. If the Group does not sell the service to a customer separately, it estimates the stand-alone selling price at an amount using a suitable method, for example, in loan syndication transactions the Group applies the requirements for recognition of trade day profit and considers the price at which other market participants provide the same service on an unbundled basis. As such when estimating a stand-alone selling price, the Group considers all information (including market conditions) that is reasonably available to it. In doing so, the Group maximizes the use of observable inputs and applies estimation methods consistently in similar circumstances.

The Group provides asset management services that give rise to asset management and performance fees and constitute a single performance obligation. The asset management and performance fee components are variable considerations such that at each reporting date the Group estimates the fee amount to which it will be entitled in exchange for transferring the promised services to the customer. The benefits arising from the asset management services are simultaneously received and consumed by the customer over time. The Group recognizes revenue over time by measuring the progress towards complete satisfaction of that performance obligation, subject to the removal of any uncertainty as to whether it is highly probable that a significant reversal in the cumulative amount of revenue recognized would occur or not. For the management fee component this is the end of the monthly or quarterly service period. For performance fees this date is when any uncertainty related to the performance component has been fully removed.

Loan commitment fees related to commitments that are accounted for off balance sheet are recognized in commissions and fee income over the life of the commitment if it is unlikely that the Group will enter into a specific lending arrangement. If it is probable that the Group will enter into a specific lending arrangement, the loan commitment fee is deferred until the origination of a loan and recognized as an adjustment to the loan's effective interest rate.

Commissions and Fee Income predominantly earned from services that are received and consumed by the customer over time: Administration, assets under management, foreign commercial business, loan processing and guarantees sundry other customer services. The Group recognizes revenue from these services over time by measuring the progress towards complete satisfaction of that performance obligation, subject to the removal of any uncertainty as to whether it is highly probable that a significant reversal in the cumulative amount of revenue recognized would occur or not.

Commissions and Fee Income predominantly earned from providing services at a point in time or transaction-type services include: other securities, underwriting and advisory fees, brokerage fees, local payments, foreign currency/ exchange business and intermediary fees.

Expenses that are directly related and incremental to the generation of Commissions and Fee Income are presented net in Commissions and Fee Income in the Consolidated Statement of Income. This includes income and associated expense where the Group contractually owns the performance obligation (i.e. as Principal) in relation to the service that gives rise to the revenue and associated expense. In contrast, it does not include situations where the Group does not contractually own the performance obligation and is acting as agent. The determination of whether the Group is acting as principal or agent is based on the contractual terms of the underlying service arrangement. The gross Commissions and Fee Income and Expense amounts are disclosed in "Note 6 – Commissions and Fee Income".

Financial assets

The Group classifies financial assets in line with the classification and measurement requirements of IFRS 9, where financial assets are classified based on both the business model used for managing the financial assets and the contractual cash flow characteristics of the financial asset (known as Solely Payments of Principal and Interest or "SPPI"). There are three business models available:

- Hold to Collect - Financial assets held with the objective to collect contractual cash flows. They are subsequently measured at amortized cost and are recorded in multiple lines on the Group's consolidated balance sheet.
- Hold to Collect and Sell - Financial assets held with the objective of both collecting contractual cash flows and selling financial assets. They are recorded as Financial assets at Fair Value through Other Comprehensive Income on the Group's consolidated balance sheet.
- Other - Financial assets that do not meet the criteria of either "Hold to Collect" or "Hold to Collect and Sell". They are recorded as Financial Assets at Fair Value through Profit or Loss on the Group's consolidated balance sheet.

The assessment of business model requires judgment based on facts and circumstances upon initial recognition. As part of this assessment, the Group considers quantitative factors (e.g., the expected frequency and volume of sales) and qualitative factors such as how the performance of the business model and the financial assets held within that business model are evaluated and reported to the Group's key management personnel. In addition to taking into consideration the risks that affect the performance of the business model and the financial assets held within that business model, in particular, the way in which those market and credit risks are managed; and how managers of the business are compensated (e.g., whether the compensation is based on the fair value of the assets managed or on the contractual cash flows collected). This assessment results in an asset being classified in either a Hold to Collect, Hold to Collect and Sell or Other business model.

If the Group holds a financial asset either in a Hold to Collect or a Hold to Collect and Sell business model, then an assessment at initial recognition to determine whether the contractual cash flows of the financial asset are Solely Payments of Principal and Interest on the principal amount outstanding is required to determine the financial asset classification. Contractual cash flows, that are SPPI on the principal amount outstanding, are consistent with a basic lending arrangement. Interest in a basic lending arrangement is consideration for the time value of money and the credit risk associated with the principal amount outstanding during a particular period of time. It can also include consideration for other basic lending risks (e.g., liquidity risk) and costs (e.g., administrative costs) associated with holding the financial asset for a particular period of time; and a profit margin that is consistent with a basic lending arrangement. Where cash flows can change over time due to contingent events, such as terms where the margin on a loan adjusts depending on the performance of the borrower on certain contractual ESG metrics, the contingent event and cash flows are assessed to determine if the instrument cash flows are SPPI. The nature of the contingent event and the size of the possible change in cash flows are taken into account in this assessment on an absolute and relative basis compared to the overall coupon. Additionally, as part of the SPPI assessment where the lending is non-recourse in nature then further assessment is made to determine if the cash flows are consistent with SPPI which is dependent on the nature of the underlying, the level of subordination and the contractual cash flows of the instrument held. The Group originates and purchases debt instruments from entities issuing multiple tranches of debt. Where these instruments meet the definition of a contractually linked instruments then further analysis is performed on the cash flows and credit risk exposure of the instrument held as well as the underlying collateral held at purchase and can be held in the future.

Financial assets at fair value through profit or loss

Financial assets are classified at fair value through profit or loss if they are held in the Other business model because they are either held for trading or because they do not meet the criteria for Hold to Collect or Hold to Collect and Sell. In addition, it includes financial assets that meet the criteria for Hold to Collect or Hold to Collect and Sell business model, but the financial asset fails SPPI or where the Group designated the financial assets under the fair value option.

Financial assets classified as Financial assets at fair value through profit or loss are measured at fair value with realized and unrealized gains and losses included in Net gains (losses) on financial assets/liabilities at fair value through profit or loss. Interest on interest earning assets such as trading loans and debt securities and dividends on equity instruments are presented in Interest and Similar Income.

The Group applies trade date accounting to financial assets classified at fair value through profit or loss.

Trading assets – Financial assets are classified as held for trading if they have been originated, acquired or incurred principally for the purpose of selling or repurchasing them in the near term, or they form part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit-taking. Trading assets include debt and equity securities, derivatives held for trading purposes, and trading loans. This also includes loan commitments that are allocated to the Other business model and that are presented as derivatives held for trading.

Non-trading financial assets mandatory at fair value through profit and loss – The Group assigns any non-trading financial asset that does not fall into the Hold to Collect nor Hold to Collect and Sell business models into the Other business model and classifies them as Non-Trading Financial Assets mandatory at Fair Value through Profit and Loss. This includes predominately reverse repurchase agreements which are managed on a fair value basis. Additionally, any financial asset that falls into the Hold to Collect or Hold to Collect and Sell business models for which the contractual cash flow characteristics are not SPPI is classified by the Group as Non-Trading Financial Assets Mandatory at Fair Value through Profit and Loss.

Financial assets designated at fair value through profit or loss – Certain financial assets that would otherwise be measured subsequently at amortized cost or at fair value through other comprehensive income, may be designated at Fair Value through Profit or Loss if the designation eliminates or significantly reduces a measurement or recognition inconsistency. The Group allows the fair value option to be designated only for those financial instruments for which a reliable estimate of fair value can be obtained.

Financial assets at fair value through other comprehensive income

A financial asset shall be classified and measured at Fair Value through Other Comprehensive Income (“FVOCI”), if the financial asset is held in a Hold to Collect and Sell business model and the contractual cash flows are SPPI, unless designated under the fair value option.

The amortization of premiums and accretion of discounts are recorded in net interest income. Realized gains and losses are reported in net gains (losses) on financial assets at FVOCI. Generally, the weighted-average cost method is used to determine the cost of FVOCI financial assets.

The Group applies trade date accounting to financial assets classified at FVOCI.

It is possible to designate non-trading equity instruments as FVOCI. However, this category is expected to have limited usage by the Group and has not been used to date.

Financial assets at amortized cost

A financial asset is classified and subsequently measured at amortized cost if the financial asset is held in a Hold to Collect business model and the contractual cash flows are SPPI.

Under this measurement category, the financial asset is measured at fair value at initial recognition. Subsequently the carrying amount is reduced for principal payments, plus or minus the cumulative amortization using the effective interest method. The financial asset is assessed for impairment under the IFRS 9 expected credit loss model where provisions are recognized based on expectations of potential credit losses. The Group's impairment of financial instruments policy is described further in the section “Impairment of Loans and Provision for Off-Balance Sheet Positions (IFRS 9)”. The Group applies settlement date accounting to financial assets measured at amortized cost.

Financial Assets at amortized cost include predominately Loans at amortized cost, Central bank funds sold and securities purchased under resale agreements, Securities borrowed and certain receivables presented in Other Assets.

Modification of financial assets and financial liabilities

When the terms of a financial asset are renegotiated or modified and the modification does not result in derecognition, a gain or loss is recognized in the income statement as the difference between the original contractual cash flows and the modified cash flows discounted at the original effective interest rate. The modified financial asset will continue to accrued interest at its original EIR. When a modification results in derecognition the original instrument is derecognized and the new instrument recognized at fair value.

Non-credit related or commercial renegotiations where an obligor has not experienced a significant increase in credit risk since origination, and has a readily exercisable right to early terminate the financial asset results in derecognition of the original agreement and recognition of a new financial asset based on the newly negotiated commercial terms.

For credit related modifications (i.e. those modifications due to significant increase in credit risk since inception) or those where the obligor does not have the readily exercisable right to early terminate, the Group assesses whether the modified terms result in the financial asset being significantly modified and therefore derecognized. This assessment includes a quantitative assessment of the impact of the change in cash flows from the modification of contractual terms and additionally, where necessary, a qualitative assessment of the impact of the change in the contractual terms. Where these modifications are not concluded to be significant, the financial asset is not derecognized and is accounted for as a modification as described above.

If the changes are concluded to be significant, the old instrument is derecognized and a new instrument recognized. The Group then recognizes a credit loss allowance based on 12-month expected credit losses. However, if following a modification that results in a derecognition of the original financial asset, there is evidence that the new financial asset is credit-impaired on initial recognition; then the new financial asset should be recognized as an originated credit-impaired financial asset and initially classified in Stage 3 (refer to section “Impairment of Loans and Provision for Off-Balance Sheet Positions” below).

When the terms of a financial liability are renegotiated or modified then the Group assesses whether the modified terms result in the financial liability being significantly modified and therefore derecognized. This assessment includes a quantitative assessment of the impact of the change in cash flows from the modification of contractual terms and additionally, where necessary, a qualitative assessment of the impact of the change in the contractual terms. Where these modifications are not concluded to be significant, the financial liability is not derecognized and a gain or loss is recognized in the income statement as the difference between the original contractual cash flows and the modified cash flows discounted at the original effective interest rate. Where there is derecognition the original financial liability is derecognized and the new liability recognized at its fair value.

Loan commitments

Loan commitments remain off-balance sheet, unless allocated to the Other business model and presented as derivatives held for trading. The Group does not recognize and measure changes in fair value of off-balance sheet loan commitments that result from changes in market interest rates or credit spreads. However, as specified in the sections “Impairment of Loans and Provision for Off-Balance Sheet Positions” below, these off-balance sheet loan commitments are in scope of the IFRS 9 impairment model.

Financial liabilities

Under IFRS 9 financial liabilities are measured at amortized cost using the effective interest method, except for financial liabilities at fair value through profit or loss.

Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss include Trading Liabilities, Financial Liabilities Designated at Fair Value through Profit or Loss and Non-Participating Investment Contracts (“Investment Contracts”). Under IFRS 9 they are carried at fair value with realized and unrealized gains and losses included in net gains (losses) on financial assets and liabilities at fair value through profit or loss. For financial liabilities designated at fair value through profit and loss the fair value movements attributable to the Group’s own credit component for fair value movements is recognized in Other Comprehensive Income.

The Group applies trade date accounting to financial liabilities classified at fair value through profit or loss.

Interest on interest paying liabilities are presented in interest expense for financial instruments at fair value through profit or loss.

Trading liabilities - Financial liabilities that arise from debt issued are classified as held for trading if they have been originated or incurred principally for the purpose of repurchasing them in the near term. Trading liabilities consist primarily of derivative liabilities (including certain loan commitments) and short positions. This also includes loan commitments where the resulting loan upon funding is allocated to the other business model such that the undrawn loan commitment is classified as derivatives held for trading.

Financial liabilities designated at fair value through profit or loss - Certain financial liabilities that do not meet the definition of trading liabilities are designated at fair value through profit or loss using the fair value option. To be designated at fair value through profit or loss, financial liabilities must meet one of the following criteria: (1) the designation eliminates or significantly reduces a measurement or recognition inconsistency; (2) a group of financial liabilities is managed and its performance is evaluated on a fair value basis in accordance with a documented risk management or investment strategy; or (3) the instrument contains one or more embedded derivatives unless: (a) the embedded derivative does not significantly modify the cash flows that otherwise would be required by the contract; or (b) it is clear with little or no analysis that separation is prohibited. In addition, the Group allows the fair value option to be designated only for those financial instruments for which a reliable estimate of fair value can be obtained. Financial liabilities which are designated at fair value through profit or loss, under the fair value option, include repurchase agreements, loan commitments and structured note liabilities.

Investment contracts - All of the Group's investment contracts are unit-linked contracts that match specific assets held by the Group. The contracts oblige the Group to use these assets to settle investment contract liabilities. They do not contain significant insurance risk or discretionary participation features. The contract liabilities are determined using current unit prices multiplied by the number of units attributed to the contract holders as of the balance sheet date. As this amount represents fair value, the liabilities have been classified as financial liabilities at fair value through profit or loss. Deposits collected under investment contracts are accounted for as an adjustment to the investment contract liabilities. Investment income attributable to investment contracts is included in the consolidated statement of Income. Investment contract claims reflect the excess of amounts paid over the account balance released. Investment contract policyholders are charged fees for policy administration, investment management, surrenders or other contract services.

Embedded derivatives

Some hybrid financial liability contracts contain both a derivative and a non-derivative component. In such cases, the derivative component is termed an embedded derivative, with the non-derivative component representing the host financial liability contract. If the economic characteristics and risks of embedded derivatives are not closely related to those of the host financial liability contract and the hybrid financial liability contract itself is not carried at fair value through profit or loss, the embedded derivative is bifurcated and reported at fair value, with gains and losses recognized in net gains (losses) on financial assets/liabilities at fair value through profit or loss. The host financial liability contract will continue to be accounted for in accordance with the appropriate accounting standard. The carrying amount of an embedded derivative is reported in the same Consolidated balance sheet line item as the host financial liability contract. Certain hybrid financial liability instruments have been designated at fair value through profit or loss using the fair value option.

Financial liabilities at amortized cost

Financial liabilities measured at amortized cost include long-term and short-term debt issued which are initially measured at fair value, which is the consideration received, net of transaction costs incurred. Repurchases of issued debt in the market are treated as extinguishments and any related gain or loss is recorded in the Consolidated Statement of Income. A subsequent sale of own bonds in the market is treated as a reissuance of debt. The Group applies settlement date accounting to financial liabilities measured at amortized cost.

Offsetting of financial instruments

Financial assets and liabilities are offset, with the net amount presented in the Consolidated balance sheet, only if the Group holds a currently enforceable legal right to set off the recognized amounts and there is an intention to settle on a net basis or to realize an asset and settle the liability simultaneously. The legal right to set off the recognized amounts must be enforceable in both the normal course of business and in the event of default, insolvency or bankruptcy of both the Group and its counterparty. In all other situations they are presented gross. When financial assets and financial liabilities are offset in the Consolidated balance sheet, the associated income and expense items will also be offset in the Consolidated Statement of Income, unless specifically prohibited by an applicable accounting standard.

The majority of the offsetting applied by the Group relates to repurchase and reverse repurchase agreements. For further information please refer to Note 17 "Offsetting Financial Assets and Financial Liabilities".

Determination of fair value

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an arm's length transaction between market participants at the measurement date. The fair value of instruments that are quoted in active markets is determined using the quoted prices where they represent those at which regularly and recently occurring transactions take place.

The Group measures certain portfolios of financial assets and financial liabilities on the basis of their net risk exposures when the following criteria are met:

- The group of financial assets and liabilities is managed on the basis of its net exposure to a particular market risk (or risks) or to the credit risk of a particular counterparty, in accordance with a documented risk management strategy,
- The fair values are provided to key management personnel, and
- The financial assets and liabilities are measured at fair value through profit or loss.

This portfolio valuation approach is consistent with how the Group manages its net exposures to market and counterparty credit risks.

Critical accounting estimates – The Group uses valuation techniques to establish the fair value of instruments where prices quoted in active markets are not available. Therefore, where possible, parameter inputs to the valuation techniques are based on observable data derived from prices of relevant instruments traded in an active market. These valuation techniques involve some level of management estimation and judgment, the degree of which will depend on the price transparency for the instrument or market and the instrument's complexity.

In reaching estimates of fair value management judgment needs to be exercised. The areas requiring significant management judgment are identified, documented and reported to senior management as part of the valuation control process and the standard monthly reporting cycle. The specialist model validation and valuation control groups focus attention on the areas of subjectivity and judgment.

The level of management judgment required in establishing fair value of financial instruments for which there is a quoted price in an active market is usually minimal. Similarly there is little subjectivity or judgment required for instruments valued using valuation models which are standard across the industry and where all parameter inputs are quoted in active markets.

The level of subjectivity and degree of management judgment required is more significant for those instruments valued using specialized and sophisticated models and where some or all of the parameter inputs are less liquid or less observable. Management judgment is required in the selection and application of appropriate parameters, assumptions and modelling techniques. In particular, where data are obtained from infrequent market transactions then extrapolation and interpolation techniques must be applied. Where no market data are available for a particular instrument then pricing inputs are determined by assessing other relevant sources of information such as historical data, fundamental analysis of the economics of the transaction and proxy information from similar transactions, and making appropriate adjustment to reflect the actual instrument being valued and current market conditions. Where different valuation techniques indicate a range of possible fair values for an instrument then management has to decide what point within the range of estimates appropriately represents the fair value. Further, some valuation adjustments may require the exercise of management judgment to achieve fair value.

Financial assets and liabilities carried at fair value are required to be disclosed according to the inputs to the valuation method that are used to determine their fair value. Specifically, segmentation is required between those valued using quoted market prices in an active market (level 1), valuation techniques based on observable parameters (level 2) and valuation techniques using significant unobservable parameters (level 3). Management judgment is required in determining the category to which certain instruments should be allocated. This specifically arises when the valuation is determined by a number of parameters, some of which are observable and others are not. Further, the classification of an instrument can change over time to reflect changes in market liquidity and therefore price transparency.

The Group provides a sensitivity analysis of the impact upon the level 3 financial instruments of using a reasonably possible alternative for the unobservable parameter. The determination of reasonably possible alternatives requires significant management judgment.

For financial instruments measured at amortized cost (which include loans, deposits and short and long term debt issued) the Group discloses the fair value. Generally there is limited or no trading activity in these instruments and therefore the fair value determination requires significant management judgment.

For further discussion of the valuation methods and controls and quantitative disclosures with respect to the determination of fair value, please refer to Note 13 “Financial Instruments carried at Fair Value” and Note 14 “Fair Value of Financial Instruments not carried at Fair Value”.

Recognition of trade date profit

Trade date profit is recognized if the fair value of the financial instrument measured at fair value through profit or loss is obtained from a quoted market price in an active market, or otherwise evidenced by comparison to other observable current market transactions or based on a valuation technique incorporating observable market data. If there are significant unobservable inputs used in the valuation technique, the financial instrument is recognized at the transaction price and any profit implied from the valuation technique at trade date is deferred.

Using systematic methods, the deferred amount is recognized over the period between trade date and the date when the market is expected to become observable, or over the life of the trade (whichever is shorter). Such methodology is used because it reflects the changing economic and risk profile of the instrument as the market develops or as the instrument itself progresses to maturity. Any remaining trade date deferred profit is recognized in the Consolidated Statement of Income when the transaction becomes observable.

Critical Accounting Estimates – Management judgment is required in determining whether there exist significant unobservable inputs in the valuation technique of the underlying financial instrument (refer to section “Determination of Fair Value” for management judgment required in establishing fair value of financial instruments). Once deferred, the decision to subsequently recognize the trade date profit requires a careful assessment of the then current facts and circumstances supporting observability of parameters and/or risk mitigation.

Derivatives and hedge accounting

Derivatives are used to manage exposures to interest rate, foreign currency, credit and other market price risks, including exposures arising from forecast transactions. All freestanding contracts that are considered derivatives for accounting purposes are carried at fair value on the Consolidated balance sheet regardless of whether they are held for trading or non-trading purposes.

The changes in fair value on derivatives held for trading are included in net gains (losses) on financial assets/liabilities at fair value through profit or loss.

Hedge accounting

IFRS 9 includes an accounting policy choice to defer the adoption of IFRS 9 hedge accounting and to continue with IAS 39 hedge accounting. The Group decided to exercise this accounting policy choice and did not adopt IFRS 9 hedge accounting as of January 1, 2018. The Group applies fair value hedge accounting for portfolio hedges of interest rate risk (fair value macro hedges) in accordance with the EU carve-out version of IAS 39. Under the EU IAS 39 carve-out, fair value macro hedge accounting may be applied to core deposits and hedge ineffectiveness for all fair value macro hedge accounting applications is only recognized when the revised estimate of the amount of cash flows in scheduled time buckets falls below the original designated amount of that bucket and is not recognized when the revised amount of cash flows in scheduled time buckets is more than the original designated amount.

For accounting purposes the Group applies the following types of hedges:

- For hedges of changes in fair value, the changes in the fair value of the hedged asset, liability or unrecognized firm commitment, or a portion thereof, attributable to the risk being hedged, are recognized in the Consolidated Statement of Income along with changes in the entire fair value of the derivative. When hedging interest rate risk, any interest accrued or paid on both the derivative and the hedged item is reported in interest income or expense and the unrealized gains and losses from the hedge accounting fair value adjustments are reported in other revenue. Hedge ineffectiveness is reported in other revenue and is measured as the net effect of changes in the fair value of the hedging instrument and changes in the fair value of the hedged item arising from changes in the market rate or price related to the risk(s) being hedged.

If a fair value hedge of a debt instrument is discontinued prior to the instrument's maturity because the derivative is terminated or the relationship is de-designated, any remaining interest rate-related fair value adjustments made to the carrying amount of the debt instrument (basis adjustments) are amortized to interest income or expense over the remaining term of the original hedging relationship. For other types of fair value adjustments and whenever a fair value hedged asset or liability is sold or otherwise derecognized, any basis adjustments are included in the calculation of the gain or loss on derecognition.

- For hedges of variability in future cash flows, there is no change to the accounting for the hedged item and the derivative is carried at fair value, with changes in value reported initially in other comprehensive income to the extent the hedge is effective. These amounts initially recorded in other comprehensive income are subsequently reclassified into the Consolidated Statement of Income in the same periods during which the forecast transaction affects the Consolidated Statement of Income. Thus, for hedges of interest rate risk, the amounts are amortized into interest income or expense at the same time as the interest is accrued on the hedged transaction.

Hedge ineffectiveness is recorded in other income and is measured as changes in the excess (if any) in the absolute cumulative change in fair value of the actual hedging derivative over the absolute cumulative change in the fair value of the hypothetically perfect hedge.

When hedges of variability in cash flows attributable to interest rate risk are discontinued, amounts remaining in accumulated other comprehensive income are amortized to interest income or expense over the remaining life of the original hedge relationship, unless the hedged transaction is no longer expected to occur in which case the amount will be reclassified into other income immediately. When hedges of variability in cash flows attributable to other risks are discontinued, the related amounts in accumulated other comprehensive income are reclassified into either the same Consolidated Statement of Income caption and period as profit or loss from the forecast transaction, or into other income when the forecast transaction is no longer expected to occur.

- For hedges of the translation adjustments resulting from translating the functional currency financial statements of foreign operations (hedges of net investments in foreign operations) into the functional currency of the parent, the portion of the change in fair value of the derivative due to changes in the spot foreign exchange rates is recorded as a foreign currency translation adjustment in other comprehensive income to the extent the hedge is effective; the remainder is recorded as other income in the Consolidated Statement of Income.

Changes in fair value of the hedging instrument relating to the effective portion of the hedge are subsequently recognized in profit or loss on disposal of the foreign operations.

Hedging derivatives are reported as other assets and other liabilities. In the event that a derivative is subsequently de-designated from a hedging relationship, it is transferred to financial assets/liabilities at fair value through profit or loss.

Impairment of loans and provision for off-balance sheet positions

The impairment requirements of IFRS 9 apply to all credit exposures that are measured at amortized cost or FVOCI, and to off balance sheet lending commitments such as loan commitments and financial guarantees. For purposes of the impairment policy below, these instruments are referred to as ("Financial Assets")

The determination of impairment losses under IFRS 9 uses an expected credit loss ("ECL") model, where allowances are taken upon initial recognition of the Financial Asset, based on expectations of potential credit losses at the time of initial recognition.

Staged approach to the determination of expected credit losses

IFRS 9 states a three-stage approach to impairment for Financial Assets that are not credit-impaired at the date of origination or purchase. This approach is summarized as follows:

- Stage 1: The Group recognizes a credit loss allowance at an amount equal to 12-month expected credit losses for all Financial Assets. This represents the portion of lifetime expected credit losses from default events that are expected within 12 months of the reporting date, assuming that credit risk has not increased significantly after initial recognition.
- Stage 2: The Group recognizes a credit loss allowance at an amount equal to lifetime expected credit losses for those Financial Assets which are considered to have experienced a significant increase in credit risk since initial recognition. This requires the determination of the ECL based on lifetime probability of default, lifetime loss given default and lifetime exposure at default that represents the probability of default occurring over the remaining lifetime of the Financial Asset. Allowance for credit losses are higher in this stage because of an increase in credit risk since origination or purchase and the impact of a longer time horizon being considered compared to 12 months in Stage 1.
- Stage 3: The Group recognizes a loss allowance at an amount equal to lifetime expected credit losses, reflecting a Probability of Default of 100%, via the expected recoverable cash flows for the asset, for those Financial Assets that are credit-impaired. The Group's definition of default is aligned with the regulatory definition of default. Financial Assets that are credit-impaired upon initial recognition are categorized within Stage 3 with a carrying value already reflecting the lifetime expected credit losses. The accounting treatment for these purchased or originated credit-impaired ("POCI") assets is discussed further below.

ECL are calculated using three main parameters: probability of default (PD), loss given default (LGD) and exposure at default (EAD). These parameters are generally derived from internally developed statistical models combined with historical, current and forward-looking information, including macro-economic data. The 12-month and lifetime PD represent the expected point-in-time probability of a default over the next 12 months and remaining expected lifetime of the financial instrument, respectively, based on conditions existing at the balance sheet date and future economic conditions that affect credit risk. The LGD represents expected loss conditional on default, incorporating the mitigating effect of collateral, its expected value when realized and the time value of money. The EAD represents the expected exposure at default, factoring in the repayment of principal and interest from the balance sheet date to the default event together with any expected drawdown of a facility.

Forward-Looking Information is incorporated into the measurement of the Group Allowance for Credit Losses in terms of adjustments to multi-year PD curves based on macro-economic forecasts.

The Group's ECL model is used to calculate the allowance for credit losses for all financial assets in Stage 1 and Stage 2, as well as for Stage 3 in the homogeneous portfolio (i.e. retail and small business loans with similar credit risk characteristics). For financial assets in the bank's non-homogeneous portfolio in Stage 3 and for POCI assets, the allowance for credit losses is determined individually by credit officers.

Significant increase in credit risk

When determining whether the credit risk (i.e., risk of default) of a Financial Asset has increased significantly since initial recognition, the Group considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes quantitative and qualitative information based on the Group's historical experience, credit risk assessment and forward-looking information (including macro-economic factors). The assessment of significant credit deterioration is key in determining when to move from measuring an allowance based on 12-month ECLs to one that is based on lifetime ECLs (i.e., transfer from Stage 1 to Stage 2).

The Group's framework for determining if there has been a significant increase in credit risk aligns with the internal Credit Risk Management ("CRM") process and utilizes:

- Rating related indicators – based on a model that compares lifetime probability of default (PD) at the reporting date with the lifetime PD expectations at the date of initial recognition and subsequently applies a quantile approach to determine a threshold to define the trigger point for a financial asset's transition into Stage 2; and
- Process related indicators – which uses existing risk management indicators, that in Management's view represent situations where the credit risk of financial assets has significantly increased. These include obligors being added to a credit watchlist, being mandatorily transferred to workout status, payments being 30 days or more past due or in forbearance.

These indicators are discussed further in section "IFRS 9 Impairment Approach" in the Risk Report.

Credit-impaired financial assets in Stage 3

The Group has aligned its definition of credit-impaired under IFRS 9 to when a Financial Asset has defaulted for regulatory purposes, according to the Capital Requirements Regulation under Art. 178.

The determination of whether a Financial Asset is credit-impaired and therefore in Stage 3 focusses exclusively on default risk, without taking into consideration the effects of credit risk mitigants such as collateral or guarantees. Specifically, a Financial Asset is credit-impaired and in Stage 3 when:

- The Group considers the obligor is unlikely to pay its credit obligations to the Group. Determination may include forbearance actions, where a concession has been granted to the borrower or economic or legal reasons that are qualitative indicators of credit impairment; or
- Contractual payments of either principal or interest by the obligor are past due by more than 90 days.

For Financial Assets considered to be credit-impaired, the ECL allowance covers the amount of loss the Group is expected to suffer. The estimation of ECLs is undertaken on a case-by-case basis for non-homogeneous portfolios, or by applying portfolio based parameters to individual Financial Assets in these portfolios via the Group's ECL model for homogeneous portfolios. This estimate includes the use of discounted cash flows that are adjusted for scenarios.

Forecasts of future economic conditions when calculating ECLs are considered. The lifetime expected losses are estimated based on the probability-weighted present value of the difference between the contractual cash flows that are due to the Group under the contract; and the cash flows that the Group expects to receive.

A Financial Asset can be classified as credit-impaired in Stage 3 but without an allowance for credit losses (i.e., no impairment loss is expected). This may be due to the value of collateral. The Group's engine based ECL calculation is conducted on a monthly basis, whereas the case-by-case assessment of ECL in Stage 3 for non-homogeneous portfolio has to be performed at least on a quarterly basis.

Purchased or originated credit-impaired financial assets in Stage 3

A Financial Asset is considered purchased or originated credit-impaired if there is objective evidence of impairment at the time of initial recognition. Such credit-impaired Financial Assets are termed POCI Financial Assets. POCI Financial Assets are measured to reflect lifetime expected credit losses, and all subsequent changes in lifetime expected credit losses, whether positive or negative, are recognized in the income statement as a component of the provision for credit losses. POCI Financial Assets can only be classified in Stage 3 over the life of the Financial Asset.

Write-offs

The Group reduces the gross carrying amount of a Financial Asset when there is no reasonable expectation of recovery. Write-offs can relate to a Financial Asset in its entirety, or to a portion of it, and constitute a derecognition event. The Group considers all relevant information in making this determination, including but not limited to:

- Foreclosure actions taken by the Group which have not been successful or have a high probability of not being successful
- Collateral liquidation which has not, or will not lead to further considerable recoveries
- Situations where no further recoveries are reasonably expected

Write-offs can take place before legal actions against the borrower to recover the debt have been concluded, and a write-off does not involve the Group forfeiting its legal right to recover the debt.

Interest Rate used in the IFRS 9 model

In the context of the ECL calculation, the Group applies in line with IFRS 9 an approximation of the EIR, which is usually the contractual interest rate ("CIR") and which does not materially differ from the EIR. The CIR is deemed to be an appropriate approximation, as the interest rate is consistently used in the ECL model, interest recognition and for discounting of the ECL.

Collateral for financial assets considered in the impairment analysis

IFRS 9 requires cash flows expected from collateral and other credit enhancement to be reflected in the ECL calculation. The following are key aspects with respect to collateral and guarantees:

- Eligibility of collateral, i.e. which collateral should be considered in the ECL calculation;
- Collateral evaluation, i.e. what collateral (liquidation) value should be used; and
- Projection of the available collateral amount over the life of a transaction.

These concepts are outlined in more detail in section "IFRS 9 Impairment Approach" in the Risk Report.

Critical accounting estimates – The accounting estimates and judgments related to the impairment of Financial Assets is a critical accounting estimate because the underlying assumptions used can change from period to period and may significantly affect the Group's results of operations.

In assessing assets for impairments, management judgment is required, particularly in projecting forward looking information and scenarios in particular in circumstances of economic and financial uncertainty, when developments and changes to expected cash flows can occur both with greater rapidity and less predictability. The actual amount of the future cash flows and their timing may differ from the estimates used by management and consequently may cause actual losses to differ from reported allowances.

For those non-homogeneous loans in Stage 3 the determination of the impairment allowance often requires the use of considerable judgment concerning such matters as local economic conditions, the financial performance of the counterparty and the value of any collateral held, for which there may not be a readily accessible market.

The determination of the expected credit losses in Stages 1 and 2 and for homogeneous loans in Stage 3 is calculated using the Group's ECL model. The model incorporates numerous estimates and judgments. The Group performs a regular review of the model and underlying data and assumptions. The probability of defaults, loss recovery rates and judgments concerning ability of borrowers in foreign countries to transfer the foreign currency necessary to comply with debt repayments, amongst other things, are incorporated into this review. Management judgement is required over the following critical accounting estimates:

- Forward-Looking Information: The identification of key macro-economic variables (MEVs) reflects a balance of quantitative and qualitative judgements. Statistical analysis, including for example, back-testing and model sensitivities, are performed to assess the explanatory power of MEVs, while expert input from credit officers ensures management comfort in the overall model behavior. The final model parameterization is based on a review and challenge of impacts in internal governance forums and an independent validation performed by the Model Risk Management function. Furthermore, conceptual soundness of the estimation approach is ensured by model testing analysis prepared as part of model changes and an ongoing monitoring framework in order for the ECL provision to reflect management's best estimate in the calculation of expected credit losses.
- Significant Increase in Credit Risk: In line with the section "IFRS 9 Impairment Approach" in the Risk Report, the Group uses rating-related indicators to determine whether a financial asset's credit risk has significantly increased since inception. For financial assets in non-homogeneous portfolios the ratings are determined for every counterparty individually based on credit officer's expert judgement. For financial assets in the homogeneous portfolios (due to the large number of client relationships) the rating process is significantly automated with less judgement required by credit officers on individual counterparties. For both homogeneous and non-homogenous portfolios the rating-related indicators to determine whether the credit risk for a financial asset has significantly increased are based on a model that compares lifetime PDs at the reporting date with the lifetime PD expectations at the date of initial recognition and subsequently applying a quantile approach to determine a threshold which defines the trigger point for a financial asset's transition into Stage 2. The determination of the quantile to define Stage 2 thresholds are determined by subject matter experts in the Group's Risk function. This represents one of the key critical judgments in the Group's IFRS 9 framework and is reviewed on an annual basis based on detailed stage-mover analyses, benchmarking with historical behaviors and peer comparisons.
- Stage 3 Loss Given Default (LGD) Setting for Homogeneous Portfolios: The allowance for credit losses in Stage 3 is determined for the Group's homogeneous portfolios by an automated process based on partially time dependent LGDs reflecting the lower recovery expectation the longer the client is in default, thereby differentiating between secured and unsecured exposures. The LGDs are calibrated using the Group's loss history built up over preceding decades, experienced market prices of non-performing portfolios sold and expert judgement. In the case of less material portfolios, the empirical calibration of the LGD is partially supported by expert credit officer judgements, especially for determining the client cure rates as one of the key inputs. The LGD settings are validated on an annual basis and are regularly reviewed by the Group's independent model validation process which is part of the Model Risk Management function.
- Model adjustments: The Group regularly reviews key inputs into the ECL calculation and discusses potential model imprecision to assess the need for corrective measures in the form of overlays. Overlays are an essential output of management judgment which feeds into the model. On a quarterly basis, a senior management forum discusses the need for the recognition and/or the release of overlays. The discussion will be based on an overview of potential reasons which might require an overlay considering specific trigger points. The ultimate decision for creating overlays is jointly made by the Chief Financial Officer (CFO) and Chief Risk Officer (CRO).

The quantitative disclosures are provided in Note 18 "Loans" and Note 19 "Allowance for credit losses" as well as the Risk Report, section "IFRS 9 Impairment", sub-section "Model Sensitivity".

Derecognition of financial assets and liabilities

Financial asset derecognition

A financial asset is considered for derecognition when the contractual rights to the cash flows from the financial asset expire, or the Group has either transferred the contractual right to receive the cash flows from that asset, or has assumed an obligation to pay those cash flows to one or more recipients, subject to certain criteria.

The Group derecognizes a transferred financial asset if it transfers substantially all the risks and rewards of ownership.

The Group enters into transactions in which it transfers previously recognized financial assets but retains substantially all the associated risks and rewards of those assets; for example, a sale to a third party in which the Group enters into a concurrent total return swap with the same counterparty. These types of transactions are accounted for as secured financing transactions.

Derecognition of financial liabilities

A financial liability is derecognized when the obligation under the liability is discharged or cancelled or expires. If an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of the existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability, and the difference in the respective carrying amounts is recognized in the Consolidated Statement of Income.

Certain OTC derivative contracts and most exchange-traded futures and option contracts cleared through central clearing counterparties and exchanges have payment or receipt of variation margin on a daily basis that represents legal or economic settlement of the outstanding derivative's present value. This results in derecognition of the associated derivative financial asset and financial liabilities.

Repurchase and reverse repurchase agreements

Securities purchased under resale agreements ("reverse repurchase agreements") and securities sold under agreements to repurchase ("repurchase agreements") are treated as collateralized financings and are recognized initially at fair value, being the amount of cash disbursed and received, respectively.

The Group allocates reverse repurchase portfolios that are managed on a fair value basis to the other business model under IFRS 9 and classifies them as "Non-trading financial assets mandatory at fair value through profit or loss".

Interest earned on reverse repurchase agreements and interest incurred on repurchase agreements is reported as interest income and interest expense, respectively.

Securities borrowed and securities loaned

Securities borrowed transactions generally require the Group to deposit cash with the securities lender. In a securities loaned transaction, the Group generally receives either cash collateral, in an amount equal to or in excess of the market value of securities loaned, or securities.

The securities borrowed are not themselves recognized in the financial statements. If they are sold to third parties, the obligation to return the securities is recorded as a financial liability at fair value through profit or loss and any subsequent gain or loss is included in the Consolidated Statement of Income in net gains (losses) on financial assets/liabilities at fair value through profit or loss. Securities lent to counterparties are also retained on the Consolidated balance sheet.

The Group records the amount of cash advanced or received as securities borrowed and securities loaned, respectively, in the Consolidated balance sheet.

Fees received or paid are reported in interest income and interest expense, respectively. Securities lent to counterparties which are not derecognized from the Consolidated balance sheet and where the counterparty has the right by contract or custom to sell or repledge the collateral are disclosed in Note 20 "Transfer of Financial Assets, Assets Pledged and Received as Collateral".

Goodwill and other intangible assets

Goodwill arises on the acquisition of subsidiaries and associates and represents the excess of the aggregate of the cost of an acquisition and any noncontrolling interests in the acquiree over the fair value of the identifiable net assets acquired at the date of the acquisition.

For the purpose of calculating goodwill, fair values of acquired assets, liabilities and contingent liabilities are determined by reference to market values or by discounting expected future cash flows to present value. This discounting is either performed using market rates or by using risk-free rates and risk-adjusted expected future cash flows. Any noncontrolling interests in the acquiree are measured either at fair value or at the noncontrolling interests' proportionate share of the acquiree's identifiable net assets (this is determined for each business combination).

Goodwill on the acquisition of subsidiaries is capitalized and reviewed for impairment annually or more frequently if there are indications that impairment may have occurred. For the purposes of impairment testing, goodwill acquired in a business combination is allocated to cash-generating units ("CGUs"), which are the smallest identifiable groups of assets that generate cash inflows largely independent of the cash inflows from other assets or groups of assets and that are expected to benefit from the synergies of the combination and considering the business level at which goodwill is monitored for internal management purposes. In identifying whether cash inflows from an asset (or a group of assets) are largely independent of the cash inflows from other assets (or groups of assets) various factors are considered, including how management monitors the entity's operations or makes decisions about continuing or disposing of the entity's assets and operations.

If goodwill has been allocated to a CGU and an operation within that unit is disposed of, the attributable goodwill is included in the carrying amount of the operation when determining the gain or loss on its disposal.

Corporate assets are allocated to a CGU when the allocation can be done on a reasonable and consistent basis. If this is not possible, the individual CGU is tested without the corporate assets. They are then tested on the level of the minimum collection of CGUs to which they can be allocated on a reasonable and consistent basis.

Intangible assets are recognized separately from goodwill when they are separable or arise from contractual or other legal rights and their fair value can be measured reliably. Intangible assets that have a finite useful life are stated at cost less any accumulated amortization and accumulated impairment losses. Customer-related intangible assets that have a finite useful life are amortized over periods of between 1 and 20 years on a straight-line basis based on their expected useful life. These assets are tested for impairment and their useful lives reaffirmed at least annually.

Certain intangible assets have an indefinite useful life and hence are not amortized, but are tested for impairment at least annually or more frequently if events or changes in circumstances indicate that impairment may have occurred.

Costs related to software developed or obtained for internal use are capitalized if it is probable that future economic benefits will flow to the Group and the cost can be measured reliably. Capitalized costs are amortized using the straight-line method over the asset's useful life which is deemed to be either three, five or ten years. Eligible costs include external direct costs for materials and services, as well as payroll and payroll-related costs for employees directly associated with an internal-use software project. Overhead costs, as well as costs incurred during the research phase or after software is ready for use, are expensed as incurred. Capitalized software costs are tested for impairment either annually if still under development or any time when there is an indication of impairment once the software is in use.

Critical accounting estimates – The determination of the recoverable amount in the impairment assessment of non-financial assets requires estimates based on quoted market prices, prices of comparable businesses, present value or other valuation techniques (such as the cost approach), or a combination thereof, necessitating management to make subjective judgments and assumptions. Because these estimates and assumptions could result in significant differences to the amounts reported if underlying circumstances were to change, the Group considers these estimates to be critical.

The quantitative disclosures are provided in Note 23 “Goodwill and other intangible assets”.

Provisions

Provisions are recognized if the Group has a present legal or constructive obligation as a result of past events, if it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

The amount recognized as a provision is the best estimate of the consideration required to settle the present obligation as of the balance sheet date, taking into account the risks and uncertainties surrounding the obligation.

When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party (for example, because the obligation is covered by an insurance policy), an asset is recognized if it is virtually certain that reimbursement will be received.

If the Group has a contract that is onerous, the present obligation under the contract is recognized and measured as a provision. An onerous contract is a contract in which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received under it.

Critical accounting estimates – The use of estimates is important in determining provisions for potential losses that may arise from litigation and regulatory proceedings. The Group estimates and provides for potential losses that may arise out of litigation and regulatory proceedings to the extent that such losses are probable and can be estimated, in accordance with IAS 37, “Provisions, Contingent Liabilities and Contingent Assets”. Significant judgment is required in making these estimates and the Group's final liabilities may ultimately be materially different.

Contingencies in respect of legal matters are subject to many uncertainties and the outcome of individual matters is not predictable with assurance. Significant judgment is required in assessing probability and making estimates in respect of contingencies, and the Group's final liability may ultimately be materially different. The Group's total liability in respect of litigation, arbitration and regulatory proceedings is determined on a case-by-case basis and represents an estimate of probable losses after considering, among other factors, the progress of each case, the Group's experience and the experience of others in similar cases, and the opinions and views of legal counsel. Predicting the outcome of the Group's litigation matters is inherently difficult, particularly in cases in which claimants seek substantial or indeterminate damages. See Note 27 “Provisions” for further information on the uncertainties from the Group's judicial, regulatory and arbitration proceedings.

Income taxes

The Group recognizes the current and deferred tax consequences of transactions that have been included in the consolidated financial statements using the provisions of the respective jurisdictions' tax laws. Current and deferred taxes are recognized in profit or loss except to the extent that the tax relates to items that are recognized directly in equity or other comprehensive income in which case the related tax is recognized either directly in equity or other comprehensive income accordingly.

Deferred tax assets and liabilities are recognized for future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, unused tax losses and unused tax credits. Deferred tax assets are recognized only to the extent that it is probable that sufficient taxable profit will be available against which those unused tax losses, unused tax credits and deductible temporary differences can be utilized.

Deferred tax assets and liabilities are measured based on the tax rates that are expected to apply in the period that the asset is realized or the liability is settled, based on tax rates and tax laws that have been enacted or substantively enacted at the balance sheet date.

Current tax assets and liabilities are offset when (1) they arise from the same tax reporting entity or tax group of reporting entities, (2) the legally enforceable right to offset exists and (3) they are intended to be settled net or realized simultaneously.

Deferred tax assets and liabilities are offset when the legally enforceable right to offset current tax assets and liabilities exists and the deferred tax assets and liabilities relate to income taxes levied by the same taxing authority on either the same tax reporting entity or tax group of reporting entities.

Deferred tax liabilities are provided on taxable temporary differences arising from investments in subsidiaries, branches and associates and interests in joint ventures except when the timing of the reversal of the temporary difference is controlled by the Group and it is probable that the difference will not reverse in the foreseeable future. Deferred income tax assets are provided on deductible temporary differences arising from such investments only to the extent that it is probable that the differences will reverse in the foreseeable future and sufficient taxable income will be available against which those temporary differences can be utilized.

Deferred tax related to fair value remeasurement of financial assets classified as FVTOCI, cash flow hedges and other items, which are charged or credited directly to other comprehensive income, is also credited or charged directly to other comprehensive income and subsequently recognized in the Consolidated Statement of Income once the underlying transaction or event to which the deferred tax relates is recognized in the Consolidated Statement of Income.

For share-based payment transactions, the Group may receive a tax deduction related to the compensation paid in shares. The amount deductible for tax purposes may differ from the cumulative compensation expense recorded. At any reporting date, the Group must estimate the expected future tax deduction based on the current share price. The associated current and deferred tax consequences are recognized as income or expense in the consolidated statement of Income for the period. If the amount deductible, or expected to be deductible, for tax purposes exceeds the cumulative compensation expense, the excess tax benefit is recognized directly in equity.

Critical accounting estimates – In determining the amount of deferred tax assets, the Group uses historical tax capacity and profitability information and, if relevant, forecasted operating results based upon approved business plans, including a review of the eligible carry-forward periods, available tax planning opportunities and other relevant considerations. The analysis of the historical tax capacity includes the determination as to whether a period of past profits or a history of recent losses exists at the reporting date. The determination of a period of past profits or a history of recent losses is based on the pre-tax results adjusted for permanent differences and typically covers the current and the two preceding financial years. Each quarter, the Group re-evaluates its estimate related to deferred tax assets.

The Group believes that the accounting estimate related to the deferred tax assets is a critical accounting estimate because the underlying assumptions can change from period to period and requires significant management judgment. For example, tax law changes, changes in the historical tax capacity or variances in future projected operating performance could result in a change of the carrying amount of a deferred tax asset. If the Group was not able to realize all or part of its net deferred tax assets in the future, an adjustment to its deferred tax assets would be charged to income tax expense or directly to equity in the period such determination was made. If the Group was to recognize previously unrecognized deferred tax assets in the future, an adjustment to its deferred tax asset would be credited to income tax expense or directly to equity in the period such determination was made.

The use of estimates is also important in determining provisions for potential losses that may arise from uncertain income tax positions. The Group estimates and provides for potential losses that may arise out of uncertain income tax positions, in accordance with IAS 12, "Income Taxes" and IFRIC 23, "Uncertainty over Income Tax Treatment". Significant judgment is required in making these estimates and the Group's final liabilities may ultimately be materially different.

For further information on the Group's income taxes (including quantitative disclosures on recognized deferred tax assets) see Note 34 "Income Taxes".

Business combinations and noncontrolling Interests

The Group uses the acquisition method to account for business combinations. At the date the Group obtains control of the subsidiary, the cost of an acquisition is measured at the fair value of the consideration given, including any cash or non-cash consideration (equity instruments) transferred, any contingent consideration, any previously held equity interest in the acquiree and liabilities incurred or assumed. The excess of the aggregate of the cost of an acquisition and any noncontrolling interests in the acquiree over the Group's share of the fair value of the identifiable net assets acquired is recorded as goodwill. If the aggregate of the acquisition cost and any noncontrolling interests is below the fair value of the identifiable net assets (negative goodwill), a gain is reported in other income. Acquisition-related costs are recognized as expenses in the period in which they are incurred.

In business combinations achieved in stages ("step acquisitions"), a previously held equity interest in the acquiree is remeasured to its acquisition-date fair value and the resulting gain or loss, if any, is recognized in profit or loss. Amounts recognized in prior periods in other comprehensive income associated with the previously held investment would be recognized on the same basis as would be required if the Group had directly disposed of the previously held equity interest.

Noncontrolling interests are shown in the consolidated balance sheet as a separate component of equity, which is distinct from the Group's shareholders' equity. The net income attributable to noncontrolling interests is separately disclosed on the face of the Consolidated Statement of Income. Changes in the ownership interest in subsidiaries which do not result in a change of control are treated as transactions between equity holders and are reported in additional paid-in capital ("APIC").

Non-current assets held for sale

Individual non-current assets (and disposal groups) are classified as held for sale if they are available for immediate sale in their present condition subject only to the customary sales terms of such assets (and disposal groups) and their sale is considered highly probable. For a sale to be highly probable, management must be committed to a sales plan and be actively looking for a buyer and has no substantive regulatory approvals outstanding. Furthermore, the assets (and disposal groups) must be actively marketed at a reasonable sales price in relation to their current fair value and the sale should be expected to be completed within one year. Non-current non-financial assets (and disposal groups) which meet the criteria for held for sale classification are measured at the lower of their carrying amount and fair value less costs of disposal and are presented within "Other assets" and "Other liabilities" in the balance sheet. Financial assets and liabilities meeting the criteria continue to be measured in accordance with IFRS 9. The comparatives are not represented when non-current assets (and disposal groups) are classified as held for sale.

Property and equipment

Property and equipment includes own-use properties, leasehold improvements, furniture and equipment and software (operating systems only). Right-of-use assets are presented together with property and equipment on the Group's consolidated balance sheet. Own-use properties are carried at cost less accumulated depreciation and accumulated impairment losses. Depreciation is generally recognized using the straight-line method over the estimated useful lives of the assets. The range of estimated useful lives is 25 to 50 years for property and 3 to 10 years for furniture and equipment (including initial improvements to purchased buildings). Leasehold improvements are capitalized and subsequently depreciated on a straight-line basis over the shorter of the term of the lease and the estimated useful life of the improvement, which generally ranges from 3 to 25 years. Depreciation of property and equipment is included in general and administrative expenses. Maintenance and repairs are also charged to general and administrative expenses. Gains and losses on disposals are included in other income.

Property and equipment are assessed for any indication of impairment at each quarterly reporting date. If such indication exists, the recoverable amount, which is the higher of fair value less costs of disposal and value in use, must be estimated and an impairment charge is recorded to the extent the recoverable amount is less than the carrying amount. Value in use is the present value of the future cash flows expected to be derived from the asset. After the recognition of impairment of an asset, the depreciation charge is adjusted in future periods to reflect the asset's revised carrying amount. If an impairment is later reversed, the depreciation charge is adjusted prospectively.

Financial guarantees

Financial guarantee contracts are contracts that require the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due in accordance with the terms of a debt instrument.

Financial guarantees written

The Group has chosen to apply the fair value option to certain written financial guarantees that are managed on a fair value basis. Financial guarantees that the Group has not designated at fair value are initially recognized at fair value on the date the guarantee is given. Subsequent to initial recognition, the Group's liabilities under such guarantees are measured at the higher of the amount initially recognized, less cumulative amortization, and the best estimate of the expenditure required to settle any financial obligation as of the balance sheet date. These estimates are determined by management based on experience with similar transactions and history of past losses.

Any increase in the liability relating to guarantees is recorded in the Consolidated Statement of Income in provision for credit losses.

Financial guarantees purchased

Purchased financial guarantees result in reimbursements under IAS 37 to the extent that the financial guarantee is entered into to mitigate the credit exposure from debt instruments with HTC or HTC&S business models. This results in recognition of a reimbursement asset for subsequent increases in the expected credit losses, to the extent it is virtually certain that the purchased financial guarantee will reimburse the Group for the loss incurred. Accordingly, when the credit risk of the borrower significantly deteriorates a reimbursement asset is recognized equal to the life-time expected credit losses and is presented as Other Assets in the Group's Consolidated Balance Sheet. The corresponding reimbursement gain is recognized as a reduction in the Provision for credit losses in the Group's Consolidated Statement of Income.

Purchased financial guarantees entered into to mitigate credit exposure from debt instruments allocated to HTC or HTC&S business models may also be embedded in Collateralized Loan Obligations (CLO's) issued by the Group. Such embedded guarantees are not accounted for separately as a reimbursement asset and are instead accounted as part of the CLO's liability held at amortized cost. The Group regularly revises its estimated contractual redemption payment (including the benefit of such embedded guarantees) from the CLO when the credit risk of a borrower covered by the embedded financial guarantee in the CLO significantly deteriorates. The revision is based on the life-time expected credit losses of the debt instrument (to the extent covered by the CLO).

Purchased financial guarantees entered into to mitigate credit exposure from debt instruments included in the Other business model are accounted for at fair value through profit or loss.

Leasing transactions

The Group enters into lease contracts, predominantly for land and buildings, as a lessee. Other categories are company cars and technical/IT equipment.

In calculating the present value of lease payments, the Group uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is re-measured if there is a modification, a change in the lease term or a change in the lease payments (e.g., changes to future payments resulting from a change in an index or rate used to determine such lease payments).

Right-of-use assets are assessed for any indication of impairment at each quarterly reporting date. If such indication exists, the recoverable amount, which is the fair value less costs of disposal, must be estimated and an impairment charge is recorded to the extent the recoverable amount is less than the carrying amount. As right-of-use assets do not have independently generated cash flows to calculate its value in use, the Group considers any sublease income that could reasonably be earned. After the recognition of impairment of an asset, the depreciation charge is adjusted in future periods to reflect the asset's revised carrying amount. If an impairment is later reversed, the depreciation charge is adjusted prospectively.

The Group presents right-of-use assets in “Property and Equipment” and lease liabilities in “Other Liabilities”.

The Group applies the short-term lease recognition exemption to its short-term leases, i.e., those leases that have a lease term of 12 months or less from the commencement date. It also applies the lease of low-value assets recognition exemption to leases of technical/IT equipment that are considered to be low value. Lease payments on short-term leases and leases of low value assets are recognized as expense on a straight-line basis over the lease term.

Employee benefits

Pension benefits

The Group provides a number of pension plans. In addition to defined contribution plans, there are retirement benefit plans accounted for as defined benefit plans. The assets of all the Group's defined contribution plans are held in independently administered funds. Contributions are generally determined as a percentage of salary and are expensed based on employee services rendered, generally in the year of contribution.

All retirement benefit plans accounted for as defined benefit plans are valued using the projected unit-credit method to determine the present value of the defined benefit obligation and the related service costs. Under this method, the determination is based on actuarial calculations which include assumptions about demographics, salary increases and interest and inflation rates. Actuarial gains and losses are recognized in other comprehensive income and presented in equity in the period in which they occur. The majority of the Group's benefit plans is funded.

For the Group's most significant pension plans in the key countries, the discount rate used at each measurement date is set based on a high-quality corporate bond yield curve – derived based on bond universe information sourced from reputable third-party index data providers and rating agencies – reflecting the timing, amount and currency of the future expected benefit payments for the respective plan.

Other post-employment benefits

In addition, the Group maintains unfunded contributory post-employment medical plans for a number of current and retired employees who are mainly located in the United States. These plans pay stated percentages of eligible medical and dental expenses of retirees after a stated deductible has been met. The Group funds these plans on a cash basis as benefits are due. Analogous to retirement benefit plans these plans are valued using the projected unit-credit method. Actuarial gains and losses are recognized in full in the period in which they occur in other comprehensive income and presented in equity.

Refer to Note 33 “Employee benefits” for further information on the accounting for pension benefits and other post-employment benefits.

Termination benefits

Termination benefits arise when employment is terminated by the Group before the normal retirement date or whenever an employee accepts voluntary redundancy in exchange for these benefits. The Group recognizes termination benefits as a liability and an expense if the Group is demonstrably committed to a detailed formal plan without realistic possibility of withdrawal. In the case of an offer made to encourage voluntary redundancy, termination benefits are measured based on the number of employees expected to accept the offer. Benefits falling due more than twelve months after the end of the reporting period are discounted to their present value. The discount rate is determined by reference to market yields on high-quality corporate bonds.

Share-based compensation

Compensation expense for awards classified as equity instruments is measured at the grant date based on the fair value of the share-based award. For share awards, the fair value is the quoted market price of the share reduced by the present value of the expected dividends that will not be received by the employee and adjusted for the effect, if any, of restrictions beyond the vesting date. In case an award is modified such that its fair value immediately after modification exceeds its fair value immediately prior to modification, a remeasurement takes place and the resulting increase in fair value is recognized as additional compensation expense.

The Group records the offsetting amount to the recognized compensation expense in additional paid-in capital (“APIC”). Compensation expense is recorded on a straight-line basis over the period in which employees perform services to which the awards relate or over the period of the tranches for those awards delivered in tranches. Estimates of expected forfeitures are periodically adjusted in the event of actual forfeitures or for changes in expectations. The timing of expense recognition relating to grants which, due to early retirement provisions, include a nominal but non-substantive service period are accelerated by shortening the amortization period of the expense from the grant date to the date when the employee meets the eligibility criteria for the award, and not the vesting date. For awards that are delivered in tranches, each tranche is considered a separate award and amortized separately.

Compensation expense for share-based awards payable in cash is remeasured to fair value at each balance sheet date and recognized over the vesting period in which the related employee services are rendered. The related obligations are included in other liabilities until paid.

Other deferred compensation plans

Compensation expense for other deferred compensation plans is recorded on a straight-line basis over the period in which employees perform services to which the awards relate or over the period of the tranches for those awards delivered in tranches. For awards that are delivered in tranches, each tranche is considered a separate award and amortized separately. The amount recognized is based on the present value of the amount expected to be paid under the respective plan and is remeasured at each reporting date. The ultimate cumulative compensation expense recognized equals the cash or the fair value of the respective financial instruments delivered.

Government Grants

The Group recognizes income from government grants when there is reasonable assurance that it will receive the grant and will comply with the conditions attached to the grant. The benefit is recognized in the period in which the grant is intended to compensate the Group for related costs and presented as a reduction of the related expense.

The Group considered the initial benefits that arose from borrowing under TLTRO III as government grant from a below-market loan under IAS 20 and recognized subsequent benefits in accordance IFRS 9. Since November 23, 2022, all remaining TLTRO III operations are indexed to the average applicable key ECB interest rates.

For further information on the benefit recognized by the Group from the TLTRO III refinancing program see Note 5 “Net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss”.

Options and forwards on common shares

Option and forward contracts on Deutsche Bank shares are classified as equity if the number of shares is fixed and physical settlement is required. All other contracts in which Deutsche Bank shares are the underlying are recorded as financial assets or liabilities at fair value through profit or loss.

Consolidated statement of cash flows

For purposes of the consolidated statement of cash flows, the Group's cash and cash equivalents include highly liquid investments that are readily convertible into cash and which are subject to an insignificant risk of change in value. Such investments include cash and balances at central banks and demand deposits with banks.

There are various circumstances in which cash and cash equivalent balances held by an entity are not available for use by the Group. Examples include cash and cash equivalent balances held by a subsidiary that operates in a country where exchange controls or other legal restrictions apply such that the balances are not available for general use by the Group or its subsidiaries.

The Group's assignment of cash flows to the operating, investing or financing category depends on the business model ("management approach"). For the Group the primary operating activity is to manage financial assets and financial liabilities. Therefore, the issuance and management of long-term borrowings is a core operating activity which is different than for a non-financial company, where borrowing is not a principal revenue producing activity and thus is part of the financing category.

The Group views the issuance of senior long-term debt as an operating activity. Senior long-term debt comprises structured notes and asset-backed securities, which are designed and executed by the Corporate Bank and Investment Bank business line segments and which are revenue generating activities. The other component is debt issued by Treasury, which is considered interchangeable with other funding sources. All funding costs are allocated to business activities to establish their profitability.

Cash flows related to subordinated long-term debt and trust preferred securities are viewed differently than those related to senior-long term debt because they are managed as an integral part of the Group's capital, primarily to meet regulatory capital requirements. As a result, they are not interchangeable with other operating liabilities, but can only be interchanged with equity and thus are considered part of the financing category.

The amounts shown in the consolidated statement of cash flows do not precisely match the movements in the consolidated balance sheet from one period to the next as they exclude non-cash items such as movements due to foreign exchange translation and movements due to changes in the group of consolidated companies.

Movements in balances carried at fair value through profit or loss represent all changes affecting the carrying value. This includes the effects of market movements and cash inflows and outflows. The movements in balances carried at fair value are usually presented in operating cash flows.

02 – Recently adopted and new accounting pronouncements

Recently adopted accounting pronouncements

The following are those accounting pronouncements which are relevant to the Group and which have been adopted during 2023 in the preparation of these consolidated financial statements.

IFRS 17 “Insurance Contracts”

On January 1, 2023, the Group adopted IFRS 17, “Insurance Contracts”, which establishes the principles for the recognition, measurement, presentation and disclosure of insurance contracts within the scope of the standard. IFRS 17 replaced IFRS 4 which has given companies dispensation to carry on accounting for insurance contracts using national accounting standards, resulting in a multitude of different approaches. IFRS 17 solves the comparison problems created by IFRS 4 by requiring all insurance contracts to be accounted for in a consistent manner, benefiting both investors and insurance companies. Insurance obligations will be accounted for using current values – instead of historical cost. The information will be updated regularly, providing more useful information to users of financial statements. Based on the Group’s current business activities IFRS 17 did not have a material impact on the Group’s consolidated financial statements. Therefore, the Group does not provide the transition related disclosures under IFRS 17.

On January 1, 2023, the Group also adopted amendments to IFRS 17 “Insurance Contracts” that (1) addressed concerns and implementation challenges that were identified after IFRS 17 was published in 2017 and (2) narrow-scope amendments to the transition requirements of IFRS 17 for entities that first apply IFRS 17 and IFRS 9 at the same time. Neither of these amendments had a material impact on the Group’s consolidated financial statements.

IAS 12 “Income Taxes”

On January 1, 2023, the Group adopted amendments to IAS 12 “Income Taxes”. These amendments changed the deferred tax treatment related to assets and liabilities in a single transaction such that they introduce an exemption from the initial recognition exemption provided in IAS 12.15(b) and IAS 12.24. Accordingly, the initial recognition exemption does not apply to transactions in which both deductible and taxable temporary differences arise on initial recognition that result in the recognition of equal deferred tax assets and liabilities. Neither of these amendments had a material impact on the Group’s consolidated financial statements.

In December 2021, the Organization for Economic Co-Operation and Development (OECD) issued Global Anti-Base Erosion and Profit Shifting (BEPS) Rules under the Pillar 2 Framework. In May 2023, the IASB issued amendments to IAS 12 “Income Taxes” to introduce a mandatory temporary exception to the accounting for deferred taxes arising from the implementation of Pillar 2 model rules and disclosure requirements. The application of the exception outlined above had to be applied immediately with the disclosure requirements to be effective for annual periods beginning on or after January 1, 2023. The mandatory temporary exception has been applied and there has been no impact on the Group’s consolidated financial statements.

IAS 1 “Presentation of Financial Statements”

On January 1, 2023, the Group adopted amendments to IAS 1 and “IFRS Practice Statement 2” that are intended to provide guidance on deciding which accounting policies to disclose in financial statements. Accordingly, an entity is now required to disclose its material accounting policies instead of its significant accounting policies. The amendments did not have an impact on the Group’s consolidated financial statements.

New accounting pronouncements

The following accounting pronouncements were not effective as of December 31, 2023 and therefore have not been applied in preparing these consolidated financial statements.

IFRS 16 “Leases”

In September 2022, the IASB issued amendments to IFRS 16 “Leases” that clarify how a seller-lessee subsequently measures sale and leaseback transactions that satisfy the IFRS 15 requirements to be accounted for as a sale. The amendments are effective for annual periods beginning on or after January 1, 2024, with early adoption permitted. The amendment is not expected to have a material impact on the Group’s consolidated financial statements.

IAS 1 “Presentation of Financial Statements”

In January 2020 and July 2020, the IASB issued amendments to IAS 1 “Presentation of Financial Statements: Classification of Liabilities as Current or Non-Current”. The amendments clarify that the classification of liabilities as current or non-current should be based on rights that are in existence at the end of the reporting period. The amendments also clarify that the classification is unaffected by expectations about whether an entity will exercise its right to defer settlement of a liability and make clear that settlement refers to the transfer to the counterparty of cash, equity instruments, other assets or services. The amendments are effective for annual periods beginning on or after January 1, 2024, with early adoption permitted. They will not have a material impact on the Group’s consolidated financial statements.

In October 2022, the IASB issued a further amendment to IAS 1 that modifies the requirements described above on how an entity classifies debt and other financial liabilities as current or non-current in particular circumstances. Accordingly, it clarifies that only covenants with which an entity is required to comply on or before the reporting date affect the classification of a liability as current or non-current. In line with the previous amendments, the new amendments are effective for annual periods beginning on or after January 1, 2024, with early adoption permitted. The amendments will not have a material impact on the Group’s consolidated financial statements.

IAS 21 “The Effects of Changes in Foreign Exchange Rates”

In August 2023, the IASB issued “Lack of Exchangeability (Amendments to IAS 21)” that contains guidance to specify when a currency is exchangeable and how to determine the exchange rate when it is not. It also requires the disclosure of additional information when a currency is not exchangeable. The amendments are effective for annual periods beginning on or after January 1, 2025, with early adoption permitted. The amendments are not expected to have a material impact on the Group’s consolidated financial statements. These amendments have yet to be endorsed by the EU.

03 – Acquisitions and dispositions

Business combinations

On April 28, 2023, Deutsche Bank announced that it had reached an agreement on an all-cash offer for the acquisition of Numis Corporation Plc (“Numis”). Numis is a leading corporate broking and advisory house in the United Kingdom, providing strategic advice and capital market connectivity to more than 170 corporate broking clients, including 64 clients in the FTSE 350, representing almost 20% of the index.

On October 13, 2023, the acquisition was completed and Deutsche Bank acquired a 100% interest in Numis for a cash purchase price of € 460 million (GBP 397 million).

The intention to acquire Numis aims to establish a prominent position across UK corporate broking and strategic advisory to allow Deutsche Bank to accelerate its *Global Hausbank* strategy by unlocking a much deeper engagement with corporate clients in the UK. The combination of Deutsche Bank’s UK and Ireland corporate finance business with Numis will be known under the new brand, Deutsche Numis.

Following the acquisition of Numis, the determination of the fair values of the identifiable assets acquired and liabilities assumed as of the acquisition date has been finalized in the fourth quarter 2023 with details included in the table below. The fair value of acquired receivables equal gross contractual amounts which all relate to short term trading activity. Other intangible assets identified in the purchase price allocation include customer relationships (€ 56 million) and tradename (€ 27 million). Goodwill of € 235 million identified in the purchase price allocation mainly represent the expected future economic benefit of synergies and the value of human capital.

Fair Value of Assets Acquired and Liabilities Assumed as of the Acquisition Date

	October 13, 2023
in € m.	
Cash consideration transferred	460
<hr/>	
Total consideration transferred	460
<hr/>	
Recognized amounts of identifiable assets acquired and liabilities assumed: ¹	
Interbank balances (w/o central banks)	126
Securities borrowed	10
Financial assets at fair value through profit or loss	44
Property and equipment	53
Other intangible assets	84
All other assets	410
Total assets acquired	727
Financial liabilities at fair value through profit or loss	14
All other liabilities	488
Total liabilities assumed	502
Total identifiable net assets	225
Goodwill	235
Total identifiable net assets and goodwill acquired	460

¹ By major class of assets acquired and liabilities assumed

Deutsche Bank has assigned goodwill resulting from the Numis acquisition to the Investment Bank cash-generating unit (CGU). Given the valuation of the Investment Bank CGU, following the acquisition, goodwill recognized for Numis is considered impaired and was written off in the fourth quarter of 2023 (also refer to Note 23 Goodwill and Other Intangible Assets).

From the date of acquisition, Numis contributed € 31 million of revenues and a € 1 million net loss after tax to the Group results. If the acquisition had taken place at the beginning of the year, the Group’s revenues including Numis would have been € 29.0 billion and profit after tax would have been € 4.9 billion.

During 2022, the Group did not undertake any acquisitions accounted for as business combinations.

In the third quarter 2021, the Group had completed the acquisition of 100% of the shares in Better Payment Germany GmbH, a Berlin-based early-stage payment service provider. Through this acquisition, the Group intended to expand its market share in payment processing and acceptance. The fair value of the purchase price paid for the acquisition consisted of € 5 million cash and an earn-out consideration of € 3 million contingent upon a number of KPIs to be achieved within 3 years following the acquisition. As part of the purchase price allocation, the Group recorded goodwill of € 5 million assigned to the Corporate Bank CGU. Given the value of the Corporate Bank CGU, the new goodwill was considered impaired and immediately written off in 2021.

Dispositions

The Group finalized several disposals of subsidiaries/businesses during 2023, 2022 and 2021. These disposals were mainly comprised of businesses the Group had previously classified as held for sale, including the transfer of the digital investment platform of DWS as part of its partnership with BlackFin, and the sale of the Italian financial advisors business to Zurich Italy in 2022, as well as the transfer of the Global Prime Finance & Electronic Equities platform to BNP Paribas in 2021. For more detail, please refer to Note 24 “Non-Current Assets and Disposal Groups Held for Sale”. The total consideration received for these disposals (thereof in cash) in 2023, 2022 and 2021 was € 117 million (cash € 99 million), € 488 million (cash € 439 million) and € 34 million (cash € 0 million), respectively. The table below shows the assets and liabilities that were included in these disposals.

in € m.	2023	2022	2021
Cash and cash equivalents	7	1,126	0
All remaining assets	105	659	3,507
Total assets disposed	113	1,785	3,507
Total liabilities disposed	213	1,676	8,102

04 – Business segments and related information

Deutsche Bank's segmental information has been prepared in accordance with the management approach, which requires presentation of the segments on the basis of the internal management reports of the entity which are regularly reviewed by the chief operating decision maker, which is the Deutsche Bank Management Board, in order to assess the financial performance of the business segments and for allocating resources to the business segments.

Business segments

Deutsche Bank's segment reporting follows the organizational structure as reflected in the Group's internal management reporting systems, which are the basis for assessing the financial performance of the business segments and for allocating resources to them.

The bank's business operations are organized under the divisional structure comprising the following corporate divisions:

- Corporate Bank
- Investment Bank
- Private Bank
- Asset Management
- Corporate & Other

The Group consists of the following reportable segments: Corporate Bank, Investment Bank, Private Bank, Asset Management and Corporate & Other.

Corporate Bank reports revenues in the categories Corporate Treasury Services, Institutional Client Services and Business Banking.

Investment Bank reports revenues in the categories Fixed Income, Currency Sales & Trading and, Origination & Advisory as well as Other.

Private Bank reports revenues in the categories Private Bank Germany and International Private Bank. Within International Private Bank revenues are reported in the categories Wealth Management & Bank for Entrepreneurs and Premium Banking. By year end 2022, International Private Bank materially completed the wind-down of the majority of legacy assets and liabilities associated with Sal. Oppenheim. Remaining assets or liabilities are not expected to have material financial impacts going forward and will be included in the normal course of the client segment Wealth Management & Bank for Entrepreneurs. The associated disclosure of "specific revenues items" was discontinued starting in the first quarter of 2023.

Asset Management reports revenues in the categories Management Fees, Performance and Transaction Fees and Other.

Corporate & Other includes revenues, costs and resources held centrally that are not allocated to the individual business segments as well as valuation and timing differences that arise on derivatives used to hedge the Group's balance sheet. These are accounting impacts, and valuation losses are expected to be recovered over time as the underlying instruments approach maturity. In addition, Corporate & Other contains financial impacts of legacy portfolios, previously reported as the Capital Release Unit.

As announced in the Annual Report 2022, having fulfilled the Capital Release Unit's de-risking and cost reduction mandate from 2019 through year end 2022, the Capital Release Unit ceased to be reported as a separate segment with effect from the first quarter of 2023. The remaining portfolio, resources and employees are reported within the Corporate & Other segment. In line with the change, the Core Bank, which previously represented the Group excluding the Capital Release Unit, ceased to be reported as of the first quarter of 2023.

In addition, based on management decisions during the reporting period further divisional changes were introduced.

The prior years' segmental information is presented in the current structure.

Measurement of segment profit or loss

Segment reporting requires a presentation of the segment results based on management reporting methods, including a reconciliation between the results of the business segments and the consolidated financial statements, which is presented in the "Segment results of operations" section within this note. The information provided about each segment is based on internal management reporting about segment profit or loss, assets and other information which is regularly reviewed by the chief operating decision maker.

Segment assets are presented in the Group's internal management reporting based on a consolidated view, i.e., the amounts do not include intersegment balances. The Group's internal management reporting does not consider segment liabilities or interest expense separately. Similarly, depreciation and amortization, tax expenses and other comprehensive income are not presented separately internally and are therefore not disclosed here.

Non-IFRS compliant accounting methods used in the Group's management reporting represent either valuation or classification differences. The largest valuation differences relate to measurement at fair value in management reporting versus measurement at amortized cost under IFRS and to the recognition of trading results from own shares in revenues in management reporting (in Investment Bank) and in equity under IFRS. The major classification difference relates to noncontrolling interest, which represents the net share of minority shareholders in revenues, provision for credit losses, noninterest expenses and income tax expenses. Noncontrolling interest is reported as a component of the profit before tax of the businesses in management reporting (with a reversal in Corporate & Other) and a component of net income appropriation under IFRS.

Since the Group's business activities are diverse in nature and its operations are integrated, certain estimates and judgments have been made to apportion revenue and expense items among the business segments.

The management reporting systems allocate the Group's external net interest income according to the value of funding consumed or provided by each business segment's activities, in accordance with the bank's internal funds transfer pricing framework. Furthermore, to retain comparability with those competitors that have legally independent units with their own equity funding, the Group allocates a net notional interest benefit on its consolidated capital, in line with each segment's proportion of average shareholders' equity.

Management uses certain measures for equity and related ratios as part of its internal reporting system because it believes that these measures provide it with a useful indication of the financial performance of the business segments. The Group discloses such measures to provide investors and analysts with further insight into how management operates the Group's businesses and to enable them to better understand the Group's results.

Allocation of Average Shareholder's Equity

Shareholders' equity is fully allocated to the Group's segments based on the regulatory capital demand of each segment. Regulatory capital demand reflects the combined contribution of each segment to the Group's Common Equity Tier 1 (CET1) ratio, the Group's leverage ratio and the Group's capital loss under stress. Contributions in each of the three dimensions are weighted to reflect their relative importance and level of constraint for the Group. Contributions to the CET1 ratio and the leverage ratio are measured through risk-weighted assets and leverage ratio exposure. The Group's capital loss under stress is a measure of the Group's overall economic risk exposure under a defined stress scenario. Goodwill and other intangible assets are directly attributed to the Group's segments in order to allow the determination of allocated tangible shareholders' equity and the respective returns. Shareholders' equity and tangible shareholders' equity is allocated on a monthly basis and averaged across quarters and for the full year.

Driver-Based Cost Management allocations methodology change

As disclosed in the Annual Report 2022, the Group implemented the Driver-Based Cost Management allocations from the first quarter of 2023. The new methodology aims to provide greater transparency over the drivers of infrastructure costs and links costs more closely to service consumption by segments. This change did not affect the Group's cost/income ratio and return on tangible equity metrics but does impact these per business segment. Therefore prior-period information is presented in the current structure, resulting in an increase in noninterest expenses (corresponding decrease in profit before tax) for Corporate Bank of € 276 million, for Investment Bank of € 239 million, for Private Bank of € 279 million, for Asset Management of € 15 million, with a corresponding decrease in noninterest expenses (corresponding reduction in loss before tax) for Corporate & Other of € 809 million for the full year 2022.

Strategic Liquidity Reserve Profit and Loss Allocation

Commencing from the first quarter of 2022, the methodology for divisional intra-year allocations of profit or loss earned on the Strategic Liquidity Reserves has been refined. As part of the introduction of the new methodology, the intra-year profit and loss volatility is held centrally in Corporate & Other in order to better reflect the underlying performance of the business divisions. The implementation of the new methodology does not impact the overall group revenues or the annual business allocations, therefore the full year results for 2022 and 2021 are not impacted.

U.S. Tax Exempt Securities

Net interest income as a component of net revenues, profit (loss) before tax and related ratios are presented on a fully taxable-equivalent basis for U.S. tax-exempt securities for the Investment Bank. This enables management to measure performance of taxable and tax-exempt securities on a comparable basis. This presentation resulted in an increase in Investment Bank net interest income of € 10 million for full year 2023, € 33 million for full year 2022 and € 40 million for full year 2021. This increase is offset in Group consolidated figures through a reversal in Corporate & Other. The tax rate used in determining the fully taxable-equivalent of net interest income in respect of the majority of the U.S. tax-exempt securities is 21% for 2023, 2022 and 2021.

Infrastructure Full-time Employees realignment

In the third quarter of 2021, approximately 9,000 FTEs moved from Corporate & Other to the operating business segments driven by the bank's decision that the Chief Operating Office will no longer be a separate Management Board function. Accordingly, business-related parts of Chief Operating Office that support the Investment Bank and the Corporate Bank, which were previously run in Infrastructure, moved to those divisions. Comparative segmental financial information is presented accordingly. This change did not result in a material financial impact at a segment level, as costs are allocated from Corporate & Other to the operating business segments that are using the service of the respective infrastructure functions and with this move the costs are directly incurred by the divisions rather than being charged to Corporate & Other.

Segmental results of operations

The following tables present the results of the Group's business segments, including the reconciliation to the consolidated results of operations under IFRS.

	2023					
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Manage- ment	Corporate & Other	Total Consolidated
Net revenues¹	7,716	9,160	9,575	2,383	45	28,879
Provision for credit losses	266	431	783	(1)	26	1,505
Noninterest expenses						
Compensation and benefits	1,537	2,524	2,806	891	3,372	11,131
General and administrative expenses	2,934	4,136	4,742	934	(2,634)	10,112
Impairment of goodwill and other intangible assets	0	233	0	0	0	233
Restructuring activities	(4)	(3)	228	0	(1)	220
Total noninterest expenses	4,466	6,890	7,777	1,825	738	21,695
Noncontrolling interests	0	3	0	163	(166)	0
Profit (loss) before tax	2,984	1,836	1,015	396	(553)	5,678
 Assets (in € bn) ²	 264	 658	 331	 10	 49	 1,312
Loans (gross of allowance for loan losses, in € bn)	117	101	261	0	0	479
Additions to non-current assets	13	89	90	73	1,853	2,118
Deposits (in € bn)	289	18	308	0	7	622
Average allocated shareholders' equity	13,306	27,593	14,477	5,318	2,318	63,011
 Risk-weighted assets (in € bn)	 69	 140	 86	 15	 40	 350
of which: operational risk RWA (in € bn)	6	22	8	3	19	57
Leverage exposure (in € bn)	307	546	339	10	39	1,240
Employees (full-time equivalent)	25,520	19,979	38,451	4,962	1,218	90,130
Post-tax return on average shareholders' equity ³	15.2%	3.8%	4.1%	4.9%	N/M	6.7%
Post-tax return on average tangible shareholders' equity ³	16.6%	4.0%	4.5%	11.3%	N/M	7.4%
Cost/income ratio ⁴	57.9%	75.2%	81.2%	76.6%	N/M	75.1%
 ¹ includes:						
Net interest income	5,113	3,013	6,160	(124)	(560)	13,602
Net income (loss) from equity method investments	(6)	(70)	(5)	42	2	(38)
 ² includes:						
Equity method investments	91	413	84	420	5	1,013

N/M – Not meaningful

³ The post-tax return on average shareholders' equity and average tangible shareholders' equity at the Group level reflects the reported effective tax rate for the Group, which was 14% for the year ended December 31, 2023; for the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the year ended December 31, 2023; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report

⁴ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

						2022
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Manage- ment	Corporate & Other	Total Consolidated
Net revenues ¹	6,337	10,016	9,153	2,608	(904)	27,210
Provision for credit losses	335	319	583	(2)	(9)	1,226
Noninterest expenses						
Compensation and benefits	1,422	2,376	2,785	899	3,231	10,712
General and administrative expenses	2,786	4,075	4,176	883	(2,192)	9,728
Impairment of goodwill and other intangible assets	0	0	0	68	0	68
Restructuring activities	(19)	15	(113)	0	(2)	(118)
Total noninterest expenses	4,188	6,466	6,848	1,850	1,037	20,390
Noncontrolling interests	0	15	0	174	(190)	0
Profit (loss) before tax	1,814	3,217	1,722	584	(1,743)	5,594
Assets (in € bn) ²	258	677	333	10	60	1,337
Loans (gross of allowance for loan losses, in € bn)	122	103	265	0	(1)	489
Additions to non-current assets	3	4	177	41	2,267	2,494
Deposits (in € bn)	289	16	317	0	(1)	621
Average allocated shareholders' equity	12,015	26,036	13,557	5,395	2,991	59,994
Risk-weighted assets (in € bn)	74	139	88	13	46	360
of which: operational risk RWA (in € bn)	5	23	8	3	19	58
Leverage exposure (in € bn)	321	530	344	9	36	1,240
Employees (full-time equivalent)	22,161	18,420	37,716	4,778	1,856	84,930
Post-tax return on average shareholders' equity ³	10.0%	8.0%	8.3%	7.4%	N/M	8.4%
Post-tax return on average tangible shareholders' equity ³	10.9%	8.4%	9.0%	17.1%	N/M	9.4%
Cost/income ratio ⁴	66.1%	64.6%	74.8%	71.0%	N/M	74.9%
¹ includes:						
Net interest income	3,628	3,467	5,223	(65)	1,398	13,650
Net income (loss) from equity method investments	4	50	27	66	6	152
² includes:						
Equity method investments	90	501	99	415	20	1,124

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

³ The post-tax return on average shareholders' equity and average tangible shareholders' equity at the Group level reflects the reported effective tax rate for the Group, which was (1)% for the year ended December 31, 2022; for the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the year ended December 31, 2022; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report

⁴ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

						2021
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Manage- ment	Corporate & Other	Total Consolidated
Net revenues ¹	5,153	9,631	8,233	2,708	(314)	25,410
Provision for credit losses	(3)	104	446	5	(36)	515
Noninterest expenses						
Compensation and benefits	1,447	2,197	2,808	822	3,145	10,418
General and administrative expenses	3,053	3,843	4,939	846	(1,862)	10,821
Impairment of goodwill and other intangible assets	5	0	0	0	0	5
Restructuring activities	42	47	173	2	(2)	261
Total noninterest expenses	4,547	6,087	7,920	1,670	1,281	21,505
Noncontrolling interests	0	(17)	0	223	(206)	0
Profit (loss) before tax	609	3,458	(133)	809	(1,353)	3,390
Assets (in € bn) ²	246	616	310	10	141	1,324
Loans (gross of allowance for loan losses, in € bn)	122	93	254	0	6	476
Additions to non-current assets	17	6	149	32	1,733	1,939
Deposits (in € bn)	270	13	313	0	7	604
Average allocated shareholders' equity	11,101	25,281	13,041	5,128	1,883	56,434
Risk-weighted assets (in € bn)	65	141	85	14	46	352
of which: operational risk RWA (in € bn)	6	25	8	3	20	62
Leverage exposure (fully loaded, in € bn) ³	300	530	321	11	62	1,125
Employees (full-time equivalent)	20,560	16,927	37,458	4,514	3,510	82,969
Post-tax return on average shareholders' equity ⁴	3.2%	9.0%	(1.5)%	11.0%	N/M	3.4%
Post-tax return on average tangible shareholders' equity ⁴	3.5%	9.4%	(1.7)%	25.8%	N/M	3.8%
Cost/income ratio ⁵	88.2%	63.2%	96.2%	61.7%	N/M	84.6%
¹ includes:						
Net interest income	2,605	3,332	4,601	(5)	622	11,155
Net income (loss) from equity method investments	3	(34)	40	81	9	98
² includes:						
Equity method investments	72	462	180	349	29	1,091

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year.

³ The leverage ratio exposure is calculated according to CRR as applicable at the reporting date; starting with September 30, 2020, the Group was allowed to exclude certain Euro-based exposures facing Eurosystem central banks from the leverage ratio exposure based on the ECB-decision (EU) 2020/1306 and EU 2021/1074; this exclusion applied until March 31, 2022; the segmental leverage exposures are presented without that exclusion

⁴ The post-tax return on average shareholders' equity and average tangible shareholders' equity at the Group level reflects the reported effective tax rate for the Group, which was 26% for the year ended December 31, 2021; for the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the year ended December 31, 2021; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report

⁵ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

Corporate Bank

in € m. (unless stated otherwise)	2023	2022	2021	2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
				in € m.	in %	in € m.	in %
Net revenues							
Corporate Treasury Services	4,366	3,821	3,072	545	14	749	24
Institutional Client Services	1,906	1,587	1,299	319	20	287	22
Business Banking	1,445	930	781	515	55	148	19
Total net revenues	7,716	6,337	5,153	1,379	22	1,185	23
Of which:							
Net interest income	5,113	3,628	2,605	1,485	41	1,022	39
Commissions and fee income	2,328	2,356	2,204	(28)	(1)	151	7
Remaining income	275	354	343	(79)	(22)	11	3
Provision for credit losses	266	335	(3)	(68)	(20)	338	N/M
Noninterest expenses							
Compensation and benefits	1,537	1,422	1,447	115	8	(26)	(2)
General and administrative expenses	2,934	2,786	3,053	148	5	(267)	(9)
Impairment of goodwill and other intangible assets	0	0	5	0	N/M	(5)	N/M
Restructuring activities	(4)	(19)	42	15	(77)	(61)	N/M
Total noninterest expenses	4,466	4,188	4,547	278	7	(358)	(8)
Noncontrolling interests	0	0	0	0	N/M	0	N/M
Profit (loss) before tax	2,984	1,814	609	1,169	64	1,205	198
Employees (front office, full-time equivalent) ¹	7,859	7,444	7,441	415	6	3	0
Employees (business-aligned operations, full-time equivalent) ¹	7,853	6,508	5,838	1,345	21	670	11
Employees (allocated central infrastructure, full-time equivalent) ¹	9,808	8,209	7,282	1,599	19	927	13
Total employees (full-time equivalent)	25,520	22,161	20,560	3,359	15	1,600	8
Total assets (in € bn)^{1,2}	264	258	246	6	2	12	5
Risk-weighted assets (in € bn)¹	69	74	65	(5)	(7)	9	14
of which: operational risk RWA (in € bn) ¹	6	5	6	0	5	(0)	(5)
Leverage exposure (in € bn) ¹	307	321	300	(14)	(4)	21	7
Deposits (in € bn) ¹	289	289	270	1	0	18	7
Loans (gross of allowance for loan losses, in € bn) ¹	117	122	122	(5)	(4)	(1)	(1)
Cost/income ratio ³	57.9%	66.1%	88.2%	N/M	(8.2) ppt	N/M	(22.1) ppt
Post-tax return on average shareholders' equity ⁴	15.2%	10.0%	3.2%	N/M	5.2 ppt	N/M	6.8 ppt
Post-tax return on average tangible shareholders' equity ⁴	16.6%	10.9%	3.5%	N/M	5.7 ppt	N/M	7.4 ppt

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

¹ As of year-end

² Segment assets are presented on a consolidated basis, i.e., the amounts do not include intersegment balances

³ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

⁴ For the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the years 2023, 2022 and 2021; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report

Investment Bank

				2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
in € m. (unless stated otherwise)	2023	2022	2021	in € m.	in %	in € m.	in %
Net revenues							
Fixed Income, Currency (FIC) Sales & Trading	7,974	8,935	7,063	(961)	(11)	1,871	26
Debt Origination	843	412	1,573	431	105	(1,161)	(74)
Equity Origination	102	101	544	1	1	(443)	(81)
Advisory	301	485	491	(184)	(38)	(6)	(1)
Origination & Advisory	1,246	998	2,608	249	25	(1,610)	(62)
Other	(60)	84	(40)	(144)	N/M	124	N/M
Total net revenues	9,160	10,016	9,631	(856)	(9)	385	4
Provision for credit losses	431	319	104	112	35	215	N/M
Noninterest expenses							
Compensation and benefits	2,524	2,376	2,197	149	6	179	8
General and administrative expenses	4,136	4,075	3,843	61	1	232	6
Impairment of goodwill and other intangible assets	233	0	0	233	N/M	0	N/M
Restructuring activities	(3)	15	47	(18)	N/M	(32)	(68)
Total noninterest expenses	6,890	6,466	6,087	424	7	379	6
Noncontrolling interests	3	15	(17)	(12)	(79)	32	N/M
Profit (loss) before tax	1,836	3,217	3,458	(1,381)	(43)	(241)	(7)
Employees (front office, full-time equivalent) ¹	4,940	4,334	4,212	606	14	122	3
Employees (business-aligned operations, full-time equivalent) ¹	3,050	3,298	2,928	(248)	(8)	370	13
Employees (allocated central infrastructure, full-time equivalent) ¹	11,989	10,788	9,787	1,201	11	1,001	10
Total employees (full-time equivalent)¹	19,979	18,420	16,927	1,559	8	1,493	9
Total assets (in € bn)²	658	677	616	(18)	(3)	61	10
Risk-weighted assets (in € bn) ¹	140	139	141	0	0	(1)	(1)
of which: operational risk RWA (in € bn) ¹	22	23	25	(2)	(7)	(2)	(7)
Leverage exposure (in € bn) ¹	546	530	530	17	3	(1)	(0)
Deposits (in € bn) ¹	18	16	13	1	9	4	28
Loans (gross of allowance for loan losses, in € bn) ¹	101	103	93	(2)	(2)	10	11
Cost/income ratio ³	75.2%	64.6%	63.2%	N/M	10.7ppt	N/M	1.4ppt
Post-tax return on average shareholders' equity ⁴	3.8%	8.0%	9.0%	N/M	(4.2)ppt	N/M	(1.0)ppt
Post-tax return on average tangible shareholders' equity ⁴	4.0%	8.4%	9.4%	N/M	(4.3)ppt	N/M	(1.1)ppt

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

¹ As of year-end

² Segment assets are presented on a consolidated basis, i.e., the amounts do not include intersegment balances

³ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

⁴ For the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the years 2023, 2022 and 2021; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report

Private Bank

in € m. (unless stated otherwise)	2023	2022	2021	2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
				in € m.	in %	in € m.	in %
Net revenues:							
Private Bank Germany	6,070	5,325	5,006	745	14	319	6
International Private Bank	3,505	3,828	3,226	(322)	(8)	601	19
Premium Banking	986	942	934	44	5	8	1
Wealth Management & Bank for Entrepreneurs	2,520	2,886	2,292	(366)	(13)	593	26
Total net revenues	9,575	9,153	8,233	422	5	920	11
of which:							
Net interest income	6,160	5,223	4,601	937	18	622	14
Commissions and fee income	2,852	3,155	3,206	(303)	(10)	(51)	(2)
Remaining income	563	775	426	(212)	(27)	349	82
Provision for credit losses	783	583	446	201	34	137	31
Noninterest expenses:							
Compensation and benefits	2,806	2,785	2,808	21	1	(22)	(1)
General and administrative expenses	4,742	4,176	4,939	566	14	(764)	(15)
Impairment of goodwill and other intangible assets	0	0	0	0	N/M	0	N/M
Restructuring activities	228	(113)	173	341	N/M	(285)	N/M
Total noninterest expenses	7,777	6,848	7,920	929	14	(1,072)	(14)
Noncontrolling interests	0	0	0	(0)	(12)	0	N/M
Profit (loss) before tax	1,015	1,722	(133)	(707)	(41)	1,855	N/M
Employees (front office, full-time equivalent) ¹	20,599	21,092	21,973	(492)	(2)	(881)	(4)
Employees (business-aligned operations, full-time equivalent) ¹	5,637	5,816	6,060	(179)	(3)	(243)	(4)
Employees (allocated central infrastructure, full-time equivalent) ¹	12,215	10,808	9,426	1,407	13	1,382	15
Total employees (full-time equivalent)	38,451	37,716	37,458	735	2	258	1
Total assets (in € bn) ^{1,2}	331	333	310	(2)	(1)	22	7
Risk-weighted assets (in € bn) ¹	86	88	85	(1)	(2)	2	3
of which: operational risk RWA (in € bn) ¹	8	8	8	0	0	0	1
Leverage exposure (in € bn) ¹	339	344	321	(6)	(2)	24	7
Deposits (in € bn) ¹	308	317	313	(10)	(3)	4	1
Loans (gross of allowance for loan losses, in € bn) ¹	261	265	254	(4)	(1)	10	4
Assets under Management (in € bn) ^{1,3}	559	518	554	40	8	(36)	(6)
Net flows (in € bn)	29	30	30	(1)	(4)	(0)	(1)
Cost/income ratio ⁴	81.2%	74.8%	96.2%	N/M	6.4ppt	N/M	(21.4)ppt
Post-tax return on average shareholders' equity ⁵	4.1%	8.3%	(1.5)%	N/M	(4.2)ppt	N/M	9.8ppt
Post-tax return on average tangible shareholders' equity ⁵	4.5%	9.0%	(1.7)%	N/M	(4.6)ppt	N/M	10.7ppt

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

¹ As of year-end

² Segment assets are presented on a consolidated basis, i.e., the amounts do not include intersegment balances

³ The Group defines assets under management as (a) assets held on behalf of customers for investment purposes and/or (b) client assets that are managed by the bank; assets under management are managed on a discretionary or advisory basis, or these assets are deposited with the bank; deposits are considered assets under management if they serve investment purposes; in the Private Bank Germany and Premium Banking, this includes term deposits and savings deposits; in Wealth Management & Bank for Entrepreneurs, it is assumed that all customer deposits are held with the bank primarily for investment purposes; in instances in which Private Bank distributes investment products qualifying as assets under management which are managed by DWS these are reported as assets under management for Private Bank and for Asset Management (DWS) because they are two distinct, independent qualifying services

⁴ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

⁵ For the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the years 2023, 2022 and 2021; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report

Asset Management

in € m. (unless stated otherwise)	2023	2022	2021	2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
				in € m.	in %	in € m.	in %
Net revenues							
Management fees	2,314	2,458	2,370	(143)	(6)	88	4
Performance and transaction fees	128	125	212	2	2	(86)	(41)
Other	(59)	24	126	(84)	N/M	(102)	(81)
Total net revenues	2,383	2,608	2,708	(225)	(9)	(100)	(4)
Provision for credit losses	(1)	(2)	5	1	(50)	(6)	N/M
Noninterest expenses							
Compensation and benefits	891	899	822	(8)	(1)	77	9
General and administrative expenses	934	883	846	50	6	37	4
Impairment of goodwill and other intangible assets	0	68	0	(68)	N/M	68	N/M
Restructuring activities	0	0	2	(0)	(15)	(2)	(95)
Total noninterest expenses	1,825	1,850	1,670	(26)	(1)	180	11
Noncontrolling interests	163	174	223	(12)	(7)	(49)	(22)
Profit (loss) before tax	396	584	809	(188)	(32)	(225)	(28)
Employees (front office, full-time equivalent) ¹	2,023	2,024	1,913	(2)	(0)	111	6
Employees (business-aligned operations, full-time equivalent) ¹	2,363	2,258	2,159	105	5	100	5
Employees (allocated central infrastructure, full-time equivalent) ¹	576	495	442	81	16	53	12
Total employees (full-time equivalent)¹	4,962	4,778	4,514	185	4	264	6
Total assets (in € bn) ^{1,2}	10	10	10	0	2	(0)	(2)
Risk-weighted assets (in € bn) ¹	15	13	14	2	18	(2)	(11)
of which: operational risk RWA (in € bn) ¹	3	3	3	0	2	0	2
Leverage exposure (in € bn) ¹	10	9	11	0	3	(1)	(11)
Assets under Management (in € bn) ^{1,3}	896	821	928	75	9	(106)	(11)
Net flows (in € bn)	28	(20)	48	48	N/M	(68)	N/M
Cost/income ratio ⁴	76.6%	71.0%	61.7%	N/M	5.6ppt	N/M	9.3ppt
Post-tax return on average shareholders' equity ⁵	4.9%	7.4%	11.0%	N/M	(2.5)ppt	N/M	(3.6)ppt
Post-tax return on average tangible shareholders' equity ⁵	11.3%	17.1%	25.8%	N/M	(5.9)ppt	N/M	(8.7)ppt

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

¹ As of year-end

² Segment assets are presented on a consolidated basis, i.e., the amounts do not include intersegment balances

³ The Group defines assets under management as (a) assets held on behalf of customers for investment purposes and/or (b) client assets that are managed by the bank; assets under management are managed on a discretionary or advisory basis, or these assets are deposited with the bank; deposits are considered assets under management if they serve investment purposes; in the Private Bank Germany and Premium Banking, this includes term deposits and savings deposits; in Wealth Management & Bank for Entrepreneurs, it is assumed that all customer deposits are held with the bank primarily for investment purposes; in instances in which Private Bank distributes investment products qualifying as assets under management which are managed by DWS these are reported as assets under management for Private Bank and for Asset Management (DWS) because they are two distinct, independent qualifying services

⁴ Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income

⁵ For the post-tax return on average shareholders' equity and average tangible shareholders' equity of the segments, the Group effective tax rate was adjusted to exclude the impact of permanent differences not attributed to the segments, so that the segment tax rates were 28% for the years 2023, 2022 and 2021; for further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report

Corporate & Other

in € m. (unless stated otherwise)	2023	2022	2021	2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
				in € m.	in %	in € m.	in %
Net revenues	45	(904)	(314)	949	N/M	(590)	188
Provision for credit losses	26	(9)	(36)	35	N/M	27	(76)
Noninterest expenses							
Compensation and benefits	3,372	3,231	3,145	141	4	86	3
General and administrative expenses	(2,634)	(2,192)	(1,862)	(441)	20	(331)	18
Impairment of goodwill and other intangible assets	0	0	0	0	N/M	0	N/M
Restructuring activities	(1)	(2)	(2)	1	(40)	0	(22)
Total noninterest expenses	738	1,037	1,281	(299)	(29)	(244)	(19)
Noncontrolling interests	(166)	(190)	(206)	24	(12)	16	(8)
Profit (loss) before tax	(553)	(1,743)	(1,353)	1,190	(68)	(389)	29
Employees (C&O, net, full-time equivalent)¹	1,218	1,856	3,510	(638)	(34)	(1,654)	(47)
Employees (central infrastructure allocated to businesses, full-time equivalent) ¹	34,588	30,300	26,937	4,288	14	3,363	12
Total Employees (full-time equivalent)¹	35,806	32,156	30,447	3,650	11	1,709	6
Risk-weighted assets (in € bn) ¹	40	46	46	(6)	(13)	(0)	(0)
Leverage exposure (in € bn) ¹	39	36	62	3	7	(25)	(41)

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

¹ As of year-end

Entity-wide disclosures

The Group's entity-wide disclosures include net revenues from internal and external counterparties. Excluding revenues from internal counterparties would require disproportionate IT investment and is not in line with the Bank's management approach. For details of the net revenue components please see "Management Report: Operating and Financial Review: Results of Operations: Corporate Divisions".

The following table presents total net revenues (before provision for credit losses) by geographic area for the years ended December 31, 2023, 2022 and 2021 respectively. The information presented for Corporate Bank, Investment Bank, Private Bank and Asset Management has been classified based primarily on the location of the Group's office in which the revenues are recorded. The information for Corporate & Other is presented on a global level only, as management responsibility for Corporate & Other is held centrally.

in € m.	2023	2022	2021
Germany:			
Corporate Bank	4,223	3,166	2,595
Investment Bank	573	587	450
Private Bank	6,570	5,876	5,479
Asset Management	1,211	1,266	1,385
Total Germany	12,577	10,895	9,909
UK:			
Corporate Bank	192	143	144
Investment Bank	3,503	4,343	3,642
Private Bank	54	3	(2)
Asset Management	350	356	336
Total UK	4,099	4,844	4,120
Rest of Europe, Middle East and Africa:			
Corporate Bank	1,303	1,162	900
Investment Bank	460	383	255
Private Bank	1,987	2,191	1,783
Asset Management	274	275	286
Total Rest of Europe, Middle East and Africa	4,024	4,011	3,223
Americas (primarily United States):			
Corporate Bank	1,010	974	750
Investment Bank	3,042	3,033	3,904
Private Bank	462	466	364
Asset Management	432	580	537
Total Americas	4,945	5,053	5,555
Asia/Pacific:			
Corporate Bank	988	892	764
Investment Bank	1,583	1,671	1,381
Private Bank	503	617	608
Asset Management	115	131	163
Total Asia/Pacific	3,188	3,311	2,917
Corporate & Other	45	(904)	(314)
Consolidated net revenues¹	28,879	27,210	25,410

Prior year's comparatives aligned to presentation in the current year

¹ Consolidated net revenues comprise interest and similar income, interest expenses and total noninterest income (including net commission and fee income); revenues are attributed to countries based on the location in which the Group's booking office is located; the location of a transaction on the Group's books is sometimes different from the location of the headquarters or other offices of a customer and different from the location of the Group's personnel who entered into or facilitated the transaction; where the Group records a transaction involving its staff and customers and other third parties in different locations frequently depends on other considerations, such as the nature of the transaction, regulatory considerations and transaction processing considerations

Notes to the consolidated income statement

05 – Net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss

Net interest income

in € m.	2023	2022	2021
Interest and similar income:			
Interest income on cash and central bank balances	7,048	1,936	160
Interest income on interbank balances (w/o central banks)	607	352	67
Central bank funds sold and securities purchased under resale agreements	1,069	504	273
Loans	22,559	14,088	10,477
Other	2,103	1,969	1,747
Total Interest and similar income from assets measured at amortized cost	33,385	18,849	12,724
Interest income on financial assets at fair value through other comprehensive income	1,097	798	501
Total interest and similar income calculated using the effective interest method	34,482	19,647	13,225
Financial assets at fair value through profit or loss	9,592	4,652	3,374
Total interest and similar income	44,074	24,299	16,599
Thereof: negative interest expense on financial liabilities	76	959	1,217
Interest expense:			
Interest-bearing deposits	13,706	3,902	1,244
Central bank funds purchased and securities sold under repurchase agreements	388	304	148
Other short-term borrowings	310	111	71
Long-term debt	6,154	2,409	1,484
Trust preferred securities	16	13	3
Other	2,848	1,119	876
Total interest expense measured at amortized cost	23,422	7,858	3,825
Financial liabilities at fair value through profit or loss	7,051	2,791	1,619
Total interest expense	30,472	10,649	5,444
Thereof: negative interest income on financial assets	81	461	786
Net interest income	13,602	13,650	11,155

Impact of ECB Targeted Longer-term Refinancing Operations (TLTRO III program)

The Governing Council of the ECB decided on a number of modifications to the terms and conditions of its TLTRO III-refinancing program starting in the second quarter of 2020 in order to support funding of credit to households and firms and the economic disruption due to COVID-19. The Group considered the initial benefits that arose from borrowing under TLTRO III as government grant from a below-market loan under IAS 20 and recognizes subsequent benefits in accordance IFRS 9. The current interest rate on all remaining TLTRO III operations is indexed on the average applicable key ECB interest rates from November 23, 2022, onward. As of December 31, 2023, the Group has borrowed € 15.0 billion (December 31, 2022: € 33.7 billion) under the TLTRO III-refinancing program. The resulting net interest income (expense) includes € (741) million for the twelve months ended December 31, 2023 (December 31, 2022: € 211 million) under the TLTRO III program.

Net gains (losses) on financial assets/liabilities at fair value through profit or loss

in € m.	2023	2022	2021
Trading Income:			
FIC Sales and Trading	5,117	5,353	2,780
Other trading income (loss)	(239)	(2,571)	(921)
Total trading income (loss)	4,878	2,782	1,859
Net gains (losses) on non-trading financial assets mandatory at fair value through profit or loss:			
Breakdown by financial assets category:			
Debt Securities	89	(43)	95
Equity Securities	(10)	47	812
Loans and loan commitments	112	(5)	18
Deposits	(5)	14	2
Others non-trading financial assets mandatory at fair value through profit and loss	31	(73)	180
Total net gains (losses) on non-trading financial assets mandatory at fair value through profit or loss:	217	(61)	1,106
Net gains (losses) on financial assets/liabilities designated at fair value through profit or loss:			
Breakdown by financial asset/liability category:			
Loans and loan commitments	12	(2)	11
Deposits	(0)	4	5
Long-term debt	(180)	265	48
Other financial assets/liabilities designated at fair value through profit or loss	20	11	15
Total net gains (losses) on financial assets/liabilities designated at fair value through profit or loss	(148)	277	79
Total net gains (losses) on financial assets/liabilities at fair value through profit or loss	4,947	2,999	3,045

Combined net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss

in € m.	2023	2022	2021
Net interest income	13,602	13,650	11,155
Trading income (loss) ¹	4,878	2,782	1,859
Net gains (losses) on non-trading financial assets mandatory at fair value through profit or loss	217	(61)	1,106
Net gains (losses) on financial assets/liabilities designated at fair value through profit or loss	(148)	277	79
Total net gains (losses) on financial assets/liabilities at fair value through profit or loss	4,947	2,999	3,045
Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss²			
Corporate Treasury Services	2,902	2,451	1,772
Institutional Client Services	957	572	328
Business Banking	1,205	697	566
Corporate Bank	5,065	3,720	2,666
FIC Sales & Trading	8,123	8,697	6,918
Remaining Products	(21)	(432)	(27)
Investment Bank	8,102	8,265	6,891
Private Bank Germany	4,156	4,619	3,114
International Private Bank	2,226	1,993	1,733
Private Bank	6,382	6,612	4,847
Asset Management	(11)	(250)	246
Corporate & Other	(988)	(1,698)	(450)
Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss	18,549	16,649	14,200

¹ Trading income (loss) includes gains and losses from derivatives not qualifying for hedge accounting

² Prior year's comparatives aligned to presentation in the current year

The Group's trading and risk management businesses include significant activities in interest rate instruments and related derivatives. Under IFRS, interest and similar income earned from trading instruments and financial instruments designated at fair value through profit or loss (i.e., coupon and dividend income), and the costs of funding net trading positions, are part of net interest income. The Group's trading activities can periodically shift income to either net interest income or to net gains (losses) of financial assets/liabilities at fair value through profit or loss depending on a variety of factors, including risk management strategies. The above table combines net interest income and net gains (losses) of financial assets/liabilities at fair value through profit or loss by business division.

06 – Commissions and fee income

in € m.	2023	2022	2021
Commission and fee income and expense:			
Commission and fee income	11,657	12,512	13,730
Commission and fee expense	2,452	2,675	2,796
Net commissions and fee income	9,206	9,838	10,934

Disaggregation of revenues by product type and business segment

in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Dec 31,2023
Major type of services:						
Commissions for administration	204	55	247	11	(2)	515
Commissions for assets under management	18	0	362	3,527	(0)	3,907
Commissions for other securities	461	0	37	1	1	499
Underwriting and advisory fees	43	1,093	16	0	4	1,156
Brokerage fees	19	280	971	33	(20)	1,282
Commissions for local payments	488	0	995	0	1	1,484
Commissions for foreign commercial business	475	27	22	0	(27)	497
Commissions for foreign currency/exchange business	6	0	4	0	(0)	10
Commissions for loan processing and guarantees	646	329	230	0	1	1,207
Intermediary fees	28	3	364	0	10	405
Fees for sundry other customer services	248	290	41	117	0	695
Total fee and commissions income	2,635	2,078	3,288	3,689	(33)	11,657
Gross expense						(2,452)
Net fees and commissions						9,206

in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Dec 31,2022
Major type of services:						
Commissions for administration	218	33	254	17	(3)	520
Commissions for assets under management	18	1	363	3,642	(0)	4,024
Commissions for other securities	512	(0)	47	0	0	559
Underwriting and advisory fees	35	1,373	12	0	(52)	1,368
Brokerage fees	19	253	1,164	65	(1)	1,501
Commissions for local payments	479	3	1,006	0	8	1,497
Commissions for foreign commercial business	466	33	62	0	(5)	556
Commissions for foreign currency/exchange business	15	0	5	0	(0)	19
Commissions for loan processing and guarantees	618	298	292	0	5	1,213
Intermediary fees	23	2	523	0	13	562
Fees for sundry other customer services	282	277	10	122	4	695
Total fee and commissions income	2,684	2,273	3,739	3,847	(30)	12,512
Gross expense						(2,675)
Net fees and commissions						9,838

Prior year's comparatives aligned to presentation in the current year

in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Dec 31,2021
						Total Consolidated
Major type of services:						
Commissions for administration	231	27	259	21	2	539
Commissions for assets under management	16	1	369	3,570	(0)	3,956
Commissions for other securities	423	(0)	43	1	0	467
Underwriting and advisory fees	35	2,258	12	0	(42)	2,264
Brokerage fees	22	246	1,302	96	118	1,784
Commissions for local payments	441	4	864	0	10	1,320
Commissions for foreign commercial business	456	23	95	0	(2)	572
Commissions for foreign currency/exchange business	11	0	5	0	(0)	16
Commissions for loan processing and guarantees	564	279	305	0	10	1,157
Intermediary fees	12	3	617	0	12	644
Fees for sundry other customer services	282	562	40	121	6	1,011
Total fee and commissions income	2,494	3,403	3,910	3,809	114	13,730
Gross expense						(2,796)
Net fees and commissions						10,934

Prior year's comparatives aligned to presentation in the current year

Revenue is recognized when performance obligations are satisfied. Performance obligation is satisfied by fund performance exceeding a hurdle rate, an agreed minimum annual return provided to investors. As of 31 December 2023, there were performance obligations to be satisfied of € 225 million with a time band of three years from 2025 to 2027 (as of 31 December 2022, € 267 million with a time band of three years from 2024 to 2026) from Alternative funds. The decrease of performance obligations to be satisfied was mainly driven by decline in the real estate valuations due to market conditions.

As of December 31, 2023, and December 31, 2022, the Group's balance of receivables from commission and fee income was € 903 million and € 798 million respectively. As of December 31, 2023, and December 31, 2022, the Group's balance of contract liabilities associated to commission and fee income was € 90 million and € 63 million, respectively. Contract liabilities arise from the Group's obligation to provide future services to a customer for which it has received consideration from the customer prior to completion of the services. The balances of receivables and contract liabilities do not vary significantly from period to period reflecting the fact that they predominately relate to recurring service contracts with service periods of less than one year such as monthly current account services and quarterly asset management services. As a result, prior period balances of contract liabilities are generally recognized in revenue in the subsequent period. Customer payment in exchange for services provided are generally subject to performance by the Group over the specific service period such that the Group's right to payment arises at the end of the service period when its performance obligations are fully completed. Therefore, no material balance of contract asset is reported.

07 – Net gains (losses) from derecognition of financial assets measured at amortized cost

For the twelve months ended December 31, 2023, the Group sold financial assets measured at amortized cost of € 559 million (December 31, 2022: € 473 million and December 31, 2021: € 539 million). The sales related primarily to a Hold to Collect (HTC) portfolio in Corporate Bank, Corporate & Others and Investment Bank.

The table below presents the gains and (losses) arising from derecognition of these securities.

in € m.	2023	2022	2021
Gains	5	11	15
Losses	(101)	(13)	(15)
Net gains (losses) from derecognition of financial assets measured at amortized cost	(96)	(2)	1

08 – Other income (loss)

in € m.	2023	2022	2021
Other income (loss):			
Insurance premiums	4	3	3
Net income (loss) from hedge relationships qualifying for hedge accounting	1,206	(151)	124
Remaining other income (loss) ¹	48	937	(185)
Total other income (loss)	1,259	789	(58)

¹ Includes net gains (losses) of € 41 million, € 404 million and € 10 million for the years ended December 31, 2023, 2022 and 2021, respectively, that are related to non-current assets and disposal groups held for sale

09 – General and administrative expenses

in € m.	2023	2022	2021
General and administrative expenses:			
Information Technology	3,755	3,680	4,321
Occupancy, furniture and equipment expenses	1,478	1,429	1,727
Regulatory, Tax & Insurance ¹	1,399	1,285	1,395
Professional services	899	858	924
Banking Services and outsourced operations	964	881	946
Market Data and Research Services	374	378	347
Travel expenses	143	110	46
Marketing expenses	203	165	178
Other expenses ²	899	943	938
Total general and administrative expenses	10,112	9,728	10,821

¹ Includes bank levy of € 528 million in 2023, € 762 million in 2022 and € 553 million in 2021

² Includes litigation related expenses of € 311 million in 2023, € 413 million in 2022 and € 466 million in 2021; see Note 27 "Provisions", for more details on litigation

10 – Restructuring

In 2023, Restructuring is primarily driven by the implementation of the Group's Global Hausbank strategic agenda. The Group has defined and is in the process of implementing efficiency measures that aim to contribute to achieving the bank's 2025 targets. Restructuring in prior periods relates to measures as part of the previous strategy "Compete to win" which the bank continues to implement.

Restructuring expense is comprised of termination benefits, additional expenses covering the acceleration of deferred compensation awards not yet amortized due to the discontinuation of employment and contract termination costs related to real estate.

Net restructuring expense by division

in € m.	2023	2022	2021
Corporate Bank	(4)	(19)	42
Investment Bank	(3)	15	47
Private Bank	228	(113)	173
Asset Management	0	0	2
Corporate & Other	(1)	(2)	(2)
Total Net Restructuring Charges	220	(118)	261

Net restructuring by type

in € m.	2023	2022	2021
Restructuring – Staff related	178	(117)	241
thereof:			
Termination Benefits	176	(132)	224
Retention Acceleration	1	15	16
Social Security	1	0	1
Restructuring – Non Staff related	42	(1)	21
Total Net Restructuring Charges	220	(118)	261

Provisions for restructuring amounted to € 333 million, € 248 million and € 582 million as of December 31, 2023, December 31, 2022 and December 31, 2021, respectively. The majority of the current provisions for restructuring are expected to be utilized in the next two years.

During 2023, 476 full-time equivalent staff was reduced through restructuring (2022: 903 and 2021: 1,362).

Organizational changes

Full-time equivalent staff	2023	2022	2021
Corporate Bank	29	113	228
Investment Bank	9	54	149
Private Bank	377	594	776
Asset Management	0	1	10
Infrastructure	61	141	199
Total full-time equivalent staff	476	903	1,362

11 – Earnings per share

Basic earnings per share amounts are computed by dividing net income (loss) attributable to Deutsche Bank shareholders by the average number of common shares outstanding during the year. The average number of common shares outstanding is defined as the average number of common shares issued, reduced by the average number of shares in treasury and by the average number of shares that will be acquired under physically-settled forward purchase contracts, and increased by undistributed vested shares awarded under deferred share plans.

Diluted earnings per share assumes the conversion into common shares of outstanding securities or other contracts to issue common stock, such as share options, convertible debt, unvested deferred share awards and forward contracts. The aforementioned instruments are only included in the calculation of diluted earnings per share if they are dilutive in the respective reporting period.

Computation of basic and diluted earnings per share

in € m.	2023	2022	2021
Net income (loss) attributable to Deutsche Bank shareholders and additional equity components	4,772	5,525	2,365
Coupons paid on additional equity components	(498)	(479)	(363)
Net income (loss) attributable to Deutsche Bank shareholders – numerator for basic earnings per share	4,274	5,046	2,002
Effect of dilutive securities	0	0	0
Net income (loss) attributable to Deutsche Bank shareholders after assumed conversions – numerator for diluted earnings per share	4,274	5,046	2,002
Number of shares in million			
Weighted-average shares outstanding – denominator for basic earnings per share	2,064.1	2,084.9	2,096.5
Effect of dilutive securities:			
Forwards	0.0	0.0	0.0
Employee stock compensation options	0.0	0.0	0.0
Deferred shares	39.9	40.7	46.6
Other (including trading options)	0.0	0.0	0.0
Dilutive potential common shares	0.0	0.0	0.0
Adjusted weighted-average shares after assumed conversions – denominator for diluted earnings per share	2,104.0	2,125.6	2,143.2

Earnings per share

in €	2023	2022	2021
Basic earnings per share	2.07	2.42	0.96
Diluted earnings per share	2.03	2.37	0.93

There were no instruments outstanding that could potentially dilute basic earnings per share and are not included in the calculation of diluted earnings per share as of December 31, 2023.

Notes to the consolidated balance sheet

12 – Financial assets/liabilities at fair value through profit or loss

in € m.	Dec 31, 2023	Dec 31, 2022
Financial assets classified as held for trading:		
Trading assets:		
Trading securities	115,832	84,012
Other trading assets ¹	9,443	8,855
Total trading assets	125,275	92,867
Positive market values from derivative financial instruments	251,856	299,686
Total financial assets classified as held for trading	377,131	392,553
Non-trading financial assets mandatory at fair value through profit or loss:		
Securities purchased under resale agreements	65,937	63,855
Securities borrowed	13,036	17,414
Loans	812	1,037
Other financial assets mandatory at fair value through profit or loss	8,261	7,348
Total Non-trading financial assets mandatory at fair value through profit or loss	88,047	89,654
Financial assets designated at fair value through profit or loss:		
Loans	75	168
Other financial assets designated at fair value through profit or loss	0	0
Total financial assets designated at fair value through profit or loss	75	168
Total financial assets at fair value through profit or loss	465,252	482,376

¹ Includes traded loans of € 8.2 billion and € 8.0 billion at December 31, 2023 and 2022 respectively

in € m.	Dec 31, 2023	Dec 31, 2022
Financial liabilities classified as held for trading:		
Trading liabilities:		
Trading securities	43,114	49,860
Other trading liabilities	890	756
Total trading liabilities	44,005	50,616
Negative market values from derivative financial instruments	238,260	282,353
Total financial liabilities classified as held for trading	282,264	332,969
Financial liabilities designated at fair value through profit or loss:		
Securities sold under repurchase agreements	72,377	48,517
Loan commitments	5	12
Long-term debt	10,709	5,250
Other financial liabilities designated at fair value through profit or loss	636	856
Total financial liabilities designated at fair value through profit or loss	83,727	54,634
Investment contract liabilities	484	469
Total financial liabilities at fair value through profit or loss	366,475	388,072

Financial assets & liabilities designated at fair value through profit or loss

The Group has designated various lending relationships at fair value through profit or loss. Lending facilities consist of drawn loan assets and undrawn irrevocable loan commitments. The maximum exposure to credit risk on a drawn loan is its fair value. The Group's maximum exposure to credit risk on drawn loans was € 75 million and € 168 million as of December 31, 2023, and 2022, respectively. Exposure to credit risk also exists for undrawn irrevocable loan commitments and is predominantly counterparty credit risk.

The credit risk on the securities purchased under resale agreements and securities borrowed designated under the fair value option is mitigated by the holding of collateral. The valuation of these instruments considers the credit enhancement in the form of the collateral received. As such there is no material movement during the year or cumulatively due to movements in counterparty credit risk on these instruments.

Changes in fair value of financial assets attributable to movements in counterparty credit risk

in € m.	Dec 31, 2023	Dec 31, 2022
Notional value of financial assets exposed to credit risk	75	168
Annual change in the fair value reflected in the Statement of Income	1	0
Cumulative change in the fair value	(0)	1
Notional of credit derivatives used to mitigate credit risk	40	90
Annual change in the fair value reflected in the Statement of Income	(0)	0
Cumulative change in the fair value	(1)	0

Changes in fair value of financial liabilities attributable to movements in the Group's credit risk¹

in € m.	Dec 31, 2023	Dec 31, 2022
Presented in Other comprehensive Income		
Cumulative change in the fair value	19	77
Presented in Statement of income		
Annual change in the fair value reflected in the Statement of Income	0	0
Cumulative change in the fair value	0	0

¹ The fair value of a financial liability incorporates the credit risk of that financial liability. Changes in the fair value of financial liabilities issued by consolidated structured entities have been excluded as this is not related to the Group's credit risk but to that of the legally isolated structured entity, which is dependent on the collateral it holds

Transfers of the cumulative gains or losses within equity during the period

in € m.	Dec 31, 2023	Dec 31, 2022
Cumulative gains or losses within equity during the period	0	0

Amounts realized on derecognition of liabilities designated at fair value through profit or loss

in € m.	Dec 31, 2023	Dec 31, 2022
Amount presented in other comprehensive income realized at derecognition	0	0

The excess of the contractual amount repayable at maturity over the carrying value of financial liabilities¹

in € m.	Dec 31, 2023	Dec 31, 2022
Including undrawn loan commitments ²	1,769	3,308
Excluding undrawn loan commitments	1,104	892

¹ Assuming the liability is extinguished at the earliest contractual maturity that the Group can be required to repay. When the amount payable is not fixed, it is determined by reference to conditions existing at the reporting date

² The contractual cash flows at maturity for undrawn loan commitments assume full drawdown of the facility

13 – Financial Instruments carried at Fair Value

Valuation methods and control

The Group has an established valuation control framework which governs internal control standards, methodologies, and procedures over the valuation process.

Prices Quoted in Active Markets – The fair value of instruments that are quoted in active markets are determined using the quoted prices where they represent prices at which regularly and recently occurring transactions take place.

Valuation Techniques – The Group uses valuation techniques to establish the fair value of instruments where prices, quoted in active markets, are not available. Valuation techniques used for financial instruments include modelling techniques, the use of indicative quotes for proxy instruments, quotes from recent and less regular transactions and broker quotes.

For some financial instruments a rate or other parameter, rather than a price, is quoted. Where this is the case then the market rate or parameter is used as an input to a valuation model to determine fair value. For some instruments, modelling techniques follow industry standard models, for example, discounted cash flow analysis and standard option pricing models. These models are dependent upon estimated future cash flows, discount factors and volatility levels. For more complex or unique instruments, more sophisticated modelling techniques are required, and may rely upon assumptions or more complex parameters such as correlations, prepayment speeds, default rates and loss severity.

Frequently, valuation models require multiple parameter inputs. Where possible, parameter inputs are based on observable data or are derived from the prices of relevant instruments traded in active markets. Where observable data is not available for parameter inputs, then other market information is considered. For example, indicative broker quotes and consensus pricing information are used to support parameter inputs where they are available. Where no observable information is available to support parameter inputs then they are based on other relevant sources of information such as prices for similar transactions, historic data, economic fundamentals, and research information, with appropriate adjustment to reflect the terms of the actual instrument being valued and current market conditions.

Valuation Adjustments – Valuation adjustments are an integral part of the valuation process. In making appropriate valuation adjustments, the Group follows methodologies that consider factors such as bid-offer spreads, counterparty/own credit and funding risk. Bid offer spread valuation adjustments are required to adjust mid-market valuations to the appropriate bid or offer valuation. The bid or offer valuation is the best representation of the fair value for an instrument. The carrying value of a long position is adjusted from mid to bid, and the carrying value of a short position is adjusted from mid to offer. Bid-offer valuation adjustments are determined from bid-offer prices observed in relevant trading activity and in quotes from other broker-dealers or other knowledgeable counterparties. Where the quoted price for the instrument is already a bid-offer price then no additional bid-offer valuation adjustment is necessary. Where the fair value of financial instruments is derived from a modelling technique, then the parameter inputs into that model are normally at a mid-market level. Such instruments are generally managed on a portfolio basis and, when specified criteria are met, valuation adjustments are taken to reflect the cost of closing out the net exposure the Bank has to individual market or counterparty risks. These adjustments are determined from bid-offer prices observed in relevant trading activity and quotes from other broker-dealers.

Where complex valuation models are used, or where less-liquid positions are being valued, then bid-offer levels for those positions may not be available directly from the market, and therefore for the close-out cost of these positions, models and parameters must be estimated. When these adjustments are designed, the Group closely examines the valuation risks associated with the model as well as the positions themselves, and the resulting adjustments are closely monitored on an ongoing basis.

Counterparty Credit Valuation Adjustments (CVAs) are required to cover expected credit losses to the extent that the valuation technique does not already include an expected credit loss factor relating to the non-performance risk of the counterparty. The CVA amount is applied to all relevant over-the-counter (OTC) derivatives, and is determined by assessing the potential credit exposure to a given counterparty and taking into account any collateral held, the effect of any relevant netting arrangements, expected loss given default and the probability of default, based on available market information, including Credit Default Swap (CDS) spreads. Where counterparty CDS spreads are not available, relevant proxies are used.

The fair value of the Group's financial liabilities at fair value through profit or loss (i.e., OTC derivative liabilities and issued note liabilities designated at fair value through profit or loss) incorporates valuation adjustments to measure the change in the Group's own credit risk (i.e. Debt Valuation Adjustments (DVA) for Derivatives and Own Credit Adjustment (OCA) for issued note liabilities). Issued note liabilities are discounted utilizing the spread at which similar instruments would be traded as at the measurement date as this reflects the value from the perspective of a market participant who holds the identical item as an asset. The change in this own credit component is reported under Other Comprehensive Income (OCI).

For derivative liabilities the Group considers its own creditworthiness by assessing all counterparties expected future exposure to the Group, taking into account any collateral posted by the Group, the effect of relevant netting arrangements, the market price of the Group's issued note liabilities, the market implied funding costs and the seniority of derivative claims under resolution (statutory subordination).

When determining CVA and DVA, additional adjustments are made where appropriate to achieve fair value, due to the expected loss estimate of a particular arrangement, or where the credit risk being assessed differs in nature to that described by the available CDS instrument.

Funding Valuation Adjustments (FVA) are required to incorporate the market implied funding costs into the fair value of derivative positions. The FVA reflects a discounting spread applied to uncollateralized and partially collateralized derivatives and is determined by assessing the market-implied funding costs on both assets and liabilities.

Where there is uncertainty in the assumptions used within a modelling technique, an additional adjustment is taken to calibrate the model price to the expected market price of the financial instrument. Typically, such transactions have bid-offer levels which are less observable, and these adjustments aim to estimate the bid-offer by computing the liquidity-premium associated with the transaction. Where a financial instrument is of sufficient complexity that the cost of closing it out would be higher than the cost of closing out its component risks, then an additional adjustment is taken to reflect this.

The Group uses the assumptions that market participants would use when pricing the asset or liability. Where relevant, these assumptions may include assumptions about climate change. The Group has not made material adjustment to fair value for climate change beyond that already priced into market inputs.

Valuation Control – The Group has an independent specialized valuation control group within the Risk function which governs and develops the valuation control framework and manages the valuation control processes. The mandate of this specialist function includes the performance of the independent valuation control process for all businesses, the continued development of valuation control methodologies and techniques, as well as devising and governing the formal valuation control policy framework. Special attention of this independent valuation control group is directed to areas where management judgment forms part of the valuation process.

Results of the valuation control process are collected and analyzed as part of a standard monthly reporting cycle. Variances of differences outside of preset and approved tolerance levels are escalated both within the Finance function and with Senior Business Management for review, resolution and, if required, adjustment.

For instruments where fair value is determined from valuation models, the assumptions and techniques used within the models are independently validated by an independent specialist model validation group that is part of the Group's Risk Management function.

Quotes for transactions and parameter inputs are obtained from a number of third party sources including exchanges, pricing service providers, firm broker quotes and consensus pricing services. Price sources are examined and assessed to determine the quality of fair value information they represent, with greater emphasis given to those possessing greater valuation certainty and relevance. The results are compared against actual transactions in the market to ensure the model valuations are calibrated to market prices.

Price and parameter inputs to models, assumptions and valuation adjustments are verified against independent sources. Where they cannot be verified to independent sources due to lack of observable information, the estimate of fair value is subject to procedures to assess its reasonableness. Such procedures include performing revaluation using independently generated models (including where existing models are independently recalibrated), assessing the valuations against appropriate proxy instruments and other benchmarks, and performing extrapolation techniques. Assessment is made as to whether the valuation techniques produce fair value estimates that are reflective of market levels by calibrating the results of the valuation models against market transactions where possible.

Valuation techniques

The Group has an established valuation control framework which governs internal control standards, methodologies, valuation techniques and procedures over the valuation process and fair value measurement. The current market conditions including the ongoing macro-economic challenges and geopolitical uncertainties required additional focus and review in certain areas, during the year 2023 including assessment of bid-offer spreads to ensure they are representative of fair value.

The following is an explanation of the valuation techniques used in establishing the fair value of the different types of financial instruments that the Group trades.

Sovereign, Quasi-sovereign and Corporate Debt and Equity Securities – Where there are no recent transactions then fair value may be determined from the last market price adjusted for all changes in risks and information since that date. Where a close proxy instrument is quoted in an active market then fair value is determined by adjusting the proxy value for differences in the risk profile of the instruments. Where close proxies are not available then fair value is estimated using more complex modelling techniques. These techniques include discounted cash flow models using current market rates for credit, interest, liquidity and other risks. For equity securities modeling techniques may also include those based on earnings multiples.

Mortgage- and Other Asset-Backed Securities (MBS/ABS) include residential and commercial MBS and other ABS including Collateralized Debt Obligations (CDO). ABS have specific characteristics as they have different underlying assets, and the issuing entities have different capital structures. The complexity increases further where the underlying assets are themselves ABS, as is the case with many of the CDO instruments.

Where no reliable external pricing is available, ABS are valued, where applicable, using either relative value analysis which is performed based on similar transactions observable in the market, or industry-standard valuation models making largest possible use of available observable inputs. The industry standard models calculate principal and interest payments for a given deal based on assumptions that can be independently price tested. The inputs include prepayment speeds, loss assumptions (timing and severity) and a discount rate (spread, yield or discount margin). These inputs/assumptions are derived from actual transactions, external market research and market indices where appropriate.

Loans – For certain loans fair value may be determined from the market price on a recently occurring transaction adjusted for all changes in risks and information since that transaction date. Where there are no recent market transactions then broker quotes, consensus pricing, proxy instruments or discounted cash flow models are used to determine fair value. Discounted cash flow models incorporate parameter inputs for credit risk, interest rate risk, foreign exchange risk, loss given default estimates and amounts utilized given default, as appropriate. Credit risk, loss given default and utilization given default parameters are determined using information from the loan or CDS markets, where available and appropriate.

Leveraged loans can have transaction-specific characteristics which can limit the relevance of market-observed transactions. Where similar transactions exist for which observable quotes are available from external pricing services then this information is used with appropriate adjustments to reflect the transaction differences. When no similar transactions exist, a discounted cash flow valuation technique is used with credit spreads derived from the appropriate leveraged loan index, incorporating the industry classification, subordination of the loan, and any other relevant information on the loan and loan counterparty.

Over-The-Counter Derivative Financial Instruments – Market standard transactions in liquid trading markets, such as interest rate swaps, foreign exchange forward and option contracts in G7 currencies, and equity swap and option contracts on listed securities or indices are valued using market standard models and quoted parameter inputs. Parameter inputs are obtained from pricing services, consensus pricing services and recently occurring transactions in active markets wherever possible.

More complex instruments are modeled using more sophisticated modeling techniques specific for the instrument and are calibrated to available market prices. Where the model output value does not calibrate to a relevant market reference then valuation adjustments are made to the model output value to adjust for any difference. In less active markets, data is obtained from less frequent market transactions, broker quotes and through extrapolation and interpolation techniques. Where observable prices or inputs are not available, management judgment is required to determine fair values by assessing other relevant sources of information such as historical data, fundamental analysis of the economics of the transaction and proxy information from similar transactions.

Financial Liabilities Designated at Fair Value through Profit or Loss under the Fair Value Option – The fair value of financial liabilities designated at fair value through profit or loss under the fair value option incorporates all market risk factors including a measure of the Group's credit risk relevant for that financial liability (i.e., own credit adjustment (OCA) for structured notes). Under IFRS 9, the own credit component of change in the fair value is reported under Other Comprehensive Income (OCI). Financial liabilities included in this classification are structured note issuances, structured deposits, and other structured securities issued by consolidated vehicles. The fair value of these financial liabilities is determined by discounting the contractual cash flows using the relevant credit-adjusted yield curve (i.e., utilizing the spread at which similar instruments would be traded as at the measurement date as this reflects the value from the perspective of a market participant who holds the identical item as an asset).

Where the financial liabilities designated at fair value through profit or loss under the fair value option are collateralized, such as securities loaned and securities sold under repurchase agreements, the credit enhancement is factored into the fair valuation of the liability.

Investment Contract Liabilities – Assets which are linked to the investment contract liabilities are owned by the Group. The investment contract obliges the Group to use these assets to settle these liabilities. Therefore, the fair value of investment contract liabilities is determined by the fair value of the underlying assets (i.e., amount payable on surrender of the policies).

Fair value hierarchy

The financial instruments carried at fair value have been categorized under the three levels of the IFRS fair value hierarchy as follows:

Level 1 – Instruments valued using quoted prices in active markets are instruments where the fair value can be determined directly from prices which are quoted in active, liquid markets.

These include: government bonds, exchange-traded derivatives and equity securities traded on active, liquid exchanges.

Level 2 – Instruments valued with valuation techniques using observable market data are instruments where the fair value can be determined by reference to similar instruments trading in active markets, or where a technique is used to derive the valuation but where all significant inputs to that technique are observable.

These include: many OTC derivatives, many investment-grade listed credit bonds, some CDS.

Level 3 – Instruments valued using valuation techniques using market data which is not directly observable are instruments where the fair value cannot be determined directly by reference to market-observable information, and some other pricing technique must be employed. Instruments classified in this category have an input to that technique which is unobservable, and which can have a significant impact on the fair value.

These include: more-complex OTC derivatives, distressed debt, highly-structured bonds, illiquid asset-backed securities (ABS), illiquid CDO's (cash and synthetic), some private equity placements, many commercial real estate (CRE) loans, illiquid loans, and some municipal bonds.

Financial instruments held at fair value¹

in € m.	Dec 31, 2023			Dec 31, 2022		
	Quoted prices in active market (Level 1)	Valuation technique observable parameters (Level 2)	Valuation technique unobservable parameters (Level 3)	Quoted prices in active market (Level 1)	Valuation technique observable parameters (Level 2)	Valuation technique unobservable parameters (Level 3)
Financial assets held at fair value:						
Trading assets	53,095	62,760	9,420	42,035	42,285	8,547
Trading securities	52,886	59,752	3,194	41,826	39,133	3,053
Other trading assets	210	3,007	6,226	209	3,152	5,494
Positive market values from derivative financial instruments	2,198	241,460	8,198	4,914	285,208	9,564
Non-trading financial assets mandatory at fair value through profit or loss	2,275	80,744	5,028	1,605	82,259	5,790
Financial assets designated at fair value through profit or loss	0	75	0	0	75	94
Financial assets at fair value through other comprehensive income	18,273	14,324	2,949	15,892	13,108	2,676
Other financial assets at fair value	1,353	(469) ²	5	1,706	(294) ²	5
Total financial assets held at fair value	77,193	398,894	25,599	66,153	422,640	26,675
Financial liabilities held at fair value:						
Trading liabilities	36,361	7,617	27	43,163	7,419	34
Trading securities	36,361	6,727	26	43,162	6,667	30
Other trading liabilities	0	890	0	2	752	3
Negative market values from derivative financial instruments	2,333	228,261	7,666	3,256	270,596	8,500
Financial liabilities designated at fair value through profit or loss	169	80,309	3,248	0	51,843	2,792
Investment contract liabilities	0	484	0	0	469	0
Other financial liabilities at fair value	486	1,213 ²	(85) ³	240	1,753 ²	(511) ³
Total financial liabilities held at fair value	39,349	317,884	10,856	46,660	332,080	10,815

¹ Amounts in this table are generally presented on a gross basis, in line with the Group's accounting policy regarding offsetting of financial instruments, as described in Note 1 "Material accounting policies and critical accounting estimates".

² Predominantly relates to derivatives qualifying for hedge accounting

³ Relates to derivatives which are embedded in contracts where the host contract is held at amortized cost but for which the embedded derivative is separated. The separated embedded derivatives may have a positive or a negative fair value but have been presented in this table to be consistent with the classification of the host contract. The separated embedded derivatives are held at fair value on a recurring basis and have been split between the fair value hierarchy classifications

During the year 2023, there were transfers in trading securities from Level 1 to Level 2 amounting to € 6 billion of assets and € 2 billion of liabilities; along with transfers from Level 2 to Level 1 of € 11 billion in assets and € 3 billion in liabilities. The assessment of Level 1 versus Level 2 is based on liquidity testing procedures.

Analysis of financial instruments with fair value derived from valuation techniques containing significant unobservable parameters (Level 3)

Some of the financial assets and financial liabilities in Level 3 of the fair value hierarchy have identical or similar offsetting exposures to the unobservable input. However, according to IFRS they are required to be presented gross.

Trading Securities – Certain illiquid emerging market corporate bonds and illiquid highly structured corporate bonds are included in this level of the hierarchy. In addition, some of the holdings of notes issued by securitization entities, commercial and residential MBS, collateralized debt obligation securities and other ABS are reported here. The increase in the period is driven by purchases and issuances, gains and net transfers between Level 2 and Level 3 due to changes in the observability of input parameters used to value these instruments, partially offset by sales and settlements.

Positive and Negative Market Values from Derivative Instruments categorized in this level of the fair value hierarchy are valued based on one or more significant unobservable parameters. The unobservable parameters may include certain correlations, certain longer-term volatilities, certain prepayment rates, credit spreads and other transaction-specific parameters.

Level 3 derivatives include certain options where the volatility is unobservable; certain basket options in which the correlations between the referenced underlying assets are unobservable; longer-term interest rate option derivatives; multi-currency foreign exchange derivatives; and certain credit default swaps for which the credit spread is not observable.

The decrease in assets during the period are driven by net transfers between Level 2 and Level 3 due to changes in the observability of input parameters used to value these instruments and settlements, partially offset by gains. The decrease in liabilities during the period are driven by net transfers between Level 2 and Level 3 due to changes in the observability of input parameters used to value these instruments and settlements, partially offset by losses.

Other Trading Instruments classified in Level 3 of the fair value hierarchy mainly consist of traded loans valued using valuation models based on one or more significant unobservable parameters. The increase in the period is driven by purchases and issuances, net transfers between Level 2 and Level 3 due to changes in the observability of input parameters used to value these instruments and gains partially offset by sales and settlements.

Non-trading financial assets mandatory at fair value through profit or loss classified in Level 3 of fair value hierarchy include any non-trading financial asset that does not fall into the Hold to Collect nor Hold to Collect and Sell business models. This includes predominately reverse repurchase agreements which are managed on a fair value basis. Additionally, any financial asset that falls into the Hold to Collect or Hold to Collect and Sell business models for which the contractual cash flow characteristics are not SPPI. The decrease in the period is driven by settlements and sales, net transfers between Level 2 and Level 3 due to changes in the observability of input parameters used to value these instruments and losses, partially offset by purchases and issuances.

Financial Assets/Liabilities designated at Fair Value through Profit or Loss – Certain corporate loans and structured liabilities which were designated at fair value through profit or loss under the fair value option were categorized in this level of the fair value hierarchy. The corporate loans are valued using valuation techniques which incorporate observable credit spreads, recovery rates and unobservable utilization parameters. Revolving loan facilities are reported in the third level of the hierarchy because the utilization in the event of the default parameter is significant and unobservable.

In addition, certain hybrid debt issuances designated at fair value through profit or loss containing embedded derivatives are valued based on significant unobservable parameters. These unobservable parameters include single stock volatility correlations. The decrease in assets during the period is driven by settlements. The increase in liabilities during the period is driven by issuances and losses partially offset by net transfers between Level 2 and Level 3 due to changes in the observability of input parameters used to value these instruments and settlements.

Financial assets at fair value through other comprehensive income include non-performing loan portfolios where there is no trading intent, and the market is very illiquid. The increase in the period is driven by purchases and issuances, partially offset by sales and settlements, net transfers between Level 2 and Level 3 due to changes in the observability of input parameters used to value these instruments and losses.

Reconciliation of financial instruments classified in Level 3

Reconciliation of financial instruments classified in Level 3

	Dec 31, 2023									
in € m.	Balance, beginning of year	Changes in the group of consolid- ated companies	Total gains/ losses ¹	Purchases	Sales	Issu- ances ²	Settle- ments ³	Transfers into Level 3 ⁴	Transfers out of Level 3 ⁴	Balance, end of year
Financial assets held at fair value:										
Trading securities	3,053	0	22	1,651	(974)	43	(615)	545	(532)	3,194
Positive market values from derivative financial instruments	9,564	0	104	0	0	0	(538)	2,073	(3,006)	8,198
Other trading assets	5,494	0	42	604	(997)	2,253	(1,424)	636	(383)	6,226
Non-trading financial assets mandatory at fair value through profit or loss	5,790	15	(51)	682	(254)	504	(1,190)	211	(681)	5,028
Financial assets designated at fair value through profit or loss	94	0	0	0	0	0	(94)	0	0	0
Financial assets at fair value through other comprehensive income	2,676	0	(65) ⁵	238	(214)	1,918	(1,280)	184	(509)	2,949
Other financial assets at fair value	5	0	0	0	0	0	0	0	1	5
Total financial assets held at fair value	26,675	15	53^{6,7}	3,176	(2,438)	4,719	(5,140)	3,650	(5,110)	25,599
Financial liabilities held at fair value:										
Trading securities	30	0	(4)	0	0	0	0	0	(0)	26
Negative market values from derivative financial instruments	8,500	0	101	0	0	0	(435)	1,848	(2,348)	7,666
Other trading liabilities	3	0	3	0	0	0	(6)	0	0	0
Financial liabilities designated at fair value through profit or loss	2,792	0	43	0	0	2,272	(853)	27	(1,032)	3,248
Other financial liabilities at fair value	(511)	0	325	0	0	0	54	3	44	(85)
Total financial liabilities held at fair value	10,815	0	468^{6,7}	0	0	2,272	(1,240)	1,878	(3,336)	10,856

¹ Total gains and losses predominantly relate to net gains (losses) on financial assets/liabilities at fair value through profit or loss reported in the consolidated statement of income. The balance also includes net gains (losses) on financial assets at fair value through other comprehensive income reported in the consolidated statement of income and unrealized net gains (losses) on financial assets at fair value through other comprehensive income and exchange rate changes reported in other comprehensive income, net of tax. Further, certain instruments are hedged with instruments in level 1 or level 2 but the table above does not include the gains and losses on these hedging instruments. Additionally, both observable and unobservable parameters may be used to determine the fair value of an instrument classified within level 3 of the fair value hierarchy; the gains and losses presented below are attributable to movements in both the observable and unobservable parameters

² Issuances relate to the cash amount received on the issuance of a liability and the cash amount paid on the primary issuance of a loan to a borrower

³ Settlements represent cash flows to settle the asset or liability. For debt and loan instruments this includes principal on maturity, principal amortizations and principal repayments. For derivatives all cash flows are presented in settlements

⁴ Transfers in and transfers out of Level 3 are related to changes in observability of input parameters. During the year they are recorded at their fair value at the beginning of year. For instruments transferred into Level 3 the table shows the gains and losses and cash flows on the instruments as if they had been transferred at the beginning of the year. Similarly, for instruments transferred out of Level 3 the table does not show any gains or losses or cash flows on the instruments during the year since the table is presented as if they have been transferred out at the beginning of the year

⁵ Total gains and losses on financial assets at fair value through other comprehensive income include a loss of € 17 million recognized in other comprehensive income, net of tax and a loss of € 3 million recognized in the income statement presented in net gains (losses)

⁶ This amount includes the effect of exchange rate changes. For total financial assets held at fair value this effect is a loss of € 273 million and for total financial liabilities held at fair value this is a gain of € 44 million

⁷ For assets positive balances represent gains, negative balances represent losses. For liabilities positive balances represent losses, negative balances represent gains

Dec 31, 2022

in € m.	Balance, beginning of year	Changes in the group of consoli- dated companies	Total gains/ losses ¹	Purchases	Sales	Issu- ances ²	Settle- ments ³	Transfers into Level 3 ⁴	Transfers out of Level 3 ⁴	Balance, end of year
Financial assets held at fair value:										
Trading securities	3,614	0	(380)	2,226	(1,974)	80	(344)	606	(776)	3,053
Positive market values from derivative financial instruments	9,042	0	(4,755)	0	0	0	(423)	8,011	(2,310)	9,564
Other trading assets	5,201	(0)	(178)	748	(1,945)	2,998	(1,419)	875	(785)	5,494
Non-trading financial assets mandatory at fair value through profit or loss	4,896	(0)	332	652	(142)	1,373	(1,430)	702	(593)	5,790
Financial assets designated at fair value through profit or loss	49	0	2	0	0	0	(45)	88	0	94
Financial assets at fair value through other comprehensive income	2,302	0	(107) ⁵	79	(338)	977	(752)	549	(36)	2,676
Other financial assets at fair value	78	0	0	0	0	0	0	0	(74)	5
Total financial assets held at fair value	25,182	(0)	(5,087)⁶	3,706	(4,399)	5,428	(4,413)	10,831	(4,573)	26,675
Financial liabilities held at fair value:										
Trading securities	33	0	(3)	0	0	0	(0)	0	0	30
Negative market values from derivative financial instruments	9,781	0	(3,256)	0	0	0	(633)	4,454	(1,845)	8,500
Other trading liabilities	49	0	(51)	0	0	0	5	0	0	3
Financial liabilities designated at fair value through profit or loss	1,740	0	(55)	0	0	1,140	(202)	178	(10)	2,792
Other financial liabilities at fair value	(179)	0	(380)	0	0	0	64	16	(31)	(511)
Total financial liabilities held at fair value	11,424	0	(3,746)⁶	0	0	1,140	(766)	4,649	(1,887)	10,815

¹ Total gains and losses predominantly relate to net gains (losses) on financial assets/liabilities at fair value through profit or loss reported in the consolidated statement of income. The balance also includes net gains (losses) on financial assets at fair value through other comprehensive income reported in the consolidated statement of income and unrealized net gains (losses) on financial assets at fair value through other comprehensive income and exchange rate changes reported in other comprehensive income, net of tax. Further, certain instruments are hedged with instruments in level 1 or level 2 but the table above does not include the gains and losses on these hedging instruments. Additionally, both observable and unobservable parameters may be used to determine the fair value of an instrument classified within level 3 of the fair value hierarchy; the gains and losses presented below are attributable to movements in both the observable and unobservable parameters

² Issuances relate to the cash amount received on the issuance of the liability and the cash amount paid on the primary issuance of a loan to a borrower

³ Settlements represent cash flows to settle the asset or liability. For debt and loan instruments this includes principal on maturity, principal amortizations and principal repayments. For derivatives all cash flows are presented in settlements

⁴ Transfers in and transfers out of Level 3 are related to changes in observability of input parameters. During the year they are recorded at their fair value at the beginning of year. For instruments transferred into Level 3 the table shows the gains and losses and cash flows on the instruments as if they had been transferred at the beginning of the year. Similarly, for instruments transferred out of Level 3 the table does not show any gains or losses or cash flows on the instruments during the year since the table is presented as if they have been transferred out at the beginning of the year

⁵ Total gains and losses on financial assets at fair value through other comprehensive income include a loss of € 189 million recognized in other comprehensive income, net of tax and a loss of € 2 million recognized in the income statement presented in net gains (losses)

⁶ This amount includes the effect of exchange rate changes. For total financial assets held at fair value this effect is a gain of € 425 million and for total financial liabilities held at fair value this is a loss of € 35 million

⁷ For assets positive balances represent gains, negative balances represent losses. For liabilities positive balances represent losses, negative balances represent gains

Sensitivity analysis of unobservable parameters

Where the value of financial instruments is dependent on unobservable parameter inputs, the precise level for these parameters at the balance sheet date might be drawn from a range of reasonably possible alternatives. In preparing the financial statements, appropriate levels for these unobservable input parameters are chosen so that they are consistent with prevailing market evidence and in line with the Group's approach to valuation control detailed above.

The Group's sensitivity calculation of unobservable parameters for Level 3 aligns to the approach used to assess valuation uncertainty for prudent valuation purposes. Prudent valuation is a capital requirement for assets held at fair value. It provides a mechanism for quantifying and capitalizing valuation uncertainty in accordance with the European Commission Delegated Regulation (EU) 2016/101, which supplements Article 34 of Regulation (EU) No. 2019/876 (CRR), requiring institutions to apply the requirements of Article 105 (14) to all assets measured at fair value and to deduct any additional value adjustments from CET1 capital. This utilizes an exit price analysis performed for the relevant assets and liabilities in the Prudent Valuation assessment.

If the Group marked Level 3 financial instruments using parameter values drawn from the extremes of the ranges of reasonably possible alternatives, as of December 31, 2023 it could have increased fair value by as much as € 1.8 billion or decreased fair value by as much as € 1.3 billion. As of December 31, 2022 it could have increased fair value by as much as € 2.0 billion or decreased fair value by as much as € 1.4 billion.

The changes in sensitive amounts from December 31, 2022 to December 31, 2023 were a reduction in positive fair value movement of € 169 million, and a reduction in negative fair value movement of € 79 million.

The reductions in positive and negative fair value movements are directionally aligned with the reduction in Group Level 3 in the period, with Level 3 assets moving from € 26.7 billion at December 31, 2022 to € 25.6 billion at December 31, 2023.

The change in positive fair value movements from December 31, 2022 to December 31, 2023 represents an 9% reduction and the change in negative fair value movements represents an 6% reduction.

This disclosure is intended to illustrate the potential impact of the relative uncertainty in the fair value of financial instruments for which valuation is dependent on unobservable input parameters. However, it is unlikely in practice that all unobservable parameters would be simultaneously at the extremes of their ranges of reasonably possible alternatives.

For many of the financial instruments considered here, in particular derivatives, unobservable input parameters represent only a subset of the parameters required to price the financial instrument, the remainder being observable. Hence, for these instruments the overall impact of moving the unobservable input parameters to the extremes of their ranges might be relatively small compared with the total fair value of the financial instrument. For other instruments, fair value is determined based on the price of the entire instrument, for example, by adjusting the fair value of a reasonable proxy instrument. In addition, all financial instruments are already carried at fair values which are inclusive of valuation adjustments for the cost to close out that instrument and hence already factor in uncertainty as it reflects itself in market pricing. Any negative impact of uncertainty calculated within this disclosure, then, will be over and above that already included in the fair value contained in the financial statements.

Breakdown of the sensitivity analysis by type of instrument¹

in € m.	Dec 31, 2023		Dec 31, 2022	
	Positive fair value movement from using reasonable possible alternatives	Negative fair value movement from using reasonable possible alternatives	Positive fair value movement from using reasonable possible alternatives	Negative fair value movement from using reasonable possible alternatives
Securities:				
Debt securities	196	221	239	274
Commercial mortgage-backed securities	16	27	15	20
Mortgage and other asset-backed securities	12	19	20	26
Corporate, sovereign and other debt securities	167	176	204	228
Equity securities	94	93	114	80
Derivatives:				
Credit	200	101	218	125
Equity	44	38	70	63
Interest related	633	368	605	217
Foreign Exchange	47	17	37	30
Other	91	86	59	110
Loans:				
Loans	486	355	618	459
Other	0	0	0	0
Total	1,790	1,278	1,959	1,357

¹ Where the exposure to an unobservable parameter is offset across different instruments then only the net impact is disclosed in the table

Quantitative information about the sensitivity of significant unobservable inputs

The behavior of the unobservable parameters on Level 3 fair value measurement is not necessarily independent, and dynamic relationships often exist between the other unobservable parameters and the observable parameters. Such relationships, where material to the fair value of a given instrument, are explicitly captured via correlation parameters, or are otherwise controlled via pricing models or valuation techniques. Frequently, where a valuation technique utilizes more than one input, the choice of a certain input will bound the range of possible values for other inputs. In addition, broader market factors (such as interest rates, equity, credit or commodity indices or foreign exchange rates) can also have effects.

The range of values shown below represents the highest and lowest inputs used to value the significant exposures within Level 3. The diversity of financial instruments that make up the disclosure is significant and therefore the ranges of certain parameters can be large. For example, the range of credit spreads on mortgage-backed securities represents performing, more liquid positions with lower spreads than the less liquid, non-performing positions which will have higher credit spreads. As Level 3 contains the less liquid fair value instruments, the wide ranges of parameters seen is to be expected, as there is a high degree of pricing differentiation within each exposure type to capture the relevant market dynamics. The table below provides a brief description of each of the principal parameter types, along with a commentary on significant interrelationships between them.

Credit Parameters are used to assess the creditworthiness of an exposure, by enabling the probability of default and resulting losses of a default to be represented. The credit spread is the primary reflection of creditworthiness and represents the premium or yield return above the benchmark reference instrument (typically LIBOR, or relevant Treasury Instrument, depending upon the asset being assessed), that a bond holder would require to allow for the credit quality difference between that entity and the reference benchmark. Higher credit spreads will indicate lower credit quality, and lead to a lower value for a given bond, or other loan-asset that is to be repaid to the Bank by the borrower. Recovery Rates represent an estimate of the amount a lender would receive in the case of a default of a loan, or a bond holder would receive in the case of default of the bond. Higher recovery rates will give a higher valuation for a given bond position, if other parameters are held constant. Constant Default Rate and Constant Prepayment Rate allow more complex loan and debt assets to be assessed, as these parameters estimate the ongoing defaults arising on scheduled repayments and coupons, or whether the borrower is making additional (usually voluntary) prepayments. These parameters are particularly relevant when forming a fair value opinion for mortgage or other types of lending, where repayments are delivered by the borrower through time, or where the borrower may pre-pay the loan (seen for example in some residential mortgages). Higher Constant Default Rate will lead to lower valuation of a given loan or mortgage as the lender will ultimately receive less cash.

Interest rates, credit spreads, inflation rates, foreign exchange rates and equity prices are referenced in some option instruments, or other complex derivatives, where the payoff a holder of the derivative will receive is dependent upon the behavior of these underlying references through time. Volatility parameters describe key attributes of option behavior by enabling the variability of returns of the underlying instrument to be assessed. This volatility is a measure of probability, with higher volatilities denoting higher probabilities of a particular outcome occurring. The underlying references (interest rates, credit spreads etc.) have an effect on the valuation of options, by describing the size of the return that can be expected from the option. Therefore, the value of a given option is dependent upon the value of the underlying instrument, and the volatility of that instrument, representing the size of the payoff, and the probability of that payoff occurring. Where volatilities are high, the option holder will see a higher option value as there is greater probability of positive returns. A higher option value will also occur where the payoff described by the option is significant.

Correlations are used to describe influential relationships between underlying references where a derivative or other instrument has more than one underlying reference. Behind some of these relationships, for example commodity correlation and interest rate-foreign exchange correlations, typically lie macroeconomic factors such as the impact of global demand on groups of commodities, or the pricing parity effect of interest rates on foreign exchange rates. More specific relationships can exist between credit references or equity stocks in the case of credit derivatives and equity basket derivatives, for example. Credit correlations are used to estimate the relationship between the credit performance of a range of credit names, and stock correlations are used to estimate the relationship between the returns of a range of equities. A derivative with a correlation exposure will be either long- or short-correlation. A high correlation suggests a strong relationship between the underlying references is in force, and this will lead to an increase in value of a long-correlation derivative. Negative correlations suggest that the relationship between underlying references is opposing, i.e., an increase in price of one underlying reference will lead to a reduction in the price of the other.

An EBITDA ('earnings before interest, tax, depreciation and amortization') multiple approach can be used in the valuation of less liquid securities. Under this approach the enterprise value ('EV') of an entity can be estimated via identifying the ratio of the EV to EBITDA of a comparable observable entity and applying this ratio to the EBITDA of the entity for which a valuation is being estimated. Under this approach a liquidity adjustment is often applied due to the difference in liquidity between the generally listed comparable used and the company under valuation. A higher EV/EBITDA multiple will result in a higher fair value.

Financial instruments classified in Level 3 and quantitative information about unobservable inputs

Dec 31, 2023

in € m. (unless stated otherwise)	Fair value			Significant unobservable input(s) (Level 3)	Dec 31, 2023		
	Assets	Liabilities	Valuation technique(s) ¹		Range		
Financial instruments held at fair value – Non-Derivative financial instruments held at fair value:							
Mortgage and other asset backed securities held for trading:							
Commercial mortgage-backed securities	86	0	Price based Discounted cash flow	Price Credit spread (bps)	0% 220	102% 1,830	
Mortgage- and other asset-backed securities	94	0	Price based Discounted cash flow	Price Credit spread (bps) Recovery rate Constant default rate Constant prepayment rate	0% 110 50% 0% 2%	104% 1,828 85% 2% 29%	
Total mortgage- and other asset-backed securities	180	0					
Debt securities and other debt obligations	4,385	3,116	Price based Discounted cash flow	Price Credit spread (bps)	0% 84	300% 651	
Held for trading	2,887	26					
Corporate, sovereign and other debt securities	2,887						
Non-trading financial assets mandatory at fair value through profit or loss	1,254						
Designated at fair value through profit or loss	0	3,089					
Financial assets at fair value through other comprehensive income	244						
Equity securities	778	0	Market approach	Price per net asset value Enterprise value/EBITDA (multiple)	0% 5	100% 15	
Held for trading	127	0					
Non-trading financial assets mandatory at fair value through profit or loss	652		Discounted cash flow	Weighted average cost capital	18%	20%	
Designated at fair value through profit or loss	0		Price based	Price	0%	100%	
Loans	9,405	0	Price based	Price Credit spread (bps)	0% 12	124% 1,207	
Held for trading	6,121	0	Discounted cash flow				
Non-trading financial assets mandatory at fair value through profit or loss	696						
Designated at fair value through profit or loss	0	0		Recovery rate	40%	75%	
Financial assets at fair value through other comprehensive income	2,588						
Loan commitments	0	5	Discounted cash flow	Credit spread (bps) Recovery rate Utilization	169 40% 0%	1,070 76% 100%	
Other financial instruments	2,647 ²	154 ³	Discounted cash flow	IRR Repo rate (bps)	7% 120	13% 595	
Total non-derivative financial instruments held at fair value	17,396	3,275					

¹ Valuation technique(s) and subsequently the significant unobservable input(s) relate to the respective total position

² Other financial assets include € 104 million of other trading assets, € 2.4 billion of other non-trading financial assets mandatory at fair value, and € 117 million other financial assets at fair value through other comprehensive income

³ Other financial liabilities include € 154 million of securities sold under repurchase agreements designated at fair value

	Dec 31, 2023							
	Fair value							
in € m. (unless stated otherwise)	Assets	Liabilities	Valuation technique(s)	Significant unobservable input(s) (Level 3)	Range			
Financial instruments held at fair value:								
Market values from derivative financial instruments:								
Interest rate derivatives	4,997	4,070	Discounted cash flow	Swap rate (bps) Inflation swap rate Constant default rate Constant prepayment rate Inflation volatility Interest rate volatility IR - IR correlation Hybrid correlation	(3,932) 1% 0% 0% 0% 0% (10)% (90)%	4,150 15% 18% 26% 7% 43% 96% 65%		
Credit derivatives	501	503	Discounted cash flow	Credit spread (bps) Recovery rate	2 8%	7,535 40%		
Equity derivatives	339	1,027	Correlation pricing model Option pricing model	Credit correlation Stock volatility Index volatility Index - index correlation Stock - stock correlation Stock Forwards Index Forwards	26% 0% 7% 0% 0% 0% 0%	59% 84% 23% 0% 0% 3% 6%		
FX derivatives	1,765	1,850	Option pricing model	Volatility Quoted Vol	(6)% 0%	39% 0%		
Other derivatives	601	130 ¹	Discounted cash flow Discounted cash flow Option pricing model	Swap rate (bps) Credit spread (bps) Index volatility Price	(7) 234 0% 73%	50 610 129% 77%		
Total market values from derivative financial instruments	8,203	7,581		Commodity correlation	0%	85%		

¹ Includes derivatives which are embedded in contracts where the host contract is held at amortized cost but for which the embedded derivative is separated

Dec 31, 2022

in € m. (unless stated otherwise)	Fair value			Significant unobservable input(s) (Level 3)	Range				
	Assets	Liabilities	Valuation technique(s) ¹						
Financial instruments held at fair value – Non-Derivative financial instruments held at fair value:									
Mortgage and other asset backed securities held for trading:									
Commercial mortgage-backed securities	22	0	Price based Discounted cash flow	Price Credit spread (bps)	0% 182	100% 1,720			
Mortgage- and other asset-backed securities	128	0	Price based Discounted cash flow	Price Credit spread (bps) Recovery rate Constant default rate Constant prepayment rate	0% 169 16% 0% 3%	99% 2,672 95% 16% 29%			
Total mortgage- and other asset-backed securities	151	0							
Debt securities and other debt obligations	4,720	2,625	Price based Discounted cash flow	Price Credit spread (bps)	0% 62	181% 1,369			
Held for trading	2,741	30							
Corporate, sovereign and other debt securities	2,741								
Non-trading financial assets mandatory at fair value through profit or loss	1,844								
Designated at fair value through profit or loss	0	2,594							
Financial assets at fair value through other comprehensive income	135								
Equity securities	787	0	Market approach	Price per net asset value Enterprise value/EBITDA (multiple) Weighted average cost capital	0% 5	100% 13			
Held for trading	161	0							
Non-trading financial assets mandatory at fair value through profit or loss	626		Discounted cash flow						
Designated at fair value through profit or loss	0								
Loans	8,819	3	Price based Discounted cash flow	Price Price Credit spread (bps)	0% 0% 133	122% 1,520			
Held for trading	5,298	3							
Non-trading financial assets mandatory at fair value through profit or loss	925								
Designated at fair value through profit or loss	94	0		Recovery rate	40%	75%			
Financial assets at fair value through other comprehensive income	2,502								
Loan commitments	0	12	Discounted cash flow	Credit spread (bps) Recovery rate Utilization	94 35% 0%	925 76% 100%			
Other financial instruments	2,629 ²	186 ³	Loan pricing model Discounted cash flow	IRR Repo rate (bps)	7% 2	13% 525			
Total non-derivative financial instruments held at fair value	17,106	2,825							

¹ Valuation technique(s) and subsequently the significant unobservable input(s) relate to the respective total position

² Other financial assets include € 196 million of other trading assets, € 2.4 billion of other non-trading financial assets mandatory at fair value, and € 38 million other financial assets at fair value through other comprehensive income

³ Other financial liabilities include € 141 million of securities sold under repurchase agreements designated at fair value and € 45 million other financial liabilities designated at fair value

Dec 31, 2022

in € m. (unless stated otherwise)	Fair value				Significant unobservable input(s) (Level 3)	Range		
	Assets	Liabilities	Valuation technique(s)					
Financial instruments held at fair value:								
Market values from derivative financial instruments:								
Interest rate derivatives	6,360	4,546	Discounted cash flow	Swap rate (bps) Inflation swap rate Constant default rate Constant prepayment rate Inflation volatility Interest rate volatility IR - IR correlation Hybrid correlation	(1,748) (1)% 0% 0% 1% 0% (1)% (90)%	1,301 14% 15% 19% 6% 43% 99% 90%		
Credit derivatives	577	517	Discounted cash flow	Credit spread (bps) Recovery rate	1 0%	4,885 40%		
Equity derivatives	452	1,155	Correlation pricing model Option pricing model	Credit correlation Stock volatility Index volatility Index - index correlation Stock - stock correlation Stock Forwards Index Forwards	25% 0% 13% 88% 0% 1% 0%	69% 75% 30% 96% 0% 11% 6%		
FX derivatives	1,646	1,976	Option pricing model	Volatility Quoted Vol	(12)% 0%	48% 0%		
Other derivatives	534	(205) ¹	Discounted cash flow Discounted cash flow Option pricing model	Swap rate (bps) Credit spread (bps) Index volatility Commodity correlation	(6) 0 0% 0%	46 0 91% 85%		
Total market values from derivative financial instruments	9,569	7,989						

¹ Includes derivatives which are embedded in contracts where the host contract is held at amortized cost but for which the embedded derivative is separated

Unrealized gains or losses on Level 3 instruments held or in issue at the reporting date

The unrealized gains or losses on Level 3 Instruments are not solely due to unobservable parameters. Many of the parameter inputs to the valuation of instruments in this level of the hierarchy are observable and the gain or loss is partly due to movements in these observable parameters over the period. Many of the positions in this level of the hierarchy are economically hedged by instruments which are categorized in other levels of the fair value hierarchy. The offsetting gains and losses that have been recorded on all such hedges are not included in the table below, which only shows the gains and losses related to the Level 3 classified instruments themselves held at the reporting date in accordance with IFRS 13. The unrealized gains and losses on Level 3 instruments are included in both net interest income and net gains on financial assets/liabilities at fair value through profit or loss in the consolidated income statement.

in € m.	Dec 31, 2023	Dec 31, 2022
Financial assets held at fair value:		
Trading securities	29	(298)
Positive market values from derivative financial instruments	1,347	(2,907)
Other trading assets	59	(251)
Non-trading financial assets mandatory at fair value through profit or loss	(47)	247
Financial assets designated at fair value through profit or loss	0	(0)
Financial assets at fair value through other comprehensive income	(2)	0
Other financial assets at fair value	(0)	0
Total financial assets held at fair value	1,385	(3,209)
Financial liabilities held at fair value:		
Trading securities	4	3
Negative market values from derivative financial instruments	(1,287)	1,634
Other trading liabilities	0	2
Financial liabilities designated at fair value through profit or loss	(53)	55
Other financial liabilities at fair value	(268)	358
Total financial liabilities held at fair value	(1,604)	2,053
Total	(219)	(1,156)

Recognition of trade date profit

If there are significant unobservable inputs used in a valuation technique on initial recognition, the financial instrument is recognized at the transaction price and any trade date profit is deferred. The table below presents the movement during the year of the trade date profits deferred due to significant unobservable parameters for financial instruments classified at fair value through profit or loss. The balance is predominantly related to derivative instruments.

in € m.	2023	2022
Balance, beginning of year	550	462
New trades during the period	295	265
Amortization	(144)	(111)
Matured trades	(69)	(60)
Subsequent move to observability	(53)	(9)
Exchange rate changes	(1)	3
Balance, end of year	577	550

14 – Fair Value of Financial Instruments not carried at Fair Value

Financial instruments not carried at fair value are not managed on a fair value basis. For these instruments fair values are calculated for disclosure purposes only and do not impact the Group balance sheet or income statement. Additionally, since the instruments generally do not trade, there is significant management judgment required to determine these fair values. Differences in carrying value versus fair value as of December 31, 2023, are consistent with current interest rate environment as compared to December 31, 2022.

For the following financial instruments which are predominantly short-term, the carrying value represents a reasonable estimate of the fair value:

Assets	Liabilities
Cash and central bank balances	Deposits
Interbank balances (w/o central banks)	Central bank funds purchased, and securities sold under repurchase agreements
Central bank funds sold, and securities purchased under resale agreements	Securities loaned
Securities borrowed	Other short-term borrowings
Other financial assets	Other financial liabilities

For all other financial instruments carried at amortized cost, the following valuation techniques are applied:

- Retail lending portfolios with a large number of homogenous loans (e.g., residential mortgages) calculate the fair value for each product type by discounting the portfolio's contractual cash flows using the Group's new loan rates for lending to borrowers of similar credit quality, which includes the impact of the macroeconomic environment. Key inputs for retail mortgages are the difference between historic and current product margins and the estimated prepayment rates. Capitalized broker fees included in the carrying value are also considered to be at fair value
- The fair value of the corporate lending portfolio is estimated predominantly by discounting the loan until its maturity, based on the loan specific credit spreads and funding costs for the Group.
- For long-term debt and trust preferred securities, fair value is determined from quoted market prices, where available. Where quoted market prices are not available, fair value is estimated using a valuation technique that discounts the remaining contractual cash flows at a rate at which an instrument with similar characteristics is quoted in the market.
- A discounted cash flow model is generally used for determining the fair value of deposits since market data is usually not available. In addition to the yield curve, Deutsche Bank's own credit spread is also considered. Credit spreads of the respective counterparties are not used in the measurement of fair value on financial liabilities at amortized cost.

For these financial instruments carried at amortized costs, the disclosed fair value is categorized under the IFRS fair value hierarchy (i.e., Level 1, Level 2, and Level 3) as outlined in Note 13- Financial Instruments carried at Fair Value. In general, Level 1 includes Cash and Central bank balances; Level 2 includes Interbank balances (w/o central banks), Central bank funds sold, and securities purchased under resale agreements, Securities borrowed, Other financial assets, Deposits, Central bank funds purchased, and securities sold under repurchase agreements, Securities loaned, Other short- term borrowings, Other financial liabilities, Long- term debt and Trust preferred securities; and Level 3 includes Loans.

Estimated fair value of financial instruments not carried at fair value on the balance sheet¹

					Dec 31, 2023
in € m.	Carrying value	Fair value	Quoted prices in active market (Level 1)	Valuation technique observable parameters (Level 2)	Valuation technique unobservable parameters (Level 3)
Financial assets:					
Cash and central bank balances	178,416	178,416	178,416	0	0
Interbank balances (w/o central banks)	6,140	6,140	0	6,140	0
Central bank funds sold and securities purchased under resale agreements	14,725	14,778	0	14,034	744
Securities borrowed	39	39	0	39	0
Loans	473,705	454,972	0	11,519	443,453
Other financial assets	106,596	105,132	13,304	90,973	855
Financial liabilities:					
Deposits	622,035	624,731	2	624,729	0
Central bank funds purchased and securities sold under repurchase agreements	3,038	3,031	0	3,031	0
Securities loaned	3	3	0	3	0
Other short-term borrowings	9,620	9,628	0	9,628	0
Other financial liabilities	99,272	99,272	1,961	97,311	0
Long-term debt	119,390	117,510	0	113,723	3,787
Trust preferred securities	289	264	0	264	0

					Dec 31, 2022
in € m.	Carrying value	Fair value	Quoted prices in active market (Level 1)	Valuation technique observable parameters (Level 2)	Valuation technique unobservable parameters (Level 3)
Financial assets:					
Cash and central bank balances	178,896	178,896	178,896	0	0
Interbank balances (w/o central banks)	7,195	7,195	0	7,194	0
Central bank funds sold and securities purchased under resale agreements	11,478	11,505	0	10,363	1,142
Securities borrowed	0	0	0	0	0
Loans	483,700	461,070	0	12,038	449,032
Other financial assets	110,066	107,878	16,046	90,842	989
Financial liabilities:					
Deposits	621,456	629,629	1,736	627,893	0
Central bank funds purchased and securities sold under repurchase agreements	573	572	0	572	0
Securities loaned	13	13	0	13	0
Other short-term borrowings	5,122	5,121	0	5,115	7
Other financial liabilities	93,135	93,135	2,007	91,127	0
Long-term debt	131,525	127,743	0	123,525	4,219
Trust preferred securities	500	426	0	426	0

¹ Amounts generally presented on a gross basis, in line with the Group's accounting policy regarding offsetting of financial instruments as described in Note 1 "Material Accounting Policies and Critical Accounting Estimates"

As of December 31, 2023, the difference between the fair value and the carrying value of loans is primarily driven by the current interest rates on long-dated retail mortgages in Germany compared to the contractual rate. As part of Postbank IT migration project, the Group has aligned its risk management modelling approach of interest rate prepayment risk factors for its long-dated retail mortgages in Germany in the third quarter 2023. This resulted in an increase of the fair value of such mortgages by € 2.5 billion. Partly offsetting the loan carrying amount were macro hedge accounting adjustments under the EU carve-out version of IAS 39, which were € 5.6 billion as of December 31, 2023 and € 7.5 billion as of December 31, 2022. The deposits' fair value was greater than the carrying value as the carrying value included negative macro hedge accounting adjustments under the EU carve-out version of IAS 39 of € 3.4 billion and € 7.7 billion as of December 31, 2023, and December 31, 2022, respectively. For long-term debt and trust preferred securities, the difference between fair value and carrying value is due to the change in interest rates at which the Group could issue debt with similar maturity and subordination at the balance sheet date compared to the rate the instrument was issued at. The carrying values included in the table do not include any impacts from economic hedges.

15 – Financial assets at fair value through other comprehensive income

in € m.	Dec 31, 2023	Dec 31, 2022
Securities purchased under resale agreement	1,805	2,156
Debt securities:		
German government	1,566	602
U.S. Treasury and U.S. government agencies	9,232	12,334
U.S. local (municipal) governments	446	392
Other foreign governments	15,672	9,960
Corporates	686	708
Other asset-backed securities	0	0
Mortgage-backed securities, including obligations of U.S. federal agencies	442	486
Other debt securities	831	969
Total debt securities	28,874	25,450
Loans	4,867	4,069
Total financial assets at fair value through other comprehensive income	35,546	31,675

16 – Equity Method Investments

Investments in associates and jointly controlled entities are accounted for using the equity method of accounting.

The Group holds interests in 54 associates and 6 jointly controlled entities as of December 31, 2023 (53 and 9, respectively, as of December 31, 2022). Two associates are considered to be material to the Group.

Significant investments as of December 31, 2023¹

Investment	Principal place of business	Nature of relationship	Ownership percentage
Huarong Rongde Asset Management Company Limited	Beijing, China	Strategic investment	40.7%
Harvest Fund Management Co., Ltd.	Shanghai, China	Strategic investment	30.0%

¹ The Group has significant influence over these investees through its holding percentage and representation on the board seats

Summarized financial information on Huarong Rongde Asset Management Company Limited

in € m.	Dec 31, 2022 ¹	Dec 31, 2021 ²
Total net revenues	(305)	(138)
Net income	(230)	(102)
Other comprehensive income	0	0
Total comprehensive income³	(230)	(102)

in € m.	Dec 31, 2022	Dec 31, 2021
Current assets	1,984	2,738
Non-Current assets	513	568
Total assets	2,496	3,306
Current liabilities	1,842	2,132
Non-Current liabilities	228	460
Total liabilities	2,070	2,592
Noncontrolling Interest	0	0
Net assets of the equity method investee	426	714

¹ December 31, 2023 numbers are based on 2022 audited financials and 2023 equity method accounting adjustments, due to difference in reporting timelines for the Group and Huarong Rongde Management Company Limited

² December 31, 2022 numbers are based on 2021 audited financials, 2022 impairment adjustments and 2021 dividends entitlement adjustment, due to difference in reporting timelines for the Group and Huarong Rongde Management Company Limited

³ The Group received dividends from Huarong Rongde Asset Management Company Limited of € 0 million during the reporting period 2023 (2022: € 0 million)

Reconciliation of total net assets of Huarong Rongde Asset Management Company Limited to the Group's carrying amount

in € m.	Dec 31, 2022 ¹	Dec 31, 2021 ²
Net assets of the equity method investee	426	714
Group's ownership percentage on the investee's equity	40.7%	40.7%
Group's share of net assets	173	291
Goodwill	0	0
Intangible Assets	0	0
Other adjustments ^{3,4}	(36)	(64)
Carrying amount	138	227

¹ December 31, 2023 numbers are based on 2022 audited financials and 2023 equity method accounting adjustments, due to difference in reporting timelines for the Group and Huarong Rongde Management Company Limited

² December 31, 2022 numbers are based on 2021 audited financials, 2022 impairment adjustments and 2021 dividends entitlement adjustment, due to difference in reporting timelines for the Group and Huarong Rongde Management Company Limited

³ There is no life to date impairment loss in 2023 (€ 73 million in 2022) as the carrying amount is appropriately reflected after the Group's share of losses from Huarong Rongde Management Company Limited

⁴ Other adjustments include equity method accounting adjustments to reflect the Group's share of losses from Huarong Rongde Management Company Limited

Summarized financial information on Harvest Fund Management Co., Ltd.

in € m.	Dec 31, 2023 ¹	Dec 31, 2022 ²
Total net revenues	843	1,016
Net income	199	237
Other comprehensive income	1	7
Total comprehensive income³	200	244

in € m.	Dec 31, 2023	Dec 31, 2022
Current assets	955	1,090
Non-Current assets	1,049	1,100
Total assets	2,004	2,190
Current liabilities	638	812
Non-Current liabilities	192	248
Total liabilities	830	1,060
Noncontrolling Interest	50	47
Net assets of the equity method investee	1,124	1,083

¹ December 31, 2023 numbers are based on 2023 unaudited financials

² December 31, 2022 numbers are based on 2022 audited financials

³ The Group received dividends from Harvest Fund Management Co., Ltd. of € 28 million during the reporting period 2023 (2022: € 45 million)

Reconciliation of total net assets of Harvest Fund Management Co., Ltd. to the Group's carrying amount

in € m.	Dec 31, 2023 ¹	Dec 31, 2022 ²
Net assets of the equity method investee	1,124	1,083
Group's ownership percentage on the investee's equity	30%	30%
Group's share of net assets	337	325
Goodwill	18	18
Intangible Assets	14	15
Other adjustments	2	3
Carrying amount³	371	361

¹ December 31, 2023 numbers are based on 2023 unaudited financials

² December 31, 2022 numbers are based on 2022 audited financials

³ There is no impairment loss in 2023 (€ 0 million in 2022)

Aggregated financial information on the Group's share in associates and joint ventures that are individually immaterial

in € m.	Dec 31, 2023	Dec 31, 2022
Carrying amount of all associates that are individually immaterial to the Group	505	536
Aggregated amount of the Group's share of profit (loss) from continuing operations	(34)	100
Aggregated amount of the Group's share of post-tax profit (loss) from discontinued operations	0	0
Aggregated amount of the Group's share of other comprehensive income	(16)	15
Aggregated amount of the Group's share of total comprehensive income	(50)	115

17 – Offsetting Financial Assets and Financial Liabilities

The Group is eligible to present certain financial assets and financial liabilities on a net basis on the balance sheet pursuant to criteria described in Note 1 “Material Accounting Policies and Critical Accounting Estimates: Offsetting Financial Instruments”.

The following tables provide information on the impact of offsetting on the consolidated balance sheet, as well as the financial impact of netting for instruments subject to an enforceable master netting arrangement or similar agreement as well as available cash and financial instrument collateral.

Assets

	Dec 31, 2023						
	Gross amounts of financial assets	Gross amounts set off on the balance sheet	Net amounts of financial assets presented on the balance sheet	Impact of Master Netting Agreements	Cash collateral	Financial instrument collateral ¹	Amounts not set off on the balance sheet
in € m.							
Central bank funds sold and securities purchased under resale agreements (enforceable)	21,574	(9,999)	11,574	0	0	(11,491)	84
Central bank funds sold and securities purchased under resale agreements (non-enforceable)	3,151	0	3,151	0	0	(2,270)	881
Securities borrowed (enforceable)	33	0	33	0	0	(33)	0
Securities borrowed (non-enforceable)	6	0	6	0	0	0	6
Financial assets at fair value through profit or loss (enforceable)	513,810	(199,127)	314,683	(197,430)	(32,109)	(74,885)	10,260
Of which: Positive market values from derivative financial instruments (enforceable)	259,148	(15,648)	243,499	(195,499)	(32,092)	(5,766)	10,142
Financial assets at fair value through profit or loss (non-enforceable)	150,569	0	150,569	0	(1,227)	(10,167)	139,174
Of which: Positive market values from derivative financial instruments (non-enforceable)	8,357	0	8,357	0	(1,101)	(1,077)	6,178
Total financial assets at fair value through profit or loss	664,379	(199,127)	465,252	(197,430)	(33,337)	(85,052)	149,434
Loans at amortized cost	473,705	0	473,705	0	(11,317)	(69,594)	392,794
Other assets	123,702	(9,005)	114,697	(24,037)	(79)	(13)	90,569
Of which: Positive market values from derivatives qualifying for hedge accounting (enforceable)	940	(51)	889	(662)	(79)	(13)	136
Remaining assets subject to netting	1,805	0	1,805	0	0	0	1,805
Remaining assets not subject to netting	242,108	0	242,108	0	(73)	(3,533)	238,502
Total assets	1,530,462	(218,131)	1,312,331	(221,466)	(44,805)	(171,985)	874,074

¹ Excludes real estate and other non-financial instrument collateral

Liabilities

	Dec 31, 2023						
	Amounts not set off on the balance sheet						
	Gross amounts of financial liabilities	Gross amounts set off on the balance sheet	Net amounts of financial liabilities presented on the balance sheet	Impact of Master Netting Agreements	Cash collateral	Financial instrument collateral	Net amount
in € m.							
Deposits	622,035	0	622,035	0	0	0	622,035
Central bank funds purchased and securities sold under repurchase agreements (enforceable)	11,890	(9,999)	1,891	0	0	(1,891)	0
Central bank funds purchased and securities sold under repurchase agreements (non-enforceable)	1,147	0	1,147	0	0	(51)	1,096
Securities loaned (enforceable)	3	0	3	0	0	(3)	0
Securities loaned (non-enforceable)	0	0	0	0	0	0	0
Financial liabilities at fair value through profit or loss (enforceable)	540,784	(199,152)	341,632	(197,923)	(21,990)	(68,806)	52,913
Of which: Negative market values from derivative financial instruments (enforceable)	245,600	(16,132)	229,468	(195,962)	(21,990)	(2,608)	8,908
Financial liabilities at fair value through profit or loss (non-enforceable)	24,843	0	24,843	0	(785)	(4,485)	19,572
Of which: Negative market values from derivative financial instruments (non-enforceable)	8,792	0	8,792	0	(723)	(191)	7,878
Total financial liabilities at fair value through profit or loss	565,627	(199,152)	366,475	(197,923)	(22,776)	(73,292)	72,485
Other liabilities	122,016	(8,980)	113,036	(33,591)	(23)	(1)	79,421
Of which: Negative market values from derivatives qualifying for hedge accounting (enforceable)	280	(29)	252	(199)	(23)	(1)	28
Remaining liabilities not subject to netting	132,925	0	132,925	0	0	0	132,925
Total liabilities	1,455,644	(218,131)	1,237,513	(231,514)	(22,799)	(75,239)	907,961

Assets

	Dec 31, 2022						
	Amounts not set off on the balance sheet						
	Gross amounts of financial assets	Gross amounts set off on the balance sheet	Net amounts of financial assets presented on the balance sheet	Impact of Master Netting Agreements	Cash collateral	Financial instrument collateral ¹	Net amount
in € m.							
Central bank funds sold and securities purchased under resale agreements (enforceable)	20,068	(8,621)	11,447	(700)	0	(10,746)	1
Central bank funds sold and securities purchased under resale agreements (non-enforceable)	31	0	31	0	0	(25)	6
Securities borrowed (enforceable)	0	0	0	0	0	0	0
Securities borrowed (non-enforceable)	0	0	0	0	0	0	0
Financial assets at fair value through profit or loss (enforceable)	506,114	(141,991)	364,123	(229,779)	(41,907)	(80,591)	11,846
Of which: Positive market values from derivative financial instruments (enforceable)	306,192	(16,087)	290,106	(227,299)	(41,904)	(9,076)	11,826
Financial assets at fair value through profit or loss (non-enforceable)	118,253	0	118,253	0	(1,101)	(10,167)	106,984
Of which: Positive market values from derivative financial instruments (non-enforceable)	9,581	0	9,581	0	(966)	(1,327)	7,288
Total financial assets at fair value through profit or loss	624,366	(141,991)	482,376	(229,779)	(43,008)	(90,759)	118,830
Loans at amortized cost	483,700	0	483,700	0	(12,278)	(66,762)	404,660
Other assets	130,663	(12,370)	118,293	(29,232)	(95)	(14)	88,952
Of which: Positive market values from derivatives qualifying for hedge accounting (enforceable)	3,704	(2,287)	1,417	(1,089)	(95)	(14)	220
Remaining assets subject to netting	2,156	0	2,156	0	0	0	2,156
Remaining assets not subject to netting	238,785	0	238,785	0	(111)	(2,995)	235,680
Total assets	1,499,770	(162,982)	1,336,788	(259,712)	(55,492)	(171,299)	850,285

¹ Excludes real estate and other non-financial instrument collateral

Liabilities

	Amounts not set off on the balance sheet						Dec 31, 2022
in € m.	Gross amounts of financial liabilities	Gross amounts set off on the balance sheet	Net amounts of financial liabilities presented on the balance sheet	Impact of Master Netting Agreements	Cash collateral	Financial instrument collateral	Net amount
Deposits	621,456	0	621,456	0	0	0	621,456
Central bank funds purchased and securities sold under repurchase agreements (enforceable)	9,032	(8,621)	411	0	0	(410)	0
Central bank funds purchased and securities sold under repurchase agreements (non-enforceable)	162	0	162	0	0	(51)	111
Securities loaned (enforceable)	7	0	7	0	0	(7)	0
Securities loaned (non-enforceable)	6	0	6	0	0	(6)	0
Financial liabilities at fair value through profit or loss (enforceable)	508,275	(141,849)	366,426	(230,359)	(26,319)	(44,516)	65,232
Of which: Negative market values from derivative financial instruments (enforceable)	287,402	(16,382)	271,019	(227,766)	(26,319)	(2,319)	14,615
Financial liabilities at fair value through profit or loss (non-enforceable)	21,646	0	21,646	0	(880)	(4,245)	16,521
Of which: Negative market values from derivative financial instruments (non-enforceable)	11,333	0	11,333	0	(736)	(209)	10,388
Total financial liabilities at fair value through profit or loss	529,921	(141,849)	388,072	(230,359)	(27,199)	(48,761)	81,753
Other liabilities	126,226	(12,512)	113,714	(44,114)	(76)	(2)	69,522
Of which: Negative market values from derivatives qualifying for hedge accounting (enforceable)	837	(51)	787	(622)	(76)	(2)	87
Remaining liabilities not subject to netting	140,633	0	140,633	0	0	0	140,632
Total liabilities	1,427,442	(162,982)	1,264,460	(274,473)	(27,275)	(49,238)	913,475

The column 'Gross amounts set off on the balance sheet' discloses the amounts offset in accordance with all the criteria described in Note 1 "Material Accounting Policies and Critical Accounting Estimates: Offsetting Financial Instruments".

The column 'Impact of Master Netting Agreements' discloses the amounts that are subject to master netting agreements but were not offset because they did not meet the net settlement/simultaneous settlement criteria; or because the rights of set off are conditional upon the default of the counterparty only. The amounts presented for other assets and other liabilities include cash margin receivables and payables respectively.

The columns 'Cash collateral' and 'Financial instrument collateral' disclose the cash and financial instrument collateral amounts received or pledged in relation to the total amounts of assets and liabilities, including those that were not offset.

Non-enforceable master netting agreements or similar agreements refer to contracts executed in jurisdictions where the rights of set off may not be upheld under the local bankruptcy laws.

The cash collateral received against the positive market values of derivatives and the cash collateral pledged towards the negative mark-to-market values of derivatives are booked within the 'Other liabilities' and 'Other assets' balances respectively.

The Cash and Financial instrument collateral amounts disclosed reflect their fair values. The rights of set off relating to the cash and financial instrument collateral are conditional upon the default of the counterparty.

18 – Loans

The entire loan book presented includes loans classified at amortized cost, loans at fair value through other comprehensive income and loans at fair value through profit and loss.

The below table gives an overview of the Group's loan exposure by industry, and is based on the NACE (Nomenclature des Activités Économiques dans la Communauté Européenne) code of the counterparty. NACE is a standard European industry classification system.

Loans by industry classification		Dec 31, 2023	Dec 31, 2022
in € m.			
Agriculture, forestry and fishing		386	526
Mining and quarrying		3,130	2,679
Manufacturing		30,564	32,352
Electricity, gas, steam and air conditioning supply		4,734	5,103
Water supply, sewerage, waste management and remediation activities		486	725
Construction		4,494	4,494
Wholesale and retail trade, repair of motor vehicles and motorcycles		22,127	22,605
Transport and storage		5,617	6,067
Accommodation and food service activities		1,865	1,972
Information and communication		8,082	7,783
Financial and insurance activities		116,298	121,333
Real estate activities		50,793	49,671
Professional, scientific and technical activities		6,958	7,137
Administrative and support service activities		9,385	7,922
Public administration and defense, compulsory social security		6,131	5,977
Education		281	249
Human health services and social work activities		4,432	4,554
Arts, entertainment and recreation		1,072	1,180
Other service activities		5,050	4,606
Activities of households as employers, undifferentiated goods- and services-producing activities of households for own use		210,982	214,796
Activities of extraterritorial organizations and bodies		0	1
Gross loans		492,868	501,732
(Deferred expense)/unearned income		1,675	131
Loans less (deferred expense)/unearned income		491,192	501,601
Less: Allowance for loan losses		5,208	4,848
Total loans		485,984	496,754

19 – Allowance for Credit Losses

The allowance for credit losses consists of allowance for financial assets at amortized cost, financial assets at fair value through OCI and off-balance sheet lending commitments and guarantee business.

Development of allowance for credit losses for financial assets at amortized cost

in € m.					Dec 31, 2023
	Stage 1	Stage 2	Stage 3	Stage 3 POCI ⁴	Allowance for Credit Losses ²
Balance, beginning of year	533	626	3,656	180	4,995
Movements in financial assets including new business and credit extensions	(195)	294	1,647	32	1,778
Transfers due to changes in creditworthiness	170	(150)	(20)	N/M	0
Changes due to modifications that did not result in derecognition	N/M	N/M	N/M	N/M	N/M
Changes in models	(57)	(53)	0	0	(110)
Financial assets that have been derecognized during the period ³	0	0	(1,145)	(52)	(1,197)
Recovery of written off amounts	0	0	93	0	93
Foreign exchange and other changes	(3)	(38)	(271)	38	(273)
Balance, end of reporting period	447	680	3,960	198	5,285
Provision for Credit Losses excluding country risk ¹	(83)	92	1,627	32	1,668

¹ Movements in financial assets including new business, transfers due to changes in creditworthiness and changes in models add up to Provision for Credit Losses excluding country risk

² Allowance for credit losses does not include allowance for country risk amounting to € 4 million as of December 31, 2023

³ This position includes charge offs of allowance for credit losses

⁴ The total amount of undiscounted expected credit losses at initial recognition on financial assets that are purchased or originated credit-impaired initially recognized during the reporting period was € 0 million in 2023 and € 46 million in 2022

in € m.					Dec 31, 2022
	Stage 1	Stage 2	Stage 3	Stage 3 POCI ⁴	Allowance for Credit Losses ²
Balance, beginning of year	440	532	3,740	182	4,895
Movements in financial assets including new business and credit extensions	(32)	204	887	22	1,081
Transfers due to changes in creditworthiness	122	(121)	(0)	N/M	0
Changes due to modifications that did not result in derecognition	N/M	N/M	N/M	N/M	N/M
Changes in models	0	0	0	0	0
Financial assets that have been derecognized during the period ³	0	0	(1,014)	(28)	(1,043)
Recovery of written off amounts	0	0	68	3	71
Foreign exchange and other changes	2	12	(25)	1	(10)
Balance, end of reporting period	533	626	3,656	180	4,995
Provision for Credit Losses excluding country risk ¹	90	82	886	22	1,081

¹ Movements in financial assets including new business, transfers due to changes in creditworthiness and changes in models add up to Provision for Credit Losses excluding country risk

² Allowance for credit losses does not include allowance for country risk amounting to € 14 million as of December 31, 2022

³ This position includes charge offs of allowance for credit losses

⁴ The total amount of undiscounted expected credit losses at initial recognition on financial assets that are purchased or originated credit-impaired initially recognized during the reporting period was € 46 million in 2022 and € 0 million in 2021

in € m.					Dec 31, 2021
	Stage 1	Stage 2	Stage 3	Stage 3 POCI ⁴	Allowance for Credit Losses ²
Balance, beginning of year	544	648	3,614	139	4,946
Movements in financial assets including new business and credit extensions	(245)	85	615	26	480
Transfers due to changes in creditworthiness	138	(197)	58	N/M	0
Changes due to modifications that did not result in derecognition	N/M	N/M	N/M	N/M	N/M
Changes in models	0	0	0	0	0
Financial assets that have been derecognized during the period ³	0	0	(561)	(5)	(566)
Recovery of written off amounts	0	0	55	23	78
Foreign exchange and other changes	3	(4)	(41)	(0)	(43)
Balance, end of reporting period	440	532	3,740	182	4,895
Provision for Credit Losses excluding country risk ¹	(107)	(112)	673	26	480

¹ Movements in financial assets including new business, transfers due to changes in creditworthiness and changes in models add up to Provision for Credit Losses excluding country risk

² Allowance for credit losses does not include allowance for country risk amounting to € 4 million as of December 31, 2021

³ This position includes charge offs of allowance for credit losses

⁴ The total amount of undiscounted expected credit losses at initial recognition on financial assets that are purchased or originated credit-impaired initially recognized during the reporting period was € 0 million in 2021 and € 46 million in 2020

Allowance for credit losses for financial assets at fair value through OCI¹

in € m.	Allowance for Credit Losses					Dec 31, 2023
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	
Fair Value through OCI	13	13	22	0	48	

¹ Allowance for credit losses against financial assets at fair value through OCI remained at very low levels (€ 69 million at December 31, 2022 and € 48 million as of December 31, 2023). Due to immateriality, we do not provide any details on the year-over-year development.

in € m.	Allowance for Credit Losses					Dec 31, 2022
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	
Fair Value through OCI	14	12	43	0	69	

¹ Allowance for credit losses against financial assets at fair value through OCI were almost unchanged at very low levels (€ 41 million at December 31, 2021 and € 69 million as of December 31, 2022). Due to immateriality, we do not provide any details on the year-over-year development.

in € m.	Allowance for Credit Losses					Dec 31, 2021
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	
Fair Value through OCI	15	10	16	0	41	

¹ Allowance for credit losses against financial assets at fair value through OCI were almost unchanged at very low levels (€ 20 million at December 31, 2020 and € 41 million as of December 31, 2021, respectively). Due to immateriality, we do not provide any details on the year-over-year development.

Development of allowance for credit losses for off-balance sheet positions

in € m.	Allowance for Credit Losses ²					Dec 31, 2023
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	
Balance, beginning of year	144	97	310	0	551	
Movements including new business	(39)	(3)	(118)	0	(160)	
Transfers due to changes in creditworthiness	11	(4)	(7)	0	0	
Changes in models	0	0	0	0	0	
Foreign exchange and other changes	1	(2)	3	0	2	
Balance, end of reporting period	117	88	187	0	393	
of which: Financial guarantees	84	37	113	0	233	
Provision for Credit Losses excluding country risk ¹	(28)	(7)	(125)	0	(160)	

¹ The above table breaks down the impact on provision for credit losses from movements in financial assets including new business, transfers due to changes in creditworthiness and changes in models

² Allowance for credit losses does not include allowance for country risk amounting to € 9 million as of December 31, 2023

in € m.	Allowance for Credit Losses ²					Dec 31, 2022
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	
Balance, beginning of year	108	111	225	0	443	
Movements including new business	21	(1)	78	0	99	
Transfers due to changes in creditworthiness	12	(15)	3	0	0	
Changes in models	0	0	0	0	0	
Foreign exchange and other changes	4	3	3	0	9	
Balance, end of reporting period	144	97	310	0	551	
of which: Financial guarantees	95	56	226	0	378	
Provision for Credit Losses excluding country risk ¹	33	(16)	82	0	99	

¹ The above table breaks down the impact on provision for credit losses from movements in financial assets including new business, transfers due to changes in creditworthiness and changes in models

² Allowance for credit losses does not include allowance for country risk amounting to € 9 million as of December 31, 2022

in € m.	Allowance for Credit Losses ²					Dec 31, 2021
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	
Balance, beginning of year	144	74	200	0	419	
Movements including new business	(43)	38	18	0	13	
Transfers due to changes in creditworthiness	3	(5)	2	0	0	
Changes in models	0	0	0	0	0	
Foreign exchange and other changes	3	3	6	0	12	
Balance, end of reporting period	108	111	225	0	443	
of which: Financial guarantees	69	64	164	0	297	
Provision for Credit Losses excluding country risk ¹	(40)	33	19	0	13	

¹ The above table breaks down the impact on provision for credit losses from movements in financial assets including new business, transfers due to changes in creditworthiness and changes in models

² Allowance for credit losses does not include allowance for country risk amounting to € 6 million as of December 31, 2021

20 – Transfer of Financial Assets, Assets Pledged and Received as Collateral

The Group enters into transactions in which it transfers financial assets held on the balance sheet and as a result may either be eligible to derecognize the transferred asset in its entirety or must continue to recognize the transferred asset to the extent of any continuing involvement, depending on certain criteria. These criteria are discussed in Note 1 "Material Accounting Policies and Critical Accounting Estimates".

Where financial assets are not eligible to be derecognized, the transfers are viewed as secured financing transactions, with any consideration received resulting in a corresponding liability. The Group is not entitled to use these financial assets for any other purposes. The most common transactions of this nature entered into by the Group are repurchase agreements, securities lending agreements and total return swaps, in which the Group retains substantially all of the associated credit, equity price, interest rate and foreign exchange risks and rewards associated with the assets as well as the associated income streams.

Information on asset types and associated transactions that did not qualify for derecognition

in € m.	Dec 31, 2023	Dec 31, 2022
Carrying amount of transferred assets		
Trading securities not derecognized due to the following transactions:		
Repurchase agreements	45,106	30,201
Securities lending agreements	10,155	8,313
Total return swaps	4,483	1,461
Other	5,060	4,480
Total trading securities	64,804	44,455
Other trading assets	138	171
Non-trading financial assets mandatory at fair value through profit or loss	203	1,077
Financial assets at fair value through other comprehensive income	7,080	2,351
Loans at amortized cost ¹	26	104
Others	8,674	3,815
Total	80,924	51,973
Carrying amount of associated liabilities	70,706	43,820

¹ Other traded loans where the associated liability is recourse only to the transferred assets had carrying value and fair value of € 20 million and € 0 million as at December 31, 2023 and December 31, 2022 respectively. The associated liabilities had the same carrying value and fair value which resulted in a net position of € 0 million and € 0 million as at December 31, 2023 and December 31, 2022 respectively

Carrying value of assets transferred to the Group has continuing involvement

in € m.	Dec 31, 2023	Dec 31, 2022
Carrying amount of the original assets transferred		
Trading securities	1,043	1,059
Non-trading financial assets mandatory at fair value through profit or loss	317	328
Carrying amount of the assets continued to be recognized		
Trading securities	28	34
Non-trading financial assets mandatory at fair value through profit or loss	16	16
Carrying amount of associated liabilities	78	95

The Group could retain some exposure to the future performance of a transferred asset either through new or existing contractual rights and obligations and still be eligible to derecognize the asset. This ongoing involvement will be recognized as a new instrument which may be different from the original financial asset that was transferred. Typical transactions include retaining senior notes of non-consolidated securitizations to which originated loans have been transferred; financing arrangements with structured entities to which the Group has sold a portfolio of assets; or sales of assets with credit-contingent swaps. The Group's exposure to such transactions is not considered to be significant as any substantial retention of risks associated with the transferred asset will commonly result in an initial failure to derecognize. Transactions not considered to result in an ongoing involvement include normal warranties on fraudulent activities that could invalidate a transfer in the event of legal action, qualifying pass-through arrangements and standard trustee or administrative fees that are not linked to performance.

The impact on the Group's Balance Sheet of on-going involvement associated with transferred assets derecognized in full

in € m.	Dec 31,2023			Dec 31,2022		
	Carrying value	Fair value	Maximum Exposure to Loss ¹	Carrying value	Fair value	Maximum Exposure to Loss ¹
Loans at amortized cost						
Securitization notes	389	344	344	357	321	321
Other	0	0	0	0	0	0
Total loans at amortized cost	389	344	344	357	321	321
Financial assets held at fair value through profit or loss						
Securitization notes	23	23	23	30	30	30
Non-standard Interest Rate, cross-currency or inflation-linked swap	0	0	0	0	0	0
Total financial assets held at fair value through profit or loss	23	23	23	30	30	30
Financial assets at fair value through other comprehensive income:						
Securitization notes	706	592	592	739	629	629
Other	0	0	0	0	0	0
Total financial assets at fair value through other comprehensive income	706	592	592	739	629	629
Total financial assets representing on-going involvement	1,118	959	959	1,126	981	981
Financial liabilities held at fair value through profit or loss						
Non-standard Interest Rate, cross-currency or inflation-linked swap	0	0	0	0	0	0
Total financial liabilities representing on-going involvement	0	0	0	0	0	0

¹ The maximum exposure to loss is defined as the carrying value plus the notional value of any undrawn loan commitments not recognized as liabilities

The impact on the Group's Statement of Income of on-going involvement associated with transferred assets derecognized in full

in € m.	Dec 31,2023			Dec 31,2022		
	Year-to-date P&L	Cumulative P&L	Gain/(loss) on disposal	Year-to-date P&L	Cumulative P&L	Gain/(loss) on disposal
Securitization notes	48	164	7	41	112	(8)
Non-standard Interest Rate, cross-currency or inflation-linked swap	0	0	0	(0)	(0)	0
Net gains/(losses) recognized from on-going involvement in derecognized assets	48	164	7	40	112	(8)

The Group pledges assets primarily as collateral against secured funding and for repurchase agreements, securities borrowing agreements as well as other borrowing arrangements and for margining purposes on OTC derivative liabilities. Pledges are generally conducted under terms that are usual and customary for standard securitized borrowing contracts and other transactions described. As at December 31, 2023 the bank had securitized loans of € 0 billion and the secured own bonds were pledged as collateral into the ECBs TLTRO program or market standard securities financing transactions. The encumbered loans below includes this balances.

Carrying value of the Group's assets pledged as collateral for liabilities or contingent liabilities¹

in € m.	Dec 31, 2023	Dec 31, 2022
Financial assets at fair value through profit or loss	55,166	37,216
Financial assets at fair value through other comprehensive income	7,222	2,375
Loans	54,148	73,305
Other	9,610	5,306
Total	126,146	118,202

¹ Excludes assets pledged as collateral from transactions that do not result in liabilities or contingent liabilities

Total assets pledged to creditors available for sale or repledge¹

in € m.	Dec 31, 2023	Dec 31, 2022
Financial assets at fair value through profit or loss	57,143	40,997
Financial assets at fair value through other comprehensive income	7,073	1,408
Loans	5,428	2,716
Other	7,815	593
Total	77,459	45,715

¹ Includes assets pledged as collateral from transactions that do not result in liabilities or contingent liabilities

The Group receives collateral primarily in reverse repurchase agreements, securities lending agreements, derivatives transactions, customer margin loans and other transactions. These transactions are generally conducted under terms that are usual and customary for standard secured lending activities and the other transactions described. The Group, as the secured party, has the right to sell or re-pledge such collateral, subject to the Group returning equivalent securities upon completion of the transaction. This right is used primarily to cover short sales, securities loaned and securities sold under repurchase agreements.

Fair Value of collateral received

in € m.	Dec 31, 2023	Dec 31, 2022
Securities and other financial assets accepted as collateral	379,573	309,107
Of which: Collateral sold or repledged	324,757	254,856

21 – Property and Equipment

in € m.	Owner occupied properties	Furniture and equipment	Leasehold improvements	Construction-in-progress	Property and equipment owned (IAS 16)	Right-of-use for leased assets (IFRS 16)	Total
Cost of acquisition:							
Balance as of January 1, 2022	514	2,283	3,102	398	6,297	5,439	11,737
Changes in the group of consolidated companies	0	0	0	0	0	0	0
Additions	0	94	65	178	337	971	1,308
Transfers	0	109	362	(377)	94	78	171
Reclassifications (to)/from "held for sale"	0	(7)	(12)	0	(19)	(0)	(19)
Disposals	11	72	35	0	118	417	535
Exchange rate changes	(1)	27	42	16	84	117	201
Balance as of December 31, 2022	503	2,434	3,523	216	6,676	6,187	12,863
Changes in the group of consolidated companies	0	(8)	7	0	(1)	34	34
Additions	0	84	40	297	422	263	685
Transfers	0	23	193	(50)	167	251	419
Reclassifications (to)/from "held for sale"	(22)	0	0	0	(22)	0	(22)
Disposals	41	113	643	0	798	152	950
Exchange rate changes	1	(27)	(43)	(2)	(71)	(77)	(148)
Balance as of December 31, 2023	441	2,393	3,078	461	6,374	6,507	12,881
Accumulated depreciation and impairment:							
Balance as of January 1, 2022	288	1,860	2,095	1	4,244	1,957	6,201
Changes in the group of consolidated companies	0	0	0	0	0	0	0
Depreciation	13	141	194	0	348	573	922
Impairment losses	1	0	4	0	4	6	11
Reversals of impairment losses	4	0	0	0	4	17	21
Transfers	0	61	24	0	86	3	89
Reclassifications (to)/from "held for sale"	0	(6)	(9)	0	(15)	0	(15)
Disposals	11	55	28	0	93	393	486
Exchange rate changes	(1)	20	24	0	43	17	60
Balance as of December 31, 2022	286	2,022	2,304	1	4,613	2,147	6,760
Changes in the group of consolidated companies	0	(10)	(0)	0	(11)	(0)	(11)
Depreciation	9	127	199	0	335	543	878
Impairment losses	7	8	5	0	21	23	43
Reversals of impairment losses	0	0	0	0	0	8	8
Transfers	(0)	17	54	0	71	(41)	29
Reclassifications (to)/from "held for sale"	(19)	0	0	0	(19)	0	(19)
Disposals	20	108	638	0	766	141	907
Exchange rate changes	0	(22)	(25)	(0)	(46)	(24)	(70)
Balance as of December 31, 2023	264	2,033	1,900	1	4,198	2,498	6,696
Carrying amount:							
Balance as of December 31, 2022	217	412	1,219	215	2,063	4,040	6,103
Balance as of December 31, 2023	177	360	1,179	460	2,176	4,009	6,185

Depreciation expenses, impairment losses and reversal of impairment losses on property and equipment are recorded within general and administrative expenses for the income statement.

The carrying value of items of property and equipment on which there is a restriction on sale was € 24 million and € 25 million as of December 31, 2023 and December 31, 2022, respectively.

Commitments for the acquisition of property and equipment were € 96 million at year-end 2023 and € 150 million at year-end 2022.

The Group leases many assets including land and buildings, vehicles and IT equipment for which it records right-of-use assets. During 2023, additions to right-of-use assets amounted to € 263 million and largely reflected new real estate leases. Depreciation charges of € 543 million recognized in 2023 mainly resulted from planned consumption of right-of-use assets for property leases over their contractual terms. The carrying amount of right-of-use assets of € 4.0 billion included in Total Property and equipment as of December 31, 2023 predominantly represented leased properties of € 4.0 billion and vehicle leases of € 13 million. For more information on the Group's leased properties and related disclosures required under IFRS 16, please refer to Note 22 "Leases".

22 – Leases

The Group's disclosures are as a lessee under lease arrangements covering property and equipment. The Group has applied judgement in presenting related information pursuant to IFRS 16 in a manner that it considers to be most relevant to an understanding of its financial performance and position.

The Group leases many assets including land and buildings, vehicles and IT equipment. The Group is a lessee for the majority of its offices and branches under long-term rental agreements. Most of the lease contracts are made under usual terms and conditions, which means they include options to extend the lease by a defined amount of time, price adjustment clauses and escalation clauses in line with general office rental market conditions. However, the lease agreements do not include any clauses that impose any restriction on the Group's ability to pay dividends, engage in debt financing transactions or enter into further lease agreements.

As of December 31, 2023 (December 31, 2022), the Group recorded right-of-use assets on its balance sheet with a carrying amount of € 4.0 billion (€ 4.0 billion), which are included in Property and equipment. The right-of-use assets predominantly represented leased properties of € 4.0 billion (€ 4.0 billion) and vehicle leases of € 13 million (€ 10 million). For more information on the year-to-date development of right-of-use assets, please refer to Note 21 "Property and Equipment".

Corresponding to the recognition of the right-of-use assets, as of December 31, 2023 (December 31, 2022), the Group recorded lease liabilities on its balance sheet with a carrying amount of € 4.5 billion (€ 4.5 billion), which are included in Other liabilities. As of December 31, 2023, the lease liabilities included the discounted value of future lease payments of € 477 million for the Group headquarters in Frankfurt am Main that was sold and leased back on December 1, 2011. The lease has a fixed term through to the end of 2036, with options to extend the lease for two additional five-year periods to the end of 2046.

During 2023 and 2022, interest expenses recorded from the compounding of the lease liabilities amounted to € 113 million and € 85 million, respectively. The contractual maturities for the undiscounted cash flows from these liabilities are shown in Note 31 "Maturity Analysis of the earliest contractual undiscounted cash flows of Financial Liabilities".

Expenses recognized in 2023 (2022) relating to short-term leases and leases of low-value assets, for which the Group decided to apply the recognition exemption under IFRS 16 (and thus not to record right-of-use assets and corresponding lease liabilities on the balance sheet), amounted to € 1 million (€ 1 million) and € 0 million (€ 0 million), respectively.

Income recorded in 2023 (2022) from the subletting of right-of-use assets totaled € 29 million (€ 29 million).

The total cash outflow for leases for 2023 (2022) was € 645 million (€ 691 million) and represented mainly expenditures made for real estate rentals over € 638 million (€ 683 million). Of the total cash outflow amount, payments of € 534 million (€ 607 million) were made for the principal portion of lease liabilities, payments of € 111 million (€ 84 million) were made for the interest portion.

Total future cash outflows to which the Group as a lessee is potentially exposed, that are not reflected in the measurement of the lease liabilities, mainly include potential payment exposures arising from extension options (2023: € 4.9 billion) and future payments for leases not yet commenced, but to which the Group is committed (2023: € 40 million). Their expected maturities are shown in the table below.

Future cash outflows to which the Group is potentially exposed that are not reflected in the measurement of lease liabilities

in € m.	Dec 31, 2023	Dec 31, 2022
Future cash outflows not reflected in lease liabilities:		
Not later than one year	14	14
Later than one year and not later than five years	590	613
Later than five years	4,318	5,226
Future cash outflows not reflected in lease liabilities	4,922	5,852

23 – Goodwill and Other Intangible Assets

Goodwill

Changes in Goodwill

The changes in the carrying amount of goodwill, as well as gross amounts and accumulated impairment losses of goodwill, for the years ended December 31, 2023, and December 31, 2022, are shown below by cash-generating units.

The Group's business operations are organized under the following divisional structure: Corporate Bank, Investment Bank, Private Bank and Asset Management. The corporate divisions are considered CGUs.

Please also refer to Note 4 "Business Segments and Related Information" for more information regarding changes in the presentation of segment disclosures.

Goodwill allocated to cash-generating units

in € m.	Investment Bank	Corporate Bank	Asset Management	Private Bank	Total
Balance as of January 1, 2022	0	0	2,806	0	2,806
Goodwill acquired during the year	0	0	0	0	0
Purchase accounting adjustments	0	0	0	0	0
Transfers	0	0	0	0	0
Reclassification from (to) "held for sale"	0	0	0	0	0
Goodwill related to dispositions without being classified as "held for sale"	0	0	0	0	0
Impairment losses ¹	0	0	0	0	0
Exchange rate changes/other	0	0	113	0	113
Balance as of December 31, 2022	0	0	2,919	0	2,919
Gross amount of goodwill	4,079	629	3,408	3,717	11,834
Accumulated impairment losses	(4,079)	(629)	(489)	(3,717)	(8,915)
Balance as of January 1, 2023	0	0	2,919	0	2,919
Goodwill acquired during the year	235	0	0	0	235
Purchase accounting adjustments	0	0	0	0	0
Transfers	0	0	0	0	0
Reclassification from (to) "held for sale"	0	0	(7)	0	(7)
Goodwill related to dispositions without being classified as "held for sale"	0	0	0	0	0
Impairment losses ¹	(233)	0	0	0	(233)
Exchange rate changes/other	(2)	0	(63)	0	(65)
Balance as of December 31, 2023	0	0	2,849	0	2,849
Gross amount of goodwill	4,175	615	3,336	3,723	11,848
Accumulated impairment losses	(4,175)	(615)	(487)	(3,723)	(9,000)

¹ Impairment losses of goodwill are recorded as impairment of goodwill and other intangible assets in the income statement

Following the acquisition of Numis Corporation Plc on October 13, 2023 (see Note 3), the purchase price allocation for the business combination resulted in the recognition of goodwill for € 235 million which was allocated to the Investment Bank CGU. Given the valuation of the Investment Bank CGU with a continued shortfall of its recoverable amount versus its carrying amount, the goodwill was considered impaired and fully written off in the fourth quarter 2023.

Changes in goodwill in 2022 only included foreign exchange rate movements of Asset Management goodwill held in non-Group currencies.

Changes in goodwill in 2021 related to the reclassification of € 56 million of Asset Management goodwill to assets held for sale, following the designated sale of DWS' digital investment platform to a joint venture with BlackFin and foreign exchange rate movements. Following the acquisition of a payment service provider (Better Payment Germany GmbH) in September 2021 (see Note 3), as part of the purchase price allocation the Group had recorded goodwill of € 5 million assigned to the Corporate Bank CGU. Given the valuation of the CGU continued to have a shortfall of its recoverable amount versus its carrying amount, the newly acquired goodwill was considered impaired and fully written off in 2021.

Goodwill Impairment Test

For the purposes of impairment testing, goodwill acquired in a business combination is allocated to the appropriate CGU on the basis as described in Note 1 "Material Accounting Policies and Critical Accounting Estimates". The Group's primary CGUs are as outlined above. Asset Management's goodwill is tested for impairment annually in the fourth quarter by comparing the recoverable amount of the CGU with its carrying amount. In addition, the Group tests goodwill whenever a triggering event is identified. The recoverable amount is the higher of a CGU's fair value less costs of disposal and its value in use. The Asset Management CGU was the only goodwill carrying CGU to be tested for annual impairment in 2021, 2022 and 2023. The impairment tests conducted on Asset Management in these periods did not result in an impairment loss as the recoverable amounts of the Asset Management CGU were higher than the respective carrying amounts.

A review of the Group's strategy or certain political or global risks for the banking industry, uncertainties regarding the implementation of already adopted regulation and the introduction of legislation that is already under discussion could result in an impairment of goodwill in the future.

Carrying Amount

The carrying amount of a primary CGU is derived using a capital allocation model based on the Shareholders' Equity Allocation Framework of the Group (please refer to Note 4, "Business Segments and Related Information" for more details). The allocation uses the Group's total equity at the date of valuation, including Additional Tier 1 Notes (AT1 Notes), which constitute unsecured and subordinated notes of Deutsche Bank and which are classified as additional equity components in accordance with IFRS. Total equity is adjusted for an add-on adjustment for goodwill attributable to noncontrolling interests.

Recoverable Amount

The Group determines the recoverable amounts of its primary CGUs on the basis of the higher of value in use and fair value less costs of disposal (Level 3 of the fair value hierarchy). It employs a discounted cash flow (DCF) model, which reflects the specifics of the banking business and its regulatory environment. The model calculates the present value of the estimated future earnings that are distributable to shareholders after fulfilling the respective regulatory capital requirements. The recoverable amounts also include the fair value of the AT1 Notes, which are allocated to the primary CGUs.

The DCF model uses earnings projections and respective capitalization assumptions based on five-year financial plans as well as longer term expectations on the impact of regulatory developments, which are discounted to their present value. Estimating future earnings and capital requirements involves judgment and the consideration of past and current performances as well as expected developments in the respective markets, and in the overall macroeconomic and regulatory environments. Earnings projections beyond the initial five-year period are, where applicable, adjusted to derive a sustainable level. In case of a going concern, the cash flow to equity is assumed to increase by or converge towards a constant long-term growth rate for the Asset Management CGU of up to 3.0% (2022: up to 3.0%). This is based on projected revenue forecasts of the CGU as well as expectations for the development of gross domestic product and inflation and is captured in the terminal value.

Key Assumptions and Sensitivities

Key Assumptions: The DCF value of a CGU is sensitive to the earnings projections, to the discount rate (cost of equity) applied and, to a lesser extent, to the long-term growth rate. The discount rates applied have been determined based on the capital asset pricing model and comprise a risk-free interest rate, a market risk premium and a factor covering the systematic market risk (beta factor). The values for the risk-free interest rate, the market risk premium and the beta factors are determined using external sources of information. CGU-specific beta factors are determined based on a respective group of peer companies. Variations in all of these components might impact the discount rates. For the Asset Management CGU, the discount rates (after tax) applied for 2023 and 2022 were 10.9% and 10.3%, respectively.

Management determined the values for the key assumptions in the following table based on a combination of internal and external analysis. Estimates for efficiency and the cost reduction program are based on progress made to date and scheduled future projects and initiatives.

Key management assumptions are:

Primary goodwill-carrying cash-generating unit	Description of key assumptions	Uncertainty associated with key assumptions and potential events/circumstances that could have a negative effect
Asset Management	<ul style="list-style-type: none"> — Maintaining leadership in mature markets (e.g., Equity, Multi-Asset and Fixed income) — Expanding true areas of strength like Xtrackers and Alternatives — Further build out digital capabilities — Expand distribution partnerships to expand its global business — Continue a multi-year execution to replace core infrastructure platforms 	<ul style="list-style-type: none"> — Challenging market environment and volatility unfavorable to its investment strategies — Unfavorable margin development and adverse competition levels in key markets and products beyond expected levels — Business/execution risks, e.g., underachievement of net flow targets from market uncertainty, loss of high-quality client facing employees, unfavorable investment performance, lower than expected efficiency gains — Uncertainty around regulation and its potential implications not yet anticipated

Sensitivities: In order to test the resilience of the recoverable amount, key assumptions used in the DCF model (for example, the discount rate and the earnings projections) are sensitized. Currently, in Asset Management the recoverable amount exceeds the carrying amount by 14% / € 1.0 billion.

Change in certain key assumptions to cause the recoverable amount to equal the carrying amount

Change in Key Assumptions	Asset Management
Discount rate (post tax) increase	
from	10.9%
to	12.0%
Change in projected future earnings in each period by	(10.9)%
Long term growth rate	
from	3.0%
to	0.9%

Other Intangible Assets

Changes of other intangible assets by asset classes for the years ended December 31, 2023 and December 31, 2022

in € m.							Internally generated intangible assets	Total other intangible assets		
	Unamortized			Purchased intangible assets						
	Retail investment management agreements	Other	Total unamortized purchased intangible assets	Customer-related intangible assets	Contract-based intangible assets	Software and other				
Cost of acquisition/manufacture:										
Balance as of January 1, 2022	1,017	440	1,457	1,398	70	789	2,257	9,018	12,732	
Additions	0	0	0	0	0	45	45	1,145	1,191	
Changes in the group of consolidated companies	0	0	0	0	0	(6)	(6)	(20)	(26)	
Disposals	0	0	0	0	0	37	37	122	160	
Reclassifications from (to) "held for sale"	0	0	0	0	0	0	0	(32)	(32)	
Transfers	0	0	0	(9)	0	0	(9)	0	(9)	
Exchange rate changes	67	0	67	32	0	0	32	128	226	
Balance as of December 31, 2022	1,083	441	1,524	1,421	70	792	2,283	10,116	13,923	
Additions	0	0	0	56	0	66	122	1,314	1,436	
Changes in the group of consolidated companies	0	0	0	0	0	0	0	0	0	
Disposals	0	0	0	0	0	0	0	71	72	
Reclassifications from (to) "held for sale"	0	0	0	0	0	0	0	0	0	
Transfers	0	0	0	0	0	(4)	(4)	0	(4)	
Exchange rate changes	(37)	0	(37)	(21)	0	0	(21)	(72)	(130)	
Balance as of December 31, 2023	1,046	440	1,486	1,456	70	854	2,380	11,288	15,154	
Accumulated amortization and impairment:										
Balance as of January 1, 2022	257	439	696	1,383	70	662	2,115	5,904	8,714	
Amortization for the year	0	0	0	3	0	37	40	980	1,020 ¹	
Changes in the group of consolidated companies	0	0	0	0	0	(6)	(6)	(20)	(26)	
Disposals	0	0	0	0	0	35	35	122	157	
Reclassifications from (to) "held for sale"	0	0	0	0	0	0	0	(25)	(25)	
Impairment losses	68	0	68	0	0	0	0	30	98 ²	
Reversals of impairment losses	0	0	0	3	0	0	3	0	3 ³	
Transfers	0	0	0	3	0	0	3	0	3	
Exchange rate changes	17	0	17	31	0	0	31	78	126	
Balance as of December 31, 2022	342	439	781	1,417	70	659	2,146	6,824	9,750	
Amortization for the year	0	0	0	3	0	35	38	1,027	1,064 ⁴	
Changes in the group of consolidated companies	0	0	0	0	0	0	0	0	0	
Disposals	0	0	0	0	0	0	0	71	72	
Reclassifications from (to) "held for sale"	0	0	0	0	0	0	0	0	0	
Impairment losses	0	0	0	0	0	0	0	24	24 ⁵	
Reversals of impairment losses	0	0	0	0	0	0	0	0	0	
Transfers	0	0	0	0	0	(3)	(3)	0	(3)	
Exchange rate changes	(12)	0	(12)	(20)	0	(1)	(21)	(54)	(87)	
Balance as of December 31, 2023	330	439	769	1,399	70	690	2,159	7,749	10,676	
Carrying amount:										
As of December 31, 2022	741	2	743	4	0	133	137	3,293	4,173	
As of December 31, 2023	716	1	717	57	0	164	221	3,539	4,478	

¹ € 1.0 billion were included in general and administrative expenses

² € 98 million were comprised of impairments on retail investment management agreements recorded in impairment of goodwill and other intangible assets of € 68 million and of € 30 million on self-developed software recorded in general and administrative expenses

³ € 3 million were a reversal of impairment losses on customer-related intangibles recorded in general and administrative expenses

⁴ € 1.1 billion were included in general and administrative expenses

⁵ € 24 million were impairment losses on self-developed software recorded in general and administrative expenses

Amortizing Intangible Assets

In 2023, amortizing intangible assets increased by € 330 million. This includes amortization expenses of € 1.1 billion, mostly for the scheduled consumption of capitalized software (€ 1.1 billion) and the impairment of current platform software as well as software under construction (€ 24 million). Additions to internally generated intangible assets of € 1.3 billion resulting from the capitalization of expenses incurred in conjunction with the Group's development of own-used software overcompensated the negative impact from amortization and impairment charges on net book value. A stronger euro exchange rate against major currencies accounted for net negative exchange rate changes of € (19) million.

In 2022, amortizing intangible assets increased by € 173 million. This includes amortization expenses of € 1.0 billion, mostly for the scheduled consumption of capitalized software (€ 1.0 billion) and the impairment of current platform software as well as software under construction (€ 30 million). Additions to internally generated intangible assets of € 1.1 billion resulting from the capitalization of expenses incurred in conjunction with the Group's development of own-used software overcompensated the negative impact from amortization and impairment charges on net book value. A weaker euro exchange rate against major currencies accounted for net positive exchange rate changes of € 50 million.

In 2021, amortizing other intangible assets remained nearly unchanged, decreasing only slightly by € 22 million. This reflects amortization expenses of € 1.0 billion, mostly for the scheduled consumption of capitalized software (€ 1.0 billion) and the impairment of current platform software as well as software under construction (€ 149 million). Additions to internally generated intangible assets of € 1.1 billion resulting from the capitalization of expenses incurred in conjunction with the Group's development of own-used software compensated for the decrease in net book value. A weaker euro exchange rate against major currencies accounted for positive exchange rate changes of € 42 million.

Other intangible assets with finite useful lives are generally amortized over their useful lives based on the straight-line method.

Useful lives of other amortized intangible assets by asset class

	Useful lives in years
Internally generated intangible assets:	
Software	up to 10
Purchased intangible assets:	
Customer-related intangible assets	up to 20
Other	up to 20

Unamortized Intangible Assets

Within this asset class, the Group recognizes certain contract-based and marketing-related intangible assets, which are deemed to have an indefinite useful life.

In particular, the asset class comprises the below detailed investment management agreements related to retail mutual funds and certain trademarks. Due to the specific nature of these intangible assets, market prices are ordinarily not observable and, therefore, the Group values such assets based on the income approach, using a post-tax DCF-methodology.

Retail investment management agreements: These assets, amounting to € 716 million, relate to the Group's U.S. retail mutual fund business and are allocated to the Asset Management CGU. Retail investment management agreements are contracts that give Asset Management the exclusive right to manage a variety of mutual funds for a specified period. Since these contracts are easily renewable at minimal cost, these agreements are not expected to have a foreseeable limit on the contract period. Therefore, the rights to manage the associated assets under management are expected to generate cash flows for an indefinite period of time. This intangible asset was recorded at fair value based upon a valuation provided by a third party at the date of acquisition of Zurich Scudder Investments, Inc. in 2002.

The recoverable amount was calculated as fair value less costs of disposal using the multi-period excess earnings method applying a five-year plan and the fair value measurement was categorized as Level 3 in the fair value hierarchy. The key assumptions in determining the fair value less costs of disposal include the asset mix, the flows forecast, the effective fee rate and discount rate as well as the terminal value growth rate. The discount rate (cost of equity) applied in the annual impairment test was 10.9% in 2023 (10.6% in 2022). The terminal value growth rate applied for 2023 was 3.4% (for 2022 3.8%).

As of December 31, 2023, the impairment analysis did not result in an impairment. As of December 31, 2022, an impairment loss of € 68 million was recognized in the Group's income statement within impairment of goodwill and other intangible assets, due to net outflows and change in discount rate to 10.9% in the fourth quarter 2022.

24 – Non-Current Assets and Disposal Groups Held for Sale

Within the balance sheet, non-current assets and disposal groups held for sale are included in other assets and other liabilities.

in € m.	Dec 31, 2023	Dec 31, 2022
Loans, net	0	40
Total assets classified as held for sale	0	40
Investment contract liabilities	0	208
Total liabilities classified as held for sale	0	208

As of December 31, 2023, and December 31, 2022, no unrealized gains (losses) relating to non-current assets classified as held for sale were recognized directly in accumulated other comprehensive income (loss) (net of tax).

2022

DWS completes closing of transfer of its digital investment platform as part of its partnership with BlackFin

In September 2021, DWS Group (“DWS”) and BlackFin Capital Partners (“BlackFin”) had agreed on a long-term strategic partnership to jointly evolve the digital investment platform into a platform eco system that provides comprehensive solutions and services. It was agreed that DWS would transfer its digital investment platform into a joint venture with BlackFin, maintaining a stake of 30%. The transaction to transfer the digital investment platform into the newly established company MorgenFund GmbH closed as of November 30, 2022. As part of the consideration, the Group received a 30% stake in that company which is accounted for under the equity method and held in the Asset Management division.

Sale of the Italian financial advisors business to Zurich Italy

In August 2021, Deutsche Bank and Zurich Insurance Group Italy (“Zurich Italy”) reached an agreement with Zurich Italy Bank S.p.A. to acquire Deutsche Bank’s Financial Advisors business in Italy. Closing of the sale was announced on October 17, 2022. Under the terms of the agreement, a total of 1,085 Financial Advisors, 96 employees, and approximately € 16 billion in assets under management (of which € 1 billion Discretionary Portfolio Management still managed by Deutsche Bank) have passed to Zurich Bank Italy S.p.A. The pre-tax gain on sale totaled € 312 million and was recorded in the Private Bank segment results in the fourth quarter of 2022.

25 – Other Assets and Other Liabilities

in € m.	Dec 31, 2023	Dec 31, 2022
Brokerage and securities related receivables		
Cash/margin receivables	40,157	50,394
Receivables from prime brokerage	5	4
Pending securities transactions past settlement date	1,801	2,385
Receivables from unsettled regular way trades	30,603	18,467
Total brokerage and securities related receivables	72,566	71,250
Debt Securities held to collect	21,831	25,500
Accrued interest receivable	4,158	3,588
Assets held for sale	0	40
Assets related to insurance business	92	6
Other	16,049	17,910
Total other assets	114,697	118,293
in € m.	Dec 31, 2023	Dec 31, 2022
Brokerage and securities related payables		
Cash/margin payables	49,516	62,824
Payables from prime brokerage	18	24
Pending securities transactions past settlement date	2,641	2,982
Payables from unsettled regular way trades	29,365	16,882
Total brokerage and securities related payables	81,539	82,711
Accrued interest payable	4,785	2,826
Liabilities held for sale	0	208
Lease liabilities	4,493	4,470
Liabilities related to insurance business	87	1
Other	22,133	23,499
Total other liabilities	113,036	113,714

For further details on the assets and liabilities held for sale, please refer to Note 24 “Non-Current Assets and Disposal Groups Held for Sale”.

26 – Deposits

in € m.	Dec 31, 2023	Dec 31, 2022
Noninterest-bearing demand deposits	183,692	246,804
Interest-bearing deposits		
Demand deposits	162,380	131,370
Time deposits	188,468	158,851
Savings deposits	87,496	84,431
Total interest-bearing deposits	438,343	374,652
Total deposits	622,035	621,456

27 – Provisions

Movements by Class of Provisions

in € m.	Operational Risk	Civil Litigation	Regulatory Enforcement	Re-structuring	Other	Total ¹
Balance as of January 1, 2022	42	644	475	582	448	2,192
Changes in the group of consolidated companies	0	0	0	0	(0)	(0)
New provisions	14	285	290	3	653	1,246
Amounts used	3	136	216	201	582	1,138
Unused amounts reversed	8	166	0	137	110	421
Effects from exchange rate fluctuations/Unwind of discount	(0)	1	23	0	1	26
Transfers	0	(1)	(3)	1	(13)	(16)
Balance as of December 31, 2022	45	627	570	248	398	1,888
Changes in the group of consolidated companies	(1)	(2)	(0)	(2)	4	(1)
New provisions	8	881	109	287	709	1,993
Amounts used	4	328	196	132	604	1,264
Unused amounts reversed	8	73	339	69	82	570
Effects from exchange rate fluctuations/Unwind of discount	0	18	(13)	0	1	6
Transfers	(1)	1	(1)	0	(5)	(6)
Balance as of December 31, 2023	40	1,124	129	333	421	2,047

¹ For the remaining portion of provisions as disclosed on the consolidated balance sheet, please see Note 19 "Allowance for Credit Losses", in which allowances for credit related off-balance sheet positions are disclosed

Classes of Provisions

Operational Risk Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events. The definition used for the purposes of determining operational provisions differs from the risk management definition, as it excludes risk of loss resulting from civil litigation and regulatory enforcement matters. For risk management purposes, operational risk includes legal risk, as payments to customers, counterparties and regulatory bodies in civil litigations or regulatory enforcement matters constitute loss events for operational shortcomings, but excludes business and reputational risk.

Civil Litigation provisions arise out of current or potential claims or proceedings alleging non-compliance with contractual or other legal or regulatory responsibilities, which have resulted or may result in demands from customers, counterparties or other parties in civil litigations.

Regulatory Enforcement provisions arise out of current or potential claims or proceedings alleging non-compliance with legal or regulatory responsibilities, which have resulted or may result in an assessment of fines or penalties by governmental regulatory agencies, self-regulatory organizations or other enforcement authorities.

Restructuring provisions arise out of restructuring activities. The Group aims to enhance its long-term competitiveness through major reductions in costs, duplication and complexity in the years ahead. For details see Note 10 "Restructuring".

Other provisions include several specific items arising from a variety of different circumstances, including the provision for the reimbursement of loan processing fees, deferred sales commissions, provisions for bank levies and mortgage repurchase demands.

Provisions and Contingent Liabilities

The Group recognizes a provision for potential loss only when there is a present obligation arising from a past event that is probable to result in an economic outflow that can be reliably estimated. Where a reliable estimate cannot be made for such an obligation, no provision is recognized and the obligation is deemed a contingent liability. Contingent liabilities also include possible obligations for which the possibility of future economic outflow is more than remote but less than probable. Where a provision has been taken for a particular claim, no contingent liability is recorded; for matters or sets of matters consisting of more than one claim, however, provisions may be recorded for some claims, and contingent liabilities (or neither a provision nor a contingent liability) may be recorded for others.

The Group operates in a legal and regulatory environment that exposes it to significant litigation risks. As a result, the Group is involved in litigation, arbitration and regulatory proceedings and investigations in Germany and in a number of jurisdictions outside Germany, including the United States. In recent years, regulation and supervision in a number of areas have increased, and regulators, governmental bodies and others have sought to subject financial services providers to increasing oversight and scrutiny, which in turn has led to additional regulatory investigations and enforcement actions which are often followed by civil litigation.

In determining for which of the claims the possibility of a loss is probable, or less than probable but more than remote, and then estimating the possible loss for those claims, the Group takes into consideration a number of factors, including but not limited to the nature of the claim and its underlying facts, the procedural posture and litigation history of each case, rulings by the courts or tribunals, the Group's experience and the experience of others in similar cases (to the extent this is known to the Group), prior settlement discussions, settlements by others in similar cases (to the extent this is known to the Group), available indemnities and the opinions and views of legal counsel and other experts.

The provisions the Group has recognized for civil litigation and regulatory enforcement matters as of December 31, 2023 and December 31, 2022 are set forth in the table above. For some matters when the Group believes an outflow of funds is probable, but the Group could not reliably estimate the amount of the potential outflow, no provision was recognized.

For the matters for which a reliable estimate can be made, but the probability of a future loss or outflow of resources is more than remote but less than probable, the Group currently estimates that, as of December 31, 2023, these contingent liabilities are approximately € 1.9 billion for civil litigation matters (December 31, 2022: € 1.8 billion) and € 0.2 billion for regulatory enforcement matters (December 31, 2022: € 0.1 billion). These figures include matters where the Group's potential liability is joint and several and where the Group expects any such liability to be paid by a third party. If the Group's best estimate is within a range, the amount at the top of the range is disclosed for contingent liabilities.

For other significant civil litigation and regulatory enforcement matters where the Group believes the possibility of an outflow of funds is more than remote but less than probable, but the amount is not reliably estimable, such matters are not included in the contingent liability estimates. In addition, where the Group believes the possibility of an outflow of funds is remote, the Group has neither recognized a provision nor included the matters in the contingent liability estimates.

This estimated possible loss, as well as any provisions taken, is based upon currently available information and is subject to significant judgment and a variety of assumptions, variables and known and unknown uncertainties. These uncertainties may include inaccuracies in or incompleteness of the information available to the Group, particularly at the preliminary stages of matters, and assumptions by the Group as to future rulings of courts or other tribunals or the likely actions or positions taken by regulators or adversaries may prove incorrect. Moreover, estimates of possible loss for these matters are often not amenable to the use of statistical or other quantitative analytical tools frequently used in making judgments and estimates, and are subject to even greater degrees of uncertainty than in many other areas where the Group must exercise judgment and make estimates. The estimated possible loss, as well as any provisions taken, can be and often are substantially less than the amount initially requested by regulators or adversaries or the maximum potential loss that could be incurred were the matters to result in a final adjudication adverse to the Group. Moreover, in several regions in which the Group operates, an adversary often is not required to set forth the amount it is seeking, and where it is, the amount may not be subject to the same requirements that generally apply to pleading factual allegations or legal claims.

The matters for which the Group determines that the possibility of a future loss is more than remote will change from time to time, as will the matters as to which a reliable estimate can be made and the estimated possible loss for such matters. Actual results may prove to be significantly higher or lower than the estimate of possible loss in those matters where such an estimate was made. In addition, loss may be incurred in matters with respect to which the Group believed the likelihood of loss was remote. In particular, the estimated aggregate possible loss does not represent the Group's potential maximum loss exposure for those matters.

The Group may settle litigation or regulatory proceedings or investigations prior to a final judgment or determination of liability. It may do so to avoid the cost, management efforts or negative business, regulatory or reputational consequences of continuing to contest liability, even when the Group believes it has valid defenses to liability. It may also do so when the potential consequences of failing to prevail would be disproportionate to the costs of settlement. Furthermore, the Group may, for similar reasons, reimburse counterparties for their losses even in situations where it does not believe that it is legally compelled to do so.

Current Individual Proceedings

Set forth below are descriptions of civil litigation and regulatory enforcement matters or groups of matters for which the Group has taken material provisions, or for which there are material contingent liabilities that are more than remote, or for which there is the possibility of material business or reputational risk, as well as other significant matters; similar matters are grouped together and some matters consist of a number of proceedings or claims. The disclosed matters also include matters for which the possibility of a loss is more than remote but for which the Group cannot reliably estimate the possible loss. Matters are presented below in English-language alphabetical order based on the titles the Group has used for them.

Biscayne. On July 6, 2021, the bank and several Group entities were named as defendants in a civil litigation filed in the U.S. District Court for the Southern District of Florida, alleging that the defendants facilitated or negligently failed to uncover a scheme orchestrated by certain bank customers referred to as the “Biscayne” entities. The action was brought by the liquidators appointed for these entities. The matter proceeded to trial in April 2023 and resulted in an adverse jury trial verdict of U.S. \$ 95 million. The bank appealed the verdict to the Eleventh Circuit Court of Appeals. On January 22, 2024, the parties executed a settlement agreement pursuant to which the bank will pay the liquidators U.S. \$ 43.5 million, and all claims against the bank and the Group entities will be dismissed. The settlement was approved by the U.S. Bankruptcy Court for the Southern District of Florida on February 28, 2024.

Consent Order and Written Agreement with the Federal Reserve. On July 19, 2023, Deutsche Bank, Deutsche Bank AG New York Branch, DB USA Corporation, Deutsche Bank Trust Company Americas and DWS USA Corporation entered into a Consent Order and Written Agreement with the Federal Reserve resolving previously disclosed regulatory discussions concerning adherence to prior orders and settlements related to sanctions and embargoes and AML compliance, and remedial agreements and obligations related to risk management issues. The Consent Order alleges insufficient and tardy implementation of the post-settlement sanctions and embargoes and AML control enhancement undertakings required by prior Consent Orders the bank entered into with the Federal Reserve in 2015 and 2017. The Written Agreement alleges various deficiencies in governance, risk management, and internal controls across the bank's U.S. operations, and finds that the bank must continue to implement additional improvements. The Consent Order requires Deutsche Bank to pay a civil monetary penalty of U.S. \$ 186 million, including U.S. \$ 140 million for the violations alleged with respect to the post-settlement sanctions and embargoes and AML control enhancement undertakings, as well as a separate penalty of U.S. \$ 46 million for unsafe or unsound practices stemming from the bank's handling of its legacy correspondent banking relationship with Danske Bank Estonia, which was terminated in October 2015. The Written Agreement does not include a civil monetary penalty. Both the Consent Order and Written Agreement include certain post-settlement remediation and reporting undertakings.

Cum-ex Investigations and Litigations. Deutsche Bank has received inquiries from law enforcement authorities, including requests for information and documents, in relation to cum-ex transactions of clients. “Cum-ex” refers to trading activities in German shares around dividend record dates (trade date before and settlement date after dividend record date) for the purpose of obtaining German tax credits or refunds in relation to withholding tax levied on dividend payments, including transaction structures that have resulted in more than one market participant claiming such credit or refund with respect to the same dividend payment. Cum-ex transactions are regarded as criminal tax evasion by German courts. Deutsche Bank is cooperating with the law enforcement authorities in these matters.

The Public Prosecutor in Cologne (*Staatsanwaltschaft Köln*, “CPP”) has been conducting a criminal investigation since August 2017 concerning two former employees of Deutsche Bank in relation to cum-ex transactions of certain former clients of the bank. In October 2022, the CPP conducted a search at Deutsche Bank’s offices in Frankfurt and Eschborn. Based on the search warrant the CPP expanded the scope of the investigation. Current and former Deutsche Bank employees and seven former Management Board members are included in the investigation. The investigation is still at an early stage and the scope of the investigation may be further broadened. Deutsche Bank is a potential secondary participant pursuant to Section 30 of the German Law on Administrative Offences in this proceeding. This proceeding could result in a disgorgement of profits and fines. Deutsche Bank is cooperating with the CPP.

In May 2021, Deutsche Bank learned through an information request received by Deutsche Oppenheim Family Office AG (DOAG) as legal successor of Sal. Oppenheim jr. & Cie. AG & Co. KGaA (Sal. Oppenheim) that the CPP in 2021 opened a criminal investigation proceeding in relation to cum-ex transactions against unknown former personnel of Sal. Oppenheim. DOAG provided the requested information.

On July 12, 2023, Deutsche Bank as legal successor of Deutsche Postbank AG was informed by the CPP that the CPP has opened a new separate criminal cum-ex investigation against unnamed personnel of former Deutsche Postbank AG.

Deutsche Bank acted as participant in and filed withholding tax refund claims through the electronic refund procedure (*elektronisches Datenträgerverfahren*) on behalf of, inter alia, two former custody clients in connection with their cum-ex transactions. In February 2018, Deutsche Bank received from the German Federal Tax Office (*Bundeszentralamt für Steuern*, “FTO”) a demand of approximately € 49 million for tax refunds paid to a former custody client. Deutsche Bank expects to receive a formal notice for the same amount. In December 2019, Deutsche Bank received a liability notice from the FTO requesting payment of € 2.1 million in connection with tax refund claims Deutsche Bank had submitted on behalf of another former custody client, which Deutsche Bank paid in early 2020. In July 2022, Deutsche Bank filed a claim against the payment with the Fiscal Court of Cologne (*Finanzgericht Köln*).

In 2018, The Bank of New York Mellon SA/NV (BNY) informed Deutsche Bank of its intention to seek indemnification for potential cum-ex related tax liabilities incurred by BHF Asset Servicing GmbH (BAS) and/or Frankfurter Service Kapitalanlage-GmbH ("Service KAG", now named BNY Mellon Service Kapitalanlage-Gesellschaft mbH). Deutsche Bank had acquired BAS and Service KAG as part of the acquisition of Sal. Oppenheim in 2010 and sold them to BNY later that year. BNY estimated the potential tax liability to be up to € 120 million (excluding interest of 6% p.a.). In late 2020, counsel to BNY informed Deutsche Bank that BNY and/or Service KAG (among others) have received notices from tax authorities in the estimated amount with respect to cum-ex related trades by certain investment funds in 2009 and 2010. BNY has filed objections against the notices. Following receipt of payment orders from tax authorities in the amount of € 118.3 million in relation to the investment funds and after consultation with Deutsche Bank, BNY paid € 53.6 million to tax authorities. A further € 50.9 million were paid by third parties. In addition, BNY received from the Frankfurt Tax Office regarding one of the investment funds a notice and payment request regarding penalty interest (*Hinterziehungszinsen*) in the amount of € 11.6 million. BNY, after consultation with Deutsche Bank, applied for a suspension of enforcement (*Aussetzung der Vollziehung*) regarding the payment request which is now pending at the Fiscal Court of Hesse (*Hessisches Finanzgericht*).

In December 2023, Deutsche Bank received hearing letters from the German Federal Tax Office (*Bundeszentralamt für Steuern*) regarding two third party investment funds that engaged in cum-ex trades in 2009. Deutsche Bank had provided services and financing to investors in the funds. Both funds received an aggregate of € 87 million in cum-ex withholding tax refunds in 2009. In February 2024, Deutsche Bank responded to the hearing letters.

The Group has not disclosed whether it has established a provision or contingent liability with respect to these matters because it has concluded that such disclosure can be expected to prejudice seriously their outcome.

FX Derivatives Products Investigations and Litigation. Following an internal investigation into the historical sales of certain FX derivatives products, Deutsche Bank is providing information to and otherwise cooperating with its regulators. In December 2023, the Spanish National Securities Market Commission (CNMV) announced it will initiate proceedings against Deutsche Bank, S.A.E. for advisory services provided to Spanish clients in relation to FX derivative products. Separately, in September 2021, Deutsche Bank was served with a claim that was filed in the High Court of England and Wales by four companies within the Palladium Hotels Group (PHG). PHG is claiming restitution or damages for alleged losses estimated at € 500 million in respect of FX derivatives trades entered into with Deutsche Bank between 2013 and 2019. They allege that the trades were mis-sold by Deutsche Bank and that one of the four PHG claimants lacked legal capacity to enter into some of the trades. Deutsche Bank has filed a defense disputing the claim. In January 2024, PHG filed amended pleadings to include additional allegations of fraudulent misrepresentation. Deutsche Bank filed an amended defense in February 2024 which disputes the new allegations. Trial is scheduled to commence in early 2025.

The Group has not disclosed whether it has established a provision or contingent liability with respect to these matters because it has concluded that such disclosure can be expected to prejudice seriously their outcome.

FX Investigations and Litigations. Deutsche Bank has received requests for information from certain regulatory and law enforcement agencies globally who investigated trading in, and various other aspects of, the foreign exchange market.

In 2018, a group of asset managers opted out of a consolidated class settlement and filed litigation on an individual basis, alleging a conspiracy between traders at 16 banks to manipulate FX benchmark rates and to widen FX currency pair spreads in the period 2003 to 2013 (*Allianz, et al. v. Bank of America Corporation, et al.*). Defendants' motion to dismiss was granted and denied in part in 2020, and the plaintiffs filed a third amended complaint. Deutsche Bank has also been named as a defendant in an amended and consolidated class action filed in Israel. This action asserts factual allegations similar to those made in the consolidated action in the United States and seeks damages pursuant to Israeli antitrust law as well as other causes of action. This action is in preliminary stages.

In 2020, Deutsche Bank was named in an action issued in the UK High Court of Justice (Commercial Court) brought by many of the same plaintiffs who brought *Allianz, et al. v. Bank of America Corporation, et al.* referred to above. The claim is based upon factual allegations similar to those made in *Allianz, et al. v. Bank of America Corporation, et al.* In March 2022, the High Court ordered that the proceedings be transferred to the UK Competition Appeal Tribunal. Deutsche Bank has reached an agreement to resolve the *Allianz* proceedings in the U.S. and UK. In May 2023, both the U.S. and UK proceedings were dismissed in their entirety.

In May 2021, Deutsche Bank S.A. – Banco Alemao was named in a civil antitrust action brought in the São Paulo Civil Court of Central Jurisdiction by the Association of Brazilian Exporters (AEB) against certain FX dealers and affiliated financial institutions in Brazil. This action asserts factual allegations based on conduct investigated by the Brazilian competition authority, CADE, and seeks damages pursuant to Brazilian antitrust law. In February 2022, the presiding judge dismissed the action on the basis that the action was not appropriate for a class proceeding. AEB has appealed the decision. Deutsche Bank has not yet been served.

The Group has not disclosed whether it has established a provision or contingent liability with respect to these matters because it has concluded that such disclosure can be expected to seriously prejudice their outcome.

Interbank and Dealer Offered Rates Matters. *Regulatory and Law Enforcement Matters.* Deutsche Bank has responded to requests for information from, and cooperated with, various regulatory and law enforcement agencies, in connection with industry-wide investigations concerning the setting of the London Interbank Offered Rate (LIBOR), Euro Interbank Offered Rate (EURIBOR), Tokyo Interbank Offered Rate (TIBOR) and other interbank and/or dealer offered rates.

From 2013 through 2017, Deutsche Bank entered into settlements with the European Commission, the U.S. Department of Justice (DOJ), the U.S. Commodity Futures Trading Commission (CFTC), the UK Financial Conduct Authority (FCA), the New York State Department of Financial Services (DFS) and other regulators with respect to interbank and dealer offered rates matters. Other investigations of Deutsche Bank concerning the setting of various interbank and/or dealer offered rates remain ongoing.

The Group has not disclosed whether it has established a provision or contingent liability with respect to the remaining investigations because it has concluded that such disclosure can be expected to seriously prejudice their outcome.

Overview of Civil Litigations. Deutsche Bank is party to four U.S. civil actions concerning alleged manipulation relating to the setting of various interbank and/or dealer offered rates which are described in the following paragraphs, as well as actions pending in the UK, Israel, Argentina and Spain. Most of the civil actions, including putative class actions, are pending in the U.S. District Court for the Southern District of New York (SDNY), against Deutsche Bank and numerous other defendants. All of the U.S. civil actions were filed on behalf of parties who allege losses as a result of manipulation relating to the setting of U.S. dollar LIBOR.

Claims for damages for all four of the U.S. civil actions discussed have been asserted under various legal theories, including violations of the U.S. Commodity Exchange Act, federal and state antitrust laws, the U.S. Racketeer Influenced and Corrupt Organizations Act, and other federal and state laws. The Group has not disclosed whether it has established a provision or contingent liability with respect to these matters because it has concluded that such disclosure can be expected to prejudice seriously their outcome.

U.S. dollar LIBOR. With one exception, all of the U.S. civil actions concerning U.S. dollar LIBOR are being coordinated as part of a multidistrict litigation (the “U.S. dollar LIBOR MDL”) in the SDNY. In light of the large number of individual cases pending against Deutsche Bank and their similarity, the civil actions included in the U.S. dollar LIBOR MDL are now subsumed under the following general description of the litigation pertaining to all such actions, without disclosure of individual actions except when the circumstances or the resolution of an individual case is material to Deutsche Bank.

Following a series of decisions in the U.S. dollar LIBOR MDL between March 2013 and March 2019 narrowing their claims, plaintiffs are currently asserting antitrust claims, claims under the U.S. Commodity Exchange Act and U.S. Securities Exchange Act and state law fraud, contract, unjust enrichment and other tort claims. The court has also issued decisions dismissing certain plaintiffs’ claims for lack of personal jurisdiction and on statute of limitations grounds.

In 2016, the district court issued a ruling dismissing certain antitrust claims while allowing others to proceed. Multiple plaintiffs filed appeals of that ruling. In December 2021, the Second Circuit affirmed the district court’s decision on antitrust standing grounds but reversed the court’s decision on personal jurisdiction grounds, and it remanded the cases to the district court for further proceedings. In March 2022, defendants (including Deutsche Bank) filed a petition for a writ of certiorari to the U.S. Supreme Court to review the Court of Appeals’ decision. The U.S. Supreme Court denied defendants’ petition in June 2022.

In October 2023, plaintiffs in a formerly stayed class action pending as part of the U.S. dollar LIBOR MDL (*National Asbestos Workers Pension Fund, et al. v. Bank of America Corp., et al.*) filed a notice of voluntary dismissal, dismissing their case in its entirety.

In August 2020, plaintiffs filed a non-class action in the U.S. District Court for the Northern District of California against several financial institutions, alleging that U.S. dollar LIBOR has been suppressed through the present. In September 2022, the court granted the defendants’ motion to dismiss, but granted plaintiffs leave to amend. Later in 2022, the plaintiffs filed an amended complaint, and the defendants filed a motion to dismiss the amended complaint, which the court granted in October 2023. Plaintiffs filed a notice of appeal to the United States Court of Appeals for the Ninth Circuit and an amended notice of appeal in November 2023.

There is a further UK civil action regarding U.S. dollar LIBOR brought by the U.S. Federal Deposit Insurance Corporation (FDIC) acting as receiver for 19 failed financial institutions headquartered in the U.S., in which a claim for damages has been asserted pursuant to EU, UK and U.S. state laws. In February 2022, following a ruling issued by the U.S. Court of Appeals for the Second Circuit in relation to USD LIBOR antitrust claims, the UK LIBOR proceedings were stayed until July 2022, to allow for clarification of the position in relation to the parallel proceedings brought by the FDIC against Deutsche Bank in the U.S. The FDIC filed an application to reinstate proceedings in the United States in July 2022. Following the expiration of the UK stay, at a case management conference that took place in December 2022, the UK Court ordered a trial of a sample of three of the failed financial institutions. This 'sample bank' trial has been listed for a 19-week trial in February 2026. In December 2022, the SDNY granted the FDIC's application to reinstate certain of its claims against Deutsche Bank (and the other foreign defendants) in the U.S. to the extent these claims survived a motion to dismiss on the merits and subject to defendants' reservation of rights to dispute the claims in the future.

A further class action regarding LIBOR has been filed in Argentina seeking damages for losses allegedly suffered by holders of Argentine bonds with interest rates based on LIBOR. Deutsche Bank is defending this action.

GBP LIBOR and CHF LIBOR. Putative class actions alleging manipulation of GBP LIBOR and CHF LIBOR were pending but have been settled, with final approvals granted in 2023, in the amounts of U.S. \$ 5 million and U.S. \$ 13 million, respectively. Accordingly, the actions are no longer reflected in the litigation provisions.

Jeffrey Epstein Matters. In December 2018, Deutsche Bank began the process to terminate its client relationship with Jeffrey Epstein, which began in August 2013. Since Epstein's arrest in July 2019, Deutsche Bank provided information to and cooperated with various regulatory and law enforcement agencies concerning the bank's former client relationship with Epstein (individually, and through related parties and entities), completed an internal investigation into the Epstein relationship, and entered into settlements to resolve certain regulatory and litigation matters, as outlined below.

In 2020, the DFS issued a Consent Order, finding that Deutsche Bank violated New York State banking laws in connection with its relationships with three former Deutsche Bank clients, Danske Bank's Estonia branch, Jeffrey Epstein and FBME Bank, and imposing a U.S. \$ 150 million civil penalty in connection with these three former relationships, which Deutsche Bank paid in the third quarter of 2020. The Bank was also named as a defendant in a securities class action in the U.S. District Court for the SDNY that included allegations relating to the bank's relationship with Epstein and other entities. In September 2022, the parties reached a class action settlement in the amount of U.S. \$ 26.3 million, which the Court approved in an order dated February 6, 2023.

In addition, on November 24, 2022, Deutsche Bank was named as a defendant in a class action complaint filed in the U.S. District Court for the SDNY by an unnamed alleged sex trafficking victim of Epstein, alleging claims against the bank under the Trafficking Victims Protection Act, Racketeer Influenced and Corrupt Organizations Act and New York state law in connection the bank's former client relationship with Epstein. In May 2023, the parties reached a class action settlement in the amount of U.S. \$ 75 million, which the Court approved in an order dated October 20, 2023.

On December 26, 2023, Deutsche Bank and the Attorney General of New Mexico ("NMAG") announced a U.S. \$ 5 million pledge by Deutsche Bank to fund additional resources to prevent, investigate, and prosecute human trafficking in the state of New Mexico. Deutsche Bank made that pledge following the NMAG's ongoing investigation into various financial services firms' banking relationships with Epstein.

On November 23, 2023, Deutsche Bank AG, Deutsche Bank AG New York Branch, and Deutsche Bank Trust Company Americas (DBTCA) were named as defendants in a complaint filed in New York State Supreme Court by an alleged victim of Epstein. However, Deutsche Bank has still not been served in this action. The complaint, amended on December 31, 2023, contains the same Trafficking Victims Protection Act and New York law claims that were filed in the recently settled class action complaint in the U.S. District Court for the SDNY mentioned above.

KOSPI Index Unwind Matters. Following the decline of the Korea Composite Stock Price Index 200 (the “KOSPI 200”) in the closing auction on November 11, 2010 by approximately 2.7%, the Korean Financial Supervisory Service commenced an investigation and expressed concerns that the fall in the KOSPI 200 was attributable to a sale by Deutsche Bank of a basket of stocks, worth approximately € 1.6 billion, that was held as part of an index arbitrage position on the KOSPI 200. On August 19, 2011, the Korean Prosecutor’s Office indicted DSK and four employees of the Deutsche Bank group on charges of spot/futures-linked market manipulation. In January 2016, the Seoul Central District Court rendered guilty verdicts against a DSK trader and DSK. A criminal fine of KRW 1.5 billion (less than € 2 million) was imposed on DSK. The criminal trial verdicts against both the DSK trader and against DSK were overturned on appeal in a decision rendered by the Seoul High Court in December 2018. The Korean Prosecutor’s Office’s appeal of the Seoul High Court decision was finally dismissed by the Supreme Court of South Korea on December 21, 2023.

In addition, a number of civil actions have been filed in Korean courts against Deutsche Bank and DSK by certain parties who allege they incurred losses as a consequence of the fall in the KOSPI 200. The one outstanding claim was finally dismissed by the Supreme Court of South Korea on December 21, 2023.

Monte Dei Paschi. In March 2013, Banca Monte dei Paschi di Siena (MPS) initiated civil proceedings in Italy against Deutsche Bank alleging that Deutsche Bank assisted former MPS senior management in an accounting fraud on MPS, by undertaking repo transactions with MPS and “Santorini”, a wholly owned special-purpose vehicle of MPS, which helped MPS defer losses on a previous transaction undertaken with Deutsche Bank. In December 2013, Deutsche Bank reached an agreement with MPS to settle the civil proceedings and the transactions were unwound.

A criminal investigation was launched by the Siena Public Prosecutor into the transactions entered into by MPS with Deutsche Bank and certain unrelated transactions entered into by MPS with other parties. Such investigation was moved in summer 2014 from Siena to the Milan Public Prosecutors as a result of a change in the alleged charges being investigated. In October 2016, the Milan court committed all defendants in the criminal proceedings to trial.

In November 2019, the Milan court issued its verdicts, finding five former employees and one current employee of Deutsche Bank guilty and sentencing them to either 3 years and 6 months or 4 years and 8 months. Deutsche Bank was found liable under Italian Legislative Decree n. 231/2001 and the court ordered the seizure of alleged profits of € 64.9 million and a fine of € 3 million. The Court also found Deutsche Bank had civil vicarious liability for damages (to be quantified by the civil court) as an employer of the current and former employees who were convicted. The sentences and fines were not due until the conclusion of any appeal process. Following appeals filed by Deutsche Bank and the six former or current employees, in 2022, the Milan Court of Appeal acquitted all the Deutsche Bank defendants from all the charges, found Deutsche bank not liable under Italian Legislative Decree n. 231/2001, revoked the confiscation of € 64.9 million and the fine of € 3 million ordered against Deutsche Bank, and revoked the finding of civil vicarious liability for damages. The Public Prosecutor filed an appeal against the Milan Court of Appeal verdicts before the Supreme Court in November 2022. On October 11, 2023, the Supreme Court declared the Public Prosecutor’s appeal inadmissible and confirmed the acquittal decisions of the Milan Court of Appeal, which are now therefore final. While the criminal proceedings are concluded, there nonetheless remains the possibility of potential future civil claims.

In May 2018, CONSOB, the authority responsible for regulating the Italian financial markets, issued fines of € 100,000 each against the six current and former employees of Deutsche Bank who are defendants in the criminal proceedings. The six individuals were also banned from performing management functions in Italy and for Italian based institutions for three to six months each. No separate fine or sanction was imposed on Deutsche Bank, but it is jointly and severally liable for the six current/former Deutsche Bank employees’ fines. In June 2018, Deutsche Bank and the six individuals filed an appeal in the Milan Court of Appeal challenging CONSOB’s decision. In December 2020, the Milan Court of Appeal allowed the appeals filed by Deutsche Bank and the six current and former employees and annulled the resolution sanctioning them. CONSOB filed an appeal to the Supreme Court against the decision in June 2021. Deutsche Bank and the six individuals have opposed the appeal.

The Group has not disclosed whether it has established a provision or contingent liability with respect to these matters because it has concluded that such disclosure can be expected to prejudice seriously their outcome.

Mortgage-Related and Asset-Backed Securities – Issuer and Underwriter Civil Litigation. Deutsche Bank has been named as defendant in numerous civil litigations brought by private parties in connection with its various roles, including issuer or underwriter, in offerings of residential mortgage-backed securities (RMBS) and other asset-backed securities. These cases, described below, allege that the offering documents contained material misrepresentations and omissions, including with regard to the underwriting standards pursuant to which the underlying mortgage loans were issued, or assert that various representations or warranties relating to the loans were breached at the time of origination. The Group has recorded provisions with respect to several of these civil cases, but has not recorded provisions with respect to all of these matters. The Group has not disclosed the amount of these provisions because it has concluded that such disclosure can be expected to prejudice seriously the resolution of these matters.

Deutsche Bank is a defendant in an action related to RMBS offerings brought by the FDIC as receiver for Citizens National Bank and Strategic Capital Bank (alleging an unspecified amount in damages against all defendants). In this action, the appellate court reinstated claims previously dismissed on statute of limitations grounds, and petitions for rehearing and certiorari to the U.S. Supreme Court were denied. In May 2022, the FDIC voluntarily dismissed its claim with respect to one of the RMBS offerings and Deutsche Bank filed a motion for summary judgment seeking dismissal of the remaining claim. Deutsche Bank's motion has been fully briefed as of July 2022. Discovery is stayed pending resolution of Deutsche Bank's motion.

Deutsche Bank is a defendant in cases concerning two RMBS trusts that were brought initially by RMBS investors and subsequently by HSBC, as trustee, in New York state court. The cases allege breaches of Deutsche Bank's purported duty to notify the trustee of breaches of loan-level representations and warranties in the ACE Securities Corp. 2006-FM1 and ACE Securities Corp. 2007-ASAP1 RMBS offerings, respectively. The cases originally asserted claims against Deutsche Bank for breaches of representations and warranties, but those claims were dismissed as untimely, and the appellate court affirmed in April 2019. Discovery is ongoing.

In October 2019, plaintiffs filed two complaints (one by HSBC as trustee and one by certificate holders) seeking to revive, under Section 205(a) of the New York Civil Practice Law and Rules, the untimely breach of representations and warranties claims as to which dismissal was affirmed in the case concerning ACE 2006-FM1. The trial court dismissed the certificate holder action, and the First Department affirmed in 2022. The certificate holders filed a motion for leave to appeal to the Court of Appeals, which was denied on February 20, 2024. The trial court also dismissed the trustee revival action filed by HSBC. In November 2022, HSBC filed an appeal that remains pending.

In the actions against Deutsche Bank solely as an underwriter of other issuers' RMBS offerings, Deutsche Bank has contractual rights to indemnification from the issuers, but those indemnity rights may in whole or in part prove effectively unenforceable where the issuers are now or may in the future be in bankruptcy or otherwise defunct.

Mortgage-Related and Asset-Backed Securities – Trustee Civil Litigation. Deutsche Bank's U.S. subsidiaries Deutsche Bank National Trust Company (DBNTC) and Deutsche Bank Trust Company Americas (DBTCA) (collectively, the "Trustees") are defendants in two separate civil lawsuits, and DBNTC is a defendant in a third civil lawsuit, brought by investors concerning the Trustees' role as trustees of certain RMBS trusts. The actions generally allege claims for breach of contract, breach of fiduciary duty, breach of the duty to avoid conflicts of interest, negligence and/or violations of the U.S. Trust Indenture Act of 1939, based on the Trustees' alleged failure to perform adequately certain obligations and/or duties as trustee for the trusts.

The three lawsuits include actions by (a) the National Credit Union Administration Board (NCUA), as an investor in 18 trusts that allegedly suffered total realized collateral losses of more than U.S. \$ 3.7 billion; (b) Commerzbank AG, as an investor in 50 RMBS trusts, alleging hundreds of millions of dollars in losses; and (c) IKB International, S.A. in liquidation and IKB Deutsche Industriebank A.G. (collectively, "IKB"), as an investor in 15 RMBS trusts, originally seeking more than U.S. \$ 268 million of damages before IKB voluntarily discontinued its claims as to certain RMBS certificates. In the NCUA case, DBNTC's motion to dismiss the amended complaint was granted in part and denied in part, dismissing NCUA's tort claims but preserving its breach-of-contract claims. Both parties filed motions for partial summary judgment, and those motions are fully briefed and pending before the court. In February 2022, the court in the Commerzbank case granted in part and denied in part DBNTC's and DBTCA's motion for summary judgment, dismissing all of the tort claims and dismissing the breach of contract claims relating to certain of the trusts, and denied Commerzbank's motion for summary judgment in its entirety. Discovery is ongoing. In January 2021, the court in the IKB case granted in part and denied in part the Trustees' motion to dismiss, dismissing certain of IKB's claims but allowing certain of its breach of contract and tort claims to go forward; the Trustees appealed certain aspects of that order, and IKB cross-appealed with respect to other aspects. In August 2022, the New York Supreme Court, Appellate Division, First Department, affirmed in part and reversed in part the trial court's order on the motion to dismiss. DBNTC and DBTCA appealed certain aspects of the First Department's decision. On June 15, 2023, the New York Court of Appeals modified the First Department's decision in part, dismissing certain additional contract claims and IKB's remaining tort claims. Discovery is ongoing.

The Group has established contingent liabilities with respect to certain of these matters, but the Group has not disclosed the amounts because it has concluded that such disclosure can be expected to seriously prejudice the outcome of these matters.

Polish Mortgage Matters. Starting in 2016, certain clients of Deutsche Bank Polska S.A. have reached out to Deutsche Bank Polska S.A. alleging that their mortgage loan agreements in foreign currency include unfair clauses and are invalid. These clients have demanded reimbursement of the alleged overpayments under such agreements totaling over € 685 million with over 5000 civil claims having been commenced in Polish courts as of February 29, 2024. These cases are an industry wide issue in Poland and other banks are facing similar claims. Deutsche Bank Polska S.A. has and will take necessary legal actions to defend itself and challenge such claims in courts.

During 2023, there was a deterioration in the risk profile with respect to the Polish FX mortgage portfolio, especially following an adverse decision by the European Court of Justice on June 15, 2023, which affected the broader Polish banking sector. In addition, the bank refined its model for estimating the provision in the third quarter for the expected development of court verdicts and other market parameters. As a result, the provision for this matter increased by € 244 million for the year ended December 31, 2023, and the total provision as of December 31, 2023 is € 534 million.

Postbank Voluntary Public Takeover Offer. On September 12, 2010, Deutsche Bank announced the decision to make a voluntary takeover offer for the acquisition of all shares in Deutsche Postbank AG (Postbank). On October 7, 2010, the bank published its official takeover offer and offered Postbank shareholders a consideration of € 25 for each Postbank share. This offer was accepted for a total of approximately 48.2 million Postbank shares.

In November 2010, a former shareholder of Postbank, Effecten-Spiegel AG, which had accepted the takeover offer, brought a claim against Deutsche Bank alleging that the offer price was too low and was not determined in accordance with the applicable German laws. The plaintiff alleges that Deutsche Bank had been obliged to make a mandatory takeover offer for all shares in Postbank, at the latest, in 2009 as the voting rights of Deutsche Post AG in Postbank had to be attributed to Deutsche Bank pursuant to Section 30 of the German Takeover Act. Based thereon, the plaintiff alleges that the consideration offered by Deutsche Bank for the shares in Postbank in the 2010 voluntary takeover offer needed to be raised to € 57.25 per share.

The Regional Court Cologne (*Landgericht*) dismissed the claim in 2011 and the Cologne appellate court dismissed the appeal in 2012. The Federal Court set this judgment aside and referred the case back to the Higher Regional Court Cologne to take evidence on certain allegations of the plaintiff.

Starting in 2014, additional former shareholders of Postbank, who accepted the 2010 tender offer, brought similar claims as Effecten-Spiegel AG against Deutsche Bank which were pending with the Regional Court Cologne and the Higher Regional Court of Cologne, respectively. On October 20, 2017, the Regional Court Cologne handed down a decision granting the claims in a total of 14 cases which were combined in one proceeding. The Regional Court Cologne took the view that Deutsche Bank was obliged to make a mandatory takeover offer already in 2008 so that the appropriate consideration to be offered in the takeover offer should have been € 57.25 per Postbank share (instead of € 25). The additional consideration per share owed to shareholders which have accepted the takeover offer would thus amount to € 32.25. Deutsche Bank appealed this decision to the Higher Regional Court of Cologne.

In 2019 and 2020 the Higher Regional Court Cologne heard a number of witnesses in both cases and issued orders for the production of relevant transaction documents entered into between Deutsche Bank and Deutsche Post AG in 2008 and 2009.

On December 16, 2020, the Higher Regional Court Cologne handed down a decision and fully dismissed the claims of Effecten-Spiegel AG. Further, in a second decision handed down on December 16, 2020, the Higher Regional Court Cologne granted the appeal of Deutsche Bank against the decision of the Regional Court Cologne dated October 20, 2017 and dismissed all claims of the plaintiffs. All relevant plaintiffs lodged appeals with the German Federal Court (*Bundesgerichtshof*) which on December 13, 2022 announced its decision, setting aside the judgments of the Higher Regional Court of Cologne and remanding the cases back to the Higher Regional Court of Cologne. The Higher Regional Court of Cologne scheduled a hearing for April 26, 2024.

Deutsche Bank has been served with a large number of additional lawsuits filed against Deutsche Bank shortly before the end of 2017, almost all of which are now pending with the Regional Court Cologne. Some of the new plaintiffs allege that the consideration offered by Deutsche Bank for the shares in Postbank in the 2010 voluntary takeover should be raised to € 64.25 per share.

The claims for payment against Deutsche Bank in relation to these matters total almost € 700 million (excluding interest, which is significant due to the long duration of the proceedings).

The Group has established a contingent liability with respect to these matters, but the Group has not disclosed the amount of this contingent liability because it has concluded that such disclosure can be expected to prejudice seriously the outcome of these matters.

The legal question of whether Deutsche Bank had been obliged to make a mandatory takeover offer for all Postbank shares prior to its 2010 voluntary takeover may impact two pending appraisal proceedings (*Spruchverfahren*). These proceedings were initiated by former Postbank shareholders with the aim to increase the cash compensation offered in connection with the squeeze-out of Postbank shareholders in 2015 and the cash compensation offered and annual compensation paid in connection with the execution of a domination and profit and loss transfer agreement (*Beherrschungs- und Gewinnabführungsvertrag*) between DB Finanz-Holding AG (now DB Beteiligungs-Holding GmbH) and Postbank in 2012.

The applicants in the appraisal proceedings claim that a potential obligation of Deutsche Bank to make a mandatory takeover offer for Postbank at an offer price of € 57.25 should be decisive when determining the adequate cash compensation in the appraisal proceedings. The Regional Court Cologne had originally followed this legal view of the applicants in two resolutions. In a decision dated June 2019, the Regional Court Cologne expressly gave up this legal view in the appraisal proceedings in connection with the execution of a domination and profit and loss transfer agreement. According to this decision, the question whether Deutsche Bank was obliged to make a mandatory offer for all Postbank shares prior to its voluntary takeover offer in 2010 shall not be relevant for determining the appropriate cash compensation. It is likely that the Regional Court Cologne will take the same legal position in the appraisal proceedings in connection with the squeeze-out. On October 1, 2020, the Regional Court Cologne handed down a decision in the appraisal proceeding concerning the domination and profit and loss transfer agreement (dated December 5, 2012) according to which the annual compensation pursuant to Section 304 of the German Stock Corporation Act (*jährliche Ausgleichszahlung*) shall be increased by € 0.12 to € 1.78 per Postbank share and the settlement amount pursuant to Section 305 of the German Stock Corporation Act (*Abfindungsbetrag*) shall be increased by € 4.56 to € 29.74 per Postbank share. The increase of the settlement amount is of relevance for approximately 492,000 former Postbank shares whereas the increase of the annual compensation is of relevance for approximately 7 million former Postbank shares. Deutsche Bank as well as the applicants have lodged an appeal against this decision.

The Group has not disclosed whether it has established a provision or contingent liability with respect to this matter because it has concluded that such disclosure can be expected to prejudice seriously its outcome.

RusChemAlliance Litigation. In June 2023, RusChemAlliance LLC (RCA), a Russian joint venture of Gazprom PJSC and RusGasDobycha JSC, filed a claim against Deutsche Bank before a commercial state court in Saint Petersburg. A court hearing took place on October 31, 2023. A further hearing on the merits has been scheduled for April 16, 2024. RCA is seeking payment of approximately € 238 million (excluding interest) under an advance payment guarantee (APG) issued by Deutsche Bank in 2021 at the request of one of its clients, with RCA named as beneficiary.

RCA made a payment demand under the APG which was rejected by Deutsche Bank due to the imposition of EU sanctions against Russia. The Russian court has accepted this claim and assumed jurisdiction contrary to the contractual arrangements in the APG which provide for arbitration in Paris. It can thus be assumed that the Russian court will also not recognize the applicability of the EU sanctions. Deutsche Bank maintains assets in Russia which could be seized if the claim would be granted and enforced. Deutsche Bank is entitled to indemnification from its client with respect to the bank's payment obligations under the advance payment guarantee and the legal fees and costs related to the court proceedings and the enforcement of a negative court decision. Deutsche Bank has recognized a provision in the amount of approximately € 260 million and a corresponding reimbursement asset under the indemnification agreement. The expense from the recognition of the provision is offset by the income from the recognition of the reimbursement asset.

Sovereign, Supranational and Agency Bonds (SSA) Investigations and Litigations. Deutsche Bank has received inquiries from certain regulatory and law enforcement authorities, including requests for information and documents, pertaining to SSA bond trading. Deutsche Bank is cooperating with these investigations.

On May 24, 2023, the UK Competition and Markets Authority (CMA) sent a statement of objections to Deutsche Bank regarding a potential breach of United Kingdom antitrust rules in relation to the sale, secondary market trading and buy-back auctions of United Kingdom government bonds, which includes Gilts and Gilt asset swaps, between 2009 and 2013. Deutsche Bank proactively cooperated with the CMA in this matter and as a result has been granted full provisional immunity. The sending of a statement of objections is a step in the CMA's investigation and does not prejudge the outcome of the investigation, which is ongoing.

On November 22, 2023, the European Commission announced its decision that Deutsche Bank and one other bank in the past breached EU antitrust rules in relation to secondary market trading of Euro-denominated SSA bonds, and to a very limited extent government guaranteed bonds. Deutsche Bank has proactively cooperated with the European Commission in this matter and, as a result, has been granted full immunity. In accordance with the European Commission's guidelines, no financial penalty was imposed on Deutsche Bank. The timeframe of the alleged infringement ended in 2016.

In 2021, Deutsche Bank was notified that the Mexican competition authority, COFECE, reached a resolution that imposes fines against DB Mexico and two of its former traders, as well as six other financial institutions and nine other traders, for engaging in alleged monopolistic practices in the Mexican government bond secondary market. DB Mexico has appealed. The fine against DB Mexico was approximately U.S. \$ 427,000.

Deutsche Bank is a defendant in a putative class action filed on June 16, 2023 in the U.S. District Court for the SDNY by alleged direct market participants claiming a violation of antitrust law related to alleged manipulation of the secondary trading market for United Kingdom government bonds. The complaint seeks treble damages and attorneys' fees. The case is in the early stages.

Deutsche Bank is a defendant in a putative class action filed in December 2022 in the U.S. District Court for the SDNY by alleged direct market participants claiming a violation of antitrust law related to alleged manipulation of the secondary trading market for Euro-denominated Sovereign bonds. The complaint seeks treble damages and attorneys' fees. The case is in the early stages.

Deutsche Bank is also a defendant in putative class actions filed in 2017 in the Ontario Superior Court of Justice and Federal Court of Canada, respectively, claiming violations of antitrust law and the common law relating to alleged manipulation of secondary trading of SSA bonds. The complaints seek compensatory and punitive damages. On July 20, 2022, Deutsche Bank entered into a national settlement agreement that would resolve the Canadian Federal SSA claim against all Deutsche Bank defendants. The settlement agreement remains subject to approval by the Federal Court of Canada.

Deutsche Bank was named as a defendant in a consolidated putative class action filed in the U.S. District Court for the SDNY alleging violations of U.S. antitrust law and a claim for unjust enrichment relating to Mexican government bond trading. Defendants' motion to dismiss plaintiffs' consolidated amended complaint was granted without prejudice. Plaintiffs filed a second amended complaint naming only Mexico-based defendants, which was also dismissed without prejudice. Plaintiffs appealed to the Second Circuit, and on February 9, 2024, the dismissal of the complaint was reversed.

Other than as noted above, the Group has not disclosed whether it has established provisions or contingent liabilities with respect to the matters referred to above because it has concluded that such disclosure can be expected to prejudice seriously their outcome.

U.S. Treasury Securities Investigations. Deutsche Bank has received inquiries from certain regulatory and law enforcement authorities, including requests for information and documents, pertaining to U.S. Treasuries auctions, trading, and related market activity. Deutsche Bank has cooperated with these investigations.

Deutsche Bank Securities Inc., the bank's primary U.S. broker-dealer subsidiary (DBSI), was a defendant in several putative class actions alleging violations of U.S. antitrust law, the U.S. Commodity Exchange Act and common law related to the alleged manipulation of the U.S. Treasury securities market. These cases have been consolidated in the SDNY. In 2017, the court dismissed DBSI from the class action without prejudice. Defendants filed a motion to dismiss a second amended complaint, which was granted. Plaintiffs' notice of appeal to the Second Circuit remains pending.

In 2020, the CFTC entered an order pursuant to settlement with DBSI for alleged spoofing by two Tokyo-based traders between January and December 2013. Without admitting or denying the findings or conclusions therein, Deutsche Bank consented to the entry of the order, including a civil monetary fine.

The Group has not disclosed whether it has established a provision or contingent liability with respect to these matters because it has concluded that such disclosure can be expected to seriously prejudice their outcome.

U.S. Treasury Spoofing Litigation. Following the bank's settlement with the CFTC mentioned above, five separate putative class actions were filed in the Northern District of Illinois against Deutsche Bank AG and DBSI. The cases allege that Deutsche Bank and other unnamed entities participated in a scheme from January to December 2013 to spoof the market for Treasuries futures and options contracts and Eurodollar futures and options contracts. Following briefing on a motion to dismiss, the judge ordered supplemental briefing on the issues of standing and jurisdictional discovery, which has now been substantially completed. Plaintiffs filed an amended complaint and then a further, second amended complaint. Deutsche Bank AG and DBSI filed a motion to dismiss on September 12, 2023 and a reply on December 13, 2023.

The Group has not disclosed whether it has established a provision or contingent liability with respect to these matters because it has concluded that such disclosure can be expected to prejudice seriously their outcome.

28 – Credit related commitments and contingent liabilities

Irrevocable lending commitments and lending related contingent liabilities

In the normal course of business the Group regularly enters into irrevocable lending commitments, including fronting commitments as well as contingent liabilities consisting of financial and performance guarantees, standby letters of credit and indemnity agreements on behalf of its customers. Under these contracts the Group is required to perform under an obligation agreement or to make payments to the beneficiary based on third party's failure to meet its obligations. For these instruments it is not known to the Group in detail if, when and to what extent claims will be made. In the event that the Group has to pay out cash in respect of its fronting commitments, the Group would immediately seek reimbursement from the other syndicate lenders. The Group considers all the above instruments in monitoring the credit exposure and may require collateral to mitigate inherent credit risk. If the credit risk monitoring provides sufficient perception about a loss from an expected claim, a provision is established and recorded on the balance sheet.

The following table shows the Group's revocable lending commitments, irrevocable lending commitments and lending related contingent liabilities without considering collateral or provisions. It shows the maximum potential utilization of the Group in case all these liabilities entered into must be fulfilled. The table therefore does not show the expected future cash flows from these liabilities as many of them will expire without being drawn and arising claims will be honored by the customers or can be recovered from proceeds of arranged collateral.

Irrevocable lending commitments and lending related contingent liabilities

in € m.	Dec 31, 2023	Dec 31, 2022
Irrevocable lending commitments	206,084	202,595
Revocable lending commitments	49,325	48,425
Contingent liabilities	65,131	67,214
Total	320,540	318,234

Other commitments and other contingent liabilities

The Group's other irrevocable commitments and other contingent liabilities without considering collateral or provisions amounted to € 74.2 million as of December 31, 2023 and to € 73.0 million as of December 31, 2022. The number considers the maximum potential utilization of the Group in case all these liabilities entered into must be fulfilled. It therefore does not contain the expected future cash flows from these liabilities as many of them will expire without being drawn and arising claims will be honored by the customers or can be recovered from proceeds of arranged collateral.

Government assistance

In the course of its business, the Group regularly applies for and receives government support by means of Export Credit Agency ("ECA") guarantees covering transfer and default risks for the financing of exports and investments into Emerging Markets and to a lesser extent, developed markets for Structured Trade & Export Finance and short- and medium-term Trade Finance business. Almost all export-oriented states have established such ECAs to support their domestic exporters. The ECAs act in the name and on behalf of the government of their respective country and are either constituted directly as governmental departments or organized as private companies vested with the official mandate of the government to act on its behalf. Terms and conditions of such ECA guarantees are broadly similar due to the fact that most of the ECAs act within the scope of the Organization for Economic Cooperation and Development ("OECD") consensus rules. The OECD consensus rules, an intergovernmental agreement of the OECD member states, define benchmarks intended to ensure that a fair competition between different exporting nations will take place.

In some countries dedicated funding programs with governmental support are offered for ECA-covered financings. The Group makes use of such programs to assist its clients in the financing of exported goods and services. In certain financings, the Group also receives government guarantees from national and international governmental institutions as collateral to support financings in the interest of the respective governments. The majority of such ECA guarantees received by the Group were issued either by the Euler-Hermes S.A. acting on behalf of the Federal Republic of Germany, by the Atradius Credito y Caucion S.A. de Seguros y Reaseguros acting on behalf of the Kingdom of Spain or by the Korea Trade Insurance Corporation acting on behalf of the Republic of Korea.

Irrevocable payment commitments with regard to levies and deposit protection

Certain entities of the Group are required to make contributions to national resolution authorities or deposit protection schemes such as the European Single Resolution Fund (SRF) of the Single Resolution Board (SRB). Part of such contributions may be provided in the form of irrevocable payment commitments (IPCs) backed by cash and securities collateral.

IPCs related to the bank levy according to the Bank Recovery and Resolution Directive (BRRD), the SRF and the deposit protection provided by the German deposit protection fund amounted to € 1.4 billion as of December 31, 2023 (December 31, 2022: € 1.3 billion). Thereof € 1.0 billion of IPCs related to the SRF (December 31, 2022: € 0.9 billion).

During 2023, the Group provided additional IPCs of € 119 million to the SRF and € 54 million to the German deposit protection fund, respectively.

As of December 31, 2023, the total collateral consisted of € 1.4 billion of cash collateral and € 81 million of securities collateral (December 31, 2022: € 1.2 billion and € 78 million respectively). Thereof € 1.0 billion of cash collateral related to the SRF (December 31, 2022: € 0.9 billion).

The Group accounts for IPCs as contingent liabilities as it is not deemed probable that IPCs will be called. Also, the Group remains the economic owner of the collateral provided.

In October 2023, in a matter unrelated to the Group, the General Court of the EU handed down a judgement which supported the SRB in its view that in case an entity that no longer falls within the scope of the Single Resolution Mechanism, its IPCs are cancelled and collateral backing these commitments is only returned if the entity pays a cash contribution to the SRF at the same amount. The plaintiff filed an appeal against this judgement to the Court of Justice of the EU in January 2024. The Group is of the view that its accounting analysis for IPCs with regard to the SRF and deposit protection remains unaffected as of December 31, 2023, and continues to monitor the legal developments and their potential accounting impact.

29 – Other Short-Term Borrowings

in € m.	Dec 31, 2023	Dec 31, 2022
Other short-term borrowings:		
Commercial paper	5,497	1,899
Other	4,123	3,223
Total other short-term borrowings	9,620	5,122

30 – Long-Term Debt and Trust Preferred Securities

Long-Term Debt by Earliest Contractual Maturity

in € m.	Due in 2024	Due in 2025	Due in 2026	Due in 2027	Due in 2028	Due after 2028	Total Dec 31, 2023	Total Dec 31, 2022
Senior debt:								
Bonds and notes:								
Fixed rate	14,803	12,237	12,380	10,779	8,736	13,720	72,656	63,986
Floating rate	319	2,427	2,441	895	616	2,329	9,028	14,571
Other	15,704	568	564	350	680	8,529	26,394	41,588
Subordinated debt:								
Bonds and notes:								
Fixed rate	53	2,703	1,978	2,378	0	4,051	11,163	9,644
Floating rate	0	0	0	0	0	0	0	1,491
Other	64	0	42	20	0	22	149	245
Total long-term debt	30,942	17,936	17,406	14,422	10,032	28,652	119,390	131,525

The Group did not have any defaults of principal, interest or other breaches with respect to its liabilities in 2023 and 2022.

Trust Preferred Securities¹

in € m.	Dec 31, 2023	Dec 31, 2022
Fixed rate	0	0
Floating rate	289	500
Total trust preferred securities	289	500

¹ Perpetual instruments, redeemable at specific future dates at the Group's option

31 – Maturity Analysis of the earliest contractual undiscounted cash flows of Financial Liabilities

		Dec 31, 2023			
in € m.	On demand	Due within 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years
Noninterest bearing deposits	183,692	0	0	0	0
Interest bearing deposits	162,585	150,427	107,907	13,432	10,627
Trading liabilities ¹	44,005	0	0	0	0
Negative market values from derivative financial instruments ¹	238,260	0	0	0	0
Financial liabilities designated at fair value through profit or loss	26,522	41,868	4,862	7,438	5,064
Investment contract liabilities ²	0	0	484	0	0
Negative market values from derivative financial instruments qualifying for hedge accounting ³	0	132	24	26	70
Central bank funds purchased	1,057	1	0	0	0
Securities sold under repurchase agreements	373	659	317	790	48
Securities loaned	3	0	0	0	0
Other short-term borrowings	1,566	5,338	2,910	0	0
Long-term debt	26	17,475	18,342	69,773	30,692
Trust preferred securities	0	0	307	0	0
Lease liabilities	16	230	589	1,816	3,331
Other financial liabilities	90,041	1,342	1,954	509	62
Off-balance sheet loan commitments	197,337	0	0	0	0
Financial guarantees	29,113	0	0	0	0
Total⁴	974,594	217,471	137,696	93,783	49,894

¹ Trading liabilities and derivatives not qualifying for hedge accounting balances are recorded at fair value. The Group believes that this best represents the cash flow that would have to be paid if these positions had to be closed out. Trading liabilities and derivatives not qualifying for hedge accounting balances are shown within "on demand" which Group's management believes most accurately reflects the short-term nature of trading activities. The contractual maturity of the instruments may however extend over significantly longer periods

² These are investment contracts where the policy terms and conditions result in their redemption value equaling fair value

³ Derivatives designated for hedge accounting are recorded at fair value and are shown in the time bucket at which the hedged relationship is expected to terminate

⁴ The balances in the table do not agree to the numbers in the Group's balance sheet as the cash flows included in the table are undiscounted. This analysis represents the worst case scenario for the Group if the Group was required to repay all liabilities earlier than expected. The Group believes that the likelihood of such an event occurring is remote

		Dec 31, 2022			
in € m.	On demand	Due within 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years
Noninterest bearing deposits	246,804	0	0	0	0
Interest bearing deposits	131,585	132,641	92,629	16,414	9,735
Trading liabilities ¹	50,664	0	0	0	0
Negative market values from derivative financial instruments ¹	282,353	0	0	0	0
Financial liabilities designated at fair value through profit or loss	24,942	19,335	4,696	4,082	3,478
Investment contract liabilities ²	0	0	469	0	0
Negative market values from derivative financial instruments qualifying for hedge accounting ³	0	326	187	93	181
Central bank funds purchased	0	0	0	0	0
Securities sold under repurchase agreements	3,603	398	21	41	15
Securities loaned	12	1	0	0	0
Other short-term borrowings	3,003	2,149	142	0	0
Long-term debt	1	34,050	17,377	71,882	22,529
Trust preferred securities	0	0	514	0	0
Lease liabilities	36	144	453	1,613	3,214
Other financial liabilities	90,334	1,655	2,023	453	15
Off-balance sheet loan commitments	192,286	0	0	0	0
Financial guarantees	28,083	0	0	0	0
Total⁴	1,053,708	190,699	118,511	94,578	39,167

¹ Trading liabilities and derivatives not qualifying for hedge accounting balances are recorded at fair value. The Group believes that this best represents the cash flow that would have to be paid if these positions had to be closed out. Trading liabilities and derivatives not qualifying for hedge accounting balances are shown within "on demand" which Group's management believes most accurately reflects the short-term nature of trading activities. The contractual maturity of the instruments may however extend over significantly longer periods

² These are investment contracts where the policy terms and conditions result in their redemption value equaling fair value

³ Derivatives designated for hedge accounting are recorded at fair value and are shown in the time bucket at which the hedged relationship is expected to terminate

⁴ The balances in the table do not agree to the numbers in the Group's balance sheet as the cash flows included in the table are undiscounted. This analysis represents the worst case scenario for the Group if the Group was required to repay all liabilities earlier than expected. The Group believes that the likelihood of such an event occurring is remote

Additional Notes

32 – Common Shares

Common Shares

Deutsche Bank's share capital consists of common shares issued in registered form without par value. Under German law, each share represents an equal stake in the subscribed capital. Therefore, each share has a nominal value of € 2.56, derived by dividing the total amount of share capital by the number of shares.

Number of shares	Issued and fully paid	Treasury shares	Outstanding
Common shares, January 1, 2022	2,066,773,131	(678,948)	2,066,094,183
Shares issued under share-based compensation plans	0	0	0
Capital increase	0	0	0
Common shares cancelled	0	0	0
Shares purchased for treasury	0	(55,830,172)	(55,830,172)
Shares sold or distributed from treasury	0	27,577,502	27,577,502
Common shares, December 31, 2022	2,066,773,131	(28,931,618)	2,037,841,513
Shares issued under share-based compensation plans	0	0	0
Capital increase	0	0	0
Common shares cancelled	(26,530,172)	26,530,172	0
Shares purchased for treasury	0	(81,868,366)	(81,868,366)
Shares sold or distributed from treasury	0	36,074,703	36,074,703
Common shares, December 31, 2023	2,040,242,959	(48,195,109)	1,992,047,850

There are no issued ordinary shares that have not been fully paid.

The Group has bought back shares pursuant to share buyback authorizations by the Annual General Meetings. All such transactions were recorded in shareholders' equity and no revenues and expenses were recorded in connection with these activities. Treasury stock held as of year-end will mainly be used for cancellation with the purpose of distributing capital to shareholders as well as for future share-based compensation.

Authorized Capital

The Management Board is authorized to increase the share capital by issuing new shares for cash consideration. As of December 31, 2023, Deutsche Bank AG had authorized but unissued capital of € 2,560,000,000 which may be issued in whole or in part until April 30, 2026. Further details are governed by Section 4 of the Articles of Association.

Authorized capital	Consideration	Pre-emptive rights	Expiration date
€ 512,000,000	Cash	May be excluded pursuant to Section 186 (3) sentence 4 of the Stock Corporation Act and may be excluded in so far as it is necessary to grant pre-emptive rights to the holders of option rights, convertible bonds, and convertible participatory rights	April 30, 2026
€ 2,048,000,000	Cash	May be excluded in so far as it is necessary to grant pre-emptive rights to the holders of option rights, convertible bonds, and convertible participatory rights.	April 30, 2026

Conditional Capital

Deutsche Bank has no outstanding conditional capital as of December 31, 2023, as the authorization expired unused on April 30, 2023. Other conditional capital does not exist.

Dividends

The following table presents the amount of dividends proposed or declared for the years ended December 31, 2023, 2022 and 2021, respectively.

	2023 (proposed)	2022	2021
Cash dividends declared (in €)	896,421,532	609,934,751	406,386,212
Cash dividends declared per common share (in €)	0.45	0.30	0.20

No dividends have been declared since the balance sheet date.

33 – Employee Benefits

Share-Based Compensation Plans

The Group made grants of share-based compensation under the Deutsche Bank Equity Plan. This plan represents a contingent right to receive Deutsche Bank common shares after a specified period of time. The award recipient is not entitled to receive dividends during the vesting period of the award.

The share awards granted under the terms and conditions of the Deutsche Bank Equity Plan may be forfeited fully or partly if the recipient voluntarily terminates employment before the end of the relevant vesting period (or release period for Upfront Awards). Vesting usually continues after termination of employment in cases such as redundancy or retirement. Deferred share awards are subject to forfeiture provisions and performance conditions until release.

In countries where legal or other restrictions hinder the delivery of shares, a cash plan variant of the Deutsche Bank Equity Plan was used for granting awards, and for employees of certain legal entities, deferred equity is replaced with restricted shares due to local regulatory requirements.

Please note that this table does not cover awards granted to the Management Board. For awards granted under the DWS Equity Plan, please refer to the DWS Share-Based Compensation Plans section.

The following table sets forth the basic terms of these share plans:

Grant year(s)	Deutsche Bank Equity Plan	Vesting schedule	Eligibility
2022 - 2023 ⁴	Annual Award	1/4: 12 months ¹	Select employees as annual performance-based compensation (CB/IB/CRU and InstVV MRTs)
		1/4: 24 months ¹	
		1/4: 36 months ¹	
		1/4: 48 months ¹	
	Annual Award	1/3: 12 months ¹	Select employees as annual performance-based compensation (non-CB/IB/CRU)
		1/3: 24 months ¹	
		1/3: 36 months ¹	
	Annual Award	1/5: 12 months ¹	Select employees as annual performance-based compensation (Senior Management)
		1/5: 24 months ¹	
		1/5: 36 months ¹	
		1/5: 48 months ¹	
		1/5: 60 months ¹	
2019 - 2021 ⁴	Retention/New Hire	Individual specification	Select employees to attract and retain the best talent
	Severance	Individual specification	Regulatory requirement for certain employees to defer severance payments
	Annual Award – Upfront	Vesting immediately at grant ³	Selected employees
		1/4: 12 months ¹	Select employees as annual performance-based compensation (CB/IB/CRU and InstVV MRTs in an Material Business Unit) ²
		1/4: 24 months ¹	
		1/4: 36 months ¹	
		1/4: 48 months ¹	
	Annual Award	1/3: 12 months ¹	Select employees as annual performance-based compensation (non-CB/IB/CRU) ²
		1/3: 24 months ¹	
		1/3: 36 months ¹	
	Annual Award	1/5: 12 months ¹	Select employees as annual performance-based compensation (Senior Management)
		1/5: 24 months ¹	
		1/5: 36 months ¹	
		1/5: 48 months ¹	
		1/5: 60 months ¹	
2017 - 2018 ⁴	Retention/New Hire/Off-Cycle ⁵	Individual specification	Select employees to attract and retain the best talent
	Severance	Individual specification	Regulatory requirement for certain employees to defer severance payments
	Annual Award – Upfront	Vesting immediately at grant ³	Regulated employees
		1/4: 12 months ¹	Select employees as annual performance-based compensation
		1/4: 24 months ¹	
		1/4: 36 months ¹	
		1/4: 48 months ¹	
	Severance	Or cliff vesting after 54 months ¹	Members of Senior Leadership Cadre
		Individual specification	Regulatory requirement for certain employees to defer severance payments
	Retention/New Hire/Off-Cycle	Individual specification	Select employees to attract and retain the best talent

¹ For InstVV-regulated employees (and Senior Management) a further retention period of twelve months applies (six months for awards granted from 2017-2018)

² For grant year 2019 divisions were called CIB, for grant years 2020 and 2021 CIB is split into CB/IB/CRU

³ Share delivery takes place after a further retention period of twelve months

⁴ Annual and Retention/New Hire awards include grants made under the Restricted Share Plan from 2018-2023

⁵ Off-Cycle awards granted up to 2020

Furthermore, the Group offers a broad-based employee share ownership plan entitled Global Share Purchase Plan. The Global Share Purchase Plan offers employees in specific countries the opportunity to purchase Deutsche Bank shares in monthly installments over one year. At the end of the purchase cycle, the Group matches the acquired stock in a ratio of one to one up to a maximum of ten free shares, provided that the employee remains at Deutsche Bank Group for another year. In total, 11,603 staff from 18 countries enrolled in the cycle that began in November 2023.

The Group has other local share-based compensation plans, none of which, individually or in the aggregate, are material to the consolidated financial statements.

The following table sets out the movements in share award units, including grants under the cash plan variant of the Deutsche Bank Equity Plan.

Share units (in thousands)	2023	2022
Balance outstanding as of January 01	127,528	121,818
Granted	50,930	45,114
Released	(44,963)	(34,121)
Forfeited	(4,565)	(4,872)
Other movements	(302)	(411)
Balance outstanding as of December 31	128,627	127,528

The following table sets out key information regarding awards granted, released and remaining in the year.

	2023		2022
	Weighted average fair value per award granted in year	Weighted average share price at release in year	Weighted average remaining contractual life in years
DB Equity Plan	€ 9.85	€ 11.51	1.5
	€ 9.53	€ 10.04	1.5

Share-based payment transactions resulting in a cash payment give rise to a liability, which amounted to approximately € 12 million and € 9 million for the years ended December 31, 2023 and 2022, respectively.

The grant volume of outstanding share awards was approximately € 1.1 billion and € 1.0 billion as of December 31, 2023 and 2022, respectively. Thereof, approximately € 0.8 billion and € 0.8 billion had been recognized as compensation expense in the reporting year or prior to that. Hence, compensation expense for deferred share-based compensation not yet recognized amounted to approximately € 0.3 billion and € 0.2 billion as of December 31, 2023 and 2022, respectively.

DWS Share-Based Compensation Plans

The DWS Group made grants of share-based compensation under the DWS Equity Plan. This plan represents a contingent right to receive a cash payment by referencing to the value of DWS shares during a specified time period.

In September 2018 one-off IPO related awards under the DWS Stock Appreciation Rights (SAR) Plan were granted to all DWS employees. A limited number of DWS senior managers were granted a one-off IPO-related Performance Share Unit under the DWS Equity Plan instead. For members of the Executive Board, one-off IPO-related awards under the DWS Equity Plan were granted in January 2019.

The DWS Stock Appreciation Rights Plan represents a contingent right to receive a cash payment equal to any appreciation (or gain) in the value of a set number of notional DWS shares over a fixed period of time. This award does not provide any entitlement to receive DWS shares, voting rights or associated dividends.

The DWS Equity Plan is a phantom share plan representing a contingent right to receive a cash payment by referencing to the value of DWS shares during a specified period of time.

The award recipient for any share-based compensation plan is not entitled to receive dividends during the vesting period of the award.

The share awards granted under the terms and conditions of any share-based compensation plan are forfeited fully or partly if the recipient voluntarily terminates employment before the end of the relevant vesting period (or the end of the retention period for Upfront Awards). Vesting usually continues after termination of employment in cases such as redundancy or retirement.

The following table sets forth the basic terms of the DWS share-based plans:

Grant year(s)	Award Type	Vesting schedule	Eligibility
2021 - 2023	Annual Awards	1/4: 12 months ¹ 1/4: 24 months ¹ 1/4: 36 months ¹ 1/4: 48 months ¹	Select employees as annual performance-based compensation (InstVV MRTs)
	Annual Awards	1/3: 12 months ¹ 1/3: 24 months ¹ 1/3: 36 months ¹	Select employees as annual performance-based compensation (non-InstVV MRTs)
	Annual Awards (Senior Management)	1/5: 12 months ¹ 1/5: 24 months ¹ 1/5: 36 months ¹ 1/5: 48 months ¹ 1/5: 60 months ¹	Members of the Executive Board
	Annual Award - Upfront	Vesting immediately at grant ¹	Regulated employees
	Retention/New Hire/Off-Cycle ⁴	Individual specification	Select employees to attract and retain the best talent
	Severance	Individual specification	Regulatory requirement for certain employees to defer severance payments
	Annual Awards	1/3: 12 months ¹ 1/3: 24 months ¹ 1/3: 36 months ¹	Select employees as annual performance-based compensation
	Annual Awards (Senior Management)	1/5: 12 months ¹ 1/5: 24 months ¹ 1/5: 36 months ¹ 1/5: 48 months ¹ 1/5: 60 months ¹	Members of the Executive Board
	Annual Award - Upfront	Vesting immediately at grant ¹	Regulated employees
	Retention/New Hire/Off-Cycle ⁴	Individual specification	Select employees to attract and retain the best talent
	Severance	Individual specification	Regulatory requirement for certain employees to defer severance payments
	Performance Share Unit Award (one-off IPO related award granted in 2019)	1/3: March 2022 ¹ 1/3: March 2023 ¹ 1/3: March 2024 ¹	Members of the Executive Board
2019 - 2020	Performance Share Unit Award (one-off IPO related award)	1/3: March 2022 ¹ 1/3: March 2023 ¹ 1/3: March 2024 ¹	Select Senior Managers
	SAR Award (one-off IPO related award)	For non-MRTs: 1 June 2021 ³ For MRTs: 1 March 2023 ^{1,3}	all DWS employees ²

¹ Depending on their individual regulatory status, a six month retention period (AIFMD/UCITS MRTs) or a twelve month retention period (InstVV, or IFD MRTs starting from 2023) applies after vesting

² Unless the employee received Performance Share Unit Award

³ For outstanding awards, a 4-year exercise period applies following vesting/retention period

⁴ Off-Cycle awards to non-InstVV regulated employees only

The following table sets out the movements in share award units.

	DWS Equity Plan			DWS SAR Plan	
	2023	2022	2023	2022	Weighted-average exercise price
Share units (in thousands)	Number of Awards	Number of Awards	Number of Awards	Number of Awards	Weighted-average exercise price
Outstanding at beginning of year	2,329	2,415	887	948	€ 24.65
Granted	1,213	1,005	0	0	-
Issued or Exercised	(1,101)	(1,042)	(122)	(40)	€ 24.65
Forfeited	(86)	(55)	(10)	(4)	€ 24.65
Expired	0	0	(18)	(16)	€ 24.65
Other Movements	22	6	(1)	(1)	€ 24.65
Outstanding at end of year	2,377	2,329	735	887	€ 24.65
Of which, exercisable	0	0	695	678	€ 24.65

The following table sets out key information regarding awards granted, released and remaining in the year.

	2023			2022		
	Weighted average fair value per award granted in year	Weighted average share price at release/exercise in year	Weighted average remaining contractual life in years	Weighted average fair value per award granted in the year	Weighted average share price at release/exercise in year	Weighted average remaining contractual life in years
DWS Equity Plan	€ 25.40	€ 31.33	1.4	€ 27.67	€ 29.24	1.3
DWS SAR Plan	n/a	€ 31.64	1.9	n/a	€ 31.89	3.0

The fair value of outstanding share-based awards was approximately € 72 million and € 67 million as of December 31, 2023 and 2022, respectively. Of the awards, approximately € 62 million and € 58 million has been recognized in the income statement up to the period ending 2023 and 2022 respectively, of which € 42 million and € 25 million as of December 31, 2023 and 2022 relate to fully vested awards. Total unrecognized expense related to share-based plans was approximately € 9 million and € 10 million as of December 31, 2023 and 2022 respectively, dependent on future share price development.

The fair value of the DWS Stock Appreciation Rights Plan awards have been measured using the generalized Black-Scholes model. The liabilities incurred are re-measured at the end of each reporting period until settlement. The principal inputs being the market value on reporting date, discounted for any dividends foregone over the holding periods of the award, and adjustment for expected and actual levels of vesting which includes estimating the number of eligible employees leaving the Group and number of employees eligible for early retirement. The inputs used in the measurement of the fair values at grant date and measurement date were as follows.

	Measurement date Dec 31, 2023	Measurement date Dec 31, 2022
Units (in thousands)	735	887
Fair value	€ 10.81	€ 7.65
Share price	€ 34.80	€ 30.36
Exercise price	€ 24.65	€ 24.65
Expected volatility (weighted-average)	32%	32%
Expected life (weighted-average) in years	1.9	3.0
Expected dividends (% of income)	88%	66%

Given there is no liquid market for implied volatility of DWS shares, the calculation of DWS share price volatility is based on 5-year historical data for DWS and a comparable peer group.

Post-employment Benefit Plans

Nature of Plans

The Group sponsors a number of post-employment benefit plans on behalf of its employees, both defined contribution plans and defined benefit plans. The Group's plans are accounted for based on the nature and substance of the plan. Generally, for defined benefit plans the value of a participant's accrued benefit is based on each employee's remuneration and length of service; contributions to defined contribution plans are typically based on a percentage of each employee's remuneration. The rest of this note focuses predominantly on the Group's defined benefit plans.

The Group's defined benefit plans are primarily described on a geographical basis, reflecting differences in the nature and risks of benefits, as well as in the respective regulatory environments. In particular, the requirements set by local regulators can vary significantly and determine the design and financing of the benefit plans to a certain extent. Key information is also shown based on participant status, which provides a broad indication of the maturity of the Group's obligations.

in € m.	Germany	UK	U.S.	Other	Dec 31, 2023
Defined benefit obligation related to					
Active plan participants	3,301	300	215	661	4,477
Participants in deferred status	1,926	1,450	509	87	3,972
Participants in payment status	5,277	1,276	448	231	7,232
Total defined benefit obligation	10,504	3,026	1,172	979	15,681
Fair value of plan assets	10,532	3,912	1,003	1,071	16,518
Funding ratio (in %)	100%	129%	86%¹	109%	105%

¹ US Total defined benefit obligation is inclusive of the unfunded US Medicare Plan (€ 119 million) in addition to defined benefit pension plans. The US defined benefit pension funding ratio excluding Medicare is 95%

in € m.	Germany	UK	U.S.	Other	Dec 31, 2022
Defined benefit obligation related to					
Active plan participants	3,193	287	218	593	4,291
Participants in deferred status	1,827	1,375	523	83	3,808
Participants in payment status	5,017	1,214	461	207	6,899
Total defined benefit obligation	10,037	2,876	1,202	883	14,998
Fair value of plan assets	10,351	3,768	996	962	16,077
Funding ratio (in %)	103%	131%	83%¹	109%	107%

¹ US Total defined benefit obligation is inclusive of the unfunded US Medicare Plan (€ 120 million) in addition to defined benefit pension plans. The US defined benefit pension funding ratio excluding Medicare is 92%

The majority of the Group's defined benefit plan obligations relate to Germany, the United Kingdom and the United States. Within the other countries, the largest obligation relates to Switzerland. In Germany and some continental European countries, post-employment benefits are usually agreed on a collective basis with respective employee workers councils, unions or their equivalent. The Group's main pension plans are governed by boards of trustees, fiduciaries or their equivalent.

Post-employment benefits can form an important part of an employee's total remuneration. The Group's approach is that their design shall be attractive to employees in the respective market, but sustainable for the Group to provide over the longer term. At the same time, the Group tries to limit its risks related to provision of such benefits. Consequently, the Group has moved to offer defined contribution plans in many locations over recent years.

In the past the Group typically offered pension plans based on final pay prior to retirement. These types of benefits still form a significant part of the pension obligations for participants in deferred and payment status. Currently, in Germany and the United States, the main defined benefit pension plans for active staff are cash account type plans where the Group credits an annual amount to individual accounts based on an employee's current compensation. Dependent on the plan rules, the accounts increase either at a fixed interest rate or participate in market movements of certain underlying investments to limit the investment risk for the Group. Sometimes, in particular in Germany, there is a guaranteed benefit amount within the plan rules, e.g. payment of at least the amounts contributed. Upon retirement, beneficiaries may usually opt for a lump sum, a fixed number of annual instalments or for conversion of the accumulated account balance into a life annuity. This conversion is often based on market conditions and mortality assumptions at retirement.

The Group also sponsors retirement and termination indemnity plans in several countries, as well as some post-employment medical plans for a number of current and retired employees, mainly in the United States. The post-employment medical plans typically pay fixed percentages of medical expenses of eligible retirees after a set deductible has been met. In the United States, once a retiree is eligible for Medicare, the Group contributes to a Health Reimbursement Account and the retiree is no longer eligible for the Group's medical program. The Group's total defined benefit obligation for post-employment medical plans was € 145 million and € 144 million on December 31, 2023 and December 31, 2022, respectively. In combination with the benefit structure, these plans represent limited risk for the Group, given the nature and size of the post-retirement medical plan liabilities versus the size of the Group's balance sheet at year end 2023.

The following amounts of expected benefit payments from the Group's defined benefit plans include benefits attributable to employees' past and estimated future service and include both amounts paid from the Group's external pension trusts and paid directly by the Group in respect of unfunded plans.

in € m.	Germany	UK	U.S.	Other	Total
Actual benefit payments 2023	498	109	89	50	746
Benefits expected to be paid 2024	543	154	81	76	854
Benefits expected to be paid 2025	551	138	83	71	843
Benefits expected to be paid 2026	568	146	88	68	870
Benefits expected to be paid 2027	586	160	87	70	903
Benefits expected to be paid 2028	603	171	92	71	937
Benefits expected to be paid 2029 – 2033	3,252	925	447	350	4,974
Weighted average duration of defined benefit obligation (in years)	11	15	9	10	12

Multi-employer Plans

In Germany, the Group is a member of the BVV Versicherungsverein des Bankgewerbes a.G. (BVV) together with other financial institutions. The BVV offers retirement benefits to eligible employees in Germany as a complement to post-employment benefit promises of the Group. Both employers and employees contribute on a regular basis to the BVV. The BVV provides annuities of a fixed amount to individuals on retirement and increases these fixed amounts if surplus assets arise within the plan. According to legislation in Germany, the employer is ultimately liable for providing the benefits to its employees. An increase in benefits may also arise due to additional obligations to retirees for the effects of inflation. BVV is a multi-employer defined benefit plan. However, in line with industry practice, the Group accounts for it as a defined contribution plan since insufficient information is available to identify assets and liabilities relating to the Group's current and former employees, primarily because the BVV does not fully allocate plan assets to beneficiaries nor to member companies.

Governance and Risk

The Group maintains a Pensions Committee to oversee its pension and related risks on a global basis. This Committee meets at least quarterly and reports directly to the Senior Executive Compensation Committee.

Within this context, the Group develops and maintains guidelines for governance and risk management, including funding, asset allocation and actuarial assumption setting.

During and after acquisitions or changes in the external environment (e.g., legislation, taxation), topics such as the general plan design or potential plan amendments are considered. Any plan changes follow a process requiring approval by Group Human Resources and, above a certain threshold, also of the Pensions Committee.

Pension risk management is embedded in the Group's risk management organization, with strong focus on market risks given importance of capital market developments (e.g., interest rate, credit spread, price inflation) for the value of plan assets and liabilities, hence IFRS and regulatory capital. Risk management thereby encompasses regular measurement, monitoring and reporting of risks via specific metrics, as well as a risk control framework, e.g. via the establishment of risk limits or thresholds as applicable. Risk management activities also include the consideration, review and measurement of other financial risks, e.g. risks from demographic and other actuarial assumptions (e.g., longevity risk) but also the assessment of model, valuation and other non-financial risks.

In the Group's key pension countries, the Group's largest post-employment benefit plan risk exposures relate to potential changes in credit spreads, interest rates, price inflation and longevity, that are partially mitigated through the investment strategy adopted. To the extent that pension plans are funded, the assets held mitigate some of the liability risks, but introduce investment risk.

Overall, the Group seeks to minimize the impact of pensions on the Group's financial position from market movements, subject to balancing the trade-offs involved in financing post-employment benefits, regulatory capital and constraints from local funding or accounting requirements.

Funding

The Group maintains various external pension trusts to fund the majority of its defined benefit plan obligations. The Group's funding principle is to maintain funding of the defined benefit obligation by plan assets within a range of 90% to 100% of the obligation, subject to meeting any local statutory requirements. The Group has also determined that certain plans should remain unfunded, although their funding approach is subject to periodic review, e.g. when local regulations or practices change. Obligations for the Group's unfunded plans are accrued on the balance sheet.

For many of the externally funded defined benefit plans there are local minimum funding requirements. The Group can decide on any additional plan contributions, with reference to the Group's funding principle. There are some locations, e.g. the United Kingdom, where the trustees and the Group jointly agree contribution levels. In most countries the Group expects to receive an economic benefit from any plan surpluses of plan assets compared to defined benefit obligations, typically by way of reduced future contributions. Given the relatively high funding level and the investment strategy adopted in the Group's key funded defined benefit plans, any minimum funding requirements that may apply are not expected to place the Group under any material adverse cash strain in the short term. With reference to the Group's funding principle, the Group considers not re-claiming benefits paid from the Group's assets as an equivalent to making cash contributions into the external pension trusts during the year.

During 2022, the majority of the German pension plans moved into surplus status due to significant market movements. The Group has claimed around € 860 million from the trust, which represents the benefits paid from the Bank's assets on behalf of the trust during 2022 including the forgiven re-imbursement of the prior year in order to limit the extent to which the Group breached the upper end of its target funding ratio. During 2023, reimbursements of € 490 million were also claimed for the benefits paid from the Group's assets on behalf of the trust.

For post-retirement medical plans, the Group accrues for obligations over the period of employment and pays the benefits from Group assets when the benefits become due.

Actuarial Methodology and Assumptions

December 31 is the measurement date for all plans. All plans are valued by independent qualified actuaries using the projected unit credit method. A Group policy provides guidance to ensure consistency globally on setting actuarial assumptions which are finally determined by the Group's Pensions Committee. Senior management of the Group is regularly informed of movements and changes in key actuarial assumptions.

The key actuarial assumptions applied in determining the defined benefit obligations on December 31 are presented below in the form of weighted averages.

	Dec 31, 2023				Dec 31, 2022			
	Germany	UK	U.S. ¹	Other	Germany	UK	U.S. ¹	Other
Discount rate (in %)	3.33%	4.50%	5.01%	3.33%	3.80%	4.77%	5.34%	3.99%
Rate of price inflation (in %)	2.30%	3.42%	2.20%	1.84%	2.62%	3.71%	2.20%	2.16%
Rate of nominal increase in future compensation levels (in %)	2.48%	3.42%	2.30%	2.83%	2.81%	3.71%	2.30%	3.14%
Rate of nominal increase for pensions in payment (in %)	2.77%	3.15%	2.20%	0.69%	2.97%	3.32%	2.20%	0.85%
Assumed life expectancy at age 65								
For a male aged 65 at measurement date	21.4	23.2	22.0	22.0	21.3	23.6	22.0	22.0
For a female aged 65 at measurement date	23.6	25.0	23.5	24.1	23.6	25.4	23.4	24.1
For a male aged 45 at measurement date	22.7	24.4	23.4	23.5	22.6	24.9	23.3	23.5
For a female aged 45 at measurement date	24.7	26.3	24.8	25.6	24.7	26.7	24.8	25.5
Mortality tables applied								
Modified Richttafel Heubeck 2018G	SAPS (S3) Light\\ Very Light with CMI 2022 projections	PRI-2012 with MP-2021 projection	Country specific tables	Modified Richttafel Heubeck 2018G	SAPS (S3) Light\\ Very Light with CMI 2021 projections	PRI-2012 with MP-2021 projection	Country specific tables	

¹ Cash balance interest crediting rate in line with the 30-year US government bond yield

For the Group's most significant pension plans in the key countries, the discount rate used at each measurement date is set based on a high quality corporate bond yield curve, which is derived using a bond universe sourced from reputable third-party market data providers, and reflects the timing, amount and currency of the future expected benefit payments for the respective plan. In 2023, a refinement was made to the Eurozone discount curve methodology in order to better align to long term market data resulting in a benefit recognized in Other Comprehensive Income of € 70 million.

The price inflation assumptions in the Eurozone and the United Kingdom are set with reference to market measures of inflation based on inflation swap rates in those markets at each measurement date. For other countries, the price inflation assumptions are typically based on long term forecasts by Consensus Economics Inc.

The assumptions for the increases in future compensation levels and for increases to pensions in payment are developed separately for each plan, where relevant. Each is set based on the price inflation assumption and reflecting the Group's reward structure or policies in each market, as well as relevant local statutory and plan-specific requirements.

Among other assumptions, mortality assumptions can be significant in measuring the Group's obligations under its defined benefit plans. These assumptions have been set in accordance with current best estimate in the respective countries. Future potential improvements in longevity have been considered and included where appropriate.

Reconciliation in Movement of Liabilities and Assets – Impact on Financial Statements

in € m.	Germany	UK	U.S.	Other	2023 Total
Change in the present value of the defined benefit obligation:					
Balance, beginning of year	10,037	2,876	1,202	884	14,999
Defined benefit cost recognized in Profit & Loss					
Current service cost	115	9	7	33	164
Interest cost	373	137	61	35	606
Past service cost and gain or loss arising from settlements	8	2	0	(1)	9
Defined benefit cost recognized in Other Comprehensive Income					
Actuarial gain or loss arising from changes in financial assumptions	387	55	39	36	517
Actuarial gain or loss arising from changes in demographic assumptions	36	(59)	0	(1)	(24)
Actuarial gain or loss arising from experience	45	55	(7)	9	102
Cash flow and other changes					
Contributions by plan participants	1	0	0	16	17
Benefits paid	(498)	(109)	(89)	(50)	(746)
Payments in respect to settlements	0	0	0	0	0
Acquisitions/Divestitures	0	0	0	0	0
Exchange rate changes	0	60	(41)	18	37
Other	0	0	0	0	0
Balance, end of year	10,504	3,026	1,172	979	15,681
thereof:					
Unfunded	0	9	138	72	219
Funded	10,504	3,017	1,034	907	15,462
Change in fair value of plan assets:					
Balance, beginning of year	10,351	3,768	996	962	16,077
Defined benefit cost recognized in Profit & Loss					
Interest income	387	180	50	37	654
Defined benefit cost recognized in Other Comprehensive Income					
Return from plan assets less interest income	247	(5)	28	28	298
Cash flow and other changes					
Contributions by plan participants	1	0	0	16	17
Contributions by the employer ¹	44	0	40	41	125
Benefits paid ²	(498)	(108)	(74)	(41)	(721)
Payments in respect to settlements	0	0	0	0	0
Acquisitions/Divestitures	0	0	0	0	0
Exchange rate changes	0	83	(35)	29	77
Other	0	0	0	0	0
Plan administration costs	0	(6)	(2)	(1)	(9)
Balance, end of year	10,532	3,912	1,003	1,071	16,518
Funded status, end of year	28	886	(169)	92	837
Change in irrecoverable surplus (asset ceiling)					
Balance, beginning of year	0	0	0	(107)	(107)
Interest cost	0	0	0	(2)	(2)
Changes in irrecoverable surplus	0	0	0	13	13
Exchange rate changes	0	0	0	(6)	(6)
Balance, end of year	0	0	0	(102)	(102)
Net asset (liability) recognized	28	886	(169)	(10)	735³
Fair value of reimbursement rights	0	0	0	3	3

¹ Net Amount includes re-imbursement of 2023 benefit payments

² For funded plans only

³ Thereof € 1,087 million recognized in Other assets and € 353 million in Other liabilities

	2022				
in € m.	Germany	UK	U.S.	Other	Total
Change in the present value of the defined benefit obligation:					
Balance, beginning of year					
Defined benefit cost recognized in Profit & Loss	13,097	4,929	1,351	1,027	20,404
Current service cost	164	18	10	38	230
Interest cost	142	88	39	20	289
Past service cost and gain or loss arising from settlements	17	2	0	0	19
Defined benefit cost recognized in Other Comprehensive Income					
Actuarial gain or loss arising from changes in financial assumptions	(3,055)	(1,966)	(196)	(183)	(5,400)
Actuarial gain or loss arising from changes in demographic assumptions	80	29	(5)	0	104
Actuarial gain or loss arising from experience	79	97	3	25	204
Cash flow and other changes					
Contributions by plan participants	1	0	0	16	17
Benefits paid ¹	(485)	(131)	(92)	(67)	(775)
Payments in respect to settlements	0	0	0	0	0
Acquisitions/Divestitures	(2)	0	0	(2)	(4)
Exchange rate changes	0	(190)	92	9	(89)
Other	(0)	0	0	0	0
Balance, end of year	10,037	2,876	1,202	884	14,999
thereof:					
Unfunded	0	10	143	75	228
Funded	10,037	2,866	1,059	809	14,771
Change in fair value of plan assets:					
Balance, beginning of year	12,642	6,019	1,148	1,079	20,888
Defined benefit cost recognized in Profit & Loss					
Interest income	139	108	33	19	299
Defined benefit cost recognized in Other Comprehensive Income					
Return from plan assets less interest income	(1,594)	(1,982)	(184)	(130)	(3,890)
Cash flow and other changes					
Contributions by plan participants	1	0	0	16	17
Contributions by the employer ¹	(353)	0	0	28	(325)
Benefits paid ²	(485)	(130)	(77)	(60)	(752)
Payments in respect to settlements	0	0	0	0	0
Acquisitions/Divestitures	1	0	0	(1)	0
Exchange rate changes	0	(243)	79	11	(153)
Other	0	0	0	0	0
Plan administration costs	0	(4)	(3)	0	(7)
Balance, end of year	10,351	3,768	996	962	16,077
Funded status, end of year	314	892	(206)	78	1,078
Change in irrecoverable surplus (asset ceiling)					
Balance, beginning of year	0	0	0	(90)	(90)
Interest cost	0	0	0	0	0
Changes in irrecoverable surplus	0	0	0	(12)	(12)
Exchange rate changes	0	0	0	(5)	(5)
Balance, end of year	0	0	0	(107)	(107)
Net asset (liability) recognized	314	892	(206)	(29)	971³
Fair value of reimbursement rights	0	0	0	3	3

¹ Net Amount includes re-imbursement of 2022 benefit payments and a forgiven benefit payment from 2021

² For funded plans only

³ Thereof € 1,326 million recognized in Other assets and € 355 million in Other liabilities

The Group has a reimbursement right of around € 3 million domiciled in France on 31 December, 2023. This relates to the surplus of the previous CRPB Fund which was identified in 2022 that can be used to fund the retirement indemnity payments for the DB AG Branch Paris. There are no other reimbursement rights for the Group.

Investment Strategy

The Group's investment objective is to protect the Group from adverse impacts of its defined benefit pension plans on key financial metrics. The primary focus is to protect the plans' IFRS funded status in the case of adverse market scenarios. Since 2021, there has been a shift in the investment strategy in selected markets to balance competing key financial metrics. Investment managers manage pension assets in line with investment mandates or guidelines as agreed with the pension plans' trustees and investment committees.

For key defined benefit plans for which the Group aims to protect the IFRS funded status, the Group applies a liability driven investment approach. Risks from mismatches between fluctuations in the present value of the defined benefit obligations and plan assets due to capital market movements are minimized, subject to balancing relevant trade-offs. This is achieved by allocating plan assets closely to the market risk factor exposures of the pension liability to interest rates, credit spreads and inflation. Thereby, plan assets broadly reflect the underlying risk profile and currency of the pension obligations.

Where the desired hedging level for market risks cannot be achieved with physical instruments (i.e., corporate and government bonds), derivatives are employed. Derivative overlays mainly include interest rate, inflation swaps and credit default swaps. Other instruments are also used, such as interest rate futures and options. In practice, a completely hedged approach is impractical, for instance because of insufficient market depth for ultra-long-term corporate bonds, as well as liquidity and cost considerations. Therefore, plan assets contain further return-seeking asset categories such as equity, real estate, high yield bonds or emerging markets bonds to create long-term value and achieve diversification benefits. Furthermore, this shift in the investment strategy allows for actively taken market risk exposures from interest rates and credit spreads within defined limits governed by the Pensions Committee. As a result, the market risk from plan assets has been reduced.

In 2023, the Group entered into a buy-in transaction with a third party insurer to de-risk € 515 million of exposure to the UK defined benefit pension schemes funded from existing assets, with no additional employer contribution required. The recognition of the insurance policy as a qualifying plan asset negatively impacted Other Comprehensive Income in the Group's financial statement by approximately € 33 million. A similar buy-in transaction to de-risk € 410 million of exposure occurred in 2022 which negatively impacted Other Comprehensive Income in the Group's financial statement by approximately € 35 million. In total, the Group has entered into four buy-in transactions in the UK with third-party insurers protecting the Group from movements in defined benefit obligations of around € 1.8 billion as at 31 December, 2023.

Plan asset allocation to key asset classes

The following table shows the asset allocation of the Group's funded defined benefit plans to key asset classes, i.e. exposures include physical securities in discretely managed portfolios and underlying asset allocations of any commingled funds used to invest plan assets.

Asset amounts in the following table include both "quoted" (i.e., Level 1 assets in accordance with IFRS 13 – amounts invested in markets where the fair value can be determined directly from prices which are quoted in active, liquid markets) and "other" (i.e., Level 2 and 3 assets in accordance with IFRS 13) assets.

in € m.	Dec 31, 2023					Dec 31, 2022				
	Germany	UK	U.S.	Other	Total	Germany	UK	U.S.	Other	Total
Cash and cash equivalents	179	92	53	71	395	34	551	56	69	710
Equity instruments ¹	1,213	0	109	215	1,537	1,046	174	108	186	1,514
Investment-grade bonds ²										
Government	1,882	919	366	189	3,356	1,860	537	346	169	2,912
Non-government bonds	4,081	915	369	347	5,712	3,898	1,302	385	315	5,900
Non-investment-grade bonds										
Government	103	1	1	4	109	89	1	2	3	95
Non-government bonds	325	73	16	21	435	282	168	13	17	480
Securitized and other Debt Investments	47	99	78	10	234	45	47	81	7	180
Insurance	0	1,807	0	15	1,822	0	1,193	0	9	1,202
Alternatives										
Real estate	727	0	0	97	824	690	0	0	105	795
Commodities	39	0	0	4	43	41	0	0	5	46
Private equity	0	0	0	3	3	0	0	0	2	2
Other ³	1,022	0	0	60	1,082	1,008	0	0	51	1,059
Derivatives (Market Value)										
Interest rate	909	171	(3)	17	1,094	1,294	229	13	7	1,543
Credit	(18)	(1)	16	0	(3)	6	(112)	7	0	(99)
Inflation	0	(5)	0	13	8	0	(14)	0	13	(1)
Foreign exchange	21	0	0	5	26	55	(5)	0	4	54
Other	2	(159)	(2)	0	(159)	3	(303)	(15)	0	(315)
Total fair value of plan assets	10,532	3,912	1,003	1,071	16,518	10,351	3,768	996	962	16,077

¹ Allocation of equity exposure is broadly in line with the typical index in the respective market, e.g. the equity portfolio's benchmark of the UK retirement benefit plans is the MSCI All Countries World Index

² Investment-grade means BBB and above. Average credit rating exposure for the Group's main plans is around A

³ This position contains commingled funds which could not be segregated into the other asset categories

The following table sets out the Group's funded defined benefit plan assets only invested in "quoted" assets, i.e. Level 1 assets in accordance with IFRS 13.

in € m.	Dec 31, 2023					Dec 31, 2022				
	Germany	UK	U.S.	Other	Total	Germany	UK	U.S.	Other	Total
Cash and cash equivalents	29	92	50	19	190	(154)	551	55	24	476
Equity instruments ¹	933	0	109	39	1,081	772	173	108	38	1,091
Investment-grade bonds ²										
Government	601	919	360	41	1,921	691	537	340	49	1,617
Non-government bonds	0	0	0	0	0	0	0	0	0	0
Non-investment-grade bonds										
Government	1	1	0	0	2	0	1	0	0	1
Non-government bonds	0	0	0	0	0	0	0	0	0	0
Securitized and other Debt Investments	0	98	0	0	98	0	45	0	0	45
Insurance	0	0	0	0	0	0	0	0	0	0
Alternatives										
Real estate	0	0	0	0	0	0	0	0	0	0
Commodities	0	0	0	0	0	0	0	0	0	0
Private equity	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0
Derivatives (Market Value)										
Interest rate	0	0	(16)	0	(16)	0	0	(7)	0	(7)
Credit	0	0	0	0	0	0	0	0	0	0
Inflation	0	0	0	0	0	0	0	0	0	0
Foreign exchange	0	0	0	0	0	0	0	0	0	0
Other	2	0	0	0	2	3	0	0	0	3
Total fair value of quoted plan assets	1,566	1,110	503	99	3,278	1,312	1,307	496	111	3,226

¹ Allocation of equity exposure is broadly in line with the typical index in the respective market, e.g. the equity portfolio's benchmark of the UK retirement benefit plans is the MSCI All Countries World Index

² Investment-grade means BBB and above. Average credit rating exposure for the Group's main plans is around A

The following tables show the asset allocation of the “quoted” and “other” defined benefit plan assets by key geography in which they are invested.

	Dec 31, 2023						
in € m.	Germany	United Kingdom	United States	Other Eurozone	Other developed countries	Emerging markets	Total
Cash and cash equivalents	(20)	98	67	195	29	26	395
Equity instruments	21	52	921	325	179	40	1,538
Government bonds (investment-grade and above)	420	919	419	910	191	497	3,356
Government bonds (non-investment-grade)	0	1	0	2	0	106	109
Non-government bonds (investment-grade and above)	503	693	1,909	2,099	449	60	5,713
Non-government bonds (non-investment-grade)	5	67	29	330	3	1	435
Securitized and other Debt Investments	32	98	77	14	10	1	232
Subtotal	961	1,928	3,422	3,875	861	731	11,778
Share (in %)	8%	16%	29%	33%	7%	6%	100%
Other asset categories							4,740
Fair value of plan assets							16,518

	Dec 31, 2022						
in € m.	Germany	United Kingdom	United States	Other Eurozone	Other developed countries	Emerging markets	Total
Cash and cash equivalents	4	387	126	132	31	30	710
Equity instruments	29	43	881	327	172	62	1,514
Government bonds (investment-grade and above)	372	544	402	1,044	106	444	2,912
Government bonds (non-investment-grade)	0	1	0	0	2	92	95
Non-government bonds (investment-grade and above)	347	1,068	1,810	2,100	500	75	5,900
Non-government bonds (non-investment-grade)	16	104	23	327	7	3	480
Securitized and other Debt Investments	32	35	81	21	9	2	180
Subtotal	800	2,182	3,323	3,951	827	708	11,791
Share (in %)	7%	19%	28%	34%	7%	6%	100%
Other asset categories							4,286
Fair value of plan assets							16,077

Plan assets include derivative transactions with Group entities with an overall positive market value of around € 930 million at December 31, 2023 and € 1,250 million December 31, 2022, respectively. There is neither a material amount of securities issued by the Group nor other claims on Group assets included in the fair value of plan assets. The plan assets do not include any real estate which is used by the Group.

Key Risk Sensitivities

The Group's defined benefit obligations are sensitive to changes in capital market conditions and actuarial assumptions. Sensitivities to capital market movements and key assumption changes are presented in the following table. Each market risk factor or assumption is changed in isolation. Sensitivities of the defined benefit obligations are approximated using geometric extrapolation methods based on plan durations for the respective assumption. Duration is a risk measure that indicates the broad sensitivity of the obligations to a change in an underlying assumption and provides a reasonable approximation for small to moderate changes in those assumptions.

For example, the interest rate duration is derived from the change in the defined benefit obligation to a change in the interest rate based on information provided by the local actuaries of the respective plans. The resulting duration is used to estimate the remeasurement liability loss or gain from changes in the interest rate. For other assumptions, a similar approach is used to derive the respective sensitivity results.

For defined benefit pension plans, changes in capital market conditions will impact the plan obligations via actuarial assumptions (e.g. via the discount rate and price inflation rate) as well as the plan assets' fair value. Where the Group applies a liability driven investment approach or has insured part of the obligations as in the UK, the Group's overall risk exposure to such changes is reduced. To help readers gain a better understanding of the Group's risk exposures to key capital market movements, the net impact of the change in the defined benefit obligations and plan assets due to a change of the related market risk factor or underlying actuarial assumption is shown. Where changes in actuarial assumptions do not affect plan assets, only the impact on the defined benefit obligations is reported.

Asset-related sensitivities are derived for the Group's major plans by using risk sensitivity factors determined by the Group's Market Risk Management function. These sensitivities are calculated based on information provided by the plans' investment managers and extrapolated linearly to reflect the approximate change of the plan assets' market value in case of a change in the underlying risk factor.

The sensitivities illustrate plausible variations over time in capital market movements and key actuarial assumptions. The Group is not in a position to provide a view on the likelihood of these capital market or assumption changes. While these sensitivities illustrate the overall impact on the funded status of the changes shown, the significance of the impact and the range of reasonable possible alternative assumptions may differ between the different plans that comprise the aggregated results. Even though plan assets and plan obligations are sensitive to similar risk factors, actual changes in plan assets and obligations may not fully offset each other due to imperfect correlations between market risk factors and actuarial assumptions. Caution should be used when extrapolating these sensitivities due to non-linear effects that changes in capital market conditions and key actuarial assumptions may have on the overall funded status. Any management actions that may be taken to mitigate the inherent risks in the post-employment defined benefit plans are not reflected in these sensitivities.

in € m.	Dec 31, 2023				Dec 31, 2022			
	Germany	UK	U.S.	Other	Germany	UK	U.S.	Other
Interest rate (-50 bp):								
(Increase) in DBO	(575)	(230)	(25)	(40)	(570)	(225)	(25)	(35)
Expected increase in plan assets ¹	355	150	20	15	290	170	25	10
Expected net impact on funded status (de-) increase	(220)	(80)	(5)	(25)	(280)	(55)	0	(25)
Interest rate (+50 bp):								
Decrease in DBO	545	215	25	40	540	210	25	35
Expected (decrease) in plan assets ¹	(355)	(150)	(20)	(15)	(290)	(170)	(25)	(10)
Expected net impact on funded status (de-) increase	190	65	5	25	250	40	0	25
Credit spread (-50 bp):								
(Increase) in DBO	(575)	(230)	(50)	(45)	(570)	(225)	(55)	(40)
Expected increase in plan assets ¹	320	65	15	10	210	65	15	5
Expected net impact on funded status (de-) increase	(255)	(165)	(35)	(35)	(360)	(160)	(40)	(35)
Credit spread (+50 bp):								
Decrease in DBO	545	215	50	45	540	210	50	40
Expected (decrease) in plan assets ¹	(320)	(65)	(15)	(10)	(210)	(65)	(15)	(5)
Expected net impact on funded status (de-) increase	225	150	35	35	330	145	35	35
Rate of price inflation (-50 bp):²								
Decrease in DBO	300	150	10	10	305	140	10	10
Expected (decrease) in plan assets ¹	(275)	(95)	0	(5)	(285)	(115)	0	(5)
Expected net impact on funded status (de-) increase	25	55	10	5	20	25	10	5
Rate of price inflation (+50 bp):²								
(Increase) in DBO	(310)	(160)	(5)	(10)	(325)	(145)	(5)	(10)
Expected increase in plan assets ¹	275	95	0	5	285	115	0	5
Expected net impact on funded status (de-) increase	(35)	(65)	(5)	(5)	(40)	(30)	(5)	(5)
Rate of real increase in future compensation levels (-50 bp):								
Decrease in DBO, net impact on funded status	30	5	0	10	30	5	0	10
Rate of real increase in future compensation levels (+50 bp):								
(Increase) in DBO, net impact on funded status	(30)	(5)	0	(10)	(30)	(5)	0	(10)
Longevity improvements by 10%:³								
(Increase) in DBO, net impact on funded status	(225)	(60) ⁴	(20)	(10)	(215)	(60) ⁴	(20)	(10)

¹ Expected changes in the fair value of plan assets contain the simulated impact from the biggest plans in Germany, the UK, the U.S., Channel Islands, Switzerland and Belgium which cover over 98% of the total fair value of plan assets. The fair value of plan assets for other plans is assumed to be unchanged for this presentation

² Incorporates sensitivity to changes in pension benefits to the extent linked to the price inflation assumption

³ Estimated to be equivalent to an increase of around 1 year in overall life expectancy

⁴ Due to buy-in transaction the net impact on funded status reduces by € 40 million due to expected gains within the plan assets. The reduction was € 30 million for 2022

Expected cash flows

The following table shows expected cash flows for post-employment benefits in 2024, including contributions to the Group's external pension trusts in respect of funded plans, direct payment to beneficiaries in respect of unfunded plans, as well as contributions to defined contribution plans.

	2024	
in € m.		Total
Expected contributions to		
Defined benefit plan assets	185	
BVV	55	
Other defined contribution plans	265	
Expected benefit payments for unfunded defined benefit plans	25	
Expected total cash flow related to post-employment benefits	530	

Expense of employee benefits

The following table presents a breakdown of specific expenses according to the requirements of IAS 19 and IFRS 2.

in € m.	2023	2022	2021
Expenses for defined benefit plans:			
Service cost ¹	164	229	234
Net interest cost (income)	(45)	(10)	0
Total expenses defined benefit plans	119	219	234
Expenses for defined contribution plans:			
BVV	55	57	58
Other defined contribution plans	265	258	244
Total expenses for defined contribution plans	320	315	302
Total expenses for post-employment benefit plans	439	534	536
Employer contributions to state-mandated pension plans			
Pensions related payments social security in Germany	218	214	221
Contributions to pension fund for Postbank's postal civil servants	57	58	66
Further pension related state-mandated benefit plans	248	216	217
Total employer contributions to state-mandated benefit plans	523	488	504
Expenses for share-based payments:			
Expenses for share-based payments, equity settled ²	436	405	455
Expenses for share-based payments, cash settled ²	43	29	35
Expenses for cash retention plans²	448	418	398
Expenses for severance payments³	293	82	184

¹ Severance related items under Service Costs are reclassified to Expenses for Severance payments

² Including expenses for new hire awards and the acceleration of expenses not yet amortized due to the discontinuation of employment including those amounts which are recognized as part of the Group's restructuring expenses

³ Excluding the acceleration of expenses for deferred compensation awards not yet amortized. Severance related items under Service Costs were reclassified to Expense for Severance payments

34 – Income Taxes

Income tax expense/(benefit)

in € m.	2023	2022	2021
Current tax expense (benefit):			
Tax expense (benefit) for current year	1,284	919	847
Adjustments for prior years	56	(132)	14
Total current tax expense (benefit)	1,340	787	861
Deferred tax expense (benefit):			
Origination and reversal of temporary differences, unused tax losses and tax credits	442	424	65
Effect of changes in tax law and/or tax rate	7	(20)	(26)
Adjustments for prior years	(1,002)	(1,256)	(20)
Total deferred tax expense (benefit)	(553)	(852)	19
Total income tax expense (benefit)	787	(64)	880

Total deferred tax expense/(benefit) includes benefits from previously unrecognized tax losses (tax credits/deductible temporary differences) and the reversal of previous write-downs and expenses arising from write-downs of deferred tax assets. The deferred tax expense/(benefit) was positively impacted by € 1.1 billion in 2023, by € 1.4 billion in 2022 and by € 242 million in 2021.

The Global Minimum Taxation Rules or Pillar Two rules are applicable to Deutsche Bank starting in 2024, with Deutsche Bank AG as the ultimate parent. Deutsche Bank is required to annually calculate the global minimum tax or Pillar Two liability for group entities in close to 60 jurisdictions. However, temporary relief from the detailed Pillar Two calculations, which is determined on a jurisdiction by jurisdiction basis, may be available under transitional safe harbor provisions. These safe harbor provisions apply to tax years 2024-2026 and are based on the bank's country-by-country reports filed annually with the German tax authorities and certain other financial data. While uncertainties remain regarding the application of the Pillar Two rules, further legislative developments and interpretative guidance in many countries are expected over time, and implementation efforts are ongoing, Deutsche Bank has assessed the potential impact on its financial position for 2024 on a best effort basis. The assessment considered a number of qualitative and quantitative factors. For one, Deutsche Bank's blended statutory tax rate across all applicable jurisdictions on average ranges between 28% to 30%, which is significantly higher than the minimum tax rate of 15%. For example, in 2023 the blended statutory rate amounted to 30%. In addition, of the close to 60 countries, six countries apply a statutory tax rate of less than 15% to the bank's operations. Furthermore, based on an analysis of the most recently available country-by-country report, it is estimated that Deutsche Bank will qualify for relief under the transitional safe harbor provisions in most of the jurisdictions it operates in. As a result, Deutsche Bank estimates that it will not be subject to a material Pillar Two liability in 2024.

Difference between applying German statutory (domestic) income tax rate and actual income tax expense/(benefit)

in € m.	2023	2022	2021
Expected tax expense (benefit) at domestic income tax rate of 31.3% (31.3% for 2022 and 31.3% for 2021)	1,777	1,751	1,061
Foreign rate differential	(89)	(117)	(92)
Tax-exempt gains on securities and other income	(319)	(217)	(183)
Loss (income) on equity method investments	(0)	(12)	(11)
Nondeductible expenses	392	429	287
Impairments of goodwill	55	(0)	1
Changes in recognition and measurement of deferred tax assets ¹	(1,238)	(1,891)	(227)
Effect of changes in tax law and/or tax rate	7	(20)	(26)
Effect related to share-based payments	(0)	(5)	1
Other ¹	202	18	69
Actual income tax expense (benefit)	787	(64)	880

¹ Current and deferred tax expense/(benefit) relating to prior years are mainly reflected in the line items "Changes in recognition and measurement of deferred tax assets" and "Other".

The domestic income tax rate, including corporate tax, solidarity surcharge, and trade tax, used for calculating deferred tax assets and liabilities was 31.3% for 2023, 2022 and 2021.

Changes in recognition and measurement of deferred tax assets in 2022 and 2021 mainly included the effect of the recognition of previously unrecognized deferred tax assets in the U.S. and in 2023 mainly in the UK. In determining the amount of deferred tax assets, the Group uses historical tax capacity and profitability information and, if relevant, forecasted operating results based upon approved business plans, including a review of the eligible carry-forward periods, available tax planning opportunities and other relevant considerations.

The Group is under continuous examinations by tax authorities in various jurisdictions. "Other" in the preceding table includes the effects of these examinations by the tax authorities.

Income taxes credited or charged to equity (other comprehensive income/additional paid in capital)

in € m.	2023	2022	2021
Actuarial gains (losses) related to defined benefit plans	137	(642)	(207)
Net fair value gains (losses) attributable to credit risk related to financial liabilities designated as at fair value through profit or loss	18	(25)	5
Financial assets mandatory at fair value through other comprehensive income:			
Unrealized net gains (losses) arising during the period	109	254	109
Realized net gains (losses) arising during the period (reclassified to profit or loss)	1	(61)	68
Derivatives hedging variability of cash flows:			
Unrealized net gains (losses) arising during the period	(132)	229	(2)
Net gains (losses) reclassified to profit or loss	(110)	(18)	15
Other equity movement:			
Unrealized net gains (losses) arising during the period	151	192	88
Net gains (losses) reclassified to profit or loss	0	0	7
Income taxes credited (charged) to other comprehensive income	174	(71)	83
Other income taxes credited (charged) to equity	50	25	45

Major components of the Group's gross deferred tax assets and liabilities

in € m.	Dec 31, 2023	Dec 31, 2022
Deferred tax assets:		
Unused tax losses	4,747	3,946
Unused tax credits	23	2
Deductible temporary differences:		
Trading activities, including derivatives	4,723	8,157
Employee benefits, including equity settled share based payments	1,828	1,653
Accrued interest expense	999	1,367
Loans and borrowings, including allowance for loans	949	791
Leases	855	865
Intangible Assets	80	43
Fair value OCI (IFRS 9)	332	387
Other assets	485	630
Other provisions	88	81
Other liabilities	6	1
Total deferred tax assets pre offsetting	15,115	17,923
Deferred tax liabilities:		
Taxable temporary differences:		
Trading activities, including derivatives	5,061	8,561
Employee benefits, including equity settled share based payments	291	245
Loans and borrowings, including allowance for loans	617	549
Leases	758	780
Intangible Assets	717	594
Fair value OCI (IFRS 9)	43	70
Other assets	272	371
Other provisions	89	85
Other liabilities	40	46
Total deferred tax liabilities pre offsetting	7,888	11,301

In August 2022, the U.S. enacted the corporate alternative minimum tax (CAMT). The CAMT is generally imposed at a rate of 15% on profits before tax. The CAMT is not expected to increase the bank's overall tax burden but may accelerate tax payments. The bank is subject to the CAMT rules starting in 2023. Deferred tax assets on unused tax credits in the preceding table include corporate alternative minimum tax credits of € 10 million as of December 31, 2023.

Deferred tax assets and liabilities, after offsetting

in € m.	Dec 31, 2023	Dec 31, 2022
Presented as deferred tax assets	7,773	7,272
Presented as deferred tax liabilities	546	650
Net deferred tax assets	7,227	6,622

The change in the balance of deferred tax assets and deferred tax liabilities might not equal the deferred tax expense/(benefit). In general, this is due to (1) deferred taxes that are booked directly to equity, (2) the effects of exchange rate changes on tax assets and liabilities denominated in currencies other than euro, (3) the acquisition and disposal of entities as part of ordinary activities and (4) the reclassification of deferred tax assets and liabilities which are presented otherwise on the face of the balance sheet as components of other assets and liabilities.

Items for which no deferred tax assets were recognized

in € m.

	Dec 31, 2023 ¹	Dec 31, 2022 ¹
Deductible temporary differences	(36)	(773)
Not expiring	(5,119)	(9,462)
Expiring in subsequent period	(28)	(0)
Expiring after subsequent period	(55)	(471)
Unused tax losses	(5,202)	(9,933)
Expiring after subsequent period	0	(0)
Unused tax credits	(1)	(1)

¹ Amounts in the table refer to deductible temporary differences, unused tax losses and tax credits for federal income tax purposes

Deferred tax assets were not recognized on these items because it is not probable that future taxable profit will be available against which the unused tax losses, unused tax credits and deductible temporary differences can be utilized.

As of December 31, 2023 and December 31, 2022, the Group recognized deferred tax assets of € 6.0 billion and € 2.5 billion, respectively, that exceeded deferred tax liabilities in entities which have suffered a tax loss in either the current or preceding period. This is based on management's assessment that it is probable that the respective entities will have taxable profits against which the unused tax losses, unused tax credits and deductible temporary differences can be utilized. In determining the amounts of deferred tax assets to be recognized, management uses historical profitability information and, if relevant, forecasted operating results, based upon approved business plans, including a review of the eligible carry-forward periods, tax planning opportunities and other relevant considerations.

As of December 31, 2023 and December 31, 2022, the Group had temporary differences associated with the Group's parent company's investments in subsidiaries, branches and associates and interests in joint ventures of € 349 million and € 244 million respectively, in respect of which no deferred tax liabilities were recognized.

35 – Derivatives

Derivative financial instruments and hedging activities

Derivative contracts used by the Group include swaps, futures, forwards, options and other similar types of contracts. In the normal course of business, the Group enters into a variety of derivative transactions for sales, market-making and risk management purposes. The Group's objectives in using derivative instruments are to meet customers' risk management needs and to manage the Group's exposure to risks.

In accordance with the Group's accounting policy relating to derivatives and hedge accounting as described in Note 1 "Material Accounting Policies and Critical Accounting Estimates", all derivatives are carried at fair value in the balance sheet regardless of whether they are held for trading or non-trading purposes.

Derivatives held for sales and market-making purposes

Sales and market-making

The majority of the Group's derivatives transactions relate to sales and market-making activities. Sales activities include the structuring and marketing of derivative products to customers to enable them to take, transfer, modify or reduce current or expected risks. Market-making involves quoting bid and offer prices to other market participants, enabling revenue to be generated based on spreads and volume.

Risk management

The Group uses derivatives in order to reduce its exposure to market risks as part of its asset and liability management. This is achieved by entering into derivatives that hedge specific portfolios of fixed rate financial instruments and forecast transactions as well as strategic hedging against overall balance sheet exposures. The Group actively manages interest rate risk through, among other things, the use of derivative contracts. Utilization of derivative financial instruments is modified from time to time within prescribed limits in response to changing market conditions, as well as to changes in the characteristics and mix of the related assets and liabilities.

Derivatives qualifying for hedge accounting

The Group applies hedge accounting if derivatives meet the specific criteria described in Note 1 "Material Accounting Policies and Critical Accounting Estimates".

In fair value hedge relationship, the Group uses primarily interest rate swaps and options, in order to protect itself against movements in the fair value of fixed-rate financial instruments due to movements in market interest rates. In a cash flow hedge relationship, the Group uses interest rate swaps in order to protect itself against exposure to variability in interest rates. The Group enters into foreign exchange forwards and swaps for hedges of translation adjustments resulting from translating the financial statements of net investments in foreign operations into the reporting currency of the parent at period end spot rates.

Interest rate risk

The Group uses interest rate swaps and options to manage its exposure to interest rate risk by modifying the re-pricing characteristics of existing and/or forecasted assets and liabilities, including funding and investment activities. The interest rate swaps and options are designated in either a fair value hedge or a cash flow hedge. For fair value hedges, the Group uses interest rate swaps and options contracts to manage the fair value movements of fixed rate financial instruments due to changes in benchmark interest. For cash flow hedges, we use interest rate swaps to manage the exposure to cash flow variability of our variable rate instruments as a result of changes in benchmark interest rates.

The Group manages its interest rate risk exposure on a portfolio basis with frequent changes in the portfolio due to the origination of new loans and bonds, repayments of existing loans and bonds, issuance of new funding liabilities and repayment of existing funding liabilities. Accordingly, a dynamic hedging accounting approach is adopted for the portfolio, in which individual hedge relationships are designated and de-designated on a more frequent basis (e.g. on a monthly basis).

The Group assesses and measures hedge effectiveness of a hedging relationship based on the change in the fair value or cash flows of the derivative hedging instrument relative to the change in the fair value or cash flows of the hedged item attributable to the hedged risk. Potential sources of ineffectiveness can be attributed to differences between hedging instruments and hedged items:

- Mismatches in the terms of hedged items and hedging instruments, for example the frequency and timing of when interest rates are reset, frequency of payment and callable features.
- Difference in the discounting rate applied to the hedged item and the hedging instrument, taking into consideration differences in the reset frequency of the hedged item and hedging instrument.
- Derivatives used as hedging instrument with a non-zero fair value at inception date of the hedging relationship, resulting in mismatch in terms with the hedged item.

The Group's portfolio fair value hedging relationships include hedges of well-collateralized German fixed rate mortgages portfolios where the Group maintains headroom to avoid any hedge ineffectiveness that may arise from an increase in the default risk of the underlying mortgage portfolio. This also applies to the Group's portfolio fair value hedge relationships that include non-maturing deposits that the Group's customers may withdraw on demand. The stable nature of the Group's deposit volume (refer to Note 26) as well as a headroom means that Group has not observed any hedge ineffectiveness from the hedge accounting application. In the current year, the Group partly discontinued its macro cash flow program that includes a portfolio of corporate variable yielding loans as hedged item. This discontinuation was triggered by a rebalancing of the Group's hedge accounting designations and the Group has not recorded any hedge ineffectiveness due to an increase in counterparty defaults or unexpected pre-payments in the corporate loan portfolio.

Foreign exchange risk

The Group manages its foreign currency risk (including U.S. dollar and British pound) from investments in foreign operation through net investment hedges using rolling foreign exchange forward strategy. In addition, the Group applies cash flow hedge accounting for specific foreign denominated highly probable cash flows using foreign exchange forward instruments as hedging instruments.

As the investments in foreign operations are only hedged to the extent of the notional amount of the hedging derivative instrument the Group generally does not expect to incur significant ineffectiveness on hedges of net investments in foreign operations. Potential sources of ineffectiveness are limited to situations where derivatives with a non-zero fair value at inception date of the hedging relationship are used as hedging instrument, or where the spot foreign currency risk has been designated as hedged risk, resulting in mismatch in terms with the hedged item. Similarly, for cash flow hedge accounting applications the foreign exchange forward instruments generally match the terms of the underlying highly probable transactions such that the Group does not expect to incur significant ineffectiveness in such hedge relationships.

Hedge Accounting and Interest Rate Benchmarks

The table below shows the Group's hedge accounting relationships impacted by the IASB Benchmark Reform amendments, the significant interest rate benchmarks the Group is exposed to which are subject to expected future reform, and the nominal amounts of the derivative hedging instruments as at December 31, 2023 and December 31, 2022. As at December 31, 2023 and as at December 31, 2022, there were no hedge relationships with hedging instruments, hedged items or the hedged risk being an IBOR benchmark which ceased to be quoted in early 2022. The derivative hedging instruments provide a close approximation to the extent of the risk exposure the Group manages through hedge accounting relationships.

	Dec 31, 2023	Dec 31, 2022
	Notional	Notional
in € m.		
Fair value hedge		
CHF LIBOR	0	0
GBP LIBOR	0	0
JPY LIBOR	0	0
USD LIBOR	0	12,281

Fair value hedge accounting

Derivatives held as fair value hedges

Financial instruments designated in fair value hedges

					Dec 31, 2023	2023	
	Carrying amount of Financial instruments designated as fair value hedges		Accumulated amount of fair value hedge adjustments - Total		Accumulated amount of fair value hedge adjustments - Terminated hedge relationships		Fair Value changes used for hedge effectiveness
in € m.	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	
Financial assets at fair value through other comprehensive income	16,967	0	(1,314)	0	49	0	640
Bonds at amortized cost	361	0	(12)	0	(23)	0	25
Long-term debt	0	71,769	0	(3,936)	0	(184)	(2,274)
Deposits	0	125,702	0	(3,066)	0	(479)	(4,061)
Loans at amortized cost	15,135	0	(5,649)	0	0	0	1,131

					Dec 31, 2022	2022	
	Carrying amount of Financial instruments designated as fair value hedges		Accumulated amount of fair value hedge adjustments - Total		Accumulated amount of fair value hedge adjustments - Terminated hedge relationships		Fair Value changes used for hedge effectiveness
in € m.	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	
Financial assets at fair value through other comprehensive income	14,823	0	(2,311)	0	(21)	0	(2,607)
Bonds at amortized cost	336	0	(37)	0	0	0	(37)
Long-term debt	0	68,596	0	(6,606)	0	(164)	8,444
Deposits	0	135,231	0	(7,727)	0	0	7,507
Loans at amortized cost	35,957	0	(6,559)	0	0	0	(6,958)

Cash flow hedge accounting

Derivatives held as cash flow hedges

	Dec 31, 2023		2023	Dec 31, 2022		2022		
in € m.	Assets	Liabilities	Nominal amount	Fair Value changes used for hedge effectiveness	Assets	Liabilities	Nominal amount	Fair Value changes used for hedge effectiveness
Derivatives held as cash flow hedges	416	228	111,462	537	6	1,219	47,976	(802)

Cash flow hedge balances

in € m.	Dec 31, 2023	Dec 31, 2022	Dec 31, 2021
Reported in Equity ¹	44	(790)	(42)
thereof relates to terminated programs	0	0	0
Gains (losses) posted to equity for the year ended	436	(819)	1
Gains (losses) removed from equity for the year ended	398	71	(54)
thereof relates to terminated programs	0	0	0
Changes of hedged item's value used for hedge effectiveness	434	(899)	66
Ineffectiveness recorded within P&L	101	16	25

¹ Reported in equity refers to accumulated other comprehensive income as presented in the Consolidated Balance Sheet.

In accordance with IAS 39.96 the gains and losses posted to equity in a cash flow hedge relationship is the lesser of cumulative gain or loss on the hedging instrument from the inception of the hedge and the cumulative change in fair value of the expected future cash flows on the hedged item from inception of the hedge. As a result, changes of the hedged item's value used for hedge effectiveness are not fully recorded in equity if it exceeds the hedging instrument's fair value changes used for hedge effectiveness. Consequently, hedge ineffectiveness recorded within P&L does not always reconcile to the difference between the changes of the hedged item's value used for hedge effectiveness and the hedging instrument's fair value changes used for hedge effectiveness.

As of December 31, 2023 the longest term cash flow hedge matures in 2035.

The financial instruments designated as cash flow hedges are recognized as Loans at amortized cost in the Group's Consolidated Balance Sheet.

Net investment hedge accounting

Derivatives held as net investment hedges

	Dec 31, 2023			2023			Dec 31, 2022			2022	
in € m.	Assets	Liabilities	Nominal amount	Fair Value changes used for hedge effectiveness		Assets	Liabilities	Nominal amount	Fair Value changes used for hedge effectiveness		
Derivatives held as net investment hedges	736	157	42,751	317		1,044	513	45,749	(2,539)		

	2023		2022	
	Fair value changes recognized in Equity ¹	Hedge ineffectiveness	Fair value changes recognized in Equity ¹	Hedge ineffectiveness
in € m.				
Result of net investment hedges	(169)	(138)	2,410	(329)

¹ Reported in equity refers to accumulated other comprehensive income as presented in the Consolidated Balance Sheet.

Profile of derivatives held as net investment hedges

in € m.	Within 1 year	1–3 years	3–5 years	Over 5 years
As of December 31, 2023				
Nominal amount Foreign exchange forwards	33,347	85	18	0
Nominal amount Foreign exchange swaps	8,683	579	39	0
Total	42,030	664	57	0
As of December 31, 2022				
Nominal amount Foreign exchange forwards	34,664	229	21	0
Nominal amount Foreign exchange swaps	10,776	59	0	0
Total	45,440	288	21	0

The Group uses a foreign exchange forward strategy. As indicated in the above table, the vast majority of forward contracts mature within the year. The Group did not calculate an average foreign currency rate because the amount of contracts that mature after 1 year are not material.

36 – Related Party Transactions

Parties are considered to be related if one party has the ability to directly or indirectly control the other party or exercise significant influence over the other party in making financial or operational decisions. The Group's related parties include:

- Key management personnel including close family members and entities which are controlled, significantly influenced by, or for which significant voting power is held by key management personnel or their close family members
- Subsidiaries, joint ventures and associates and their respective subsidiaries
- Post-employment benefit plans for the benefit of Deutsche Bank employees

Transactions with Key Management Personnel

Key management personnel are those persons having authority and responsibility for planning, directing, and controlling the activities of Deutsche Bank, directly or indirectly. The Group considers the members of the Management Board and of the Supervisory Board of the parent company to constitute key management personnel for purposes of IAS 24.

Compensation expense of key management personnel

in € m.	2023	2022	2021
Short-term employee benefits	37	37	36
Post-employment benefits	7	5	7
Other long-term benefits	17	15	10
Termination benefits	0	2	6
Share-based payment	18	17	15
Total	79	76	74

The above table does not contain compensation that employee representatives and former board members on the Supervisory Board have received. The aggregated compensation paid to such members for their services as employees of Deutsche Bank or status as former employees (retirement, pension and deferred compensation) amounted to € 1 million as of December 31, 2023, € 1 million as of December 31, 2022 and € 1 million as of December 31, 2021.

Among the Group's transactions with key management personnel as of December 31, 2023, were loans and commitments of € 1 million and deposits of € 16 million. As of December 31, 2022, the Group's transactions with key management personnel were loans and commitments of € 5 million and deposits of € 8 million.

In addition, the Group provides banking services, such as payment and account services as well as investment advice, to key management personnel.

Transactions with Subsidiaries, Joint Ventures and Associates

Transactions between Deutsche Bank AG and its subsidiaries meet the definition of related party transactions. If these transactions are eliminated on consolidation, they are not disclosed as related party transactions. Transactions between the Group and its associated companies and joint ventures and their respective subsidiaries also qualify as related party transactions.

Transactions for subsidiaries, joint ventures and associates are presented combined in below table as these are not material individually.

Loans

in € m.	2023	2022
Loans outstanding, beginning of year	119	153
Net movement in loans during the period	(98)	(34)
Changes in the group of consolidated companies	0	0
Exchange rate changes/other	23	0
Loans outstanding, end of year¹	44	119
Other credit risk related transactions:		
Allowance for loan losses	1	0
Provision for loan losses	0	0
Guarantees and commitments	1	5

¹ Loans past due were € 0 million as of December 31, 2023 and € 0 million as of December 31, 2022. For the total loans the Group held collateral of € 0 million and € 0 million as of December 31, 2023 and December 31, 2022, respectively

Deposits

in € m.	2023	2022
Deposits outstanding, beginning of year	31	63
Net movement in deposits during the period	2	(32)
Changes in the group of consolidated companies	0	0
Exchange rate changes/other	0	0
Deposits outstanding, end of year	33	31

Other Transactions

Trading assets and positive market values from derivative financial transactions with associated companies amounted to € 11 million as of December 31, 2023, and € 3 million as of December 31, 2022. Trading liabilities and negative market values from derivative financial transactions with associated companies amounted to € 0 million as of December 31, 2023, and € 0 million as of December 31, 2022.

Other assets related to transactions with associated companies amounted to € 2 million as of December 31, 2023, and € 33 million as of December 31, 2022. Other liabilities related to transactions with associated companies were € 7 million as of December 31, 2023, and € 3 million as of December 31, 2022.

Transactions with Pension Plans

Under IFRS, post-employment benefit plans are considered related parties. The Group has business relationships with a number of its pension plans pursuant to which it provides financial services to these plans, including investment management services. The Group's pension funds may hold or trade Deutsche Bank shares or securities.

Transactions with related party pension plans

in € m.	2023	2022
Equity shares issued by the Group held in plan assets	0	0
Other assets	1	5
Fees paid from plan assets to asset managers of the Group	21	20
Market value of derivatives with a counterparty of the Group	698	1,389
Notional amount of derivatives with a counterparty of the Group	8,146	12,888

37 – Information on Subsidiaries

Composition of the Group

Deutsche Bank AG is the direct or indirect holding company for the Group's subsidiaries.

The Group consists of 520 (2022: 521) consolidated entities, thereof 212 (2022: 200) consolidated structured entities. 346 (2022: 362) of the entities controlled by the Group are directly or indirectly held by the Group at 100% of the ownership interests (share of capital). Third parties also hold ownership interests in 174 (2022: 159) of the consolidated entities (noncontrolling interests). As of December 31, 2023, and 2022, one subsidiary has material noncontrolling interests. Noncontrolling interests for all other subsidiaries are neither individually nor cumulatively material to the Group.

Subsidiaries with material noncontrolling interests

	Dec 31, 2023	Dec 31, 2022
DWS Group GmbH & Co. KGaA		
Proportion of ownership interests and voting rights held by noncontrolling interests	20.51%	20.51%
Place of business	Global	Global
in € m	Dec 31, 2023	Dec 31, 2022
Net income attributable to noncontrolling interests	117	119
Accumulated noncontrolling interests of the subsidiary	1,620	1,622
Dividends paid to noncontrolling interests	84	82
Summarized financial information:		
Total assets	11,683	11,396
Total liabilities	3,852	3,566
Total net revenues	2,614	2,712
Net income (loss)	567	599
Total comprehensive income (loss), net of tax	424	783

Significant restrictions to access or use the Group's assets

Statutory, contractual or regulatory requirements as well as protective rights of noncontrolling interests might restrict the ability of the Group to access and transfer assets freely to or from other entities within the Group and to settle liabilities of the Group.

The following contractual restrictions impact the Group's ability to use assets and the table below reflects the volume of those restricted assets:

- The Group has pledged assets to collateralize its obligations under repurchase agreements, securities financing transactions, collateralized loan obligations and for margining purposes for OTC derivative liabilities
- The assets of consolidated structured entities are held for the benefit of the parties that have bought the notes issued by these entities

Restricted assets

	Dec 31, 2023	Dec 31, 2022
	Total assets	Restricted assets
in € m.		
Interest-earning deposits with banks	163,454	41
Financial assets at fair value through profit or loss	465,252	58,452
Financial assets at fair value through other comprehensive income	35,546	7,655
Loans at amortized cost	473,705	54,372
Other	174,374	8,861
Total	1,312,331	129,381
	1,336,788	120,317

In addition to the above and in line with the regulation on Liquidity Coverage Ratio (LCR) (Commission Delegated Regulation (EU) 2015/61), the Group identifies if assets held in third country are subject to restrictions to their free transferability. The Group, identifies the volume of High Quality Liquid Assets (HQLA) in excess of net cash outflows held in the third countries which are not freely transferable and excludes them from the HQLA. The aggregated amount of such HQLA that are held at entities in third countries and considered restricted is € 13.3 billion as of December 31, 2023 (€ 21.8 billion as of December 31, 2022). During 2023, the Group has transitioned its risk appetite from liquidity reserves to HQLA.

38 – Structured entities

Nature, purpose and extent of the Group's interests in structured entities

The Group engages in various business activities with structured entities which are designed to achieve a specific business purpose. A structured entity is one that has been set up so that any voting rights or similar rights are not the dominant factor in deciding who controls the entity. An example is when voting rights relate only to administrative tasks and the relevant activities are directed by contractual arrangements.

A structured entity often has some or all of the following features or attributes:

- Restricted activities
- A narrow and well-defined objective
- Insufficient equity to permit the structured entity to finance its activities without subordinated financial support
- Financing in the form of multiple contractually linked instruments to investors that create concentrations of credit or other risks (tranches)

The principal uses of structured entities are to provide clients with access to specific portfolios of assets and to provide market liquidity for clients through securitizing financial assets. Structured entities may be established as corporations, trusts or partnerships. Structured entities generally finance the purchase of assets by issuing debt and equity securities that are collateralized by and/or indexed to the assets held by the structured entities. The debt and equity securities issued by structured entities may include tranches with varying levels of subordination.

Structured entities are consolidated when the substance of the relationship between the Group and the structured entities indicate that the structured entities are controlled by the Group, as discussed in Note 1 "Material Accounting Policies and Critical Accounting Estimates".

Consolidated structured entities

The Group has contractual arrangements which may require it to provide financial support to the following types of consolidated structured entities.

Securitization vehicles

The Group uses securitization vehicles for funding purchase of diversified pool of assets. The Group provides financial support to these entities in the form of liquidity facility. As of December 31, 2023, and December 31, 2022, there were no outstanding loan commitments to these entities.

Funds

The Group may provide funding and liquidity facility or guarantees to funds consolidated by the group. As of December 31, 2023 and December 31, 2022, the notional value of the liquidity facilities and guarantees provided by the Group to such funds was € 1.1 billion and € 1.1 billion, respectively.

Deutsche Bank did not provide non-contractual support during the year to consolidated structured entities.

Unconsolidated structured entities

These are entities which are not consolidated because the Group does not control them through voting rights, contract, funding agreements, or other means. The extent of the Group's interests in unconsolidated structured entities will vary depending on the type of structured entities.

Below is a description of the Group's involvements in unconsolidated structured entities by type.

Repackaging and investment entities

Repackaging and investment entities are established to meet clients' investment needs through the combination of securities and derivatives. These entities are not consolidated by the Group because the Group does not have power to influence the returns obtained from the entities. These entities are usually set up to provide a certain investment return pre-agreed with the investor, and the Group is not able to change the investment strategy or return during the life of the transaction.

Third party funding entities

The Group provides funding to structured entities that hold a variety of assets. These entities may take the form of funding entities, trusts and private investment companies. The funding is collateralized by the asset in the structured entities. The group's involvement involves predominantly both lending and loan commitments.

The vehicles used in these transactions are controlled by the borrowers where the borrowers have the ability to decide whether to post additional margin or collateral in respect of the financing. In such cases, where borrowers can decide to continue or terminate the financing, the borrowers will consolidate the vehicle.

Securitization Vehicles

The Group establishes securitization vehicles which purchase diversified pools of assets, including fixed income securities, corporate loans, and asset-backed securities (predominantly commercial and residential mortgage-backed securities and credit card receivables). The vehicles fund these purchases by issuing multiple tranches of debt and equity securities, the repayment of which is linked to the performance of the assets in the vehicles.

The Group may transfer assets to these securitization vehicles and provides financial support to these entities in the form of liquidity facilities. The Group also invests and provides liquidity facilities to third party sponsored securitization vehicles. The securitization vehicles that are not consolidated into the Group are those where the Group does not hold the power or ability to unilaterally remove the servicer or special servicer who has been delegated power over the activities of the entity.

Funds

The Group establishes structured entities to accommodate client requirements to hold investments in specific assets. The Group also invests in funds that are sponsored by third parties or the bank may act as fund manager, custodian or some other capacity and provide funding and liquidity facilities to both bank sponsored and third party funds. The funding provided is collateralized by the underlying assets held by the fund.

The Group does not consolidate funds when Deutsche Bank is deemed agent or when another third party investor has the ability to direct the activities of the fund.

Other

These are Deutsche Bank sponsored or third party structured entities that do not fall into any criteria above. These entities are not consolidated by the Group when the bank does not hold power over the decision making of these entities.

Income derived from involvement with structured entities

The Group earns management fees and, occasionally, performance-based fees for its investment management service in relation to funds. Interest income is recognized on the funding provided to structured entities. Any trading revenue as a result of derivatives with structured entities and from the movements in the value of notes held in these entities is recognized in 'Net gains/losses on financial assets/liabilities held at fair value through profit and loss.'

Interests in unconsolidated structured entities

The Group's interests in unconsolidated structured entities refer to contractual and non-contractual involvement that exposes the bank to variability of returns from the performance of the structured entities. Examples of interests in unconsolidated structured entities include debt or equity investments, liquidity facilities, guarantees and certain derivative instruments in which the Group is absorbing variability of returns from the structured entities.

Interests in unconsolidated structured entities exclude instruments which introduce variability of returns into the structured entities. For example, when the bank purchases credit protection from an unconsolidated structured entity whose purpose and design is to pass through credit risk to investors, the bank is providing the variability of returns to the entity rather than absorbing variability. The purchased credit protection is therefore not considered as an interest for the purpose of the table below.

Maximum exposure to unconsolidated structured entities

The maximum exposure to loss is determined by considering the nature of the interest in the unconsolidated structured entity. The maximum exposure for loans and trading instruments is reflected by their carrying amounts in the consolidated balance sheet. The maximum exposure for derivatives and off-balance sheet commitments such as guarantees, liquidity facilities and loan commitments under IFRS 12, as interpreted by Deutsche Bank, is reflected by the notional amounts. Such amounts or its development do not reflect the economic risks faced by the Group because it does not take into account the effects of collateral or hedges, nor the probability of such losses being incurred. At December 31, 2023, the notional related to the positive and negative replacement values of derivatives and off balance sheet commitments were € 117 billion, € 315 billion and € 26 billion respectively. At December 31, 2022, the notional related to the positive and negative replacement values of derivatives and off balance sheet commitments were € 457 billion, € 397 billion and € 28 billion respectively.

Size of structured entities

The Group provides a different measure for size of structured entities depending on their type. The following measures have been considered as appropriate indicators for evaluating the size of structured entities:

- Funds – Net asset value or assets under management where the bank holds fund units and notional of derivatives when the bank's interest comprises of derivatives
- Securitizations – notional of notes in issue (excluding interest only and excess notes where applicable) when the Group derives its interests through notes it holds and notional of derivatives when the bank's interests is in the form of derivatives
- Third party funding entities –Total assets in entities
- Repackaging and investment entities – Fair value of notes in issue

For third party funding entities, size information is not publicly available, therefore the Group has disclosed the greater of the collateral received/pledged or the notional of the exposure the bank has to the entity.

Based on the above definitions, the total size of structured entities is € 2,329 billion, of which the majority of € 1,223 billion is from Funds. In 2022, it was € 2,723 billion and € 1,138 billion respectively.

The following table shows, by type of structured entity, the carrying amounts of the Group's interests recognized in the consolidated statement of financial position as well as the maximum exposure to loss resulting from these interests. The carrying amounts presented below do not reflect the true variability of returns faced by the Group because they do not take into account the effects of collateral or hedges.

Carrying amounts and size relating to Deutsche Bank's interests

	Dec 31, 2023				
in € m.	Repackaging and Investment Entities	Third Party Funding Entities	Securitizations	Funds	Total
Assets					
Cash and central bank balances	0	0	0	0	0
Interbank balances (w/o central banks)	1	0	0	9	11
Central bank funds sold and securities purchased under resale agreements	0	373	209	3,482	4,064
Securities Borrowed	0	0	0	0	0
Total financial assets at fair value through profit or loss	237	4,137	3,372	53,909	61,654
Trading assets	193	2,663	2,750	3,302	8,908
Positive market values (derivative financial instruments)	44	450	6	3,272	3,772
Non-trading financial assets mandatory at fair value through profit or loss	0	1,024	615	47,335	48,974
Financial assets designated at fair value through profit or loss	0	0	0	0	0
Financial assets at fair value through other comprehensive income	0	893	330	264	1,487
Loans at amortized cost	233	66,033	31,002	19,433	116,701
Other assets	1	677	3,406	10,581	14,665
Total assets	472	72,112	38,319	87,679	198,582
Liabilities					
Total financial liabilities at fair value through profit or loss	43	51	71	5,098	5,264
Negative market values (derivative financial instruments)	43	51	71	5,098	5,264
Other short-term borrowings	0	0	0	0	0
Other liabilities	0	0	0	0	0
Total liabilities	43	51	71	5,098	5,264
Off-balance sheet exposure	0	8,737	10,720	6,386	25,843
Total	429	80,798	48,967	88,967	219,162

	Dec 31, 2022				
in € m.	Rearranging and Investment Entities	Third Party Funding Entities	Securitizations	Funds	Total
Assets					
Cash and central bank balances	0	0	0	0	0
Interbank balances (w/o central banks)	1	0	319	7	327
Central bank funds sold and securities purchased under resale agreements	0	0	87	2,404	2,491
Securities Borrowed	0	0	0	0	0
Total financial assets at fair value through profit or loss	195	8,675	4,956	46,695	60,520
Trading assets	145	2,910	3,159	3,660	9,874
Positive market values (derivative financial instruments)	34	4,224	863	5,458	10,580
Non-trading financial assets mandatory at fair value through profit or loss	16	1,541	933	37,577	40,067
Financial assets designated at fair value through profit or loss	0	0	0	0	0
Financial assets at fair value through other comprehensive income	0	830	298	404	1,532
Loans at amortized cost	212	68,398	31,077	18,896	118,583
Other assets	0	956	3,293	10,405	14,654
Total assets	408	78,859	40,030	78,810	198,107
Liabilities					
Total financial liabilities at fair value through profit or loss	51	1,251	438	5,021	6,761
Negative market values (derivative financial instruments)	51	1,251	438	5,021	6,761
Other short-term borrowings	0	0	0	0	0
Other liabilities	0	0	0	0	0
Total liabilities	51	1,251	438	5,021	6,761
Off-balance sheet exposure	0	10,644	11,045	6,747	28,437
Total	357	88,252	50,637	80,536	219,782

Total trading assets as of December 31, 2023 and December 31, 2022 of € 8.9 billion and € 9.9 billion are comprised primarily of € 2.8 billion and € 3.2 billion in securitizations and € 3.3 billion and € 3.7 billion in funds structured entities respectively. The Group's interests in securitizations are collateralized by the assets contained in these entities. Where the Group holds fund units these are typically in regard to market making in funds or otherwise serve as hedges for notes issued to clients. Moreover, the credit risk arising from loans made to third party funding structured entities is mitigated by the collateral received.

Non-trading financial assets mandatory at fair value through profit or loss includes reverse repurchase agreements to funds which comprise the majority of the interests in this category and are collateralized by the underlying securities.

Loans as of December 31, 2023, and December 31, 2022, consist of € 116.7 billion and € 118.6 billion investment in securitization tranches and financing to third party funding entities. The Group's financing to third party funding entities is collateralized by the assets in those structured entities.

Other assets as of December 31, 2023, and December 31, 2022, of € 14.7 billion and € 14.7 billion, respectively, consist primarily of cash margin balances.

Pending Receivable balances are not included in this disclosure note due to the fact that these balances arise from typical customer supplier relationships out of e.g., brokerage type activities and their inherent volatility would not provide users of the financial statements with effective information about Deutsche Bank's exposures to structured entities.

Financial support

Deutsche Bank did not provide non-contractual support during the year to unconsolidated structured entities.

Sponsored unconsolidated structured entities where the Group has no interest as of December 31, 2023, and December 31, 2022.

As a sponsor, Deutsche Bank is involved in the legal set up and marketing of the entity and supports the entity in different ways, namely:

- Transferring assets to the entities
- Providing seed capital to the entities
- Providing operational support to ensure the entity's continued operation
- Providing guarantees of performance to the structured entities.

The bank is also deemed a sponsor for a structured entity if market participants would reasonably associate the entity with Deutsche Bank. Additionally, the use of the Deutsche Bank name for the structured entity indicates that the bank has acted as a sponsor.

The gross revenues from sponsored entities where the bank did not hold an interest as of December 31, 2023, and December 31, 2022, were € 38 million and € 226 million respectively. Instances where the bank does not hold an interest in an unconsolidated sponsored structured entity include cases where any seed capital or funding to the structured entity has already been repaid in full to the Group during the year. This amount does not take into account the impacts of hedges and is recognized in Net gains/losses on financial assets/liabilities at fair value through profit and loss. The aggregated carrying amounts of assets transferred to sponsored unconsolidated structured entities in 2023 were € 1.7 billion for securitization and € 1.9 billion for repackaging and investment entities. In 2022, they were € 3.4 billion for securitization and € 1.2 billion for repackaging and investment entities.

39 – Current and non-current assets and liabilities

Asset and liability line items by amounts recovered or settled within or after one year

Asset items as of December 31, 2023

in € m.	Amounts to be recovered or settled		Total Dec 31, 2023
	within one year	after one year	
Cash and central bank balances	178,416	0	178,416
Interbank balances (w/o central banks)	5,535	606	6,140
Central bank funds sold and securities purchased under resale agreements	8,263	6,462	14,725
Securities borrowed	32	6	39
Financial assets at fair value through profit or loss	459,604	5,648	465,252
Financial assets at fair value through other comprehensive income	7,393	28,152	35,546
Equity method investments	0	1,013	1,013
Loans at amortized cost	127,483	346,222	473,705
Property and equipment	0	6,185	6,185
Goodwill and other intangible assets	0	7,327	7,327
Other assets	93,090	21,607	114,697
Assets for current tax	1,084	429	1,513
Total assets before deferred tax assets	880,900	423,657	1,304,557
Deferred tax assets			7,773
Total assets			1,312,331

Liability items as of December 31, 2023

in € m.	Amounts to be recovered or settled		Total
	within one year	after one year	
Deposits	598,941	23,095	622,035
Central bank funds purchased and securities sold under repurchase agreements	2,215	823	3,038
Securities loaned	3	0	3
Financial liabilities at fair value through profit or loss	356,954	9,521	366,475
Other short-term borrowings	9,620	0	9,620
Other liabilities	107,337	5,699	113,036
Provisions	2,448	0	2,448
Liabilities for current tax	369	262	631
Long-term debt	30,942	88,448	119,390
Trust preferred securities	289	0	289
Total liabilities before deferred tax liabilities	1,109,119	127,848	1,236,967
Deferred tax liabilities			546
Total liabilities			1,237,513

Asset items as of December 31, 2022

in € m.	Amounts to be recovered or settled		Total
	within one year	after one year	
Cash and central bank balances	178,896	0	178,896
Interbank balances (w/o central banks)	7,189	6	7,195
Central bank funds sold and securities purchased under resale agreements	8,415	3,063	11,478
Securities borrowed	0	0	0
Financial assets at fair value through profit or loss	475,945	6,431	482,376
Financial assets at fair value through other comprehensive income	7,296	24,380	31,675
Equity method investments	0	1,124	1,124
Loans at amortized cost	119,109	364,591	483,700
Property and equipment	0	6,103	6,103
Goodwill and other intangible assets	0	7,092	7,092
Other assets	93,565	24,729	118,293
Assets for current tax	873	711	1,584
Total assets before deferred tax assets	891,287	438,229	1,329,516
Deferred tax assets			7,272
Total assets			1,336,788

Liability items as of December 31, 2022

in € m.	Amounts to be recovered or settled		Total
	within one year	after one year	
Deposits	596,500	24,956	621,456
Central bank funds purchased and securities sold under repurchase agreements	517	56	573
Securities loaned	13	0	13
Financial liabilities at fair value through profit or loss	383,954	4,118	388,072
Other short-term borrowings	5,122	0	5,122
Other liabilities ¹	107,345	6,369	113,714
Provisions	2,449	0	2,449
Liabilities for current tax	240	148	388
Long-term debt	46,622	84,903	131,525
Trust preferred securities	500	0	500
Total liabilities before deferred tax liabilities¹	1,143,261	120,550	1,263,811
Deferred tax liabilities			650
Total liabilities			1,264,461

40 – Events after the reporting period

After the reporting date no material events occurred which had a significant impact on the bank's results of operations, financial position and net assets.

41 – Regulatory capital information

General definitions

The calculation of Deutsche Bank's own funds incorporates the capital requirements following the "Regulation (EU) No 575/2013 on prudential requirements for credit institutions" CRR and the "Directive 2013/36/EU on access to the activity of credit institutions and the prudential supervision of credit institutions" "CRD", which have been further amended with subsequent Regulations and Directives. The CRD has been implemented into German law. The information in this section as well as in the section "Development of risk-weighted assets" is based on the regulatory principles of consolidation.

This section refers to the capital adequacy of the group of entities consolidated for banking regulatory purposes pursuant to the CRR and the German Banking Act ("Kreditwesengesetz" or "KWG"). Therein not included are insurance companies or companies outside the finance sector.

The total own funds pursuant to the effective regulations as of year-end 2023 comprises Tier 1 and Tier 2 capital. Tier 1 capital is subdivided into Common Equity Tier 1 capital and Additional Tier 1 capital.

CET 1 capital consists primarily of common share capital (net of own holdings) including related share premium accounts, retained earnings (including losses for the financial year, if any) and accumulated other comprehensive income, subject to regulatory adjustments (i.e., prudential filters and deductions), as well as minority interests qualifying for inclusion in consolidated CET 1 capital. Prudential filters for CET 1 capital, according to Articles 32 to 35 CRR, include securitization gains on sale, cash flow hedges and changes in the value of own liabilities, and additional value adjustments. CET 1 capital deductions for instance includes intangible assets (exceeding their prudential value), deferred tax assets that rely on future profitability, negative amounts resulting from the calculation of expected loss amounts, net defined benefit pension fund assets, reciprocal cross holdings in the capital of financial sector entities and, significant and non-significant investments in the capital (CET 1, AT1, Tier 2) of financial sector entities above certain thresholds. All items which are not deducted (i.e., amounts below the threshold) are subject to risk-weighting.

Additional Tier 1 capital consists of AT1 capital instruments and related share premium accounts as well as noncontrolling interests qualifying for inclusion in consolidated AT1 capital. To qualify as AT1 capital under CRR/CRD, instruments must have principal loss absorption through a conversion to common shares or a write-down mechanism allocating losses at a trigger point and must also meet further requirements such as perpetual with no incentive to redeem, institution must have full dividend/coupon discretion at all times, etc.

Tier 2 capital comprises eligible capital instruments, the related share premium accounts and subordinated long-term debt, certain loan loss provisions and noncontrolling interests that qualify for inclusion in consolidated Tier 2 capital. To qualify as Tier 2 capital, capital instruments or subordinated debt must have an original maturity of at least five years. Moreover, eligible capital instruments may inter alia not contain an incentive to redeem, a right of investors to accelerate repayment, or a credit sensitive dividend feature.

Capital instruments

The Management Board was authorized by the 2022 Annual General Meeting to buy, on or before April 30, 2027, shares of up to 10% of the share capital at the time this resolution was taken or, if lower, of the share capital at the respective time the authorization was exercised. As at the 2022 Annual General Meeting, this corresponded to a volume of up to 206.6 million shares. Thereof, a volume of up to 5% of the total share capital or 103.3 million shares can be purchased by using derivatives, including derivatives with a volume of up to 2% of the total share capital with a maturity exceeding 18 months. During the period from the 2022 Annual General Meeting until the 2023 Annual General Meeting, 36.3 million shares were purchased for equity compensation purposes in the same period or upcoming periods. Thereof, 22.7 million shares were purchased by exercising call options. In addition, 30.2 million new call options were purchased for equity compensation purposes in upcoming periods. The number of shares held in Treasury amounted to 5.0 million as of the 2023 Annual General Meeting. These shares were held for equity compensation purposes in upcoming periods.

The Annual General Meeting on May 17, 2023 granted the Management Board the approval to buy, on or before April 30, 2028, shares of up to 10% of the share capital at the time of this resolution was taken or, if lower, of the share capital at the respective time the authorization was exercised. As at the 2023 Annual General Meeting, this corresponded to 204 million shares. Thereof, a volume of up to 5% of the total share capital or 102 million shares can be purchased by using derivatives, including derivatives with a volume of up to 2% of the total share capital with a maturity exceeding 18 months. These authorizations replaced the authorizations of the previous year. During the period from the 2023 Annual General Meeting until December 31, 2023, 45.5 million shares were purchased for cancellation with the purpose of distributing capital to shareholders. The number of shares held in Treasury from buybacks amounted to 48.2 million as of December 31, 2023. Thereof 45.5 million relate to shares bought back for cancellation. The remaining amount of 2.7 million shares relates to shares to be used for equity compensation purposes in upcoming periods.

Since the 2017 Annual General Meeting, renewed at the 2021 Annual General Meeting, and as of December 31, 2023, authorized capital available to the Management Board is € 2,560 million (1,000 million shares).

Since the 2022 Annual General Meeting, the Management Board is authorized to issue participatory notes and other hybrid debt securities that fulfill the regulatory requirements to qualify as Additional Tier 1 capital with an equivalent value of € 9.0 billion on or before April 30, 2027. Deutsche Bank issued € 1.25 billion new AT1 notes under this authorization in November 2022.

The current CRR as applicable since June 27, 2019, provides further grandfathering rules for AT1 and Tier 2 instruments issued prior to June 27, 2019. AT1 and Tier 2 instruments issued through special purpose entities were grandfathered until December 31, 2021. In 2023, transitional arrangements only exist for AT1 and Tier 2 instruments which continue to qualify until June 26, 2025, even if they do not meet certain new requirements that apply since June 27, 2019. Deutsche Bank had an immaterial amount of instruments that qualified during 2023, which resulted in no material difference between the “fully loaded” and “transitional” amounts.

Based on the current CRR, the Group has eligible AT1 instruments of € 8.6 billion outstanding as of December 2023. In 2023, the bank did not issue or redeem AT1 notes.

As of December 31, 2023, Tier 2 capital instruments amounted to € 8.6 billion (nominal value of € 11.5 billion). In 2023, the bank issued Tier 2 capital instruments with a nominal value U.S. \$ 1.5 billion (equivalent amount of € 1.4 billion) and a notional of € 132.5 million Tier 2 capital instruments matured.

Minimum capital requirements and additional capital buffers

Failure to meet minimum capital requirements can result in supervisory measures such as restrictions of profit distributions or limitations on certain businesses such as lending. Deutsche Bank complied with the minimum regulatory capital adequacy requirements in 2023.

Details on regulatory capital

Own Funds Template (incl. RWA and capital ratios)

	Dec 31, 2023 CRR/CRD	Dec 31, 2022 CRR/CRD
in € m.		
Common Equity Tier 1 (CET 1) capital: instruments and reserves		
Capital instruments, related share premium accounts and other reserves	44,908	45,458
Retained earnings	16,509	12,305
Accumulated other comprehensive income (loss), net of tax	(1,760)	(1,314)
Independently reviewed interim profits net of any foreseeable charge or dividend ¹	3,493	4,183
Other	973	1,002
Common Equity Tier 1 (CET 1) capital before regulatory adjustments	64,124	61,634
Common Equity Tier 1 (CET 1) capital: regulatory adjustments		
Additional value adjustments (negative amount)	(1,727)	(2,026)
Other prudential filters (other than additional value adjustments)	(126)	600
Goodwill and other intangible assets (net of related tax liabilities) (negative amount)	(5,014)	(5,024)
Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liabilities where the conditions in Art. 38 (3) CRR are met) (negative amount)	(4,207)	(3,244)
Negative amounts resulting from the calculation of expected loss amounts	(2,386)	(466)
Defined benefit pension fund assets (net of related tax liabilities) (negative amount)	(920)	(1,149)
Direct, indirect and synthetic holdings by an institution of own CET 1 instruments (negative amount)	(0)	(0)
Direct, indirect and synthetic holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above the 10% / 15% thresholds and net of eligible short positions) (negative amount)	0	0
Deferred tax assets arising from temporary differences (net of related tax liabilities where the conditions in Art. 38 (3) CRR are met) (amount above the 10% / 15% thresholds) (negative amount)	0	0
Other regulatory adjustments ²	(1,679)	(2,225)
Total regulatory adjustments to Common Equity Tier 1 (CET 1) capital	(16,058)	(13,536)
Common Equity Tier 1 (CET 1) capital	48,066	48,097
Additional Tier 1 (AT1) capital: instruments		
Capital instruments and the related share premium accounts	8,578	8,578
Amount of qualifying items referred to in Art. 484 (4) CRR and the related share premium accounts subject to phase out from AT1	0	0
Additional Tier 1 (AT1) capital before regulatory adjustments	8,578	8,578
Additional Tier 1 (AT1) capital: regulatory adjustments		
Direct, indirect and synthetic holdings by an institution of own AT1 instruments (negative amount)	(250)	(60)
Residual amounts deducted from AT1 capital with regard to deduction from CET 1 capital during the transitional period pursuant to Art. 472 CRR	0	0
Other regulatory adjustments	0	0
Total regulatory adjustments to Additional Tier 1 (AT1) capital	(250)	(60)
Additional Tier 1 (AT1) capital	8,328	8,518
Tier 1 capital (T1 = CET 1 + AT1)	56,395	56,616
Tier 2 (T2) capital	8,610	9,531
Total capital (TC = T1 + T2)	65,005	66,146
Total risk-weighted assets	349,742	360,003
Capital ratios		
Common Equity Tier 1 capital ratio (as a percentage of risk-weighted assets)	13.7	13.4
Tier 1 capital ratio (as a percentage of risk-weighted assets)	16.1	15.7
Total capital ratio (as a percentage of risk-weighted assets)	18.6	18.4

N/M – Not meaningful

¹ Full year profit is recognized as per ECB Decision (EU) 2015/656 in accordance with the Article 26(2) of Regulation (EU) No 575/2013 (ECB/2015/4)

² Includes capital deductions of € 1.4 billion (Dec 2022: € 1.2 billion) based on ECB guidance on irrevocable payment commitments related to the Single Resolution Fund and the Deposit Guarantee Scheme, € 0.3 billion (Dec 2022: € 1.0 billion) based on ECB's supervisory recommendation for a prudential provisioning of non-performing exposures, € 0.9 million (Dec 2022: € 7.4 million) resulting from minimum value commitments as per Article 36 (1)(n) of the CRR and CET 1 shows no change in the current year, but a decrease of € 14.7 million for the year 2022 from IFRS 9 transitional provision as per Article 473a of the CRR

Reconciliation of shareholders' equity to Own Funds

	CRR/CRD	
	Dec 31, 2023	Dec 31, 2022
in € m.		
Total shareholders' equity per accounting balance sheet	64,486	61,959
Deconsolidation/Consolidation of entities	(35)	29
Of which:		
Additional paid-in capital	0	0
Retained earnings	(35)	29
Accumulated other comprehensive income (loss), net of tax	0	0
Total shareholders' equity per regulatory balance sheet	64,451	61,988
Minority Interests (amount allowed in consolidated CET 1)	973	1,002
AT1 coupon and shareholder dividend deduction ¹	(1,279)	(1,342)
Capital instruments not eligible under CET 1 as per CRR 28(1)	(21)	(14)
Common Equity Tier 1 (CET 1) capital before regulatory adjustments	64,124	61,634
Additional value adjustments	(1,727)	(2,026)
Other prudential filters (other than additional value adjustments)	(126)	600
Goodwill and other intangible assets (net of related tax liabilities) (negative amount)	(5,014)	(5,024)
Deferred tax assets that rely on future profitability	(4,207)	(3,244)
Defined benefit pension fund assets (net of related tax liabilities) (negative amount)	(920)	(1,149)
Direct, indirect and synthetic holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities	0	0
Other regulatory adjustments ²	(4,065)	(2,691)
Common Equity Tier 1 capital	48,066	48,097

¹ Full year profit is recognized as per ECB Decision (EU) 2015/656 in accordance with the Article 26(2) of Regulation (EU) No 575/2013 (ECB/2015/4)

² Includes capital deductions of € 1.4 billion (Dec 2022: € 1.2 billion) based on ECB guidance on irrevocable payment commitments related to the Single Resolution Fund and the Deposit Guarantee Scheme, € 0.3 billion (Dec 2022: € 1.0 billion) based on ECB's supervisory recommendation for a prudential provisioning of non-performing exposures, € 0.9 million (Dec 2022: € 7.4 million) resulting from minimum value commitments as per Article 36 (1)(n) of the CRR and CET 1 shows no change in the current year, but a decrease of € 14.7 million for the year 2022 from IFRS 9 transitional provision as per Article 473a of the CRR

Capital management

Deutsche Bank's Treasury function manages solvency, capital adequacy, leverage, and bail-in capacity ratios at Group level and locally in each region, as applicable. Treasury implements Deutsche Bank's capital strategy, which itself is developed by the Group Risk Committee and approved by the Management Board. Treasury, directly or through the Group Asset and Liability Committee, manages, among other things, issuance and repurchase of shares and capital instruments, hedging of capital ratios against foreign exchange swings, setting capacities for key financial resources, the design of shareholders' equity allocation, and regional capital planning. The bank is fully committed to maintaining Deutsche Bank's sound capitalization both from an economic and regulatory perspective considering both book equity based on IFRS accounting standards, regulatory and economic capital as well as specific capital requirements from rating agencies. The bank continuously monitors and adjusts Deutsche Bank's overall capital demand and supply to always achieve an appropriate balance.

Treasury manages the issuance and repurchase of capital instruments, namely Common Equity Tier 1, Additional Tier 1 and Tier 2 capital instruments as well as TLAC/MREL eligible debt instruments. Treasury constantly monitors the market for liability management trades. Such trades represent a countercyclical opportunity to create Common Equity Tier 1 capital by buying back Deutsche Bank's issuances below par.

Treasury manages the sensitivity of Deutsche Bank's CET 1 ratio and capital towards swings in foreign currency exchange rates against the euro. For this purpose, Treasury develops and executes suitable hedging strategies within the constraints of a Management Board approved Risk Appetite. Capital invested into Deutsche Bank's foreign subsidiaries and branches is either not hedged, partially hedged or fully hedged. Thereby, Treasury aims to balance effects from foreign exchange rate movements on capital, capital deduction items and risk weighted assets in foreign currency. In addition, Treasury also accounts for associated hedge cost and implications on market risk weighted assets.

Resource limit setting

Usage of key financial resources is influenced through the following governance processes and incentives.

Target resource capacities are reviewed in Deutsche Bank's annual strategic plan in line with Deutsche Bank's CET 1 and Leverage Ratio ambitions. As a part of Deutsche Bank's quarterly process, the Group Asset and Liability Committee approves divisional resource limits for total capital demand (defined as the sum of RWA and certain RWA equivalents of Capital Deduction Items and certain RWA equivalents of Capital Buffer Requirements items) and leverage exposure that are based on the strategic plan but adjusted for market conditions and the short-term outlook. Limits are enforced through a close monitoring process and an excess charging mechanism.

Overall regulatory capital requirements are principally driven by either Deutsche Bank's CET 1 ratio (solvency) or leverage ratio (leverage) requirements, whichever is the more binding constraint. For the internal capital allocation, the combined contribution of each segment to the Group's Common Equity Tier 1 ratio, the Group's Leverage ratio and the Group's Capital Loss under Stress are weighted to reflect their relative importance and level of constraint to the Group. Contributions to the Common Equity Tier 1 ratio and the Leverage ratio are measured through RWA and Leverage Ratio Exposure (LRE). The Group's Capital Loss under Stress is a measure of the Group's overall economic risk exposure under a defined stress scenario. Goodwill, other intangible assets, and business-related regulatory capital deduction items included in total capital demand are directly allocated to the respective segments, supporting the calculation of the allocated tangible shareholders equity and the respective rate of return.

Most of Deutsche Bank's subsidiaries and several of Deutsche Bank's branches are subject to legal and regulatory capital requirements. In developing, implementing, and testing Deutsche Bank's capital and liquidity position, the bank fully takes such legal and regulatory requirements into account. Any material capital requests of Deutsche Bank's branches and subsidiaries across the globe are presented to and approved by the Group Investment Committee prior to execution.

Further, Treasury is a member of Deutsche Bank's Pensions Committee and represented in relevant Investment Committees overseeing the management of the assets of the largest Deutsche Bank pension funds in Germany. These investment committees set the investment strategy for these funds in line with the bank's investment objective to protect the capital base and distribution capacity of the bank.

42 – Supplementary information to the consolidated financial statements according to Sections 297 (1a) / 314 HGB and the return on assets according to Article 26a of the German Banking Act

Staff costs

in € m.	2023	2022
Staff costs:		
Wages and salaries	9,235	8,871
Social security costs	1,896	1,841
thereof: those relating to pensions	963	1,024
Total	11,131	10,712

Staff

The average number of effective staff employed in 2023 was 87,777 (2022: 85,143) of whom 39,114 (2022: 37,815) were women. Part-time staff is included in these figures proportionately. An average of 51,732 (2022: 49,372) staff members worked outside Germany.

Management Board and Supervisory Board remuneration

In accordance with the requirements of the German Accounting Standards No. 17, the members of the Management Board collectively received in the 2023 financial year compensation totaling € 55,004,064 (2022: € 52,870,209). Of that, € 27,243,063 (2022: € 26,981,982) was for fixed compensation, € 1,191,666 (2022: € 1,300,000) for fixed allowances, € 854,238 (2022: € 1,119,403) for fringe benefits and € 25,715,098 (2022: € 23,468,824) for performance-related components. Former members of the Management Board of Deutsche Bank AG or their surviving dependents received € 26,222,817 and € 22,974,014 for the years ended December 31, 2023 and 2022, respectively. Provisions for pension obligations to former members of the Management Board and their surviving dependents amounted to € 157,816,164 and € 158,228,043 at December 31, 2023 and 2022, respectively.

The Supervisory Board compensation is regulated in Section 14 of the Articles of Association of Deutsche Bank AG. New compensation provisions were last adopted by resolution at the Annual General Meeting on May 17, 2023. The total compensation for the members of the Supervisory Board in 2023 was € 7,404,172 (2022: € 6,833,333). The bank does not provide members of the Supervisory Board with any benefits after they have left the Supervisory Board.

Loans and advances granted and contingent liabilities assumed for members of the Management Board amounted to € 28,429 and € 4,514,404 and for members of the Supervisory Board amounted to € 638,839 and € 939,889 for the years ended December 31, 2023 and 2022, respectively. Members of the Supervisory Board repaid € 62,058 loans in 2023 (2022: € 93,153).

Return on assets

Article 26a of the German Banking Act defines the return on assets as net profit divided by average total assets. According to this definition the return on assets was 0.35% and 0.39% for the years ended December 31, 2023 and 2022, respectively.

Information on the parent company

Deutsche Bank Aktiengesellschaft is the parent company of Deutsche Bank Group. It is incorporated in Frankfurt am Main and is registered in the Commercial Register of the District Court Frankfurt am Main under registration number HRB 30000.

Corporate Governance

Deutsche Bank AG has approved the Declaration of Conformity in accordance with Section 161 of the German Corporation Act (AktG). The declaration is published on Deutsche Bank's website (www.db.com/ir/en/reports.htm).

Principal accountant fees and services

Breakdown of fees charged by EY GmbH & Co. KG Wirtschaftsprüfungsgesellschaft (“EY GmbH & Co. KG”) and other EY member firms

Fee category in € m.	2023	2022
Audit fees	66	59
thereof to EY GmbH & Co. KG	52	46
Audit-related fees	12	8
thereof to EY GmbH & Co. KG	9	6
Tax-related fees	0	0
thereof to EY GmbH & Co. KG	0	0
All other fees	0	1
thereof to EY GmbH & Co. KG	0	0
Total fees	78	68

The audit fees include fees for professional services for the audit of Deutsche Bank AG's annual financial statements and consolidated financial statements and do not include audit fees for DWS and its subsidiaries that are not audited by EY. The audit-related fees include fees for other assurance services required by law or regulations, in particular for financial service specific attestation, for quarterly reviews, for spin-off audits and for merger audits, as well as fees for voluntary assurance services, like voluntary audits for internal management purposes and the issuance of comfort letters. Tax-related fees include fees for services relating to the preparation and review of tax returns and related compliance assistance and advice, tax consultation and advice relating to Group tax planning strategies and initiatives and assistance with assessing compliance with tax regulations.

43 – Country by country reporting

§ 26a KWG requires annual disclosure of certain information by geographic location. The information disclosed in the table below is derived from the IFRS Group accounts of Deutsche Bank. The table is however not reconcilable to other financial information in this report because of specific requirements published by Bundesbank on December 16, 2014 which include the requirement to present the information on geographic locations prior to elimination of cross-border intra-group transactions. In line with these Bundesbank requirements, intra-group transactions within the same geographic location are eliminated. These eliminations are identical to the eliminations applied for internal management reporting on the respective geographical locations.

The geographic location of subsidiaries and branches considers the location of incorporation or residence as well as the relevant tax jurisdiction. For the names, nature of activity and domicile of subsidiaries and branches, please refer to Note 44 "Shareholdings". In addition, Deutsche Bank AG and its subsidiaries have German and foreign branches, for example in London, New York and Singapore. The net revenues are composed of net interest revenues and noninterest revenues.

				Dec 31, 2023
in € m. (unless stated otherwise)	Net revenues (Turnover)	Employees (full-time equivalent) ¹	Profit (loss) before income tax	Income tax (expense)/ benefit
Australia	179	281	21	(9)
Austria	15	69	3	(0)
Belgium	180	482	20	(7)
Brazil	112	169	53	(18)
Canada	22	12	18	(12)
Cayman Islands	7	0	7	0
China	233	634	131	(33)
Columbia	(0)	0	(0)	0
Czech Republic	35	44	23	(4)
France	124	215	54	(7)
Germany	13,426	36,195	3,832	(889)
Great Britain	4,052	7,795	472	791
Greece	1	12	0	(1)
Hong Kong	610	851	74	(11)
Hungary	47	60	24	(4)
India	818	20,727	563	(235)
Indonesia	113	220	60	(19)
Ireland	27	158	(2)	1
Israel	2	15	1	(0)
Italy	838	3,071	(96)	165
Japan	376	380	202	(52)
Jersey	5	0	6	(0)
Luxembourg	1,158	474	633	(126)
Malaysia	97	192	59	(14)
Mauritius	(45)	0	(44)	0
Mexico	19	30	6	0
Netherlands	307	485	175	(44)
Pakistan	24	88	13	(7)
Peru	1	0	0	0
Philippines	46	1,386	29	(6)
Poland	163	352	(174)	14
Portugal	12	45	3	2
Qatar	(0)	3	0	(0)
Romania	1	1,626	12	(2)
Russian Fed.	88	179	40	(16)
Saudi Arabia	50	47	(24)	(1)
Singapore	982	1,879	259	(42)
South Africa	23	42	11	(1)
South Korea	126	185	56	(15)
Spain	549	2,345	50	(20)
Sri Lanka	38	56	32	(12)
Sweden	6	33	0	(0)
Switzerland	351	624	86	(16)
Taiwan	31	120	3	(2)
Thailand	48	106	10	(2)
Turkey	146	115	126	(37)
UAE	36	196	22	(4)
Ukraine	12	33	(1)	(2)
USA	4,870	8,021	317	(103)
Vietnam	44	80	30	(6)

¹ Full-time equivalents as of December 31, 2023

44 – Shareholdings

- 360 Subsidiaries
- 365 Consolidated Structured Entities
- 369 Companies accounted for at equity
- 371 Other Companies, where the holding exceeds 20%
- 374 Holdings in large corporations, where the holding exceeds 5% of the voting rights

The following pages show the Shareholdings of Deutsche Bank Group pursuant to Section 313 (2) of the German Commercial Code (“HGB”).

Footnotes:

- 1 Controlled.
- 2 Status as shareholder with unlimited liability pursuant to Section 313 (2) Number 6 HGB.
- 3 General Partnership.
- 4 The company made use of the exemption offered by Section 264 No. 3 HGB.
- 5 Only specified assets and related liabilities (silos) of this entity were consolidated.
- 6 Joint venture.
- 7 Not controlled.
- 8 Accounted for at equity due to significant influence
- 9 Classified as Structured Entity not to be accounted for at equity under IFRS.
- 10 Preliminary Own funds of € 6,894.9m / Result of € (28.2)m (Business Year 2023).
- 11 Classified as Structured Entity not to be consolidated under IFRS.
- 12 Preliminary Own funds of € 8,425.3m / Result of € (41.7)m (Business Year 2023).
- 13 Not consolidated or accounted for at equity as classified as non-trading financial assets mandatory at fair value through profit or loss.
- 14 Own funds of € 39.7m / Result of € 3.8m (Business Year 2022).
- 15 Own funds of € 0.6m / Result of € 16.8m (Business Year 2022).
- 16 Own funds of € 12.3m / Result of € 2.4m (Business Year 2022).
- 17 Own funds of € 16.0m / Result of € 0.6m (Business Year 2022).

Subsidiaries

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
1	Deutsche Bank Aktiengesellschaft	Frankfurt am Main		Credit Institution	
2	ABFS I Incorporated	Lutherville-Timonium		Financial Institution	100.0
3	Alex. Brown Financial Services Incorporated	Lutherville-Timonium		Financial Institution	100.0
4	Alex. Brown Investments Incorporated	Lutherville-Timonium		Financial Institution	100.0
5	Alfred Herrhausen Gesellschaft mbH	Berlin		Other Enterprise	100.0
6	Argent Incorporated	Lutherville-Timonium		Financial Institution	100.0
7	Baldur Mortgages Limited	London		Financial Institution	100.0
8	Betriebs-Center für Banken AG	Frankfurt		Ancillary Services Undertaking	100.0
9	Better Financial Services GmbH	Berlin		Ancillary Services Undertaking	100.0
10	Better Payment Germany GmbH	Berlin		Ancillary Services Undertaking	100.0
11	BHW - Gesellschaft für Wohnungswirtschaft mbH	Hameln		Financial Institution	100.0
12	BHW Bausparkasse Aktiengesellschaft	Hameln		Credit Institution	100.0
13	BHW Holding GmbH	Hameln		Financial Holding Company	100.0
14	Borfield Sociedad Anonima	Montevideo		Other Enterprise	100.0
15	Breaking Wave DB Limited	London		Ancillary Services Undertaking	100.0
16	BT Globenet Nominees Limited	London		Other Enterprise	100.0
17	Cardea Real Estate S.r.l.	Milan		Ancillary Services Undertaking	100.0
18	Caribbean Resort Holdings, Inc.	New York	1	Financial Institution	0.0
19	Cathay Advisory (Beijing) Co., Ltd.	Beijing		Other Enterprise	100.0
20	Cathay Asset Management Company Limited	Ebène		Financial Institution	100.0
21	Cathay Capital Company (No 2) Limited	Ebène		Financial Institution	67.6
22	China Recovery Fund, LLC	Wilmington		Financial Institution	85.0
23	Cinda - DB NPL Securitization Trust 2003-1	Wilmington	1	Financial Institution	10.0
24	Consumo Srl in Liquidazione	Milan		Financial Institution	100.0
25	DB Investments (GB) Limited	London		Financial Institution	100.0
26	D&M Turnaround Partners Godo Kaisha	Tokyo		Financial Institution	100.0
27	DB (Barbados) SRL	Christ Church		Ancillary Services Undertaking	100.0
28	DB (Malaysia) Nominee (Asing) Sdn. Bhd.	Kuala Lumpur		Other Enterprise	100.0
29	DB (Malaysia) Nominee (Tempatan) Sendirian Berhad	Kuala Lumpur		Other Enterprise	100.0
30	DB Alex. Brown Holdings Incorporated	Wilmington		Financial Institution	100.0
31	DB Aotearoa Investments Limited	George Town		Credit Institution	100.0
32	DB Beteiligungs-Holding GmbH	Frankfurt		Financial Holding Company	100.0
33	DB Boracay LLC	Wilmington		Financial Institution	100.0
34	DB Capital Markets (Deutschland) GmbH	Frankfurt		Financial Holding Company	100.0
35	DB Cartera de Inmuebles 1, S.A.U.	Madrid		Ancillary Services Undertaking	100.0
36	DB Chestnut Holdings Limited	George Town		Ancillary Services Undertaking	100.0
37	DB Commodity Financing Limited	London		Ancillary Services Undertaking	100.0
38	DB Corporate Advisory (Malaysia) Sdn. Bhd.	Kuala Lumpur		Financial Institution	100.0
39	DB Direkt GmbH	Frankfurt		Ancillary Services Undertaking	100.0
40	DB Equipment Leasing, Inc.	New York		Financial Institution	100.0
41	DB Finance (Delaware), LLC	Wilmington		Financial Institution	100.0
42	DB Global Technology SRL	Bucharest		Ancillary Services Undertaking	100.0
43	DB Global Technology, Inc.	Wilmington		Ancillary Services Undertaking	100.0
44	DB Group Services (UK) Limited	London		Ancillary Services Undertaking	100.0
45	DB Holdings (New York), Inc.	New York		Financial Institution	100.0
46	DB HR Solutions GmbH	Frankfurt		Ancillary Services Undertaking	100.0
47	DB Impact Investment Fund I, L.P.	Edinburgh	2	Financial Institution	100.0
48	DB Industrial Holdings Beteiligungs GmbH & Co. KG	Luetzen	2	Financial Institution	100.0
49	DB Industrial Holdings GmbH	Luetzen		Financial Institution	100.0
50	DB Intermezzo LLC	Wilmington		Financial Institution	100.0
51	DB International (Asia) Limited	Singapore		Credit Institution	100.0
52	DB International Investments Limited	London		Financial Institution	100.0
53	DB International Trust (Singapore) Limited	Singapore		Other Enterprise	100.0
54	DB Investment Managers, Inc.	Wilmington		Financial Institution	100.0
55	DB Investment Partners Limited	London		Financial Institution	100.0
56	DB Investment Partners Pte. Ltd.	Singapore		Other Enterprise	100.0
57	DB Investment Resources (US) Corporation	Wilmington		Financial Institution	100.0
58	DB Investment Resources Holdings Corp.	Wilmington		Financial Institution	100.0
59	DB Investment Services GmbH	Frankfurt		Ancillary Services Undertaking	100.0
60	DB IROC Leasing Corp.	New York		Financial Institution	100.0
61	DB London (Investor Services) Nominees Limited	London		Financial Institution	100.0
62	DB Management Support GmbH	Frankfurt		Ancillary Services Undertaking	100.0

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
63	DB Nominees (Hong Kong) Limited	Hong Kong		Ancillary Services Undertaking	100.0
64	DB Nominees (Jersey) Limited	St. Helier		Other Enterprise	100.0
65	DB Nominees (Singapore) Pte Ltd	Singapore		Other Enterprise	100.0
66	DB Omega Ltd.	George Town		Financial Institution	100.0
67	DB Operaciones y Servicios Interactivos, S.L.U.	Madrid		Ancillary Services Undertaking	100.0
68	DB Overseas Finance Delaware, Inc.	Wilmington		Financial Institution	100.0
69	DB Overseas Holdings Limited	London		Financial Institution	100.0
70	DB Print GmbH	Frankfurt		Ancillary Services Undertaking	100.0
71	DB Private Clients Corp.	Wilmington		Financial Institution	100.0
72	DB Private Wealth Mortgage Ltd.	New York		Financial Institution	100.0
73	DB Re S.A.	Luxembourg		Reinsurance Undertaking	100.0
74	DB Service Centre Limited	Dublin		Ancillary Services Undertaking	100.0
75	DB Services (Jersey) Limited	St. Helier		Ancillary Services Undertaking	100.0
76	DB Services Americas, Inc.	Wilmington		Ancillary Services Undertaking	100.0
77	DB Servizi Amministrativi S.r.l.	Milan		Ancillary Services Undertaking	100.0
78	DB Strategic Advisors, Inc.	Makati City		Ancillary Services Undertaking	100.0
79	DB Structured Derivative Products, LLC	Wilmington		Ancillary Services Undertaking	100.0
80	DB Structured Products, Inc.	Wilmington		Financial Institution	100.0
81	DB Trustee Services Limited	London		Other Enterprise	100.0
82	DB Trustees (Hong Kong) Limited	Hong Kong		Other Enterprise	100.0
83	DB U.S. Financial Markets Holding Corporation	Wilmington		Financial Institution	100.0
84	DB UK Bank Limited	London		Credit Institution	100.0
85	DB UK Holdings Limited	London		Financial Institution	100.0
86	DB UK PCAM Holdings Limited (in members' voluntary liquidation)	London		Financial Institution	100.0
87	DB USA Core Corporation	West Trenton		Ancillary Services Undertaking	100.0
88	DB USA Corporation	Wilmington		Financial Institution	100.0
89	DB Valoren S.à r.l.	Luxembourg		Financial Institution	100.0
90	DB Value S.à r.l.	Luxembourg		Financial Institution	100.0
91	DB VersicherungsManager GmbH	Frankfurt		Other Enterprise	100.0
92	DB Vita S.A.	Luxembourg		Insurance Undertaking	84.0
93	DBAH Capital, LLC	Wilmington		Financial Institution	100.0
94	DBCIBZ1	George Town		Financial Institution	100.0
95	DBFIC, Inc.	Wilmington		Financial Institution	100.0
96	DBNZ Overseas Investments (No.1) Limited	George Town		Financial Institution	100.0
97	DBOI Global Services (UK) Limited	London		Ancillary Services Undertaking	100.0
98	DBR Investments Co. Limited	George Town		Financial Institution	100.0
99	DBRE Global Real Estate Management IB, Ltd.	George Town		Asset Management Company	100.0
100	DBRMSGP1	George Town	2, 3	Financial Institution	100.0
101	DBUK PCAM Limited (in members' voluntary liquidation)	London		Financial Institution	100.0
102	DBUSBZ2, S.à r.l.	Luxembourg		Financial Institution	100.0
103	DBX Advisors LLC	Wilmington		Financial Institution	100.0
104	DEBEKO Immobilien GmbH & Co Grundbesitz OHG	Eschborn	2	Ancillary Services Undertaking	100.0
105	DEE Deutsche Erneuerbare Energien GmbH	Frankfurt		Financial Institution	100.0
106	DEUKONA Versicherungs-Vermittlungs-GmbH	Frankfurt		Ancillary Services Undertaking	100.0
107	Deutsche (Aotearoa) Capital Holdings New Zealand	Auckland		Financial Institution	100.0
108	Deutsche (Aotearoa) Foreign Investments New Zealand	Auckland		Financial Institution	100.0
109	Deutsche (New Munster) Holdings New Zealand Limited	Auckland		Financial Institution	100.0
110	Deutsche Alternative Asset Management (UK) Limited	London		Asset Management Company	100.0
111	Deutsche Asia Pacific Holdings Pte Ltd	Singapore		Financial Institution	100.0
112	Deutsche Asset Management (India) Private Limited	Mumbai		Ancillary Services Undertaking	100.0
113	Deutsche Australia Limited	Sydney		Financial Institution	100.0
114	Deutsche Bank (Cayman) Limited	George Town		Other Enterprise	100.0
115	Deutsche Bank (China) Co., Ltd.	Beijing		Credit Institution	100.0
116	Deutsche Bank (Malaysia) Berhad	Kuala Lumpur		Credit Institution	100.0
117	Deutsche Bank (Suisse) SA	Geneva		Credit Institution	100.0
118	Deutsche Bank (Uruguay) Sociedad Anónima Institución Financiera Externa	Montevideo		Credit Institution	100.0
119	DEUTSCHE BANK A.S.	Istanbul		Credit Institution	100.0
120	Deutsche Bank Americas Holding Corp.	Wilmington		Financial Institution	100.0
121	Deutsche Bank Europe GmbH	Frankfurt		Credit Institution	100.0
122	Deutsche Bank Financial Company	George Town		Financial Institution	100.0
123	Deutsche Bank Holdings, Inc.	Wilmington		Financial Institution	100.0
124	Deutsche Bank Insurance Agency Incorporated	Wilmington		Other Enterprise	100.0
125	Deutsche Bank Luxembourg S.A.	Luxembourg		Credit Institution	100.0
126	Deutsche Bank Mutui S.p.A.	Milan		Credit Institution	100.0
127	Deutsche Bank National Trust Company	Los Angeles		Financial Institution	100.0
128	Deutsche Bank Polska Spółka Akcyjna	Warsaw		Credit Institution	100.0
129	Deutsche Bank Representative Office Nigeria Limited	Lagos		Ancillary Services Undertaking	100.0
130	Deutsche Bank S.A. - Banco Alemão	Sao Paulo		Credit Institution	100.0

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
131	Deutsche Bank Securities Inc.	Wilmington		Financial Institution	100.0
132	Deutsche Bank Securities Limited	Toronto		Financial Institution	100.0
133	Deutsche Bank Società per Azioni	Milan		Credit Institution	99.9
134	Deutsche Bank Trust Company Americas	New York		Credit Institution	100.0
135	Deutsche Bank Trust Company Delaware	Wilmington		Credit Institution	100.0
136	Deutsche Bank Trust Company, National Association	New York		Financial Institution	100.0
137	Deutsche Bank Trust Corporation	New York		Financial Institution	100.0
138	Deutsche Bank, Sociedad Anónima Española Unipersonal	Madrid		Credit Institution	100.0
139	Deutsche Capital Finance (2000) Limited	George Town		Financial Institution	100.0
140	Deutsche Capital Markets Australia Limited	Sydney		Financial Institution	100.0
141	Deutsche Capital Partners China Limited (in voluntary liquidation)	George Town		Financial Institution	100.0
142	Deutsche Cayman Ltd.	Camana Bay		Other Enterprise	100.0
143	Deutsche Custody N.V.	Amsterdam		Financial Institution	100.0
144	Deutsche Domus New Zealand Limited	Auckland		Financial Institution	100.0
145	Deutsche Equities India Private Limited	Mumbai		Financial Institution	100.0
146	Deutsche Finance No. 2 Limited (in voluntary liquidation)	George Town		Financial Institution	100.0
147	Deutsche Foras New Zealand Limited	Auckland		Financial Institution	100.0
148	Deutsche Gesellschaft für Immobilien-Leasing mit beschränkter Haftung	Duesseldorf		Financial Institution	100.0
149	Deutsche Global Markets Limited	Tel Aviv		Ancillary Services Undertaking	100.0
150	Deutsche Group Holdings (SA) Proprietary Limited	Johannesburg		Financial Institution	100.0
151	Deutsche Group Services Pty Limited	Sydney		Ancillary Services Undertaking	100.0
152	Deutsche Grundbesitz-Anlagegesellschaft mit beschränkter Haftung	Frankfurt		Other Enterprise	99.8
153	Deutsche Holdings (Grand Duchy)	Luxembourg		Financial Institution	100.0
154	Deutsche Holdings (Luxembourg) S.à r.l.	Luxembourg		Financial Institution	100.0
155	Deutsche Holdings Limited	London		Financial Institution	100.0
156	Deutsche Holdings No. 2 Limited	London		Financial Institution	100.0
157	Deutsche Holdings No. 3 Limited	London		Financial Institution	100.0
158	Deutsche Holdings No. 4 Limited (in members' voluntary liquidation)	London		Financial Institution	100.0
159	Deutsche Immobilien Leasing GmbH	Duesseldorf		Financial Institution	100.0
160	Deutsche India Holdings Private Limited	Mumbai		Financial Institution	100.0
161	Deutsche India Private Limited	Mumbai		Ancillary Services Undertaking	100.0
162	Deutsche International Corporate Services (Ireland) Limited	Dublin		Financial Institution	100.0
163	Deutsche International Corporate Services Limited	St. Helier		Other Enterprise	100.0
164	Deutsche International Custodial Services Limited	St. Helier		Other Enterprise	100.0
165	Deutsche Investments (Netherlands) N.V.	Amsterdam		Financial Institution	100.0
166	Deutsche Investments India Private Limited	Mumbai		Financial Institution	100.0
167	Deutsche Investor Services Private Limited	Mumbai		Other Enterprise	100.0
168	Deutsche Knowledge Services Pte. Ltd.	Singapore		Ancillary Services Undertaking	100.0
169	Deutsche Leasing New York Corp.	New York		Ancillary Services Undertaking	100.0
170	Deutsche Mexico Holdings S.à r.l.	Luxembourg		Financial Institution	100.0
171	Deutsche Morgan Grenfell Group Limited (in members' voluntary liquidation)	London		Financial Institution	100.0
172	Deutsche Mortgage & Asset Receiving Corporation	Wilmington		Ancillary Services Undertaking	100.0
173	Deutsche Nederland N.V.	Amsterdam		Ancillary Services Undertaking	100.0
174	Deutsche New Zealand Limited	Auckland		Financial Institution	100.0
175	Deutsche Nominees Limited	London		Financial Institution	100.0
176	Deutsche Oppenheim Family Office AG	Cologne		Credit Institution	100.0
177	Deutsche Overseas Issuance New Zealand Limited	Auckland		Ancillary Services Undertaking	100.0
178	Deutsche Postbank Finance Center Objekt GmbH	Schuettringen		Ancillary Services Undertaking	100.0
179	Deutsche Securities (India) Private Limited	New Delhi		Financial Institution	100.0
180	Deutsche Securities (Proprietary) Limited	Johannesburg		Financial Institution	100.0
181	Deutsche Securities (SA) (Proprietary) Limited	Johannesburg		Other Enterprise	100.0
182	Deutsche Securities Asia Limited	Hong Kong		Financial Institution	100.0
183	Deutsche Securities Inc.	Tokyo		Financial Institution	100.0
184	Deutsche Securities Israel Ltd.	Tel Aviv		Financial Institution	100.0
185	Deutsche Securities Korea Co.	Seoul		Financial Institution	100.0
186	Deutsche Securities Saudi Arabia (a closed joint stock company)	Riyadh		Financial Institution	100.0
187	Deutsche Securities, S.A. de C.V., Casa de Bolsa	Mexico City		Financial Institution	100.0
188	Deutsche Services (CI) Limited	St. Helier		Financial Institution	100.0
189	Deutsche Services Polska Sp. z o.o.	Warsaw		Ancillary Services Undertaking	100.0
190	Deutsche StiftungsTrust GmbH	Frankfurt		Other Enterprise	100.0
191	Deutsche Strategic Investment Holdings Yugen Kaisha	Tokyo		Financial Institution	100.0
192	Deutsche Trustee Company Limited	London		Other Enterprise	100.0
193	Deutsche Trustee Services (India) Private Limited	Mumbai		Other Enterprise	100.0
194	Deutsche Trustees Malaysia Berhad	Kuala Lumpur		Other Enterprise	100.0
195	Deutsche Wealth Management S.G.I.I.C., S.A.	Madrid		Asset Management Company	100.0

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
196	Deutsches Institut für Altersvorsorge GmbH	Frankfurt		Other Enterprise	78.0
197	DI Deutsche Immobilien Treuhandgesellschaft mbH	Frankfurt		Other Enterprise	100.0
198	DIP Management GmbH	Frankfurt		Financial Institution	100.0
199	DISCA Beteiligungsgesellschaft mbH	Duesseldorf		Financial Institution	100.0
200	Durian (Luxembourg) S.à r.l.	Luxembourg		Other Enterprise	100.0
201	DWS Alternatives France	Paris		Other Enterprise	100.0
202	DWS Alternatives Global Limited	London		Asset Management Company	100.0
203	DWS Alternatives GmbH	Frankfurt		Asset Management Company	100.0
204	DWS Asset Management (Korea) Company Limited	Seoul		Asset Management Company	100.0
205	DWS Beteiligungs GmbH	Frankfurt		Financial Institution	98.6
206	DWS CH AG	Zurich		Financial Institution	100.0
207	DWS Distributors, Inc.	Wilmington		Financial Institution	100.0
208	DWS Far Eastern Investments Limited	Taipei		Financial Institution	60.0
209	DWS Global Business Services Inc.	Taguig City		Ancillary Services Undertaking	99.9
210	DWS Group GmbH & Co. KGaA	Frankfurt	2	Investment Holding Company	79.5
211	DWS Group Services UK Limited	London		Ancillary Services Undertaking	100.0
212	DWS Grundbesitz GmbH	Frankfurt		Asset Management Company	99.9
213	DWS India Private Limited	Mumbai		Ancillary Services Undertaking	100.0
214	DWS International GmbH	Frankfurt		Investment Firm	100.0
215	DWS Investment GmbH	Frankfurt		Asset Management Company	100.0
216	DWS Investment Management Americas, Inc.	Wilmington		Financial Institution	100.0
217	DWS Investment S.A.	Luxembourg		Asset Management Company	100.0
218	DWS Investments Australia Limited	Sydney		Financial Institution	100.0
219	DWS Investments Hong Kong Limited	Hong Kong		Financial Institution	100.0
220	DWS Investments Japan Limited	Tokyo		Financial Institution	100.0
221	DWS Investments Shanghai Limited	Shanghai		Financial Institution	100.0
222	DWS Investments Singapore Limited	Singapore		Financial Institution	100.0
223	DWS Investments UK Limited	London		Asset Management Company	100.0
224	DWS Management GmbH	Frankfurt		Financial Institution	100.0
225	DWS Real Estate GmbH	Frankfurt		Financial Institution	99.9
226	DWS Service Company	Wilmington		Ancillary Services Undertaking	100.0
227	DWS Shanghai Private Equity Fund Management Limited	Shanghai		Other Enterprise	100.0
228	DWS Trust Company	Concord		Financial Institution	100.0
229	DWS USA Corporation	Wilmington		Financial Institution	100.0
230	EC EUROPA IMMOBILIEN FONDS NR. 3 GmbH & CO. KG i.I.	Hamburg		Other Enterprise	65.2
231	Elm (Luxembourg) S.à r.l.	Luxembourg		Other Enterprise	100.0
232	European Value Added I (Alternate G.P.) LLP	London		Financial Institution	100.0
233	Fiduciaria Sant' Andrea S.r.l.	Milan		Other Enterprise	100.0
234	Finanzberatungsgesellschaft mbH der Deutschen Bank	Berlin		Ancillary Services Undertaking	100.0
235	Fir (Luxembourg) S.à r.l.	Luxembourg		Other Enterprise	100.0
236	Franz Urbig- und Oscar Schlitter-Stiftung Gesellschaft mit beschränkter Haftung	Frankfurt		Ancillary Services Undertaking	100.0
237	Fünfte SAB Treuhand und Verwaltung GmbH & Co. Suhl "Rimbachzentrum" KG	Bad Homburg		Other Enterprise	74.9
238	German American Capital Corporation	Lutherville-Timonium		Financial Institution	100.0
239	Greenheart (Luxembourg) S.à r.l.	Luxembourg		Other Enterprise	100.0
240	Greenwood Properties Corp.	New York	1	Financial Institution	0.0
241	Grundstücksgesellschaft Frankfurt Bockenheimer Landstraße GbR	Troisdorf	2	Other Enterprise	98.7
242	Grundstücksgesellschaft Kerpen-Sindorf Vogelrutherfeld GbR	Troisdorf	2	Other Enterprise	94.0
243	Grundstücksgesellschaft Köln Oppenheimstraße GbR	Troisdorf	2	Ancillary Services Undertaking	100.0
244	Grundstücksgesellschaft Wiesbaden Luisenstraße/Kirchgasse GbR	Troisdorf	2	Other Enterprise	78.7
245	Immobilienfonds Büro-Center Erfurt am Flughafen Bindersleben I GbR	Troisdorf	2	Other Enterprise	90.0
246	Immobilienfonds Wohn- und Geschäftshaus Köln-Blumenberg V GbR	Troisdorf	2	Other Enterprise	99.0
247	ISTRON Beteiligungs- und Verwaltungs-GmbH	Cologne		Ancillary Services Undertaking	100.0
248	IVAF I Manager, S.à r.l.	Luxembourg		Financial Institution	100.0
249	Joint Stock Company Deutsche Bank DBU	Kyiv		Credit Institution	100.0
250	Jyogashima Godo Kaisha	Tokyo		Financial Institution	100.0
251	KEBA Gesellschaft für interne Services mbH	Frankfurt		Ancillary Services Undertaking	100.0
252	Kidson Pte Ltd	Singapore		Financial Institution	100.0
253	Konsul Inkasso GmbH	Essen		Ancillary Services Undertaking	100.0
254	LA Water Holdings Limited	George Town		Financial Institution	75.0
255	LAWL Pte. Ltd.	Singapore		Financial Institution	100.0
256	Leasing Verwaltungsgesellschaft Waltersdorf mbH	Schoenefeld		Financial Institution	100.0
257	Leonardo III Initial GP Limited	London		Financial Institution	100.0
258	MEF I Manager, S. à r.l.	Munsbach		Financial Institution	100.0

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
259	MIT Holdings, Inc.	Baltimore		Financial Institution	100.0
260	MortgageIT Securities Corp.	Wilmington		Ancillary Services Undertaking	100.0
261	MortgageIT, Inc.	New York		Financial Institution	100.0
262	norisbank GmbH	Bonn		Credit Institution	100.0
263	Numis Corporation Limited	London		Financial Institution	100.0
264	Numis Europe Limited	Dublin		Investment Firm	100.0
265	Numis Nominees (Client) Limited	London		Other Enterprise	100.0
266	Numis Nominees (NSI) Limited	London		Other Enterprise	100.0
267	Numis Nominees Limited	London		Other Enterprise	100.0
268	Numis Securities Inc.	Wilmington		Financial Institution	100.0
269	Numis Securities Limited	London		Financial Institution	100.0
270	OOO "Deutsche Bank TechCentre"	Moscow		Ancillary Services Undertaking	100.0
271	OOO "Deutsche Bank"	Moscow		Credit Institution	100.0
272	OPB Verwaltungs- und Treuhand GmbH	Cologne		Financial Institution	100.0
273	OPB-Oktava GmbH	Cologne		Financial Institution	100.0
274	OPPENHEIM Capital Advisory GmbH	Cologne		Financial Institution	100.0
275	OPPENHEIM PRIVATE EQUITY Verwaltungsgesellschaft mbH	Cologne		Financial Institution	100.0
276	PADUS Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf		Financial Institution	100.0
277	Pan Australian Nominees Pty Ltd (in voluntary strike-off)	Sydney		Ancillary Services Undertaking	100.0
278	PB Factoring GmbH	Bonn		Financial Institution	100.0
279	PB Spezial-Investmentaktiengesellschaft mit Teilgesellschaftsvermögen i.A.	Bonn	1	Ancillary Services Undertaking	0.0
280	PCC Services GmbH der Deutschen Bank	Essen		Ancillary Services Undertaking	100.0
281	Plantation Bay, Inc.	St. Thomas		Other Enterprise	100.0
282	Postbank Direkt GmbH	Bonn		Financial Institution	100.0
283	Postbank Filialvertrieb AG	Bonn		Financial Institution	100.0
284	Postbank Finanzberatung AG	Hameln		Other Enterprise	100.0
285	Postbank Immobilien GmbH	Hameln		Other Enterprise	100.0
286	Postbank Leasing GmbH	Bonn		Financial Institution	100.0
287	Prof. Weber GmbH	Mannheim	4	Other Enterprise	100.0
288	PT Deutsche Sekuritas Indonesia	Jakarta		Financial Institution	99.0
289	RoPro U.S. Holding, Inc.	Wilmington		Financial Institution	100.0
290	Route 28 Receivables, LLC	Wilmington		Financial Institution	100.0
291	RREEF America L.L.C.	Wilmington		Financial Institution	100.0
292	RREEF European Value Added I (G.P.) Limited	London		Financial Institution	100.0
293	RREEF Fund Holding LLC	Wilmington		Financial Institution	100.0
294	RREEF India Advisors Private Limited	Mumbai		Other Enterprise	100.0
295	RREEF Management L.L.C.	Wilmington		Ancillary Services Undertaking	100.0
296	SAGITA Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf		Financial Institution	100.0
297	Sal. Oppenheim jr. & Cie. Beteiligungs GmbH	Cologne		Financial Institution	100.0
298	SAPIO Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf		Financial Institution	100.0
299	Sharps SP I LLC	Wilmington		Financial Institution	100.0
300	Stelvio Immobiliare S.r.l.	Bolzano		Other Enterprise	100.0
301	Süddeutsche Vermögensverwaltung Gesellschaft mit beschränkter Haftung	Frankfurt		Financial Institution	100.0
302	TELO Beteiligungsgesellschaft mbH	Schoenefeld		Financial Institution	100.0
303	Tempurrite Leasing Limited (in members' voluntary liquidation)	London		Financial Institution	100.0
304	Thai Asset Enforcement and Recovery Asset Management Company Limited	Bangkok		Financial Institution	100.0
305	Treuinvest Service GmbH	Frankfurt		Other Enterprise	100.0
306	Triplereason Limited	London		Financial Institution	100.0
307	VÖB-ZVD Processing GmbH	Bonn		Payment Institution	100.0
308	WEPLA Beteiligungsgesellschaft mbH	Frankfurt		Financial Institution	100.0

Consolidated structured entities

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
309	Al Mi'yar Capital SA	Luxembourg	5	Other Enterprise	
310	Alguer Inversiones Designated Activity Company	Dublin		Other Enterprise	
311	Alixville Invest, S.L.	Madrid		Other Enterprise	
312	Altersvorsorge Fonds Hamburg Alter Wall Dr. Juncker KG	Frankfurt		Other Enterprise	
313	Atlas Investment Company 1 S.à r.l., en liquidation volontaire	Luxembourg		Financial Institution	
314	Atlas Investment Company 2 S.à r.l., en liquidation volontaire	Luxembourg		Financial Institution	
315	Atlas Investment Company 3 S.à r.l., en liquidation volontaire	Luxembourg		Financial Institution	
316	Atlas Investment Company 4 S.à r.l., en liquidation volontaire	Luxembourg		Financial Institution	
317	Atlas Portfolio Select SPC	George Town		Financial Institution	0.0
318	Atlas SICAV - FIS, en liquidation volontaire	Luxembourg	5	Other Enterprise	
319	Australian Secured Personal Loans Trust	Melbourne		Other Enterprise	100.0
320	Axia Insurance, Ltd.	Hamilton	5	Other Enterprise	
321	Carpathian Investments Designated Activity Company	Dublin		Financial Institution	100.0
322	Cathay Capital Company Limited	Ebène		Financial Institution	9.5
323	Cathay Strategic Investment Company Limited	Hong Kong		Financial Institution	
324	Cathay Strategic Investment Company No. 2 Limited (in voluntary liquidation)	George Town		Financial Institution	
325	Cayman Reference Fund Holdings Limited	George Town		Ancillary Services Undertaking	
326	Ceto S.à r.l.	Luxembourg		Financial Institution	
327	Charitable Luxembourg Four S.à r.l.	Luxembourg		Financial Institution	
328	Charitable Luxembourg Three S.à r.l.	Luxembourg		Financial Institution	
329	Charitable Luxembourg Two S.à r.l.	Luxembourg		Financial Institution	
330	City Leasing (Thameside) Limited	London		Financial Institution	100.0
331	City Leasing Limited	London		Financial Institution	100.0
332	CLASS Limited	St. Helier	5	Other Enterprise	
333	Collins Capital Low Volatility Performance II Special Investments, Ltd.	Road Town		Financial Institution	
334	Crofton Invest, S.L.	Madrid		Other Enterprise	
335	Danube Properties S.à r.l., en faillite	Luxembourg		Other Enterprise	25.0
336	DB Asset Finance I S.à r.l.	Luxembourg		Financial Institution	96.9
337	DB Asset Finance II S.à r.l.	Luxembourg		Financial Institution	96.9
338	DB Aster II, LLC	Wilmington		Ancillary Services Undertaking	100.0
339	DB Aster III, LLC	Wilmington		Ancillary Services Undertaking	100.0
340	DB Aster, Inc.	Wilmington		Financial Institution	100.0
341	DB Aster, LLC	Wilmington		Ancillary Services Undertaking	100.0
342	DB Covered Bond S.r.l.	Conegliano		Financial Institution	90.0
343	DB Credit Investments S.à r.l.	Luxembourg		Financial Institution	100.0
344	DB Finance International GmbH	Frankfurt		Financial Institution	100.0
345	DB Holding Fundo de Investimento Multimercado Investimento no Exterior Crédito Privado	Sao Paulo		Financial Institution	100.0
346	DB Immobilienfonds 1 Wieland KG	Frankfurt		Other Enterprise	
347	DB Impact Investment (GP) Limited	London		Financial Institution	100.0
348	DB Litigation Fee LLC	Wilmington		Financial Institution	100.0
349	DB Municipal Holdings LLC	Wilmington		Ancillary Services Undertaking	100.0
350	DB SPEARs/LIFERs, Series DB-8092 Trust	Wilmington		Ancillary Services Undertaking	0.0
351	DB SPEARs/LIFERs, Series DB-8093 Trust	Wilmington		Ancillary Services Undertaking	0.0
352	DB SPEARs/LIFERs, Series DB-8095 Trust	Wilmington		Ancillary Services Undertaking	0.1
353	DB SPEARs/LIFERs, Series DB-8096 Trust	Wilmington		Ancillary Services Undertaking	0.0
354	DB SPEARs/LIFERs, Series DB-8097 Trust	Wilmington		Ancillary Services Undertaking	0.1
355	DB SPEARs/LIFERs, Series DB-8098 Trust	Wilmington		Ancillary Services Undertaking	0.1
356	DB SPEARs/LIFERs, Series DB-8102 Trust	Wilmington		Ancillary Services Undertaking	0.0
357	DB SPEARs/LIFERs, Series DB-8103 Trust	Wilmington		Ancillary Services Undertaking	0.0
358	DB SPEARs/LIFERs, Series DB-8108 Trust	Wilmington		Ancillary Services Undertaking	0.0
359	DB SPEARs/LIFERs, Series DB-8114 Trust	Wilmington		Ancillary Services Undertaking	0.1
360	DB SPEARs/LIFERs, Series DB-8115 Trust	Wilmington		Ancillary Services Undertaking	0.0
361	DB SPEARs/LIFERs, Series DB-8116 Trust	Wilmington		Ancillary Services Undertaking	0.1
362	DB SPEARs/LIFERs, Series DB-8117 Trust	Wilmington		Ancillary Services Undertaking	0.0
363	DB SPEARs/LIFERs, Series DB-8201 Trust	Wilmington		Ancillary Services Undertaking	0.0
364	DB SPEARs/LIFERs, Series DB-8202 Trust	Wilmington		Ancillary Services Undertaking	0.0
365	DB SPEARs/LIFERs, Series DBE-8052 Trust	Wilmington		Ancillary Services Undertaking	0.0
366	DB SPEARs/LIFERs, Series DBE-8055 Trust	Wilmington		Ancillary Services Undertaking	0.0
367	DB SPEARs/LIFERs, Series DBE-8057 Trust	Wilmington		Ancillary Services Undertaking	0.0
368	DB SPEARs/LIFERs, Series DBE-8060 Trust	Wilmington		Ancillary Services Undertaking	0.0
369	DB SPEARs/LIFERs, Series DBE-8067 Trust	Wilmington		Ancillary Services Undertaking	0.0
370	DB SPEARs/LIFERs, Series DBE-8070 Trust	Wilmington		Ancillary Services Undertaking	0.0
371	DB SPEARs/LIFERs, Series DBE-8071 Trust	Wilmington		Ancillary Services Undertaking	0.0

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
372	DB SPEARs/LIFERs, Series DBE-8081 Trust	Wilmington		Ancillary Services Undertaking	0.0
373	DB SPEARs/LIFERs, Series DBE-8082 Trust	Wilmington		Ancillary Services Undertaking	0.0
374	DB SPEARs/LIFERs, Series DBE-8083 Trust	Wilmington		Ancillary Services Undertaking	0.0
375	DB SPEARs/LIFERs, Series DBE-8085 Trust	Wilmington		Ancillary Services Undertaking	0.0
376	DB SPEARs/LIFERs, Series DBE-8086 Trust	Wilmington		Ancillary Services Undertaking	0.0
377	DB SPEARs/LIFERs, Series DBE-8090 Trust	Wilmington		Ancillary Services Undertaking	0.0
378	DB SPEARs/LIFERs, Series DBE-8094 Trust	Wilmington		Ancillary Services Undertaking	0.0
379	DB SPEARs/LIFERs, Series DBE-8099 Trust	Wilmington		Ancillary Services Undertaking	0.0
380	DB SPEARs/LIFERs, Series DBE-8100 Trust	Wilmington		Ancillary Services Undertaking	0.0
381	DB SPEARs/LIFERs, Series DBE-8101 Trust	Wilmington		Ancillary Services Undertaking	0.0
382	DB SPEARs/LIFERs, Series DBE-8105 Trust	Wilmington		Ancillary Services Undertaking	0.0
383	DB SPEARs/LIFERs, Series DBE-8106 Trust	Wilmington		Ancillary Services Undertaking	0.0
384	DB SPEARs/LIFERs, Series DBE-8107 Trust	Wilmington		Ancillary Services Undertaking	0.0
385	DB SPEARs/LIFERs, Series DBE-8109 Trust	Wilmington		Ancillary Services Undertaking	0.0
386	DB SPEARs/LIFERs, Series DBE-8110 Trust	Wilmington		Ancillary Services Undertaking	0.0
387	DB SPEARs/LIFERs, Series DBE-8112 Trust	Wilmington		Ancillary Services Undertaking	0.0
388	DB SPEARs/LIFERs, Series DBE-8113 Trust	Wilmington		Ancillary Services Undertaking	0.0
389	DB SPEARs/LIFERs, Series DBE-8118 Trust	Wilmington		Ancillary Services Undertaking	0.0
390	DB SPEARs/LIFERs, Series DBE-8902 Trust	Newark		Ancillary Services Undertaking	0.0
391	DB SPEARs/LIFERs, Series DBE-8908 Trust	Newark		Ancillary Services Undertaking	0.0
392	DB Structured Holdings Luxembourg S.à r.l.	Luxembourg		Financial Institution	100.0
393	DBRE Global Real Estate Management US IB, L.L.C.	Wilmington		Financial Institution	100.0
394	DBX ETF Trust	Wilmington	5	Other Enterprise	
395	De Heng Asset Management Company Limited	Beijing		Financial Institution	
396	Deloraine Spain, S.L.	Madrid		Other Enterprise	
397	Deutsche Bank Luxembourg S.A. - Fiduciary Deposits	Luxembourg	5	Other Enterprise	
398	Deutsche Bank Luxembourg S.A. - Fiduciary Note Programme	Luxembourg	5	Other Enterprise	
399	Deutsche Colombia S.A.S.	Bogotá		Financial Institution	100.0
400	Deutsche Postbank Funding LLC I	Wilmington		Financial Institution	100.0
401	Deutsche Postbank Funding LLC III	Wilmington		Financial Institution	100.0
402	Deutsche Postbank Funding Trust I	Newark		Financial Institution	100.0
403	Deutsche Postbank Funding Trust III	Newark		Financial Institution	100.0
404	DWS Access S.A.	Luxembourg	5	Other Enterprise	
405	DWS Alternatives (IE) ICAV	Dublin		Other Enterprise	
406	DWS Funds	Luxembourg	5	Other Enterprise	
407	DWS Garant	Luxembourg	5	Other Enterprise	
408	DWS Invest	Luxembourg	5	Other Enterprise	
409	DWS Invest (IE) ICAV	Dublin		Other Enterprise	
410	DWS Zeitwert Protect	Luxembourg		Other Enterprise	
411	DWS-Fonds Treasury Liquidity (EUR)	Frankfurt		Other Enterprise	100.0
412	Dynamic Infrastructure Securities Fund LP	Wilmington		Financial Institution	
413	Earls Four Limited	George Town	5	Other Enterprise	
414	Einkaufszentrum "HVD Dresden" S.à.r.l & Co. KG i.I.	Cologne		Other Enterprise	
415	Eirles Three Designated Activity Company	Dublin	5	Other Enterprise	
416	Emerald Asset Repackaging Designated Activity Company	Dublin		Financial Institution	100.0
417	Emerging Markets Capital Protected Investments Limited	George Town	5	Other Enterprise	
418	Emeris	George Town		Financial Institution	
419	Encina Property Finance Designated Activity Company	Dublin		Financial Institution	
420	Epicuro SPV S.r.l.	Conegliano		Other Enterprise	
421	ERET Lux 1 S.à r.l.	Luxembourg		Other Enterprise	100.0
422	Erste Frankfurter Hoist GmbH	Frankfurt		Financial Institution	100.0
423	European Real Estate Transformation Fund S.C.A. SICAV-RAIF	Luxembourg		Other Enterprise	99.9
424	Fondo Privado de Titulización PYMES I Designated Activity Company	Dublin		Other Enterprise	
425	Freddie Mac Class A Taxable Multifamily M Certificates Series M-037	McLean		Ancillary Services Undertaking	100.0
426	Freddie Mac Class A Taxable Multifamily M Certificates Series M-039	McLean		Ancillary Services Undertaking	100.0
427	Freddie Mac Class A Taxable Multifamily M Certificates Series M-040	McLean		Ancillary Services Undertaking	100.0
428	Freddie Mac Class A Taxable Multifamily M Certificates Series M-041	McLean		Ancillary Services Undertaking	100.0
429	Freddie Mac Class A Taxable Multifamily M Certificates Series M-043	McLean		Ancillary Services Undertaking	100.0
430	Freddie Mac Class A Taxable Multifamily M Certificates Series M-044	McLean		Ancillary Services Undertaking	100.0
431	Freddie Mac Class A Taxable Multifamily M Certificates Series M-047	McLean		Ancillary Services Undertaking	100.0
432	G.O. IB-US Management, L.L.C.	Wilmington		Financial Institution	100.0

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
433	GAC-HEL, Inc.	Wilmington		Ancillary Services Undertaking	100.0
434	Galene S.à r.l.	Luxembourg		Other Enterprise	
435	Gladyr Spain, S.L.	Madrid		Other Enterprise	
436	Global Opportunities Co-Investment Feeder, LLC	Wilmington		Financial Institution	
437	Global Opportunities Co-Investment, LLC	George Town		Financial Institution	
438	GWC-GAC Corp.	Wilmington		Ancillary Services Undertaking	100.0
439	Havbell Designated Activity Company	Dublin		Other Enterprise	
440	Histria Inversiones Designated Activity Company	Dublin		Financial Institution	
441	Infrastructure Debt Fund S.C.Sp. SICAV-RAIF	Luxembourg		Other Enterprise	
442	Inn Properties S.à r.l., en faillite	Luxembourg		Other Enterprise	25.0
443	Investor Solutions Limited	St. Helier	5	Other Enterprise	
444	Isar Properties S.à r.l., en faillite	Luxembourg		Other Enterprise	25.0
445	IVAF (Jersey) Limited	St. Helier		Ancillary Services Undertaking	
446	Kelona Invest, S.L.	Madrid		Other Enterprise	
447	Kelsey Street LLC	Wilmington		Ancillary Services Undertaking	100.0
448	KH Kitty Hall Holdings Limited	Galway		Financial Institution	
449	Kratus Inversiones Designated Activity Company	Dublin		Financial Institution	
450	Ledyard, S.L.	Madrid		Other Enterprise	
451	87 Leonard Development LLC	Wilmington		Ancillary Services Undertaking	100.0
452	Life Mortgage S.r.l.	Conegliano		Other Enterprise	
453	Lindsell Finance Limited	St. Julian's		Ancillary Services Undertaking	100.0
454	Lockwood Invest, S.L.	Madrid		Financial Institution	
455	London Industrial Leasing Limited	London		Financial Institution	100.0
456	Lunashadow Limited	Dublin		Financial Institution	
457	Malabo Holdings Designated Activity Company	Dublin		Financial Institution	
458	Merlin XI	George Town		Financial Institution	
459	Meseta Inversiones Designated Activity Company	Dublin		Other Enterprise	
460	Motion Picture Productions One GmbH & Co. KG	Frankfurt	2	Financial Institution	100.0
461	MPP Beteiligungsgesellschaft mbH	Frankfurt		Financial Institution	100.0
462	Navegator - SGFTC, S.A.	Lisbon		Ancillary Services Undertaking	100.0
463	NCW Holding Inc.	Vancouver		Financial Institution	100.0
464	New 87 Leonard, LLC	Wilmington		Financial Institution	100.0
465	Oasis Securitisation S.r.l.	Conegliano	1	Other Enterprise	0.0
466	Oder Properties S.à r.l., en faillite	Luxembourg		Other Enterprise	25.0
467	Opus Niestandardowy Sekurytyzacyjny Fundusz Inwestycyjny Zamkniety	Warsaw		Other Enterprise	
468	OTTAM Mexican Capital Trust Designated Activity Company	Dublin	5	Other Enterprise	
469	Palladium Global Investments S.A.	Luxembourg	5	Other Enterprise	
470	Palladium Securities 1 S.A.	Luxembourg	5	Other Enterprise	
471	PanAsia Funds Investments Ltd.	George Town	5	Financial Institution	
472	PARTS Funding, LLC	Wilmington		Financial Institution	100.0
473	PEIF II SLP Feeder 2 LP	Edinburgh		Financial Institution	100.0
474	PEIF III SLP Feeder GP, S.à r.l.	Senningerberg		Financial Institution	
475	PEIF III SLP Feeder, SCSp	Senningerberg		Other Enterprise	55.1
476	Peruda Leasing Limited (in members' voluntary liquidation)	London		Financial Institution	100.0
477	Philippine Opportunities for Growth and Income (SPV-AMC), INC.	Makati City		Financial Institution	95.0
478	Property Debt Fund S.C.Sp. SICAV-RAIF	Luxembourg		Other Enterprise	
479	PUTTERs/DRIVERS, Series 3004 Trust	Wilmington		Ancillary Services Undertaking	14.5
480	PUTTERs/DRIVERS, Series 3005DB Trust	Wilmington		Ancillary Services Undertaking	13.4
481	PUTTERs/DRIVERS, Series 3006DB Trust	Wilmington		Ancillary Services Undertaking	5.0
482	PUTTERs/DRIVERS, Series 3007DB Trust	Wilmington		Ancillary Services Undertaking	16.7
483	QR Tower 2, LLC	Wilmington		Ancillary Services Undertaking	100.0
484	Radical Properties Unlimited Company	Dublin		Financial Institution	
485	Reference Capital Investments Limited (in members' voluntary liquidation)	London		Financial Institution	100.0
486	Rhine Properties S.à r.l., en faillite	Luxembourg		Other Enterprise	25.0
487	Riviera Real Estate	Paris		Other Enterprise	100.0
488	ROCKY 2021-1 SPV S.r.l.	Conegliano		Other Enterprise	
489	Romareda Holdings Designated Activity Company	Dublin		Financial Institution	
490	RREEF Core Plus Residential Fund LP	Wilmington		Other Enterprise	100.0
491	RREEF DCH, L.L.C.	Wilmington		Financial Institution	100.0
492	Samburg Invest, S.L.	Madrid		Other Enterprise	
493	SCB Alpspitz UG (haftungsbeschränkt)	Frankfurt		Financial Institution	
494	Seaconview Designated Activity Company	Dublin		Other Enterprise	
495	SGI SLP Feeder GP S.à.r.l.	Senningerberg		Financial Institution	
496	SGI SLP Feeder SCSp	Senningerberg		Financial Institution	56.0
497	Singer Island Tower Suite LLC	Wilmington		Ancillary Services Undertaking	100.0
498	Somkid Immobiliare S.r.l.	Conegliano		Other Enterprise	100.0
499	SP Mortgage Trust	Wilmington		Other Enterprise	100.0

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
500	SPV I Sociedad Anónima Cerrada	Lima		Financial Institution	99.9
501	SPV II Sociedad Anónima Cerrada	Lima		Ancillary Services Undertaking	99.8
502	Style City Limited	Dublin		Financial Institution	
503	Sunrise Turnaround Partners G.K.	Tokyo		Financial Institution	100.0
504	Swabia 1 Designated Activity Company	Dublin		Other Enterprise	
505	Swabia 1. Vermögensbesitz-GmbH	Frankfurt		Financial Institution	100.0
506	Tagus - Sociedade de Titularização de Creditos, S.A.	Lisbon		Other Enterprise	100.0
507	Tasman NZ Residential Mortgage Trust	Auckland		Other Enterprise	
508	Tech Venture Growth Portfolio, F.C.R.	Madrid		Financial Institution	100.0
509	Tech Venture Growth S.C.R., S.A.	Madrid		Financial Institution	100.0
510	Timing Chance Multi Asset Income	Frankfurt		Other Enterprise	100.0
511	Trave Properties S.à r.l., en faillite	Luxembourg		Other Enterprise	25.0
512	VCJ Lease S.à r.l.	Luxembourg		Other Enterprise	100.0
513	Vermögensfondmandat Flexible (80% teilgeschützt)	Luxembourg		Other Enterprise	
514	Waltzfire Limited	Dublin		Financial Institution	
515	Wedverville Spain, S.L.	Madrid		Other Enterprise	
516	Wendelstein 2017-1 UG (haftungsbeschränkt)	Frankfurt		Other Enterprise	
517	5353 WHMR LLC	Wilmington		Other Enterprise	100.0
518	Xtrackers (IE) Public Limited Company	Dublin	5	Other Enterprise	0.0
519	Xtrackers II	Luxembourg	5	Other Enterprise	0.1
520	Zumirez Drive LLC	Wilmington		Ancillary Services Undertaking	100.0

Companies accounted for at equity

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
521	A.C.N. 603 303 126 Pty Ltd	Melbourne		Financial Institution	19.5
522	AKA Ausfuhrkredit-Gesellschaft mit beschränkter Haftung	Frankfurt		Credit Institution	26.9
523	Arabesque AI Ltd	London		Financial Institution	24.3
524	BANKPOWER GmbH Personaldienstleistungen	Frankfurt		Other Enterprise	30.0
525	Bestra Gesellschaft für Vermögensverwaltung mit beschränkter Haftung	Duesseldorf		Financial Institution	49.0
526	Deutsche Börse Commodities GmbH	Eschborn		Other Enterprise	16.2
527	Deutsche Zurich Pensiones Entidad Gestora de Fondos de Pensiones, S.A.	Barcelona		Other Enterprise	50.0
528	Deutscher Pensionsfonds Aktiengesellschaft	Cologne		Other Enterprise	25.1
529	DIL Internationale Leasinggesellschaft mbH i.L.	Duesseldorf		Financial Institution	50.0
530	Domus Beteiligungsgesellschaft der Privaten Bausparkassen mbH	Berlin		Financial Holding Company	21.1
531	dwins GmbH	Frankfurt		Other Enterprise	17.8
532	Elbe Properties S.à r.l., en faillite clôturée	Luxembourg		Other Enterprise	25.0
533	Evoenergiaki Anonymi Etaireia	Athens	6	Other Enterprise	40.0
534	FSDB Merchant Services GmbH	Frankfurt		Other Enterprise	49.0
535	Fünfe SAB Treuhand und Verwaltung GmbH & Co. "Leipzig-Magdeburg" KG	Bad Homburg		Other Enterprise	41.2
536	Fünfe SAB Treuhand und Verwaltung GmbH & Co. Dresden "Louisenstraße" KG	Bad Homburg		Other Enterprise	30.6
537	G.O. IB-SIV Feeder, L.L.C.	Wilmington		Financial Institution	15.7
538	Gesellschaft für Kreditsicherung mit beschränkter Haftung	Berlin		Other Enterprise	36.7
539	Grundstücksgesellschaft Karlsruhe Kaiserstraße GbR	Troisdorf	2	Other Enterprise	40.1
540	Grundstücksgesellschaft Köln-Merheim Winterberger Straße GbR	Troisdorf	2	Other Enterprise	41.6
541	Grundstücksgesellschaft Leipzig Petersstraße GbR	Troisdorf	2, 7	Other Enterprise	62.1
542	Grundstücksgesellschaft Mietwohnhäuser Leipzig-Gohlis GbR	Troisdorf		Other Enterprise	25.0
543	Grundstücksgesellschaft München Synagogenplatz GbR	Troisdorf	2	Other Enterprise	26.0
544	Harvest Fund Management Co., Ltd.	Shanghai		Financial Institution	30.0
545	Huarong Rongde Asset Management Company Limited	Beijing		Financial Institution	40.7
546	ILV Immobilien-Leasing Verwaltungsgesellschaft Düsseldorf mbH	Duesseldorf	6	Financial Institution	50.0
547	Immobilienfonds Büro Center Erfurt am Flughafen Bindersleben III GbR	Troisdorf	2	Other Enterprise	20.7
548	Immobilienfonds Bürohaus Düsseldorf Grafenberg GbR	Troisdorf	2	Other Enterprise	39.0
549	Immobilienfonds Bürohaus Düsseldorf Parsevalstraße GbR	Cologne	2	Other Enterprise	30.5
550	Immobilienfonds Köln-Deutz Arena und Mantelbebauung GbR	Troisdorf	2	Other Enterprise	28.9
551	Immobilienfonds Köln-Ossendorf II GbR	Troisdorf	2	Other Enterprise	40.3
552	Ingrid S.à r.l.	Luxembourg	6	Other Enterprise	23.8
553	Inversiones Pico Espadas S.A.	Castellbisbal		Other Enterprise	21.6
554	iSwap Limited	London		Financial Institution	14.0
555	IZI Düsseldorf Informations-Zentrum Immobilien Gesellschaft mit beschränkter Haftung i.L.	Duesseldorf		Financial Institution	22.9
556	IZI Düsseldorf Informations-Zentrum Immobilien GmbH & Co. Kommanditgesellschaft i.L.	Duesseldorf		Other Enterprise	22.9
557	KVD Singapore Pte. Ltd.	Singapore		Financial Institution	25.9
558	Latitude Group Holdings Limited	Melbourne		Financial Institution	16.5
559	MorgenFund GmbH	Frankfurt		Investment Firm	30.0
560	North Coast Wind Energy Corp.	Port Moody	6	Other Enterprise	50.0
561	Palma Topco Limited	St. Helier		Ancillary Services Undertaking	22.8
562	PERILLA Beteiligungsgesellschaft mbH	Duesseldorf		Financial Institution	50.0
563	REDUS DTHG, LLC	Wilmington		Other Enterprise	49.9
564	Relax Holding S.à r.l., en procédure de dissolution administrative sans liquidation	Luxembourg		Other Enterprise	20.0
565	SRC Security Research & Consulting GmbH	Bonn		Other Enterprise	22.5
566	Starpool Finanz GmbH	Berlin		Other Enterprise	49.9
567	Syndicated Loan Consortium Holdings LLC	Wilmington		Other Enterprise	7.0
568	Taurus SA	Geneva		Financial Institution	4.2
569	Trade Information Network Limited	London	6	Other Enterprise	18.6
570	TRAXPAY GmbH	Frankfurt		Other Enterprise	2.4
571	Triton Beteiligungs S.à r.l., en liquidation volontaire	Luxembourg		Other Enterprise	33.1
572	U.S.A. ITCF XCI L.P.	New York	7	Other Enterprise	99.9
573	UKEM Motoryacht Medici Mangusta GbR	Troisdorf	8	Other Enterprise	0.0
574	Ullmann Krockow Esch GbR	Troisdorf	8	Other Enterprise	0.0
575	Ullmann, Krockow, Esch Luftverkehrsgesellschaft bürgerlichen Rechts	Troisdorf	8	Other Enterprise	0.0
576	Volbroker.com Limited	Rochford		Financial Institution	22.5
577	Weser Properties S.à r.l., en faillite clôturée	Luxembourg		Other Enterprise	25.0

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
578	zeitinvest-Service GmbH	Frankfurt		Other Enterprise	25.0
579	Zhong De Securities Co., Ltd	Beijing	6	Financial Institution	33.3
580	ZYRUS Beteiligungsgesellschaft mbH i.L.	Schoenefeld		Financial Institution	25.0

Other companies, where the holding exceeds 20%

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
581	ABATE Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
582	ABRI Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
583	ACHTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
584	ACHTZEHNTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
585	ACIS Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
586	ACTIO Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
587	ADEO Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
588	ADLAT Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
589	ADMANU Beteiligungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
590	AGLOM Beteiligungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
591	AGUM Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
592	ALANUM Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
593	ALTA Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
594	ANDOT Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
595	AVOC Beteiligungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
596	Banks Island General Partner Inc.	Toronto	9	Financial Institution	50.0
597	Benefit Trust GmbH	Luetzen	10, 11	Financial Institution	100.0
598	BIMES Beteiligungsgesellschaft mbH i.L.	Schoenefeld	9	Financial Institution	50.0
599	BLI Beteiligungsgesellschaft für Leasinginvestitionen mbH	Duesseldorf	9	Financial Institution	33.2
600	BLI Internationale Beteiligungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	32.0
601	Cedar (Luxembourg) S.à r.l.	Luxembourg	7, 11	Financial Institution	98.2
602	DB Advisors SICAV	Luxembourg	11, 12	Other Enterprise	100.0
603	DB Placement, LLC	Wilmington	7, 11	Other Enterprise	100.0
604	DB Real Estate Global Opportunities IB (Offshore), L.P.	Camana Bay	9	Financial Institution	33.6
605	DBG Eastern Europe II L.P.	St. Helier	13	Financial Institution	25.9
606	Deutsche River Investment Management Company S.à r.l., en faillite clôturée	Luxembourg	9	Financial Institution	49.0
607	DONARUM Holding GmbH	Duesseldorf	9	Financial Institution	50.0
608	DREIUNDZWANZIGSTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH i.L.	Duesseldorf	9	Other Enterprise	50.0
609	DREIZEHNTTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
610	DRITTE Fonds-Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
611	DRITTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
612	DWS Offshore Infrastructure Debt Opportunities Feeder LP	George Town	9, 14	Financial Institution	26.3
613	EINUNDZWANZIGSTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
614	ELC Logistik-Centrum Verwaltungs-GmbH	Duesseldorf	9	Financial Institution	50.0
615	ELFTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
616	FÜNFTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
617	FÜNFZEHNTTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
618	Glor Music Production GmbH & Co. KG	Rottach-Egern	13	Other Enterprise	29.5
619	GLOR Music Production II GmbH & Co. KG	Rottach-Egern	13	Other Enterprise	28.6
620	HR "Simone" GmbH & Co. KG i.L.	Jork	13	Other Enterprise	24.3
621	Immobilien-Vermietungsgesellschaft Schumacher GmbH & Co. Objekt Rolandauf der KG i.L.	Berlin	9	Financial Institution	20.5
622	Intermodal Finance I Ltd.	George Town	9	Other Enterprise	49.0
623	Isaac Newton S.à r.l.	Capellen	7, 11, 15	Other Enterprise	98.2
624	Kinneil Leasing Company	London	9	Other Enterprise	35.0
625	KOMPASS 3 Beteiligungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
626	M Cap Finance Mittelstandsfonds GmbH & Co. KG	Frankfurt	7, 13, 16	Financial Institution	77.1
627	M Cap Finance Mittelstandsfonds III GmbH & Co. KG	Frankfurt	13, 17	Financial Institution	35.4
628	MCT Südafrika 3 GmbH & Co. KG i.L.	Hamburg	13	Other Enterprise	39.0
629	MT "CAPE BEALE" Tankschiffahrts GmbH & Co. KG i.L.	Hamburg	13	Other Enterprise	34.0
630	MT "KING DANIEL" Tankschiffahrts UG (haftungsbeschränkt) & Co. KG i.L.	Hamburg	13	Other Enterprise	32.8
631	MT "KING DOUGLAS" Tankschiffahrts UG (haftungsbeschränkt) & Co. KG i.L.	Hamburg	13	Other Enterprise	33.0
632	NBG Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
633	NEUNTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
634	NEUNZEHNTTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
635	Nexus Infrastruktur Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
636	NOFA Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
637	OPPENHEIM Buy Out GmbH & Co. KG i.L.	Cologne	1, 2, 9	Financial Institution	27.7
638	PADEM Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
639	PALDO Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
640	PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
641	PENDIS Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
642	PENTUM Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
643	PERGUM Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
644	PERLIT Mobilien-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
645	PERLU Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
646	PERNIO Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
647	PERXIS Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
648	PETA Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
649	PONTUS Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
650	PRADUM Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
651	PRASEM Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
652	PRISON Grundstücks-Vermietungsgesellschaft mbH	Schoenefeld	9	Financial Institution	50.0
653	Private Equity Invest Beteiligungs GmbH	Duesseldorf	9	Financial Institution	50.0
654	Private Equity Life Sciences Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
655	PUDU Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
656	PURIM Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
657	QUANTIS Grundstücks-Vermietungsgesellschaft mbH	Schoenefeld	9	Financial Institution	50.0
658	QUELLUM Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
659	QUOTAS Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
660	SABIS Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
661	SALIX Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
662	SALUS Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
663	SALUS Grundstücks-Vermietungsgesellschaft mbH & Co. Objekt Dresden KG i.L.	Duesseldorf	11	Financial Institution	58.5
664	SANCTOR Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
665	SANDIX Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
666	SANO Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
667	SARIO Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
668	SATINA Mobilien-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
669	SCANDO Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
670	Schumacher Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	33.2
671	SCITOR Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
672	SCITOR Grundstücks-Vermietungsgesellschaft mbH & Co. Objekt Heiligenstadt KG i.L.	Duesseldorf	11	Financial Institution	71.1
673	SECHSTE Fonds-Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
674	SECHSTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
675	SECHZEHNT PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
676	SEGES Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
677	SEGU Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
678	SELEKTA Grundstücksverwaltungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
679	SENA Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
680	SENA Grundstücks-Vermietungsgesellschaft mbH & Co. Objekt Kamenz KG	Duesseldorf	7, 11	Financial Institution	100.0
681	SERICA Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
682	SIDA Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
683	SIEBTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
684	SIEBZEHNT PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
685	SIFA Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	11	Financial Institution	100.0
686	SILEX Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
687	SILUR Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
688	SOLATOR Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
689	SOLIDO Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	11	Other Enterprise	100.0
690	SOLON Grundstücks-Vermietungsgesellschaft mbH i.L.	Schoenefeld	9	Financial Institution	50.0
691	SOLUM Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
692	SOMA Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
693	SOREX Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
694	SOSPITA Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
695	STAGIRA Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
696	SUPERA Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
697	SUPLION Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
698	SUSA Mobilien-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
699	SUSIK Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
700	TABA Grundstücks-Vermietungsgesellschaft mbH	Schoenefeld	9	Financial Institution	50.0
701	TACET Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
702	TAGO Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
703	TAGUS Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
704	TAKIR Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	11	Financial Institution	100.0
705	TESATUR Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
706	TESATUR Beteiligungsgesellschaft mbH & Co. Objekt Halle I KG i.L.	Duesseldorf	11	Financial Institution	100.0
707	TESATUR Beteiligungsgesellschaft mbH & Co. Objekt Nordhausen I KG i.L.	Duesseldorf	11	Financial Institution	100.0
708	TIEDO Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
709	TOSSA Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	11	Financial Institution	100.0
710	TRAGO Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
711	TREMA Grundstücks-Vermietungsgesellschaft mbH	Berlin	9	Financial Institution	50.0
712	TRENTO Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
713	TRIPLA Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	11	Financial Institution	100.0
714	TYRAS Beteiligungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
715	VIERTE Fonds-Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
716	VIERTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
717	VIERUNDZWANZIGSTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
718	VIERZEHNT PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
719	XELLUM Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
720	XENTIS Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
721	XERA Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
722	ZABATUS Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
723	ZAKATUR Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
724	ZARGUS Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
725	ZEA Beteiligungsgesellschaft mbH	Schoenefeld	9	Financial Institution	25.0
726	ZEHNTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
727	ZENO Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
728	ZEREVIS Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
729	ZERGUM Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
730	ZIDES Grundstücks-Vermietungsgesellschaft mbH	Schoenefeld	9	Financial Institution	50.0
731	ZIMBEL Grundstücks-Vermietungsgesellschaft mbH i.L.	Schoenefeld	9	Financial Institution	50.0
732	ZINUS Grundstücks-Vermietungsgesellschaft mbH i.L.	Schoenefeld	9	Financial Institution	50.0
733	ZIRAS Grundstücks-Vermietungsgesellschaft mbH	Schoenefeld	9	Financial Institution	50.0
734	ZITON Grundstücks-Vermietungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
735	ZITUS Grundstücks-Vermietungsgesellschaft mbH i.L.	Schoenefeld	9	Financial Institution	50.0
736	ZONTUM Grundstücks-Vermietungsgesellschaft mbH i.L.	Duesseldorf	9	Financial Institution	50.0
737	ZWANZIGSTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
738	ZWEITE Fonds-Beteiligungsgesellschaft mbH	Duesseldorf	9	Financial Institution	50.0
739	ZWEITE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
740	ZWEIUNDZWANZIGSTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH i.L.	Duesseldorf	9	Other Enterprise	50.0
741	ZWÖLFTE PAXAS Treuhand- und Beteiligungsgesellschaft mbH	Duesseldorf	9	Other Enterprise	50.0
742	ZYLU M Beteiligungsgesellschaft mbH i.L.	Schoenefeld	9	Financial Institution	25.0

Holdings in large corporations, where the holding exceeds 5% of the voting rights

Serial No.	Name of company	Domicile of company	Foot-note	Nature of activity	Share of Capital in %
743	ABRAAJ Holdings (in official liquidation)	Camana Bay		Financial Institution	8.8
744	BÜRGSCHAFTSBANK BRANDENBURG GmbH	Potsdam		Financial Institution	8.5
745	Bürgschaftsbank Hamburg GmbH	Hamburg		Financial Institution	8.7
746	Bürgschaftsbank Mecklenburg-Vorpommern GmbH	Schwerin		Financial Institution	8.4
747	Bürgschaftsbank Sachsen GmbH	Dresden		Financial Institution	6.3
748	Bürgschaftsbank Sachsen-Anhalt GmbH	Magdeburg		Financial Institution	8.2
749	Bürgschaftsbank Schleswig-Holstein Gesellschaft mit beschränkter Haftung	Kiel		Financial Institution	5.6
750	Bürgschaftsbank Thüringen GmbH	Erfurt		Financial Institution	8.7
751	MTS S.p.A.	Rome		Other Enterprise	5.0
752	Prader Bank S.p.A.	Bolzano		Credit Institution	9.0
753	Private Export Funding Corporation	Wilmington		Financial Institution	6.0
754	Saarländische Investitionskreditbank Aktiengesellschaft	Saarbruecken		Credit Institution	11.8
755	Yensai.com Co., Ltd.	Tokyo		Financial Institution	7.8

45 – Interest rate benchmark reform

On June 30, 2023, Deutsche Bank materially completed the transition of its remaining transactions linked to USD LIBOR rates. All positions previously referencing CHF LIBOR, JPY LIBOR, EUR LIBOR and EONIA were transitioned in 2022. Positions referencing GBP LIBOR and USD LIBOR tenors that ceased in early 2022 have been materially transitioned to an alternative reference rate.

The bank panel to determine the USD LIBOR permanently ceased as of June 30, 2023, but certain short-term US dollar LIBOR settings will continue to be published using a synthetic methodology until September 30, 2024. Remaining USD LIBOR exposure post cessation relate to positions temporarily utilizing the last available LIBOR fixing or synthetic LIBOR. These positions are closely monitored and are on track for transition. As of December 31, 2023, Deutsche Bank's financial instruments notional exposure linked to synthetic USD LIBOR settings is € 3.6 billion, thereof Derivatives: € 0.1 billion, Non-Derivative financial assets: € 1.1 billion, Non-Derivative financial liabilities: € 2.4 billion. As of December 31, 2022, notional exposure of positions referencing USD LIBOR was: € 5,975 billion, thereof Derivatives: € 5,897 billion, Non-Derivative financial assets: € 34 billion, Non-Derivative financial liabilities: € 9 billion and Off-balance sheet commitments: € 35 billion.

Confirmations

Independent auditor's report

To Deutsche Bank Aktiengesellschaft, Frankfurt am Main

Report on the audit of the consolidated financial statements and of the group management report

Opinions

We have audited the consolidated financial statements of Deutsche Bank Aktiengesellschaft, Frankfurt am Main, and its subsidiaries (the group), which comprise the consolidated balance sheet as at 31 December 2023, and the consolidated statement of income, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the fiscal year from 1 January 2023 to 31 December 2023, and notes to the consolidated financial statements, including a summary of material accounting policies. In addition, we have audited the group management report of Deutsche Bank Aktiengesellschaft, Frankfurt am Main, which is combined with the management report of the Bank, for the fiscal year from 1 January 2023 to 31 December 2023. In accordance with the German legal requirements, we have not audited the last paragraph of the section "Risk management principles (chapter risk report)" of the group management report regarding management's statement on the risk management framework and internal control system and the content of the combined "Corporate Governance Statement pursuant to Sec. 289f and 315d HGB" which is published on the website stated in the group management report and is part of the group management report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU, and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB and, in compliance with these requirements, give a true and fair view of the assets, liabilities and financial position of the group as at 31 December 2023 and of its financial performance for the fiscal year from 1 January 2023 to 31 December 2023, and
- the accompanying group management report as a whole provides an appropriate view of the group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. We do not express an opinion on the last paragraph of the section risk management principles (chapter "risk report") of the group management report regarding management's statement on the risk management framework and internal control system referred to above or the content of the combined statement on corporate governance referred to above.

Pursuant to Sec. 322 (3) Sentence 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with Sec. 317 HGB and the EU Audit Regulation (No 537/2014, referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Art. 10 (2) f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Art. 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions on the consolidated financial statements and on the group management report.

Key audit matters in the audit of the consolidated financial statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the fiscal year from 1 January 2023 to 31 December 2023. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon; we do not provide a separate opinion on these matters.

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

1. Valuation of level 3 financial instruments and related inputs not quoted in active markets

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

Management uses valuation techniques to establish the fair value of level 3 financial instruments and related inputs not quoted in active markets. The Group held level 3 financial assets and financial liabilities measured at fair value of EUR 25,599 million and EUR 10,856 million as of 31 December 2023. The relevant financial instruments are reported within financial assets and liabilities at fair value through profit or loss, and financial assets at fair value through other comprehensive income.

Financial instruments and related inputs that are not quoted in active markets include structured derivatives valued using complex models; more-complex or illiquid OTC derivatives; distressed debt; highly-structured bonds; illiquid loans, including those relating to commercial real estate; credit spreads used to determine valuation adjustments; and other significant inputs which cannot be observed for financial instruments with longer-dated maturities.

As the valuation of level 3 financial instruments and related inputs not quoted in active markets is based to a high degree on management's assumptions and judgments due to the complex nature of the valuation techniques and models being utilized and the unobservability of the significant inputs used, this is a key audit matter.

Auditor's response

We obtained an understanding, evaluated the design and tested the operating effectiveness of the controls over management's processes to determine fair value of financial instruments and determination of significant unobservable inputs therein. This includes controls relating to independent price verification; independent validation of valuation models, including assessment of model limitations; monitoring of valuation model usage; and calculation of fair value adjustments.

We evaluated the valuation techniques, models and methodologies, and tested the significant inputs used in those models. We performed an independent revaluation of a sample of derivatives and other financial instruments at fair value that are not quoted in active markets, using independent models and inputs. We also independently assessed the reasonableness of a sample of proxy inputs used by comparing to market data sources and evaluated their relevance to the related financial instruments.

In addition, we evaluated the methodology and inputs used by management in determining fair value adjustments against the requirements of IFRS 13 and performed recalculations for a sample of these valuation adjustments using our own independent data and methodology.

We involved internal financial instruments valuation specialists in the procedures related to valuation models, independent revaluation and fair value adjustments.

Our procedures did not lead to any reservations relating to the valuation of level 3 financial instruments and related inputs not quoted in active markets.

Reference to related disclosures

Information on the valuation techniques, models and methodologies used in the measurement of fair value is provided in notes 1 and 13 of the notes to the consolidated financial statements.

2. Inclusion of forward-looking information in the model-based calculation of expected credit losses

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

As of 31 December 2023, the Group recognized an allowance for credit losses of EUR 5,726 million, with EUR 1,358 million relating to stage 1 and stage 2 allowances.

The estimated probabilities of default (PD) used in the model-based calculation of expected credit losses on non-defaulted financial instruments (IFRS 9 stage 1 and stage 2) are based on historical information, combined with current economic developments and forward-looking macroeconomic forecasts (e.g., gross domestic product and unemployment rates). Statistical techniques are used to transform the base scenario for future macroeconomic developments into multiple scenarios. These scenarios are the basis for deriving multi-year PD curves for different rating and counterparty classes, which are used in the calculation of expected credit losses.

Given the economic uncertainties regarding pronounced movements in interest rates, current geopolitical conflicts and other sources of volatility impacting macroeconomic variables, the estimation of forward-looking information requires significant judgment. To reflect these uncertainties, management must assess whether to make adjustments to its standard process for inclusion of macroeconomic variables into the expected credit loss model and forecasting methods, either by adjusting the macroeconomic variables or through the inclusion of management overlays.

In view of the significant holdings of non-defaulted financial instruments subject to impairment under IFRS 9 and the economic uncertainty and significant use of judgment, we consider the inclusion of forward-looking information in the model-based calculation of expected credit losses, and any adjustments thereof, to be a key audit matter.

Auditor's response

We obtained an understanding of the processes implemented by management, assessed the design of the controls over the selection, determination, monitoring and validation of forward-looking information in respect of the requirements under IFRS 9, and tested their operating effectiveness.

We evaluated management's review of its expected credit loss model and forecasting methods conducted through the model validation process. Furthermore, we evaluated the methods used to include the selected variables in the baseline scenario and the derivation of the multiple scenarios.

We assessed the baseline macroeconomic forecasts by comparing them with macroeconomic forecasts published by external sources.

We also evaluated the methodology applied by management to determine whether to adjust its standard process for inclusion of macroeconomic variables or to adjust the model results through management overlays. In doing so, we assessed the results of management's sensitivity analysis and compared the macroeconomic variables used to our own benchmark analysis. We also assessed that the adjustments were included in the calculation of expected credit losses according to management's methodology.

To assess the inclusion of forward-looking information in the model-based calculation of expected credit losses, we involved internal credit risk modelling specialists.

Our procedures did not lead to any reservations relating to the inclusion of forward-looking information in the model-based calculation of expected credit losses.

Reference to related disclosures

Information on the inclusion of forward-looking information into the model-based calculation of expected credit losses and their adjustments for stages 1 and 2 is provided in notes 1 and 19 to the notes to the consolidated financial statements.

3. Expected credit losses for defaulted commercial real estate loans

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

As of 31 December 2023, the Group recognized loan exposures of EUR 38,192 million relating to the non-recourse commercial real estate loans business with corresponding allowances of EUR 606 million.

Identifying and calculating the expected credit losses for defaulted loan exposures involves various assumptions and estimation inputs, particularly regarding the solvency of the borrower, expectations of future cash flows, observable market prices and expected proceeds from the realization of collateral.

In view of an increase in defaulted loan exposures relating to the commercial real estate business and the economic uncertainty and significant use of judgment, we consider expected credit losses (ECL) for defaulted commercial real estate loans as a key audit matter.

Auditor's response

We obtained an understanding of the processes for identifying and calculating expected credit losses for borrowers in the commercial real estate loans business. We assessed the design and tested the operating effectiveness of controls related to credit risk rating, the application of default criteria and transfer to stage 3 in accordance with IFRS 9 and the calculation of the expected credit loss.

We evaluated the criteria used by management to determine defaulted loans in accordance with IFRS 9.

For a sample of commercial real estate loans we analyzed the application of default criteria used for ECL-staging. For loans classified as stage 3 we assessed the significant assumptions concerning the estimated future cash flows from the loan exposures, by assessing the collateral value, the solvency of the borrower and the publicly available market and industry forecasts. We searched for and evaluated information that corroborates or contradicts management's forecasted assumptions. We also tested the arithmetical accuracy of the expected credit loss calculated for defaulted exposures.

We involved internal specialists to assess the valuation of commercial real estate collateral on a sample basis.

Our procedures did not lead to any reservations relating to the expected credit losses for defaulted commercial real estate loans.

Reference to related disclosures

Information on the Group's commercial real estate loans business is included in Note 19 of the notes to the consolidated financial statements as well as the section "IFRS 9 Impairment" in the Risk Report (Combined Management Report), which is an integral part of the consolidated financial statements.

4. Measurement of goodwill for the Asset Management cash-generating unit

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

As of 31 December 2023, the Group reported goodwill of EUR 2,849 million that was exclusively allocated to its Asset Management cash-generating unit (CGU).

For purposes of the impairment test the recoverable amount of the Asset Management CGU is calculated using the discounted cash flow model. In this context, significant assumptions are made regarding the earnings projections and the discount rate. The discount rate is derived using the Capital Asset Pricing Model.

As the measurement of goodwill for the Asset Management CGU is based on a high degree of judgment due to the earnings projections and discount rate contained in the discounted cash flow model this is a key audit matter.

Auditor's response

We obtained an understanding of the process for preparing the earnings projections and calculating the recoverable amount of goodwill for the Asset Management CGU. In this respect, we also obtained an understanding of management's controls regarding the earnings projections and the discount rate, assessed the design of such controls and tested their operating effectiveness.

We analyzed the significant assumptions described above with a focus on significant changes compared with the prior year. In this regard, we assessed the consistency and reasonableness of the significant assumptions used in the discounted cash flow model by comparing them with external market expectations.

In analyzing the expected future cash flows of the Asset Management CGU, we compared the earnings projections with the prior fiscal year's projections and with the actual results achieved and evaluated any significant deviations. Furthermore, we assessed the discount rate by comparing it to a range of externally available forecasts.

To assess the above assumptions made in the recoverability of goodwill we involved internal business valuation specialists.

Our procedures did not lead to any reservations relating to the measurement of the goodwill for the Asset Management CGU.

Reference to related disclosures

Information on the measurement of goodwill is provided in notes 1 and 23 of the notes to the consolidated financial statements.

5. Recognition and measurement of deferred tax assets

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

As of 31 December 2023, the Group reported net deferred tax assets of EUR 7,227 million.

The recognition and measurement of deferred tax assets is based on the estimation of the ability to utilize unused tax losses and deductible temporary differences against potential future taxable income. This estimate is based, among others, on assumptions regarding forecasted operating results based upon the approved business plan.

In light of the use of judgment in estimation of future taxable income and the ability to use tax losses, the recognition and measurement of deferred tax assets is a key audit matter.

Auditor's response

We obtained an understanding of the process to determine whether deductible temporary differences and unused tax losses are identified in different jurisdictions and measured in accordance with the provisions of tax law and rules for accounting for deferred taxes under IAS 12, evaluated the design and tested the operating effectiveness of the related controls.

We tested the assumptions used to develop and allocate elements of the approved business plan as a basis for estimating the future taxable income of the relevant group companies and tax groups.

Furthermore, we evaluated the recognition of deferred tax assets by analyzing the key assumptions made in estimating future taxable income. We assessed the estimates made in the forecasted operating results by comparing the underlying key assumptions with historical and prospective data available externally. We compared the historical forecasts with the actual results. In addition, we assessed the estimated tax adjustments and we performed sensitivity analyses on the utilization periods of the respective deferred tax assets.

To assess the assumptions used in the recoverability of the deferred taxes, we involved our tax professionals and internal business valuation specialists.

Our procedures did not lead to any reservations relating to the recognition and measurement of the deferred tax assets.

Reference to related disclosures

Information on the recognition and measurement of deferred tax assets is provided in notes 1 and 34 of the notes to the consolidated financial statements.

6. IT Access and Change Management in the financial reporting

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

The accuracy of the Group's financial reporting is highly dependent on the reliability and the continuity of the used information technology due to the significant number of transactions that are processed daily.

Given the high dependency on reliable and continuing data processing and given the pervasive nature of IT controls on the internal control system, we consider IT Access and Change Management in the Group's financial reporting as a key audit matter.

Auditor's response

We assessed the IT control environment including the IT general controls as well as the IT application controls relevant to the Group's financial reporting. Our procedures also covered the changes during the year on the current IT control environment.

Moreover, we tested the operating effectiveness of prevent and detect IT general controls related to user access management and change management across applications, databases and operating systems. Additionally, we tested IT application controls over automated data processing, data feeds and interfaces. Our audit procedures related to IT access management included, but were not limited to, user access provisioning and removal, privileged user access, periodic access right recertifications, system security settings and user authentication controls.

Our audit procedures related to IT change management included, but were not limited to, evaluating if changes in the production environment were tested and approved prior to implementation and the ability to deploy changes was restricted to authorized users.

To assess the IT Access and Change Management in the Group's financial reporting process, we involved internal professionals who have particular expertise in the area of IT audits.

Our procedures did not lead to any reservations relating to the IT access and change management in the group's financial reporting.“

Reference to related disclosures

For a general description of internal controls over the financial reporting, we refer to the combined management report in section "Internal Control over Financial Reporting".

Other information

The Supervisory Board is responsible for the Report of the Supervisory Board. The executive directors and the Supervisory Board are responsible for the declaration pursuant to Sec. 161 AktG ["Aktiengesetz": German Stock Corporation Act] on the German Corporate Governance Code, which is part of the combined Corporate Governance Statement as well as for the compensation report pursuant to Sec. 162 AktG. In all other respects, the executive directors are responsible for the other information. The other information comprises

- the last paragraph of the section risk management principles (chapter "risk report") of the group management report regarding management's statement on the risk management framework and internal control system,
- the combined Corporate Governance Statement pursuant to Sec. 289f. and 315d HGB published on the website referred to in the group management report,

and other parts to be included in the annual report, of which we obtained a version prior to issuing this auditor's report, in particular:

- Non-financial Report,
- Responsibility Statement pursuant to Sec. 297 (2) Sentence 4 HGB in conjunction with Sec. 315 (1) Sentence 6 HGB,
- Section "Deutsche Bank – Financial Summary",
- Section "Deutsche Bank Group",
- Compensation Report,
- Section "Corporate Governance Statement according to Sec. 289f and 315d of the German Commercial Code/Corporate Governance Report" and
- Section "Supplementary Information",

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

Our opinions on the annual financial statements and on the group management report do not cover the other information, and consequently we do not express an opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information referred to above and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, the disclosures in the group management report whose content was audited or our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the executive directors and the Supervisory Board for the consolidated financial statements and the group management report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB, and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position and financial performance of the group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud (i.e., fraudulent financial reporting and misappropriation of assets) or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The Supervisory Board is responsible for overseeing the group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

Auditor's responsibilities for the audit of the consolidated financial statements and of the group management report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Sec. 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than the risk of not detecting a material misstatement resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.
- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to Sec. 315e (1) HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.
- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with [German] law, and the view of the group's position it provides.
- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other legal and regulatory requirements

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

Opinion

We have performed assurance work in accordance with Sec. 317 (3a) HGB to obtain reasonable assurance about whether the rendering of the consolidated financial statements and the group management report (hereinafter the "ESEF documents") contained in Deutsche_Bank_AG_KA+KLB_ESEF-2023-12-31.zip and prepared for publication purposes complies in all material respects with the requirements of Sec. 328 (1) HGB for the electronic reporting format ("ESEF format"). In accordance with German legal requirements, this assurance work extends only to the conversion of the information contained in the consolidated financial statements and the group management report into the ESEF format and therefore relates neither to the information contained within these renderings nor to any other information contained in the file identified above.

In our opinion, the rendering of the consolidated financial statements and the group management report contained in the file identified above and prepared for publication purposes complies in all material respects with the requirements of Sec. 328 (1) HGB for the electronic reporting format. Beyond this assurance opinion and our audit opinions on the accompanying consolidated financial statements and the accompanying group management report for the fiscal year from 1 January 2023 to 31 December 2023 contained in the "Report on the audit of the consolidated financial statements and of the group management report" above, we do not express any assurance opinion on the information contained within these renderings or on the other information contained in the file identified above.

Basis for the opinion

We conducted our assurance work on the rendering of the consolidated financial statements and the group management report contained in the file identified above in accordance with Sec. 317 (3a) HGB and the IDW Assurance Standard: Assurance on the Electronic Rendering of Financial Statements and Management Reports Prepared for Publication Purposes in Accordance with Sec. 317 (3a) HGB (IDW AsS 410) (06.2022) and the International Standard on Assurance Engagements 3000 (Revised). Our responsibility in accordance therewith is further described in the "Group auditor's responsibilities for the assurance work on the ESEF documents" section. Our audit firm applies the IDW Standard on Quality Management 1: Requirements for Quality Management in the Audit Firm (IDW QS 1).

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

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

In addition, the executive directors of the Company are responsible for such internal control as they have determined necessary to enable the preparation of ESEF documents that are free from material intentional or unintentional non-compliance with the requirements of Sec. 328 (1) HGB for the electronic reporting format.

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

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

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

- Identify and assess the risks of material intentional or unintentional non-compliance with the requirements of Sec. 328 (1) HGB, design and perform assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance opinion.
- Obtain an understanding of internal control relevant to the assurance on the ESEF documents in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance opinion on the effectiveness of these controls.
- Evaluate the technical validity of the ESEF documents, i.e., whether the file containing the ESEF documents meets the requirements of Commission Delegated Regulation (EU) 2019/815, in the version in force at the date of the financial statements, on the technical specification for this file.
- Evaluate whether the ESEF documents enable an XHTML rendering with content equivalent to the audited consolidated financial statements and to the audited group management report.
- Evaluate whether the tagging of the ESEF documents with Inline XBRL technology (iXBRL) in accordance with the requirements of Arts. 4 and 6 of Commission Delegated Regulation (EU) 2019/815, in the version in force at the date of the financial statements, enables an appropriate and complete machine-readable XBRL copy of the XHTML rendering.

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

We were elected as group auditor by the Annual General Meeting on 17 May 2023. We were engaged by the Supervisory Board on 8 August 2023. We have been the group auditor of Deutsche Bank Aktiengesellschaft uninterrupted since fiscal year 2020.

We declare that the opinions expressed in this auditor's report are consistent with the additional report to the Audit Committee pursuant to Art. 11 of the EU Audit Regulation (long-form audit report).

Other matter – use of the auditor's report

Our auditor's report must always be read together with the audited consolidated financial statements and the audited group management report as well as the assured ESEF documents. The consolidated financial statements and the group management report converted to the ESEF format – including the versions to be published in the Unternehmensregister [German Company Register] – are merely electronic renderings of the audited consolidated financial statements and the audited group management report and do not take their place. In particular, the ESEF report and our assurance opinion contained therein are to be used solely together with the assured ESEF documents made available in electronic form.

German Public Auditor responsible for the engagement

The German Public Auditor responsible for the engagement is Mr. Holger Lösken.

Eschborn/Frankfurt am Main, 11 March 2024
EY GmbH & Co. KG Wirtschaftsprüfungsgesellschaft

Lösken

Mai

Wirtschaftsprüfer

Wirtschaftsprüfer

[German Public Auditor]

[German Public Auditor]

Responsibility Statement by the Management Board

To the best of our knowledge, and in accordance with the applicable reporting principles, the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group and the Group management report, which has been combined with the management report for Deutsche Bank AG, includes a fair review of the development and performance of the business and the position of the Group, together with a description of the principal opportunities and risks associated with the expected development of the Group.

Frankfurt am Main, March 7, 2024

Christian Sewing

James von Moltke

Fabrizio Campelli

Bernd Leukert

Alexander von zur Mühlen

Claudio de Sanctis

Rebecca Short

Stefan Simon

Olivier Vigneron

3

Compensation Report

387	Introduction		
388	Compensation of the Management Board		
390	Principles for Management Board compensation		
390	Responsibility and procedures for setting and reviewing Management Board compensation		
390	Guiding principle: alignment of Management Board compensation to corporate strategy		
391	Compensation principles		
392	Compensation-related developments in 2023		
392	Development of business and alignment of Management Board compensation to corporate strategy in 2023		
393	Changes on the Management Board in 2023	417	Management Board compensation 2023
394	Approval of the Compensation Report 2022 by the Annual General Meeting 2023	417	Current Management Board members
395	Principles governing the determination of compensation	420	Former members of the Management Board
395	Structure of the Management Board compensation system	421	Outlook for the 2024 financial year
396	Composition of the target total compensation and maximum compensation	424	Compensation of members of the Supervisory Board
398	Application of the compensation system in the financial year	426	Supervisory Board compensation for the 2023 and 2022 financial years
398	Fixed compensation	429	Comparative presentation of compensation and earnings trends
398	Variable compensation	431	Independent auditor's report
411	Appropriateness of Management Board compensation and compliance with the set maximum compensation	433	Compensation of the employees (unaudited)
412	Deferrals and holding periods	433	Regulatory environment
413	Backtesting, malus and clawback	434	Compensation governance
414	Information on shares and fulfilling the share ownership obligation (Shareholding Guidelines)	436	Compensation and benefits strategy
415	Benefits as of the end of the mandate	437	Group compensation framework
415	Benefits upon early termination	438	Employee groups with specific compensation structures
416	Other service contract provisions	439	Determination of performance-based variable compensation
416	Deviations from the compensation system	440	Variable compensation structure
		441	Ex-post risk adjustment of variable compensation
		442	Compensation decisions for 2023
		444	Material risk taker compensation disclosure

Introduction

The Compensation Report for the year 2023 provides detailed information on compensation in Deutsche Bank Group.

Compensation Report for the Management Board and the Supervisory Board

The Compensation Report for the Management Board and the Supervisory Board for the 2023 financial year was prepared jointly by the Management Board and the Supervisory Board of Deutsche Bank Aktiengesellschaft (hereinafter: Deutsche Bank AG or the bank) in accordance with Section 162 of the German Stock Corporation Act. The Compensation Report describes the fundamental features of the compensation systems for Deutsche Bank's Management Board and Supervisory Board and provides information on the compensation granted and owed by Deutsche Bank in the 2023 financial year to each incumbent or former member of the Management Board and Supervisory Board.

The Compensation Report fulfills the current legal and regulatory requirements, in particular of Section 162 of the German Stock Corporation Act and the Remuneration Ordinance for Institutions (*Institutsvergütungsverordnung – InstVV*) and takes into account the recommendations set out in the German Corporate Governance Code (GCGC). It is also in compliance with the applicable requirements of the accounting rules for capital market-oriented companies (German Commercial Code (HGB), International Financial Reporting Standards (IFRS)) as well as the guidelines issued by the working group Guidelines for Sustainable Management Board Remuneration Systems.

Employee Compensation Report

This part of the compensation report discloses information with regard to the compensation system and structure that applies to the employees in Deutsche Bank Group. The report provides details on the Group Compensation Framework and it outlines the decisions on Variable Compensation for 2023. Furthermore, this part contains quantitative disclosures specific to employees identified as Material Risk Takers (MRTs) in accordance with the Remuneration Ordinance for Institutions (*Institutsvergütungsverordnung – InstVV*).

Compensation of the Management Board

Executive Summary

2023 was another year of extraordinary macroeconomic challenges and geopolitical uncertainty, in which Deutsche Bank provided stability and support for its clients. Deutsche Bank's Global Hausbank strategy and diversified universal banking model were once again put to the test and proved resilient and robust, delivering the best annual pre-tax profit result in 16 years. With an increase in revenues of 6% to almost € 29 billion, Deutsche Bank grew faster than expected.

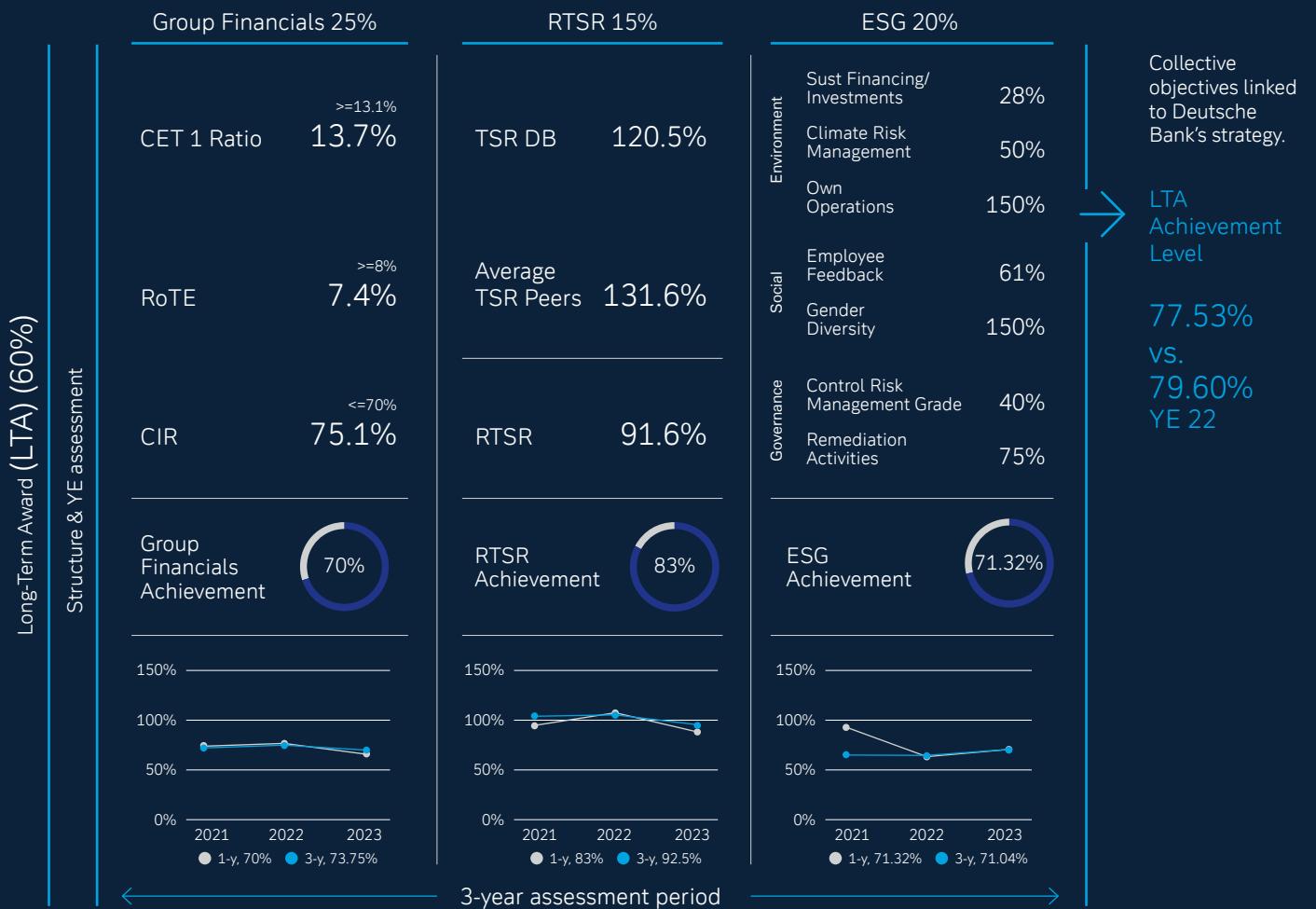
Deutsche Bank's performance in 2023 was set against a backdrop of continuing high inflation, slower economic growth and geopolitical uncertainty with the war in Ukraine and the armed conflict in Israel and Gaza. With its strategic realignment in 2019 and subsequent transformation, Deutsche Bank laid the foundation for growth and sustainable profitability. In 2023, Deutsche Bank significantly increased its shareholder distributions while maintaining cost discipline and continuing to strengthen its capital base.

The Supervisory Board considered stakeholders' perspectives very carefully when making compensation decisions. These decisions reflect its pay-for-performance philosophy while taking into account individual and collective financial and non-financial performances aligned to the execution of the Global Hausbank strategy with appropriate regard for risks and controls. As part of its performance assessment, the Supervisory Board also dealt in detail with the problems and negative effects that arose in connection with Project Unity (IT migration of Postbank customer accounts to the Deutsche Bank platform) and, as part of consequence management, took into account the different individual responsibilities of the members of the Management Board for this matter and made appropriate reductions for the determination of their target achievement levels (cut in Short-Term Award achievement levels).

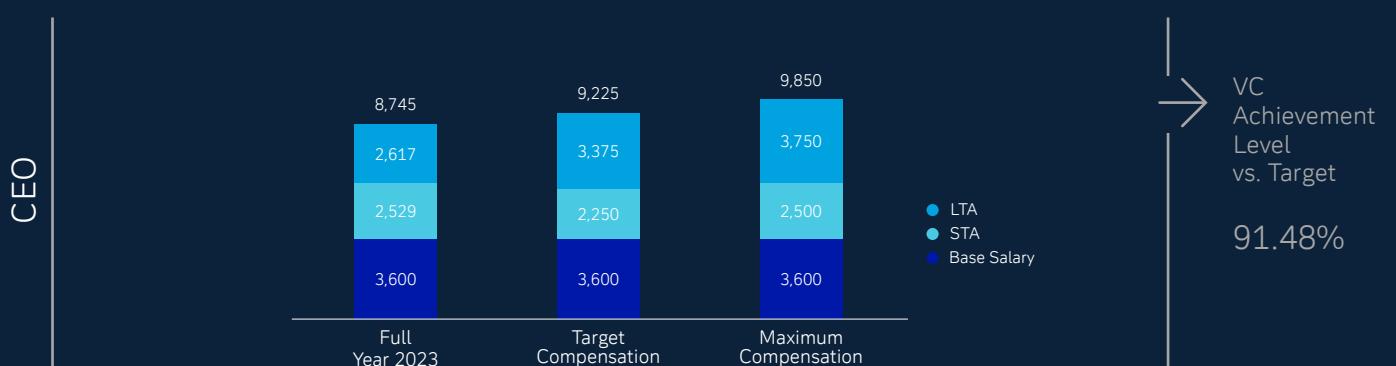
All compensation decisions are made within the boundaries of multiple regulatory requirements. In this regard, Management Board compensation and the pay-out schedules of variable compensation components are limited in several ways. Due to the requirements of Section 25a (5) of the German Banking Act and in accordance with the decision of the General Meeting in May 2014, the ratio of fixed to variable compensation is generally limited to 1:2 (cap rule). For this reason, the fixed compensation of Deutsche Bank Management Board members is relatively high compared to other DAX companies that are not subject to this regulation.

The Compensation Control Committee of Deutsche Bank regularly reviews the compensation system of the Management Board members with regard to market trends and investor feedback. As a result of the review process in 2023, points of improvement were identified. These are now reflected in a redesigned compensation system, which will be submitted to the General Meeting for approval in May 2024 with effect from 2024 onwards. The complexity of the compensation system has been reduced by limiting the number of objectives, which leads to significantly increased transparency. To consider the feedback of shareholders, a forward-looking assessment period rather than the previous backward-looking perspective will be used from now on for the performance measurement of the Long-Term Incentive. With this change, we aim to foster a long-term focus and thus the sustainable development of the company. To further strengthen the pay-for-performance alignment of the compensation of Deutsche Bank, the target achievement regarding the Relative Total Shareholder Return will be assessed based on a more ambitious approach based on the percentile rank of Deutsche Bank compared to the international banks in the peer group.

For further details regarding the new Management Board compensation system, please refer to the Outlook section of the Compensation Report 2023.



The overall variable compensation of the Management Board was €37.62 million for the FY 2023



Principles for Management Board Compensation

Responsibility and procedures for setting and reviewing Management Board compensation

The Supervisory Board as a whole is responsible for the decisions on the design of the compensation system as well as for setting the individual compensation amounts and procedures for awarding the compensation. The Compensation Control Committee supports the Supervisory Board in its tasks of designing and monitoring the implementation of the system and prepares proposals for resolutions for the Supervisory Board. As necessary, the Compensation Control Committee issues recommendations for the Supervisory Board to make adjustments to the system. In the case of significant changes, but at least every four years, the compensation system for the Management Board is submitted to the General Meeting for approval in accordance with Section 120a (1) of the German Stock Corporation Act. The compensation system was last approved by the General Meeting 2021 by a majority of 97.76%.

On the basis of the approved compensation system, the Supervisory Board sets the target total compensation for each Management Board member for the respective financial year, while taking into account the scope and complexity of the respective Management Board member's functional responsibilities, the length of service of the Management Board member on the Management Board as well as the company's financial situation. In the process, the Supervisory Board also considers the customary market compensation, also based on both horizontal and vertical comparisons, and sets the upper limit for total compensation (maximum compensation) (additional information is provided in the section "Appropriateness of Management Board compensation and compliance with the set maximum compensation").

Guiding principle: Alignment of Management Board compensation to corporate strategy

Deutsche Bank aims to make a positive contribution to its clients, employees, investors and society in general by fostering economic growth and social progress. Deutsche Bank offers its clients solutions and provides an active contribution to foster the creation of value by its clients. This approach is also intended to ensure that Deutsche Bank is competitive and profitable and can operate on the basis of a strong capital and liquidity position. Deutsche Bank is committed to a corporate culture that appropriately aligns risks and revenues.

At the Annual Media Conference in February 2024, Deutsche Bank confirmed its strategic goals for the Group for the period up to 2025. With its four well-balanced and mutually reinforcing businesses, Deutsche Bank's business model provides a stable and promising foundation for capital-efficient business growth, a predictable revenue mix, prudent risk management and a strong balance sheet. Deutsche Bank has a clear path and is right on track in executing its Global Hausbank strategy for the Group for the period up to 2025 with the aim of sustainably profitable growth and shareholder returns. Since revenues have surpassed the Bank's expectations in the past years, the previous target for 2025 has been raised compared to the Bank's ambition announced at the Investor Deep Dive in March 2022. For the period between 2021 and 2025, the adjusted target is a compound annual revenues growth rate of between 5.5% and 6.5%, raised from the Bank's previous expectation of 3.5% to 4.5% and leading to project revenues of approximately € 32 billion in the financial year 2025. At the same time, cost discipline remains a high priority. Further efficiency measures were implemented in 2023 to bring the cost/income ratio below 62.5% by 2025 and free up capacity for investments and improve operational leverage in order to generate an attractive Return on Tangible Equity of above 10%. The capital distribution objectives are to be achieved through a combination of dividends and share buy-backs with the aim of a payout ratio of 50% from financial year 2024 onwards. The Bank will continue to focus on conduct and controls and follow a clear management agenda to change the way of working, to become even more innovative and remain an employer of choice.

In the interests of the shareholders, the Management Board compensation system is aligned to the business strategy as well as the sustainable and long-term development of Deutsche Bank and provides suitable incentives for a consistent achievement of the set targets. Through the composition of total compensation comprising fixed and variable compensation components, through the assessment of performance over short-term and long-term periods and through the consideration of relevant, challenging performance parameters, the implementation of the Group strategy and the alignment with the sustainable and long-term performance of the Group are rewarded in a clear and understandable manner. The structure of the targets and objectives therefore comprises a balanced mix of both financial and non-financial parameters and indicators.

Through the structuring of the compensation system, the members of the Management Board get incentivized by achieving the targets and objectives linked to Deutsche Bank's strategy, when working individually and as a team continually towards the long-term positive development of Deutsche Bank, without taking on disproportionately high risks. The Supervisory Board thus ensures there is always a strong link between compensation and performance in line with shareholder interests ("pay for performance").

Compensation principles

The design of the compensation system and thus the assessment of individual compensation amounts are based on the compensation principles outlined below. The Supervisory Board takes them into consideration when adopting its resolutions in this context:

Corporate strategy	The compensation system for the Management Board members is closely linked to Deutsche Bank's strategy, thereby focusing their work on its implementation and the long-term positive development of the Group, without taking disproportionate risks.
Shareholders' interests	The interests of shareholders are always taken into account when designing the specific structure of the compensation system, determining individual compensation amounts and structuring the means of compensation allocation and delivery.
Individual and collective objectives	Setting individual, divisional and collective objectives fosters not only the sustainable and long-term development of each of the business divisions, infrastructure areas or regions the Management Board members are responsible for, but also the performance of the Management Board as a collective management body.
Long-term perspective	A long-term link to Deutsche Bank's performance is secured by setting a greater percentage of long-term objectives in comparison to short-term objectives and by granting variable compensation exclusively in deferred form and mostly as share-based compensation with vesting and holding periods of up to seven years.
Sustainability	Objectives in accordance with Deutsche Bank's Environmental, Social and Governance (ESG) strategy provide incentives for acting responsibly, also in the context of sustainability, and thus make an important contribution to Deutsche Bank's long-term performance.
Appropriateness and upper limits (caps)	The appropriateness of the compensation amounts is ensured through the review of the compensation based on a horizontal comparison with peers and a vertical comparison with the workforce as well as suitable compensation caps on the achievable variable compensation and maximum compensation.
Transparency	By avoiding unnecessary complexity in the structures and through clear and understandable reporting, the transparency of the compensation system is increased in accordance with the expectations of investors and the public as well as the regulatory requirements.
Governance	The structuring of the compensation system and the assessment to determine the individual compensation take place within the framework of the statutory and regulatory requirements.

Compensation-related developments in 2023

Development of business and alignment of Management Board compensation to corporate strategy in 2023

Management Board compensation is closely aligned to Deutsche Bank's strategic targets. All the individual and collective objectives agreed with the Management Board members as well as their assessment parameters for the 2023 financial year were discussed by the Compensation Control Committee at the beginning of the year and subsequently resolved on by the Supervisory Board. The objectives serve overall in fostering the strategic transformation of the Group. The achievement levels determined for the objectives for the 2023 financial year at the beginning of the year 2024 reflect the extent to which the individual objectives were achieved and thus contributed to the Bank's performance.

Since 2019 the management team has successfully transformed Deutsche Bank. By refocusing the Bank's business around its core strengths, it has become significantly more profitable, better balanced and more cost-efficient. Thanks to the disciplined execution of its strategy, the Bank has been able to serve its clients through highly challenging conditions in a volatile world, proving its resilience with strong risk discipline and sound capital management.

Profit before tax amounted to € 5.7 billion at the end of 2023. This is a slight increase of 2% over the previous year and the highest in sixteen years despite more than € 1 billion non-operating costs. Post-tax return on Tangible Equity fell over the course of last year to 7.4% due to tax effects in 2022 and 2023, whereby a greater positive impact was seen in 2022. Revenues increased by 6% versus 2022 to € 28.9 billion euros, driven by the rise in global interest rates and in particular by the success of the Bank's broad client base with an increase in business, especially in the Corporate and Private Banks, which saw the highest revenue growth rate in 2023. At the same time, Deutsche Bank managed to keep adjusted costs nearly stable at € 20.6 billion, with a consistent cost/income ratio of 75% for the full year.

Reflecting the profitability of all business segments in 2023, the Corporate and the Private Bank were the most important growth drivers. Both divisions achieved record profits. Corporate Bank net revenues were € 7.7 billion in 2023, up 22% year-on-year. All Corporate Bank business areas achieved double-digit growth, while innovative product developments and investments in capacities for future business generated positive effects. Private Bank net revenues were € 9.6 billion, up 5% year-on-year. Adjusted for specific items, such as the sale of the financial sales organization in Italy, Private Bank revenues even increased by 10%. This was primarily due to a strong deposit business with improved margins. Growth was driven in particular by the Private Clients Bank Germany, where revenues were 14% higher than in the previous year. Adjusted for the specific items, the International Private Clients Bank achieved revenues growth of 3%. In the Investment Bank, revenues totaled EUR 9.2 billion, 9% below the very high level of 2022. Revenues in the Origination and Advisory business increased by 25%, in particular due to the bond issuing business and the non-repeat of mark-to-market losses on funded and unfunded commitments in leveraged debt capital markets. Through the acquisition of Numis, the leading UK corporate broker, investments were made in customer advisory services in order to generate higher commission and fee income in the long term.

The 2023 results demonstrate the benefits of Deutsche Bank's transformation efforts. The Bank delivered revenues growth in its core businesses and continued cost discipline. The risk provisions are in line with the Bank's guidance, despite challenging conditions. Focused de-risking of the balance sheet has contributed to the solid Common Equity Tier 1 capital ratio of 13.7%.

The individual objectives are bundled in the short-term component (Short-Term Award (STA)) and account for a share of 40% of the target total variable compensation. The Supervisory Board determined an achievement level for these components for the 2023 financial year between 61.52% and 116.38%. The performance of the Management Board as a collective body is reflected in the long-term component (Long-Term Award (LTA)), which accounts for a share of 60% of the target total variable compensation. Overall, the achievement level of the collective objectives based solely on the 2023 financial year was 73.69%. This achievement level accounts for 60% of the Long-Term Award to be granted for the 2023 financial year. As achievement levels for prior years (at 30% from 2022 and 10% from 2021) also affected the Long-Term Award for the 2023 financial year, the achievement level for this component for the 2023 financial year was 77.53% based on the weighted achievement levels of the three financial years. Details on the individual achievement levels are presented as an overview in this report under the heading "Application of the compensation system in the financial year".

Changes on the Management Board and Compensation Decisions in 2023

With effect from June 1 and July 1, 2023, respectively the Supervisory Board resolved changes in the functional responsibilities assigned to individual Management Board members. Claudio de Sanctis was appointed member of the Management Board with effect from July 1, 2023, for a period of three years. Christiana Riley left the Management Board at the end of May 17, 2023. Karl von Rohr left the Management Board with effect from October 31, 2023.

The Management Board comprised 9 members at the end of 2023 with a proportion of women of 11%. Deutsche Bank thereby fulfills the statutory requirements but remains behind its ambitions. As outlined at the AGM 2023, the Supervisory Board is not satisfied with the representation of women at the Management Board and stands by the commitment to increase the percentage of female representation at the Management Board, and to foster and reward a culture of diversity, equity and inclusion more broadly. As part of the Bank's new compensation system, the Supervisory Board seeks to integrate this ambition more firmly into the performance goals of the Management Board members. Generally, the reduced Management Board has been positively acknowledged internally and externally as being efficient.

In its meeting on July 27, 2023, the Supervisory Board decided to grant a Dividend Equivalent Award of EUR 0.30 per share to Management Board members with share-based deferred compensation awards that were in the holding period at the time of the General Meeting 2023. A Dividend Equivalent is a right to receive a cash payment on the respective release date based on the amount of dividends that would have been paid during the retention period on the number of vested Deutsche Bank shares that are released on the Release Date. The Dividend Equivalent Awards will be calculated based on the dividend paid per Deutsche Bank share multiplied by the number of Deutsche Bank share units subject to the holding requirement (a fixed EUR value). Dividend Equivalents are subject to the same provisions as the underlying Award, including but not limited to suspension, forfeiture or clawback.

The Supervisory Board reviews the compensation levels of the members of the Management Board annually and regularly engages external compensation advisors to support the review, while assuring that these advisors are independent from the Management Board and Deutsche Bank. In 2023, the Supervisory Board conducted a review of the compensation levels taking into account comparable companies (peer groups) with the support of an external compensation advisor. On the basis of the results of this review and taking into account other aspects such as the duration of membership in the Management Board or changes in the area of responsibility within the Management Board, the Supervisory Board took the following compensation decisions in 2023:

A benchmarking study commissioned by the Supervisory Board showed that the level of compensation for the member of the Management Board responsible for the Corporate and Investment Bank is lower for this role compared to the peer group of international banks. Compared to international banks, the overall target compensation is between the 25. percentile and the median. For this reason and taking into account the duration of Fabrizio Campelli's membership of the Management Board, the Supervisory Board decided to increase his total target compensation to a more market-oriented overall target compensation of € 8.8 million p.a. This represents an increase of 25.71% (an increase in base salary of 21.43%) with effect from April 1, 2023.

The target compensation of the Chief Financial Officer (CFO) was also increased with effect from April 1, 2023. In this context, the Supervisory Board has assessed the CFO's senior position in the Bank and his role as President of Deutsche Bank AG in comparison to the other roles on the Management Board and took into account the duration of his membership of the Management Board, considering another three years in the light of the extension of his appointment as member of the Management Board with effect from July 1, 2023. James von Moltke's overall target compensation was increased to € 8.3 million p.a. This represents an increase of 12.16% (an increase in base salary of 6.67%).

In order to ensure uniform compensation structures for all Management Board members, the Supervisory Board also reviewed the ratio of fixed to variable compensation. According to regulatory requirements, variable compensation must not exceed 200% of the fixed compensation. With two exceptions, the target compensation of all members of the Management Board is consistently measured in such a way that, if the fulfillment of all objectives is fully achieved, this regulatory ceiling can be reached. To be consistent, the variable target compensation of Christian Sewing and Karl von Rohr were increased by 3.33% and 6.76% respectively with effect from April 1, 2023. Base salaries remained unchanged.

The total target compensation for Claudio de Sanctis in his capacity as a member of the Management Board and head of the Private Bank was set at € 7.9 million p.a. with effect from July 1, 2023, i.e., from his appointment as a member of the Management Board.

The Supervisory Board took into account as a positive aspect the financial milestones achieved and the contributions of the individual members of the Management Board to this success in their performance evaluations. When determining the variable compensation for the 2023 financial year, the Supervisory Board acknowledged the continued efforts of the members of the Management Board in driving regulatory remediation activities. Although there are positive signals from the regulators since substantial control remediation progress was achieved, particularly in the USA and the UK, the Supervisory Board took into consideration that these remediation measures need continued focus across the Bank.

The Supervisory Board analyzed and assessed in detail the problems and negative consequences for customers in connection with Project Unity (IT migration of Postbank customer accounts to the Deutsche Bank platform). Although the technical migration of data records was implemented accurately on the system side, the impact on customer services and processes was clearly underestimated. In the opinion of both the Supervisory Board and the Management Board, the large number of customers who experienced limitations as a result of the migration is unacceptable. In executing this integration program, the Bank failed to meet its own high standards and the expectations of its customers. Even though fast and massive adjustments were subsequently carried out and investments were made in additional resource capacity, IT and automated processes in order to eliminate the backlogs as quickly as possible, the Supervisory Board took into account the overall view of the issue when assessing performance with regard to granting variable compensation. In doing so, the individual degrees to which the individual Management Board members were accountable for the issues were taken into account and, based on the recommendation of the Compensation Control Committee, it was decided to reduce the individual achievement level for the short-term component of selected Management Board members involved.

Details on how the Short-Term Award is calculated are presented in this report under the heading “Application of the compensation system in the financial year”.

Approval of the Compensation Report 2022 by the Annual General Meeting 2023

The Compensation Report 2022 for members of the Management Board and Supervisory Board of Deutsche Bank as published on March 17, 2023, was submitted to the ordinary General Meeting on May 17, 2023, for approval in accordance with Section 120a (4) of the German Stock Corporation Act. The General Meeting approved the Compensation Report with a majority of 89.07%.

Principles governing the determination of compensation

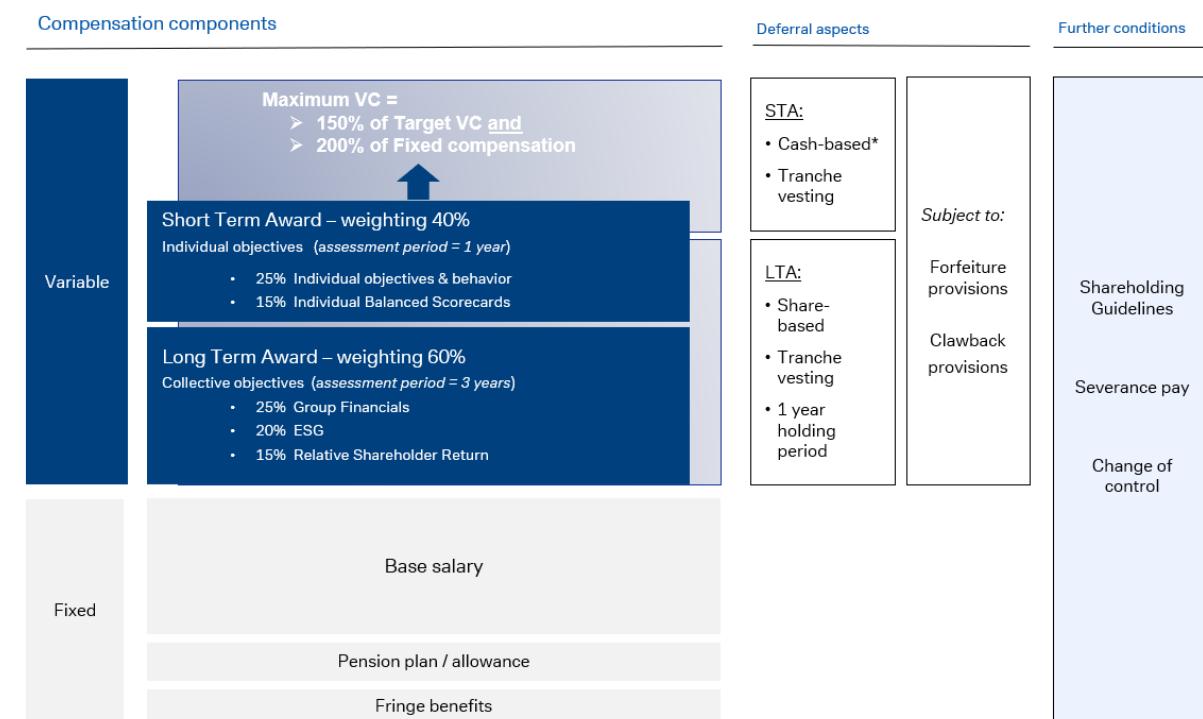
Structure of the Management Board compensation system

The compensation system consists of fixed and variable compensation components. The fixed compensation and variable compensation together form the total compensation for a Management Board member. The Supervisory Board defines target and maximum amounts (caps) for all compensation components.

Management Board Compensation System 2023

Components	Objective	Implementation
Fixed Compensation		
Base salary	The base salary rewards the Management Board member for performing the respective role and responsibilities. The fixed compensation is intended to ensure a fair and market-oriented income and to ensure that undue risks are avoided. In addition, Management Board members are granted recurrent, fringe benefits and contributions for pension benefits.	<ul style="list-style-type: none"> - Monthly payment; Annual base salary of between € 2.4 million and € 3.6 million - Company car and driver services as well, if applicable moving expenses, housing allowance, insurance premiums and reimbursement of business representation expenses - A single and contractually agreed annually pension plan contribution or allowance of € 650,000 for adequate pension provision
Fringe benefits		
Pension		
Variable Compensation		
Short Term Award (STA)	The STA rewards the individual value contribution of each member of the Management Board to achieving short- and medium-term objectives in accordance with the corporate strategy. It consists of two elements, which are tailored to the role and responsibilities of the Management Board member and can be individually influenced by the level of achievement by the Management Board member.	<ul style="list-style-type: none"> - 40% of the total variable compensation with 2 elements related to individual performance (1) Individual objectives (25%); and (2) Individual Balanced Scorecard (15%) - Maximum target level 150% - Assessment period 1 year - Earliest possible disbursement in 4 tranches in Restricted Incentive Awards (cash-based) - 1, 3, 5 and 7 years after being granted - Target amount for 100% achievement level: Between € 1.640 million and € 2.280 million
Long Term Award (LTA)	Within the determination of the variable compensation, the focus is on achieving long-term objectives linked to the strategy. To underline this, the Supervisory Board has set the focus on this component with a share of the LTA of 60% of the total variable target compensation. For the LTA, the Supervisory Board sets collective objectives for the members of the Management Board. An important part of the LTA is the ESG factor. Since its implementation in 2021 and further development of Deutsche Bank's sustainability strategy. The Management Board compensation has been systematically linked to sustainability objectives.	<ul style="list-style-type: none"> - 60% of total variable compensation with 3 group targets (1) ESG Objectives (20%); (2) Relative total shareholder return (15%); (3) Group financials (25%) - Maximum target level 150% - Assessment period of 3 years with weightings of 60% (Financial Year (FY)), 30% (FY+1), 10% (FY+2) - Disbursement in 4 tranches exclusively in Restricted Equity Awards (share-based) – earliest possible delivery after 2, 3, 4, 5 years plus a holding period in each case of 1 year after grant - Target amount for 100% Achievement level: Between € 2.460 million and € 3.420 million

Overview



*Unless the Supervisory Board decides to grant (portions of) the STA in individual cases as share-based awards to meet the Shareholding Guidelines requirements.

Detailed information on the compensation system for members of the Management Board of Deutsche Bank AG is available on the company's website: [Compensation system for the Management Board Members from January 2021 onwards](#).

Composition of the target total compensation and maximum compensation

The Supervisory Board determines for each Management Board member a target total compensation on the basis of the compensation system approved by the General Meeting. It also determines, in accordance with the recommendation of the German Corporate Governance Code, what relative proportions the fixed compensation on the one hand and short-term and long-term variable compensation on the other hand have in the target total compensation. In this context, the Supervisory Board ensures in particular that the variable compensation linked to achieving long-term objectives exceeds the portion of variable compensation linked to short-term objectives.

When setting the target total compensation for each member of the Management Board, the Supervisory Board takes into account the scope and complexity of the respective Management Board member's functional responsibility as well as the experience and length of service of the member on the Management Board. Furthermore, the compensation amounts are reviewed for their appropriateness on the basis of market data for suitable peer groups. On the basis of these criteria, the Supervisory Board set the relative percentages for the compensation components within the target total compensation as follows:

Relative shares of the total annual target compensation allocated to the different compensation components (%)

Compensation components	Relative share of total compensation in %
Base Salary	~ 33-37%
Regular fringe benefits	~ 1%
Pension service costs / pension allowance	~ 7-9%
Short-Term Award	~ 22-23%
Long-Term Award	~ 33-34%
Reference total compensation	100%

The compensation of the Management Board members is limited (capped) in several ways (maximum compensation).

Pursuant to Section 25a (5) of the German Banking Act (Kreditwesengesetz – KWG), the ratio of fixed to variable compensation is generally limited to 1:1 (cap regulation), i.e. the amount of variable compensation must not exceed that of fixed compensation, unless the shareholders of a bank resolve to increase the ratio of fixed to variable compensation up to 1:2. The General Meeting in May 2014 made use of this possibility and increased the ratio to 1:2.

The Supervisory Board additionally limited the maximum possible achievement levels for the short-term objectives (STA) and long-term objectives (LTA) consistently to 150% of the target variable compensation. Furthermore, it specified an additional amount limit (cap) for the aggregate amount of base salary, STA and LTA of € 9.85 million. This means that even with target achievement levels that would lead to higher compensation amounts, compensation is capped at a maximum of € 9.85 million. After the target achievement level is assessed, if the calculation should result in variable compensation or total compensation that exceeds one of the specified caps, the variable compensation is to be reduced. This is to take place through a pro rata reduction of the STA and LTA.

Target and maximum amounts of base salary and variable compensation

in €	Base salary	Short-Term Award	Long-Term Award	2023	
				Total compensation ¹	2022 Total compensation ¹
CEO ²					
Target value	3,600,000	2,280,000	3,420,000	9,300,000	9,000,000
Maximum value	3,600,000	3,420,000	5,130,000	9,850,000	9,850,000
President ^{2,3}					
Target value	3,200,000	2,040,000	3,060,000	8,300,000	7,400,000
Maximum value	3,200,000	3,060,000	4,590,000	9,850,000	9,600,000
Ordinary Board Member responsible for Corporate Bank and Investment Bank (CB & IB) ²					
Target value	3,400,000	2,160,000	3,240,000	8,800,000	7,000,000
Maximum value	3,400,000	3,240,000	4,860,000	9,850,000	9,100,000
Ordinary Board Member responsible for PB ²					
Target value	3,000,000	1,960,000	2,940,000	7,900,000	7,400,000
Maximum value	3,000,000	2,940,000	4,410,000	9,850,000	9,600,000
All other Ordinary Board Members					
Target value	2,400,000	1,640,000	2,460,000	6,500,000	6,500,000
Maximum value	2,400,000	2,460,000	3,690,000	8,550,000	8,550,000

¹ Limit the maximum total amount of basic salary and variable compensation to the upper limit set by the Supervisory Board

² For further details on compensation decision, please refer to the section "Management Board Changes and Compensation Decisions in 2023" in this report

³ President and Ordinary Board members responsible for Asset Management (AM) and Finance (CFO)

In addition, in accordance with Section 87a (1) sentence 2 No. 1 of the German Stock Corporation Act, the Supervisory Board also set an upper limit for the maximum total compensation of € 12 million for each Management Board member (Maximum Compensation). The Maximum Compensation is set consistently for all Management Board members. The Maximum Compensation corresponds to the sum of all compensation components for any financial year. This comprises not only the base salary, STA and LTA, but also the fringe benefits and service costs for the company pension plan or pension allowances.



Application of the compensation system in the financial year

Fixed compensation

The fixed compensation components in the form of base salary, fringe benefits and contributions to the pension plan or pension allowances were granted in the financial year as fixed compensation and in accordance with the individual agreements in the service contracts. Due to the requirements of Section 25a (5) of the German Banking Act and in accordance with the decision of the Annual General Meeting in May 2014, the ratio of fixed to variable compensation is generally limited to 1:2 (cap rule). Therefore, when determining the amount of base salary as part of the target compensation, it must be taken into account that the variable compensation may not exceed the maximum value of 200% of the fixed compensation.

The expenses for fringe benefits and pension service costs vary in their annual amounts. Although the contribution to Deutsche Bank's pension plan is defined consistently for all Management Board members, the amounts to be contributed by Deutsche Bank during the year in the form of pension service cost accruals vary based on the length of service on the Management Board within the financial year, the age of the Management Board member and actuarial figures (additional information is provided in the section "Benefits upon regular contract termination").

Variable compensation

The Supervisory Board, based on the proposal of the Compensation Control Committee, determined the variable compensation for the Management Board members for the 2023 financial year. Variable compensation comprises two components, a short-term component (Short-Term Award (STA)) with a weighting of 40% and a long-term component (Long-Term Award (LTA)) with a weighting of 60% in relation to the target variable compensation.

All objectives, measurements and assessment criteria that were used for the assessment of performance for the 2023 financial year are derived from Deutsche Bank's strategy and are in line with the compensation system approved by the General Meeting. The objectives were selected to set suitable incentives for the Management Board members, to promote the development of Deutsche Bank's earnings and the alignment to the interests of shareholders as well as to fulfill Deutsche Bank's social responsibility through the inclusion of sustainability aspects and climate protection. The challenging objectives reflect the Bank's ambitions. If the objectives are not achieved, the variable compensation can be zero; in the case of over-achievement, the maximum achievement level is limited to 150% of the target value.

Balance of financial and non-financial objectives

Financial and non-financial objectives are considered in a balanced way when setting the objectives. In relation to the total variable compensation, there was a greater focus on financial objectives in the 2023 financial year, with a weighting of around 68%. Both the financial and non-financial objectives were chosen in such a way that they are quantitatively or qualitatively measurable at the end of the financial year. Around 75% of the targets are quantitatively measurable and a portion of around 25% is measured qualitatively.

Short-Term Award (STA)

The amount of the **Short-Term Award** for the 2023 financial year is based on the achievement level during the assessment period of the short-term individual and divisional objectives. The assessment period coincides with the financial year and is one year.

The Short-Term Award comprises the following two elements with different weightings:

- Individual Objectives and Behavior Objective (62.5%)
- Individual Balanced Scorecards and Key Deliverables (37.5%)

For each of these components, the Supervisory Board determines the achievement level based on a clearly structured year-end assessment process at the beginning of the following year. The achievement of the two components determines the overall achievement level for each Management Board member which in turn determines the amount of the short-term component for the preceding financial year.

Determination of the cash value of the Short-Term Award

	Individual Objectives and Behavior Objective (62.5%)	Short-Term Award (40%) Balanced Scorecard and Key Deliverables (37.5%)
Target Amount ¹	€ 1,025,000 - € 1,425,000	€ 615,000 - € 855,000
Target Achievement Level	0%-150%	0%-150%
Overall Target Amount per STA component	€ 0 - € 2,137,500	€ 0 - € 1,282,500
Overall Target Amount STA		€ 0 - € 3,420,000

¹ Target amount differs depending on the Management Board member's functional responsibility. On the basis of 100%. Pro rata temporis upon joining or leaving during the year

Individual objectives

The Supervisory Board sets personal and divisional objectives (Individual Objectives) for each member of the Management Board at the beginning of the year. The weightings of each of these objectives as well as relevant quantitatively or qualitatively measurable performance criteria for their assessment are defined as well. The objectives are chosen so that they are challenging, ambitious and sufficiently concrete in order to ensure there is an appropriate alignment of performance and compensation and that the "pay-for-performance" principle is taken into account.

The Individual Objectives are derived from the corporate strategy and foster its implementation. They are set for each Management Board member in consideration of his or her respective area of functional responsibility and the contribution of this area of functional responsibility to advancing Deutsche Bank's overall strategy. ESG objectives such as the further development of the sustainability strategy or the promotion of measures to improve regulatory remediation are also included as individual objectives. Individual Objectives can also be defined as project or regional targets. Besides operational measures, the implementation of strategic projects and initiatives can be agreed as objectives as well, if they are directly instrumental in the implementation of the strategy, by contributing to, for example, the structure, organization and sustainable development of Deutsche Bank.

At the beginning of the 2023 financial year, a maximum of 4 Individual Objectives were set with different weightings for each Management Board member. For these objectives, the Supervisory Board has assigned clear expectations and financial and/or non-financial performance criteria at the beginning of the year, such as financial Key Performance Indicators (KPIs), achievements of milestones, Chief Executive Officer (CEO) and/or Supervisory Board feedback, stakeholder Feedback and qualitative assessments. These enable the Supervisory Board to objectively assess the performance contribution of the respective Management Board member towards the concrete execution of the objectives.

In addition to the individual objectives the Supervisory Board evaluates the behavior of each Management Board member by reflecting on individual performance against the Bank's key values and beliefs as well as corresponding leadership behavior rules. Focus Topics in 2023 were Integrity, Innovation and Sustainable Performance. With regard to the linkage between behavior and Management Board compensation the Supervisory Board expects the Management Board members to act as role models. Only outstanding performance that goes beyond the expectations of the respective role is incentivized.

At year-end, the determination of the achievement levels follows a pre-defined process. In a first step, all members of the Management Board perform an initial self-assessment of the achievement levels of their objectives. The self-assessed achievement levels are then discussed in conversations with the Chief Executive Officer (CEO) and the Chairman of the Supervisory Board and the Compensation Control Committee. Based on the feedback from these conversations, the Compensation Control Committee prepares a proposal for the Supervisory Board for its decision. For this purpose the achievement levels are combined into an average for each Management Board member according to pre-defined weightings.

The following overview shows the objectives as well as the achievement levels as resolved on by the Supervisory Board for each Management Board member.

Management Board Member	Weighting (in %)	Individual objectives	Achievement Level (in %)
Christian Sewing	28.0%	Execute & deliver on regulatory remediation	133.20%
	13.7%	Complete purpose declaration and develop DB leadership and culture	
	24.0%	Deliver on DB group strategy execution and milestones and further develop DB vision beyond 2025	
	14.3%	Strengthen positioning with key stakeholders	
	20.0%	Behavior Objective	
James von Moltke	24.0%	Execute Group financial plan and Future of Finance Vision	117.80%
	28.0%	Drive regulatory remediation & transformation	
	16.0%	Further improve partnership between business and finance in a client centric manner	
	12.0%	Seek and attract long-term shareholders	
	20.0%	Behavior Objective	
Fabrizio Campelli	28.0%	Deliver on Corporate Bank/Investment Bank strategy execution and sustainable profitability and client leadership	119.00%
	28.0%	Improve controls and demonstrate their effectiveness to regulators	
	16.0%	Drive stronger Front-to-Back alignment for Corporate Bank/Investment Bank	
	8.0%	Provide oversight to Region UK and Ireland	
	20.0%	Behavior Objective	
Claudio de Sanctis (Member since July 1, 2023)	26.7%	Formulate Private Bank strategy	115.33%
	26.7%	Deliver on efficiency, growth and sustainable profitability	
	26.7%	Deliver on critical remediation activities	
	20.0%	Behavior Objective	
Bernd Leukert	24.0%	Group strategy delivery and execution	112.80%
	24.0%	Remediation: Support CEO in further strengthening Deutsche Bank's control framework with focus on regulatory requirements	
	16.0%	Technology, Data and Innovation strategy: Continue improvement of stability, focus on Innovation and strengthen Data governance	
	16.0%	People: Strengthen leadership and drive employee commitment	
	20.0%	Behavior Objective	
Alexander von zur Mühlen	24.0%	Execute and evolve Asia Pacific strategy	110.40%
	24.0%	Client focus	
	16.0%	Culture and Conduct	
	16.0%	Promote Global Hausbank value proposition	
	20.0%	Behavior Objective	
Rebecca Short	29.7%	Drive remediation	114.25%
	21.7%	Execute transformation portfolio	
	16.0%	Drive structural cost reduction	
	12.7%	Deliver Procurement excellence and drive Human Resources/Global Real Estate integration	
	20.0%	Behavior Objective	
Professor Dr. Stefan Simon	32.0%	Drive Execution of Financial Crime Risk Key Deliverable	116.60%
	16.0%	Compliance: Implement changes in Executive Committee and drive personnel, organizational and cultural changes	
	16.0%	Legal: Establish new Head of Legal and develop people agenda	
	16.0%	Further develop and strengthen relationship with Regulators and Supervisors	
	20.0%	Behavior Objective	
Olivier Vigneron	20.0%	Safeguard the stability and resilience of our Global Hausbank	106.00%
	20.0%	Integrated Technology & Analytics	
	20.0%	Develop Non-Financial Risk and Risk Culture & ESG	
	20.0%	Regulatory Remediation	
	20.0%	Behavior Objective	

Management Board Member	Weighting (in %)	Individual objectives	Achievement Level (in %)
Christiana Riley ¹ (Member until May 17, 2023) (Member until May 17, 2023)	32.0%	US regulatory remediation and engagement including delivery on critical AFC/AML/KYC remediation activities for the Americas and 2022 CCAR	N/A
	24.0%	Execute on financial plan 2023 in line with risk appetite and state of control environment , including client engagement	
	16.0%	Strengthen client and stakeholder engagement	
	8.0%	Further drive DB culture with focus on integrity and conduct	
	20.0%	Behavior Objective	
Karl von Rohr ² (Member until October 31.2023) (Member until October 31.2023)	24.0%	Deliver on Private Bank strategy execution including efficiency, growth and sustainable profitability	N/A
	16.0%	Support DWS strategy through oversight role	
	28.0%	Deliver on critical remediation activities	
	12.0%	Provide oversight for Regions Germany & EMEA	
	20.0%	Behavior Objective	

¹ Due to her choice to leave the Management Board before the end of the original appointment period, Mrs. Riley is not entitled to receive variable compensation for 2023

² There was no assessment of individual objectives as the achievement level for the Short-Term Award was set in relation to his departure from the Management Board in accordance with the previous year's level

For the qualitative objectives, the Supervisory Board formulated expectations and financial and/or non-financial performance criteria at the beginning of the year, which enable it to objectively assess the performance contribution of the respective Management Board members with regard to the concrete implementation of each objective for the performance year at the beginning of the following year. The degrees of achievement thus determined for the individual objectives are consolidated into an average for each Management Board member according to the weightings defined in advance. The degree of target achievement determined accordingly is multiplied by the target amount of 62.5% of the variable target compensation for the STA. This results in the calculated payout amount for the component of the individual objectives.

Pay-for-performance summary for CEO and CFO for the STA Individual and behavior objective

Management Board Member	Individual Objectives and Behavior – Pay for Performance Summary
Christian Sewing (CEO)	<p>The Supervisory Board acknowledged Christian Sewing's success in delivering on Deutsche Bank's strategy execution and growing earnings power. Christian Sewing drove Deutsche Bank's accelerated execution of its strategic agenda and the further evolution of its long-term aspirations with a sharpened business model to position the Bank for future growth and success. Under his leadership a new purpose statement and aspirational culture were developed. Both have become part of a broader framework to guide the Bank's long-term sustainable development.</p> <p>Christian Sewing maintained a strong focus on regulatory remediation activities with a material allocation of resources to the respective units. As a result, substantial progress on remediation has been achieved – particularly in the USA and the UK, where good progress can be reported. Despite positive signals from regulators, the Supervisory Board took into consideration that the remediation measures need to be further focused across the bank. As part of the performance assessment, the Supervisory Board examined in detail the customer service problems that arose in connection with Project Unity (IT migration of Postbank customer accounts to the Deutsche Bank platform) and made an individual reduction in the target achievement level for the short-term component.</p> <p>The Supervisory Board acknowledged that Christian Sewing strengthened the Bank's recognition and credibility with key stakeholders through the high level of personal trust he has built up. He led the Group towards a stronger client focus and promoted Deutsche Bank's positioning as a strategic advisor for corporate clients. At the same time, he succeeded in further strengthening Deutsche Bank's political and regulatory positioning and expertise through his accelerated engagement in Germany, the EU and internationally. As President of the German Banking Association, Christian Sewing made a significant contribution to the Bank's visibility and reputation. As part of the assessment of individual objectives, the Supervisory Board considered Christian Sewing's behavior in his role as CEO. Against the background of the Bank's Code of Conduct, values and beliefs, the Supervisory Board recognized that Christian Sewing always acted with the highest level of integrity and presented himself as a role model in every respect. His active involvement in the development and introduction of a purpose statement, his participation in various Deutsche Bank diversity and inclusion and talent initiatives, his dedication to ensure sustainable performance and to promote the corresponding mindset in all business areas as well as his strong commitment to external stakeholders (supervisory authorities, investors, politicians, media and customers) were emphasized by the Supervisory Board in its assessment.</p>
James von Moltke (CFO)	<p>The Supervisory Board recognized the efforts under James von Moltke's leadership to ensure adherence to the 2023 financial plan. Financial performance across most metrics exceeded plan and a significant outperformance versus the capital plan was achieved despite higher-than-expected expenses, especially non-operating expenses, as well as higher credit loss provisions. A combined balanced scorecard performance on financial and culture/control metrics and progress on executing the Future of Finance vision, including Finance's hand-over of its transformation program to the Group Chief Operating Officer (COO) as a fully agile organization, led to an overall achievement level above target. The Supervisory Board acknowledged James von Moltke's initiatives to further improve the partnership between the businesses and Finance in a client-centric manner. He supported the re-planning of business initiatives relating to the Numis transaction and demonstrated his full commitment to driving business solutions, especially across Business Finance, Treasury and Planning and Performance Management. James von Moltke also succeeded in completing the build-out of the Driver-Based Cost Management (DBCM) service cost framework, including business functional interlocks and workshops.</p> <p>James von Moltke strongly supported regulatory remediation activities across the Bank including resource support and regulatory interactions. He fostered continued progress towards the remediation of outstanding findings in Finance and managed to bring remaining findings near to closure. Although important milestones of remediation programs were achieved, the Supervisory Board took into consideration that continued focus on this issue is required to gradually shift from remediation to a sustainable "business as usual" risk management. Based on James von Moltke's initiative, steady progress was made on transformation through the execution of key deliverables. He also managed to build and strengthen relationships with key stakeholders and investors. James von Moltke continued laying the groundwork for renewed investor engagement to attract long-term shareholders for the bank. As part of the performance assessment, the Supervisory Board examined in detail the customer service problems that arose in connection with Project Unity (IT migration of Postbank customer accounts to the Deutsche Bank platform) and, while taking into account James von Moltke's role as CFO and extended responsibility as President of the Bank, made an individual reduction in the target achievement level for the short-term component.</p> <p>As part of the assessment of individual objectives, the Supervisory Board considered James von Moltke's behavior in his role as CFO and President. Against the background of the Bank's Code of Conduct, values and beliefs, the Supervisory Board recognized that James von Moltke always acted with the highest level of integrity in 2023. He led the roll-out of the Leadership Compass in Finance and actively engaged in the articulation of the purpose statement, represented the bank in numerous events and drove ethical and sustainable decision-making across the bank.</p>

106.00 % - 133.20%

Range of achievement levels of the Individual Objectives & Behavior Objective of the Management Board Members for 2023

Individual Balanced Scorecard and Key Deliverables

Balanced Scorecards make it possible to have an overview of key performance indicators and transform strategic objectives into operating practices through concrete actions and enable consequent cascading into the organization. With the Balanced Scorecards, the Bank has an appropriate tool for the steering and control of key performance indicators that can be used to check the achievement level of financial and non-financial objectives against pre-defined measurement parameters at any time and to measure them transparently for the performance year at the beginning of the following year. At the same time, the Balanced Scorecards provide an overview of the priorities of the individual divisions across the entire Group.

Based on the functional responsibilities according to the Business Allocation Plan for the Management Board, each Management Board member is assigned at least one individual Balanced Scorecard and a maximum of 4 Balanced Scorecards. If more than one Balanced Scorecard is assigned to a Management Board member, these are weighted based on the size and complexity of the associated activities effected on each Scorecard. Four Management Board members have more than one Balanced Scorecard due to their multiple functional and/or divisional responsibilities. The table below shows the number of Balanced Scorecards and their respective weightings.

Balanced Scorecards for Management Board Members in 2023

Management Board Member	Weightings	Balanced Scorecard
Christian Sewing	83%	Group / Chairman
	17%	Human Resources / Corporate Real Estate
James von Moltke	75%	Chief Financial Office
	25%	Asset Management
Fabrizio Campelli	35%	Corporate Bank
	35%	Investment Bank
	20%	Corporate Bank & Investment Bank Operations and Control
	10%	Region United Kingdom & Ireland
Claudio de Sanctis ¹	100%	Private Bank
Bernd Leukert	100%	Technology, Digitalization & Innovation
Alexander von zur Mühlen	71%	Region Asia-Pacific
	15%	Region Germany
	15%	Region Europe, the Middle East and Africa
Rebecca Short	38%	Group Chief Operating Office excl. Human Resources & Global Real Estate excl. DB Group Strategic Analytics
	27%	Capital Release Unit
	18%	Human Resources / Corporate Real Estate
	18%	DB Group Strategic Analytics
Professor Dr. Stefan Simon	71%	Chief Administrative Office
	29%	Region Americas
Olivier Vigneron	100%	Chief Risk Office
Karl von Rohr ²	40%	Private Bank
	40%	Asset Management
	10%	Region Germany
	10%	Region Europe, the Middle East and Africa

¹ Member since July 1, 2023

² Member until October 31, 2023

The respective Management Board members' functional responsibilities are linked with pre-defined key financial figures and non-financial targets from up to three categories. The three categories are:

Financial Performance,
Capital & Risk

Culture, Control, Conduct &
Franchise

Digitalization & Innovation

A total of 66 Key Performance Indicators (KPIs) are assigned to these categories, of which a set of 7 to 16 KPIs are embedded in each individual Balanced Scorecard depending on the Management Board member's area of functional responsibility. The methodology for the Balanced Scorecards has been further developed since their introduction in 2018 and adjusted to meet the developing focus. For example, in order to foster Environmental, Social and Governance (ESG) aspects in the compensation system, ESG topics have been given an even greater consideration since 2021 in the Balanced Scorecards and also in the Long-Term Award (LTA).

The KPIs within the individual categories are set at the beginning of the year for each Management Board member individually along with corresponding targets, thresholds and assessment parameters. In addition, a weighting is set for each category. The weightings that the individual categories have within the overall Balanced Scorecard can be up to 65% depending on the functional responsibility of the Management Board member. The KPIs of the Balanced Scorecards are measured continuously throughout the year, but the overall assessment is made at the end of the year.

The calculation logic for determining the final levels of achievement for each Management Board member is as follows:

In a first step, the achievement band of each KPI is determined. If a minimum threshold value is not reached, the achievement level for this KPI is set at zero. Once a maximum limit for a KPI has been reached, the achievement level is set at 150%. For a clear overview, the Balanced Scorecard shows if each individual KPI was fulfilled or exceeded based on the defined assessment criteria ("green"), or only achieved to less than 100% ("amber") or not achieved ("red").

In a second step, the achievement level for each category is calculated taking into account the assessment of the KPIs from the first step and the resulting bands applicable to the respective category. When all objectives of a category are exceeded, the achievement level for a category can be up to 150%. However, if none of the minimum threshold values of a category is met, the achievement level is 0%.

In a third step, an overall achievement level for the individual Balanced Scorecard is derived from the achievement levels of the categories and their weightings.

Individual Balanced Scorecard for Christian Sewing, Chief Executive Officer

KPI Categories	Weight KPI Category	KPI	2023 Achievement	Achievement level
Financial performance/ Capital & Risk	50%	Direct adjusted cost base (DACB)	The "Direct adjusted cost base" KPI measures the cost target for the Chairman's division. "Adjusted costs" means that litigation, severance and restructuring and impairment costs are excluded from the target. In 2023, the direct adjusted cost base was €541m, 4.2% below target.	
		Direct adjusted cost base – Group	The "Direct adjusted cost base" for Deutsche Bank Group was €20.6bn in 2023, 4.6% above target.	
		Leverage ratio – Group	The "Leverage ratio" is the Bank's core capital as a percentage of its total leverage exposure pursuant to the definitions of the Capital Requirements Regulation/Capital Requirements Directive. As per Year End 2023, the leverage ratio was 4.55%, exceeding the target by 5.5%.	
Culture, control & Conduct/ Franchise	50%	Red Flags (12month average)	"Red Flags" are assigned for breaches of relevant risk-related policies and control processes. While the target would have allowed up to one Red Flag per month on average in the Chairman's division, there were 0 Red Flags per month on average in 2023.	
		Culture Pulse Survey	The "Culture Pulse Survey" KPI is measured by the straight average of favorable responses of five culture-related questions. The target for 2023 of 75% was overachieved with a result of 75.89%.	111%
		Gender Diversity (VP/D/MD)	The "Gender Diversity" KPI is the share of female among Vice President, Director, Managing Director population within Deutsche Bank Group. The target of 41.2% for the Chairman's area was clearly overachieved with a share of 43% in 2023.	
		Overdue findings (F3/F4) (12month average)	The "Overdue findings" KPI counts the number of overdue findings including "significant" and "critical" findings covering i) internal and ii) regulatory findings and iii) Self-Identified Issues (SII). In 2023 there were on average 0.67 overdue findings vs. a target of 0.	
		Media reputation	The "Media reputation" KPI for the Group is an index on tonality of DB's media coverage provided by external provider Unicepta (base: DB's global media list). The target score of 0 on a scale from (1), purely negative, to 1, purely positive, was almost reached by a score for 2023 of (0.21).	
		ESG ratings index	The "ESG rating index" is the equally weighted indexed value of the scores/ratings achieved in the Bank's core three ESG ratings. The 2023 score was 71.00 vs. a target of 73.00.	

¹ The Group/ Chairman Balanced Scorecard represents one of the two Balanced Scorecards for the CEO (Group/Chairman and Human Resources/Corporate Real Estate). The overall Balanced Scorecard achievement level is determined based on a combination of both Balanced Scorecards

Individual Balanced Scorecard for James von Moltke, Chief Financial Officer

KPI Categories	Weight KPI Category	KPI	2023 Achievement	Achievement level
Financial performance/ Capital & Risk	60%	Direct adjusted cost base (DACB)	The "Direct adjusted cost base" KPI measures the cost target for the Finance division. "Adjusted costs" means that litigation, severance and restructuring and impairment costs are excluded from the target. In 2023, the direct adjusted cost base was €524m, 1.7% above target.	
		Direct adjusted cost base – Group	The "Direct adjusted cost base" for Deutsche Bank Group was €20.6bn in 2023, 4.6% above target.	
		Leverage ratio – Group	The "Leverage ratio" reports the Bank's core capital as a percentage of its total leverage exposure pursuant to the definitions of the Capital Requirements Regulation/Capital Requirements Directive. As per Year End 2023, the leverage ratio was 4.55%, exceeding the target by 5.5%.	
Culture, control & Conduct/ Franchise	30%	Red Flags (12month average)	"Red Flags" are assigned for breaches of relevant risk-related policies and control processes. While the target would have allowed up to three Red Flags per month on average in the Finance division, there was 1 Red Flag per month on average in 2023.	
		Audit CRMG	The "Control Risk Management Grade" is a score based on divisional performance across 4 Key Indicators which reflects aspects of the Control Environment (i.e., Critical Findings) but additionally and more prominently focuses on cultural themes (Self-Identification, quality and timeliness of remediation). The target score of 2.5 was missed with a score of 1.69 for 2023.	
		Culture Pulse Survey	The "Culture Pulse Survey" KPI is measured by the straight average of favorable responses of five culture-related questions. The target for 2023 of 75% was almost achieved with a result of 74.13%.	112%
		Gender Diversity (VP/D/MD)	The "Gender Diversity" KPI is the share of female among Vice President, Director, Managing Director population within Deutsche Bank Group. The target of 36.54% for the Finance area was almost achieved with a share of 36.05% in 2023.	
		ESG ratings index	The "ESG rating index" is the equally weighted indexed value of the scores/ratings achieved in the Bank's core three ESG ratings. The 2023 score was 71.00 vs. a target of 73.00.	
		Investor meetings	The "Investor meetings" KPI reports the number of equity investors and credit investors contacts. The target of 550 meetings was overachieved with a total number of 1,020 meetings.	
Digitalization & innovation	10%	Data Quality Issues Remediation	The "Data Quality Issues Remediation" KPI measures the speed of Analysis and Remediation of the bank's most important Data Quality issues against a 6m/18m window, respectively. The 2023 score was 0.13 vs. a target of 0.15 and therefore overachieved.	
		Validated digitalization ideas for capacity creation	The KPI "Validated digitalization ideas for capacity creation" relates to identifying opportunities to digitalize the book of work in each area, reviewing the process / product with the Innovation team and submitting a digitization case to the Tactical Solutions Group (TSG) for implementation. The 2023 target of 328,23 kHours was overachieved with an outcome of 389,50 khours.	

¹ The CFO Balanced Scorecard represents one of the two Balanced Scorecards for the CFO (CFO and Asset Management). The overall Balanced Scorecard achievement level is determined based on a combination of both Balanced Scorecards

Balanced Scorecard (illustrative functioning of the internal tracking tool)

KPI categories	Weight KPI Category	KPIs	Targets	Actuals	Achievement level	Achievement	Resulting band ¹	Assessment	Weighting x factor	Resulting sum
Financial performance and capital & risk	30 %	KPI 1 KPI 2 KPI n	Target Target Target	Actuals Actuals Actuals	Achievement level Achievement level Achievement level	 	Green to amber (75-125%)	110 %	33 %	
Culture, control & conduct and franchise	50 %	KPI 1 KPI 2 KPI n	Target Target Target	Actuals Actuals Actuals	Achievement level Achievement level Achievement level	 	Green to red (50%-100%)	70 %	35 %	76 %
Innovation & digitalisation	20 %	KPI 1 KPI 2 KPI n	Target Target Target	Actuals Actuals Actuals	Achievement level Achievement level Achievement level	 	Amber to red (25%-75%)	40 %	8 %	

¹ Resulting bands of KPI categories: Green (100-150%); Green to amber (75-125%), Green to red (50-100%), Amber to red (25%-75%), Red (0%)

If a Management Board member has more than one Balanced Scorecard, an additional fourth step is carried out to determine a final overall achievement level based on the pre-defined weightings of the Balanced Scorecards.

Management Board member	Balanced Scorecard & Key Deliverables achievement level (in %)
Christian Sewing	111%
James von Moltke	112%
Fabrizio Campelli	112%
Claudio de Sanctis ¹	115%
Bernd Leukert	120%
Alexander von zur Mühlen	106%
Rebecca Short	119%
Professor Dr. Stefan Simon	94%
Olivier Vigneron	121%
Christiana Riley ²	N/A
Karl von Rohr ³	N/A

¹ Member since July 1, 2023

² Due to her choice to leave the Management Board before the end of the original appointment period, Mrs. Riley is not entitled to receive variable compensation for 2023

³ Member until October 31, 2023. There was no assessment of Balanced Scorecards KPIs as the achievement level for the Short-Term Award was set in relation to his departure from the Management Board in accordance with the previous year's level

94% - 121%

Range of Management Board members' Balanced Scorecard & Key Deliverables achievement levels for 2023

Overall achievement of the Short-Term Award

For the 2023 financial year, the following overall levels of achievement were determined for the members of the Management Board based on the level of achievement of the objectives linked to the three components defined by the Supervisory Board for the Short-Term Award:

Short-Term Award overall achievement

	Individual Achievement Level (in %)			Overall STA Achievement	
	Individual Objectives & Behavior Objective (62.5%)	Balanced Scorecard & Key Deliverables (37.5%)	Achievement level (in %)	Achievement level incl. Unity Cut (in %)	Achievement level (in €)
Christian Sewing	133.20%	111.00%	124.88%	112.39%	2,528,719
James von Moltke	117.80%	112.00%	115.63%	109.84%	2,163,922
Fabrizio Campelli	119.00%	112.00%	116.38%	116.38%	2,374,050
Claudio de Sanctis ¹	115.33%	115.00%	115.21%	109.45%	1,072,570
Bernd Leukert	112.80%	120.00%	115.50%	103.95%	1,704,780
Alexander von zur Mühlen	110.40%	106.00%	108.75%	108.75%	1,783,500
Rebecca Short	114.25%	119.00%	116.03%	110.23%	1,807,767
Professor Dr. Stefan Simon	116.60%	94.00%	108.13%	108.13%	1,773,250
Olivier Vigneron	106.00%	121.00%	111.63%	100.46%	1,647,585
Christiana Riley ²	N/A	N/A	N/A	N/A	N/A
Karl von Rohr ³	N/A	N/A	123.03%	61.52%	973,988

¹ Member since July 1, 2023

² Due to her choice to leave the Management Board before the end of the original appointment period, Mrs. Riley is not entitled to receive variable compensation for 2023

³ Member until October 31, 2023. There was no assessment of individual performance as the achievement level for the Short-Term Award was set in relation to his departure from the Management Board in accordance with the previous year's level

61.52% - 116.38% Range of Management Board members' overall STA achievement levels for 2023

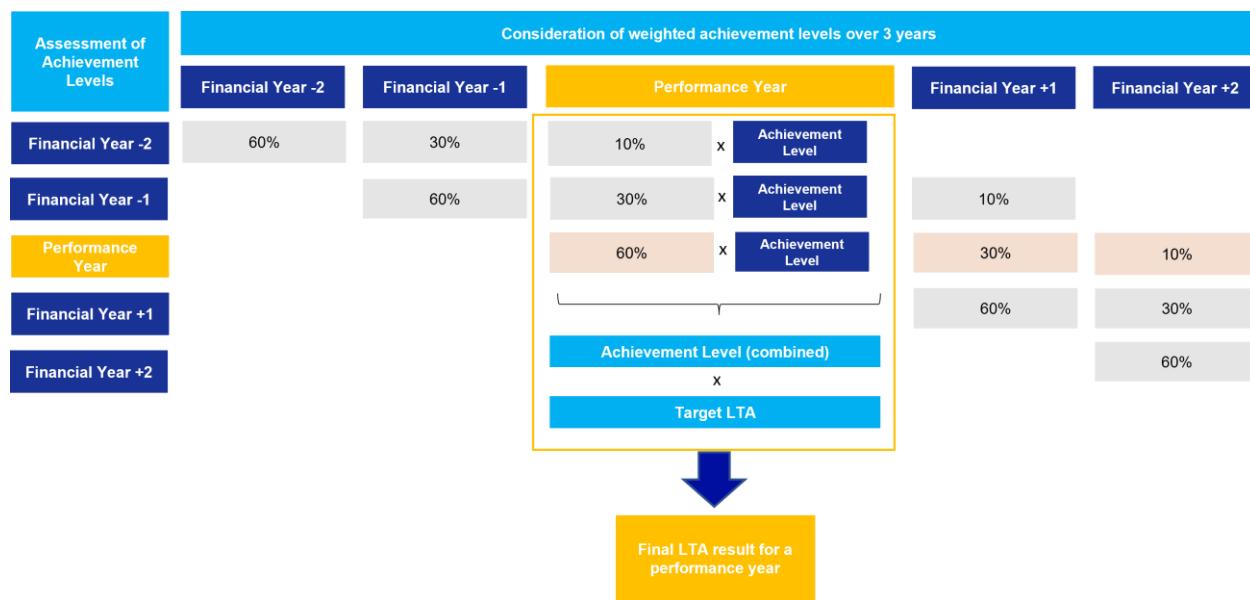
Long-Term Award (LTA)

When determining variable compensation, a significant focus is placed on the achievement of long-term objectives linked to Deutsche Bank's strategy. To emphasize this, the Supervisory Board decided that the Long-Term Award (LTA) will account for 60% of the total target variable compensation. At the beginning of each financial year, the Supervisory Board specifies the collective long-term objectives for the Management Board members for the LTA. The objectives and their weightings in the LTA for 2023 are:

- ESG Objectives (33.33%)
- Relative Total Shareholder Return of the Deutsche Bank share (25%)
- Group Financials (41.67%)

All LTA objectives are assessed over a period of three years. 60% of the target compensation for each objective is multiplied by the target level achieved in the performance year and thus makes up the largest share for that respective financial year. 30% of the applicable objective target compensation is based on the achievement level for the preceding financial year and 10% is determined based on the achievement level for the financial year before that. This results in a weighted overall achievement level for the performance year.

Assessment period of three years



ESG Objectives

Deutsche Bank has set for itself the aim of spearheading sustainability initiatives such as decarbonization and thus contributing to a more environmentally, socially and financially well-governed economy. To link Management Board compensation closely and consistently to the Bank's sustainability strategy, the Supervisory Board resolved to combine the Bank's strategic sustainability targets in an Environmental, Social and Governance (ESG) component and to implement the results as one of the collective objectives within the LTA (ESG component).

The ESG component accounts for a share of 33.33% of the LTA. This corresponds to 20% of the total variable compensation and emphasizes the importance of the ESG agenda for Deutsche Bank. At the beginning of each financial year, the Supervisory Board sets targets as well as upper limits and lower limits for all the objectives bundled in the ESG component. The assessment of the achievement levels for the financial year takes place retrospectively. A linear calculation methodology is used to assess the achievement levels for the quantitative measurable KPIs (all except AML/KYC remediation activities) in the categories of 0% and 100%, 100% and 100% to 150%. The following table shows the target amounts, the results as of the end of the year and the resulting achievement level for the 2023 financial year:

ESG ¹			Lower Limit (0%)	Target (100%)	Upper Limit (150%)	Result YE 2023	Achieve- ment Level	Relative weight	Relative Achieve- ment Level
Environment	Sustainable Finance	Increase in business with sustainable financing and investments	€ 265 bn	€ 315 bn	€ 365 bn	€ 279 bn	28%	12.5%	3,5%
		Drive climate risk management – Publicly disclose detailed Net Zero Transition plan and set reduction targets for further carbon intense industry sectors by year end 2023 to align with NZBA commitment	Completion of target setting for 2 or less relevant key sectors.	Completion of target setting for 4 relevant key sectors	Completion of target setting for further 8 (all) NZBA recommended relevant key sectors	3 relevant key sectors (coal mining, cement, and shipping)	50%	12.5%	6.25%
	Own Operations	Total building/ energy consumption (kwh/squaremeter) vs. YE 2019	-17%	-21%	-23%	-26% - 30%	150%	5%	7.50%
Social	Employee Feedback Culture (latest survey result)		72%	75%	78%	73.84%	61.33%	5%	3.07%
	Gender Diversity (VP/D/MD)		31%	31.8%	32.3%	32.3%	150%	10%	15%
Governance	Control Risk Management Grade (Assessment & Group Audit Risk/Control Culture Grade) – annual average		1.5	3	5	2.1	40%	15%	6%
	AML / KYC Remediation Activities		0%	100%	150%	75%	75%	40%	30%
						100%		71.32%	

¹ The determination of the Achievement Level is based on a linear calculation.

ESG overall achievement level

Year		Weighted achievement levels over 3 years		
2021		10%	x	89.38% = 8.94%
2022		30%	x	64.38% = 19.31%
2023		60%	x	71.32% = 42.79%

An overall achievement level for the ESG component for the 2023 financial year was calculated based on the weighted achievement levels for the seven sub-objectives and set at 71.32%. This results in a weighted overall achievement level of 71.04% for the three-year period for the portion of the LTA attributable to the ESG component.

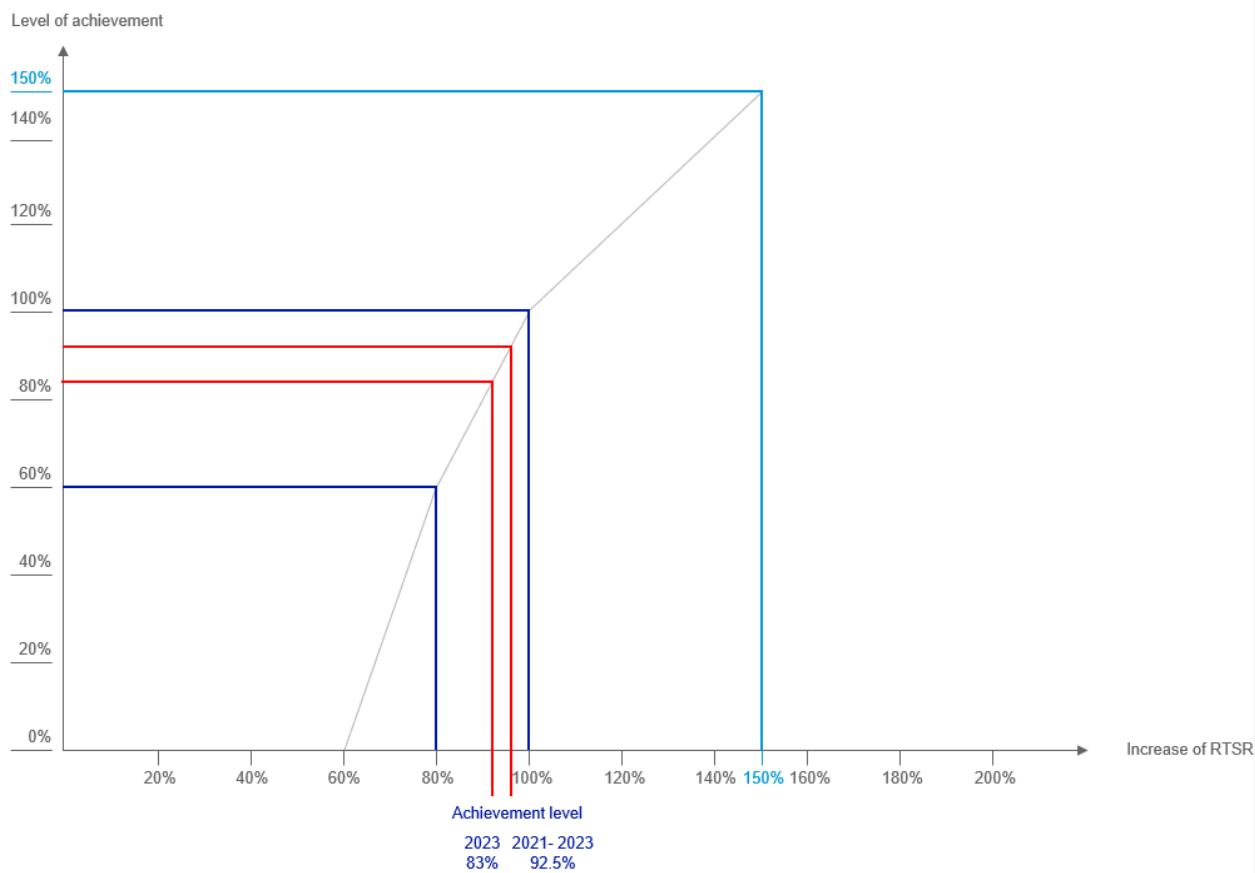
71.04% ESG achievement level for the LTA for the period for 2021-2023

Relative Total Shareholder Return (RTSR)

A key strategic target of the Bank is the performance of the Deutsche Bank share in comparison to the performance of the shares of its competitors (Relative Total Shareholder Return (RTSR)). The target for the RTSR for the Deutsche Bank share in comparison to selected financial institutions is intended to strengthen the sustainable performance of the Deutsche Bank share. The RTSR links the interests of the Management Board with those of shareholders. In addition, the RTSR provides a relative measurement of performance, creating an incentive to outperform the relevant peers. The Total Shareholder Return is defined as the share price performance plus theoretically reinvested gross dividends. The RTSR is derived and calculated based on the Total Shareholder Return of the Deutsche Bank share in relation to the average Total Shareholder Returns of the peer group.

If the RTSR is greater than 100%, then the target achievement level increases proportionally to an upper limit of 150% of the target figure, i.e., the target achievement level increases by 1% for each percentage point above 100%. If the RTSR average is less than 100%, the target achievement level declines disproportionately. For each percentage point decline of the RTSR in the range of less than 100% and 80%, the target achievement level declines by two percentage points. For each percentage point decline of the RTSR in the range between less than 80% and 60%, the target achievement level declines by three percentage points. If the RTSR does not exceed 60% over the entire assessment period, the target achievement level is zero.

Increase of RTSR and level of achievement



The peer group used as the basis for calculating the RTSR is selected from among the companies with generally comparable business activities as well as a comparable size and international presence. The Supervisory Board reviews the composition of the peer group regularly. In 2021 and 2022 the peer group for the RTSR comprised the following 11 banks: Banco Santander, Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse, HSBC, JP Morgan Chase, Société Générale, UBS and UniCredit. In 2023, Credit Suisse was removed from the peer group, so that the number of banks included was reduced to 10 banks.

RTSR overall achievement level

Year	Weighted achievement levels over 3 years				
2021	10%	x	88.00%	=	8.80%
2022	30%	x	113.00%	=	33.90%
2023	60%	x	83.00%	=	49.80%

In 2023, Deutsche Bank's Total Shareholder Return was higher compared to 4 out of 10 competitors in the peer group. The achievement level for the 2023 financial year came to 83%. This results in a weighted overall achievement level of 92.5% for the overall period of three years for the granting of the portion of the LTA attributable to the RTSR.

92.50 % RTSR achievement level for the LTA for the period for 2021-2023

Group Financials

For the financial year 2023 the previously two separate components "Organic Capital Growth" and "Group Component" were combined into "Group Financials" with a weighting of 25%. Since Organic Capital Growth and RoTE accurately reflect an increase in capital, Organic Capital Growth was removed as a separate objective.

Through the Group Financials, the Supervisory Board links the key financial figures supporting the corporate strategy with the Management Board's compensation and thus establishes an incentive to sustainably foster the Bank's capital, risk, costs and earnings profile.

Group Financial		Target	Actuals	Achievement level
Common Equity Tier 1 (CET 1) capital ratio (in %)	The bank's Common Equity Tier 1 capital, as a percentage of the risk weighted assets for credit, market and operational risk.	>= 13.1%	13.7%	70.00%
Post-tax Return on tangible equity (RoTE) (in %)	The profit (loss) attributable to the bank's shareholders after AT1 coupons as a percentage of average tangible shareholders' equity.	>= 8%	7.4%	0.00%
Cost/Income Ratio (CIR) (in %)	Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income.	<=70%	75.1%	0.00%

Group Financials overall achievement level

Year	Weighted achievement levels over 3 years			
2021	10%	x	77.50%	= 7.75%
2022	30%	x	80.00%	= 24.00%
2023	60%	x	70.00%	= 42.00%

The achievement levels of all three equally weighted objectives of the Group Financials were 70% in 2023. This results in a weighted overall achievement level of 73.75% for the overall three-year period for the portion of the LTA attributable to the Group Component.

73.75 % Group Financials achievement level for the LTA for the period for 2021-2023

Long-Term Award overall achievement

	ESG-Objectives (33.33%)	RTSR (25%)	Achievement Levels (%)		Overall LTA Achievement	
			Group Financials (41.67%)	Achievement level (in %)	Achievement level (in €)	Achievement level (in €)
Christian Sewing					2,616,778	
James von Moltke					2,291,135	
Fabrizio Campelli					2,372,546	
Claudio de Sanctis ¹					1,139,752	
Bernd Leukert	71.04%	92.50%	73.75%	77.53%	1,907,341	
Alexander von zur Mühlen					1,907,341	
Rebecca Short					1,907,341	
Professor Dr. Stefan Simon					1,907,341	
Oliver Vigneron ²	68.54%	95.00%	74.00%	77.43%	1,904,778	
Christiana Riley ³	N/A	N/A	N/A	N/A	N/A	
Karl von Rohr ⁴	71.04%	92.50%	73.75%	77.53%	1,841,436	

¹ Member since July 1, 2023

² Member since May 20, 2022, Long-term achievement level based on 2-year assessment period as the Management Board member joined Deutsche Bank on March 1, 2022

³ Due to her choice to leave the Management Board before the end of the original appointment period, Mrs. Riley is not entitled to receive variable compensation for 2023

⁴ Member until October 31, 2023

77.53% was the overall LTA achievement level for the period 2021-2023

Appropriateness of Management Board compensation and compliance with the set maximum compensation

The Supervisory Board regularly reviews the appropriateness of the individual compensation components as well as the amount of total compensation. The review of the appropriateness of Management Board compensation concluded that the Management Board compensation resulting from the achievement levels for the 2023 financial year is appropriate.

Horizontal appropriateness

Through the horizontal comparison, the Supervisory Board ensures that the target total compensation is appropriate in relation to the tasks and achievements of the Management Board as well as the company's situation and is also customary in the market. In this context, the level and structure of compensation, in particular, are examined at comparable companies (peer groups). Suitable companies in consideration of Deutsche Bank's market position (in particular with regard to business sector, size and country) are used as the basis for this comparison. The assessment of horizontal appropriateness takes place in comparison with the following three peer groups.

Peer Group 1:

This group consists of 10 global banks with

- a comparable business model; and
- a comparable size (measured by balance sheet total, number of employees and market capitalization).

The 10 institutions in this Peer Group are identical to the banks used to measure the Relative Total Shareholder Return (see Chapter "Relative Total Shareholder Return"). These are the following: Banco Santander, Bank of America, Barclays, BNP Paribas, Citigroup, HSBC, JP Morgan Chase, Société Générale, UBS and UniCredit.

Peer Group 2:

This group consists of 15 European banks with

- a comparable business model; and
- a comparable size (measured by balance sheet total, number of employees and market capitalization).

These are the following banks: Banco Bilbao Vizcaya Argentaria, Banco Santander, Barclays, BNP Paribas, BPCE, Rabobank, Crédit Agricole, Crédit Mutuel, HSBC Holdings, ING Bank, Intesa Sanpaolo, Nordea Bank, Société Générale, UBS Group and UniCredit.

Peer Group 3:

This group includes the companies of the German Stock Index (DAX).

The horizontal appropriateness of the Management Board compensation is reviewed annually by the Supervisory Board. The Supervisory Board regularly engages external compensation advisors for the review of horizontal appropriateness, while assuring itself that these advisors are independent from the Management Board and Deutsche Bank. The Supervisory Board takes the results of the review into consideration when setting the target total compensation for the Management Board members.

Vertical appropriateness

In addition to the horizontal comparison, the Supervisory Board considers a vertical comparison, which compares the compensation of the Management Board and the compensation of the workforce. Within the vertical comparison, the Supervisory Board considers in particular, in accordance with the German Corporate Governance Code, the development of the compensation over time. This involves a comparison of the Management Board compensation and the compensation of two groups of employees. Taken into account are, on the one hand, the compensation of the senior management, which comprises the first management level below the Management Board and members of the top executive committees of the divisions, as well as of management board members of significant institutions within Deutsche Bank Group and of corresponding management board-1 level positions with management responsibility. The Management Board compensation is compared to, on the other hand, the compensation of all other employees of Deutsche Bank Group worldwide (tariff and non-tariff employees).

Compliance with the set maximum compensation (cap)

The maximum compensation limit (cap) is set at € 12 million for each Management Board member. This is based on the actual expense and/or actual disbursement of the compensation awarded for a financial year. The base salaries are fixed amounts. The expenses for fringe benefits vary from Management Board member to Management Board member in any given year. The contribution to Deutsche Bank's pension plan or pension allowance is set at the same amount for all Management Board members. However, the amount to be recognized by the Bank during the year for Deutsche Bank's pension service costs fluctuates based on actuarial variables. As the expense amount for the multi-year variable compensation components of the Short-Term Award (STA) and Long-Term Award (LTA) are not determined until up to seven years due to the deferral periods, compliance with the maximum compensation set for the 2023 financial year can only be conclusively reported within the framework of the Compensation Reports for the financial years up to 2031. Compliance with the maximum compensation limit as defined under Section 87a of the German Stock Corporation Act is, however, already ensured for the 2023 financial year.

Deferrals and holding periods

The Remuneration Ordinance for Institutions (InstitutsVergV) generally stipulates a three-year assessment period for the determination of the variable compensation for Management Board members. Deutsche Bank complies with this requirement by assessing each of the objectives of the Long-Term Award (LTA) over a three-year period. If the relevant three years cannot be attributed to a member of the Management Board because the member joined the Bank only recently, the achievement level for the objectives will be determined for the period that can be attributed to the member. The deferral period for the LTA is in principle five years. If the assessment period is shorter than the prescribed minimum, the deferral period of the variable compensation to be granted is extended by the number of years missing for the minimum assessment period. The Short-Term Award (STA) has an assessment period of one year. The deferral period for the STA is in principle seven years.

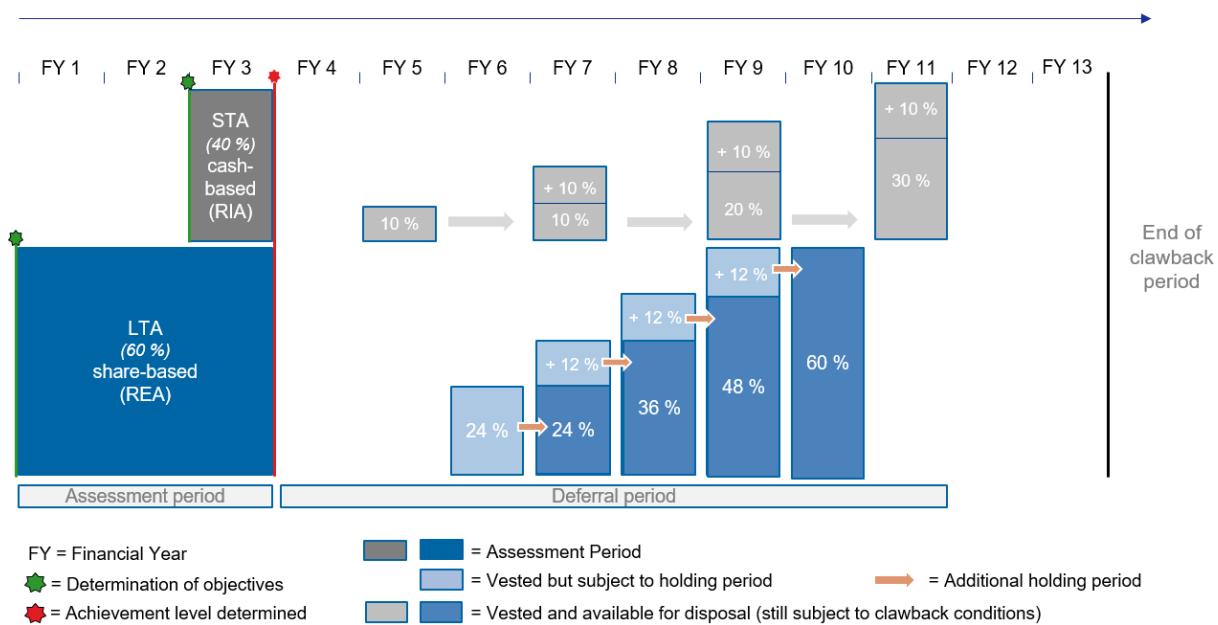
The Long-Term Award (LTA) is granted in the form of share-based instruments (Restricted Equity Awards (REAs)). The REAs vest over a deferral period of 5 years in 4 tranches, beginning with a tranche of 40% in year 2 and three tranches of 20% each in year 3, 4, and 5 following the grant of the variable compensation (grant date). Subsequent to the grant date, the REAs of each tranche are subject to an additional holding period of one year. Accordingly, the Management Board members cannot dispose of the shares underlying the REAs until after 4 years, at the earliest, and in full until after 6 years following the grant date. During the deferral and holding periods, the value of the REAs is linked to the performance of the Deutsche Bank share and is therefore tied to the long-term performance of the Bank, and thereby strengthens the alignment of the Management Board members' incentives to Deutsche Bank's performance.

The Short-Term Award (STA) is generally granted in the form of deferred cash compensation (Restricted Incentive Awards - RIAs). The STA is paid out in four tranches of 25% each over a total period of seven years in year 1, 3, 5 and 7 following the grant date. However, if the STA accounts for more than 50% of the total variable compensation, the portion exceeding 50% is also granted in the form of Restricted Equity Awards (REAs). This ensures that at least 50% of the total variable compensation is always granted in a share-based form in accordance with the regulatory requirements. The portion exceeding 50% is subject to the same deferral rules as the share-based compensation from the LTA.

Instead of receiving Restricted Equity Awards (REAs) and Restricted Incentive Awards (RIAs) as described above, holders of specific functions at certain Deutsche Bank U.S. entities are required by applicable regulation to be compensated under different plans. Restricted compensation for these persons consists of restricted share awards and restricted cash awards. The recipient becomes the beneficial owner of the awards as of the Award Date and the awards are held on the recipient's behalf. These awards are restricted for a period of time (subject to the applicable plan rules and award statements, including performance conditions and forfeiture provisions). The restriction period is aligned to the retention periods applicable to Deutsche Bank's usual deferred awards. With regard to the Management Board members, these rules apply to Stefan Simon due to his role as CEO of Deutsche Bank USA Corp.

If a member of the Management Board is identified as 'Senior Management Function (SMF)' holder by the Prudential Regulation Authority (PRA) in the UK, specific deferral provisions under UK regulation, in principle, apply. Fabrizio Campelli was identified as SMF holder for 2023 variable compensation purposes due to his oversight responsibility for the UK region. In 2023, it was agreed with the PRA that the proportion of the variable compensation which corresponds to the time spent for this regional oversight responsibility is subject to the deferral provisions under UK regulation. Therefore, 10% of his variable compensation is deferred in line with the UK regulation, i.e. 4% is granted in Restricted Incentive Awards (RIAs) and paid out in two equal tranches in year 1 and 3 following the grant date and 6% is granted in Restricted Equity Awards (REAs) and vests in 5 equal tranches in year 3, 4, 5, 6 and 7 following the grant date. After the vesting, each tranche is subject to an additional holding period of one year.

For the Restricted Incentive Awards (RIAs) and Restricted Equity Awards (REAs), specific forfeiture conditions apply during the deferral and holding periods (additional information is provided in the section "Backtesting, malus and clawback").



Backtesting, malus and clawback

By granting compensation components in a deferred form spread out over several years, a long-term incentive is created. In addition, the individual tranches are subject to specific forfeiture conditions until they vest.

The Supervisory Board regularly reviews whether the results achieved by the Management Board members in the past are sustainable (backtesting). If the outcome is that the achievements underlying the granting of the variable compensation were not sustainable, the awards may be partially or fully forfeited.

Also, if the Group's results are negative, previously granted variable compensation may be declared fully or partially forfeited during the deferral period. In addition, the awards may be fully or partially forfeited if specific solvency or liquidity conditions are not met. Furthermore, awards may be forfeited in whole or in part in the event of individual misconduct (including breaches of regulations), dismissal for cause or negative individual contributions to performance (malus).

In addition, the contracts of the Management Board members also enable the Supervisory Board to reclaim already paid or delivered compensation components due to certain individual negative performance contributions by the Management Board member (clawback) in accordance with the provisions pursuant to Sections 18 (5) and 20 (6) of the Remuneration Ordinance for Institutions (InstitutsVergV). The clawback is possible for the entire variable compensation for a financial year until the end of two years after the end of the deferral period of the last tranche of the compensation elements awarded on a deferred basis for the respective financial year.

The Supervisory Board regularly reviews in due time before the respective due dates the possibility of a full or partial forfeiture (malus) or reclaiming (clawback) of the Management Board members' variable compensation components. There was no forfeiture or clawback of awards in 2023.

The Supervisory Board saw Christiana Riley's departure from the bank early to take up a job at a financial institution that is in competition with Deutsche Bank as grounds for the forfeiture of deferred and non-vested variable compensation components (awards) in accordance with the applicable plan rules and award statements. Christiana Riley agreed to this.

Information on shares and fulfilling the share ownership obligation (Shareholding Guidelines)

All members of the Management Board are required to acquire a significant amount of Deutsche Bank shares and to hold them on a long-term basis. This requirement is meant to foster the alignment of the Management Board members with Deutsche Bank and its shareholders and to ensure a long-term link to the development of Deutsche Bank's business.

For the Chief Executive Officer, the number of shares to be held is equivalent to 200% of his annual gross base salary, and for the other Management Board members, 100% of their annual gross base salary. The requirements of the shareholding obligation must first be fulfilled as of the date on which the share-based variable compensation that has been granted to the Management Board member since his or her appointment to the Management Board (waiting period) in total corresponds to 1.33 times the shareholding obligation. Compliance with the requirements is reviewed semi-annually. If the required number of shares is not met, the Management Board members must correct any deficiencies by the next review.

In the context of granting variable compensation, the Supervisory Board can resolve on an individual basis that not only the Long-Term Award (LTA) but also parts of the Short-Term Award (STA) or the STA as a whole may be awarded in shares until the shareholding obligation is fulfilled. This is intended to ensure faster compliance with the shareholding obligation.

Members of the Management Board

The following table shows the number of outstanding share awards of the current Management Board members as of February 10, 2023, and February 9, 2024 as well as the number of share awards newly granted, delivered or forfeited in this period.

Members of the Management Board	Balance as of Feb 10, 2023	Granted	Delivered	Forfeited	Balance as of Feb 9, 2024
Christian Sewing	895,373	226,006	—	—	1,121,379
James von Moltke	717,588	176,852	—	—	894,440
Fabrizio Campelli	455,170	170,306	67,887	—	557,589
Claudio de Sanctis ¹	—	—	—	—	465,211
Bernd Leukert	295,302	165,939	3,037	—	458,204
Alexander von zur Mühlen	377,906	165,939	111,957	—	431,888
Rebecca Short	172,265	166,316	27,891	—	310,690
Professor Dr. Stefan Simon	265,778	165,939	13,379	—	418,338
Olivier Vigneron	130,539	117,561	41,209	—	206,890

¹ Member since July 01, 2023

The table below shows the total number of Deutsche Bank shares held by the incumbent Management Board members as of the reporting dates February 10, 2023, and February 9, 2024 as well as the number of share-based awards and the fulfillment level for the shareholding obligation.

Members of the Management Board	as of February 9, 2024								
	Number of Deutsche Bank shares (in Units) as of Feb 10, 2023	thereof 75% of Restricted Equity Award(s)/ Outstanding Equity Units chargeable to share obligation (deferred with additional retention period) (in Units)			Total value of Deutsche Bank shares and Restricted Equity Award(s)/ Outstanding Equity Units chargeable to share obligation (in Units)	Share retention obligation must be fulfilled Yes / No	Level of required shareholding obligation (in Units) ¹	Fulfillment ratio (in %)	
		Restricted Equity Award(s)/ Outstanding Equity Units (in Units)	Outstanding Equity Units (deferred with additional retention period) (in Units)	share obligation (deferred with additional retention period) (in Units)					
Christian Sewing	222,171	222,171	1,121,379	841,034	1,063,205	Yes	620,690	171%	
James von Moltke	74,753	74,753	894,440	670,830	745,583	Yes	275,862	270%	
Fabrizio Campelli	149,473	185,509	557,589	418,192	603,701	Yes	293,103	206%	
Claudio de Sanctis ²	—	105,665	465,211	348,908	454,573	No	258,621	176%	
Bernd Leukert	9,477	10,007	458,204	343,653	353,660	Yes	206,897	171%	
Alexander von zur Mühlen	359,655	447,485	431,888	323,916	771,401	Yes	206,897	373%	
Rebecca Short	51,299	69,168	310,690	233,018	302,186	Yes	206,897	146%	
Prof. Dr. Stefan Simon	0	—	418,338	313,754	313,754	Yes	206,897	152%	
Olivier Vigneron	0	21,841	206,890	155,168	177,009	No	206,897	86%	
Total	866,828	1,136,599	4,864,631	3,648,473	4,785,072				

¹ The calculation of the total value of the Deutsche Bank shares and share awards / outstanding shares eligible for the shareholding requirements is based on the share price € 11.600 (Xetra closing price on February 9, 2024)

² Member since July 1, 2023

All Management Board members fulfilled the shareholding obligations in 2023 or are currently in the waiting period.

The Chairman of the Management Board, Mr. Sewing, voluntarily committed to invest 15% of his monthly net salary in Deutsche Bank shares from September 2019 until the end of December 2023. In each case, purchases take place on the 22nd day of each month or on the following trading day.

Benefits as of the end of the mandate

Benefits upon regular contract termination

The Supervisory Board allocates an entitlement to pension plan benefits to the Management Board members. These entitlements involve a pension plan with predefined contributions. Under this pension plan, a personal pension account is set up for each participating member of the Management Board with effect from the start of office as a Management Board member.

The members of the Management Board, including the Management Board Chairman, receive a uniform, contractually defined, fixed annual contribution amount of € 650,000. The contribution accrues interest that is credited in advance and determined by means of an age-related factor, up to the age of 60. For entitlements from a first-time or renewed appointment starting from the 2021 financial year, interest accrues at an average rate of 2% per annum, for legacy entitlements 4%. From the age of 61 onwards, an additional contribution equal to the amount resulting from applying the above interest rate to the balance of the pension account as of December 31 of the previous year will be credited to the pension account. The annual contributions, taken together, form the pension capital amount available to pay the future pension benefits upon the occurrence of a pension event (retirement age, disability or death). The pension account balance is vested from the start.

If a Management Board member is subject to non-German income tax, the granting of an annual pension cash allowance of € 650,000 may be selected as an alternative to the pension plan entitlement. This is subject to the precondition that receiving the customary pension plan contributions entails not insignificant tax-related disadvantages for the Management Board member compared to receiving a pension allowance. This option can be exercised once and from then on applies to the entire term of office of the Management Board member.

The following table shows the annual contributions, the interest credits, the account balances and the annual service costs for the years 2023 and 2022 as well as the corresponding defined benefit obligations for each member of the Management Board in office in 2023 as of December 31, 2022 and December 31, 2023. The different balances are attributable to the different lengths of service on the Management Board, the respective age-related factors, and the different contribution rates.

Members of the Management Board in €	Annual contribution, in the year		Interest credit, in the year		Account balance, end of year		Service cost (IFRS), in the year		Present value of the defined benefit obligation (IFRS), end of year	
	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022
Christian Sewing	747,500	760,500	0	0	8,024,000	7,276,500	564,889	529,109	6,457,344	5,422,875
James von Moltke	812,500	845,000	0	0	5,846,750	5,034,250	667,237	638,068	4,948,283	3,945,284
Fabrizio Campelli	786,500	946,836	0	0	3,968,254	3,181,754	525,920	605,376	2,909,388	2,148,218
Claudio de Sanctis ¹	386,750	0	0	0	386,750	0	272,499	0	278,217	0
Bernd Leukert	702,000	786,500	0	0	3,436,334	2,434,334	573,019	637,939	3,077,074	2,317,651
Alexander von zur Mühlen ²	0	0	0	0	0	0	0	0	0	0
Rebecca Short	806,000	819,000	0	0	2,179,668	1,373,668	519,350	475,091	1,448,786	826,548
Prof. Dr. Stefan Simon ²	473,959	845,000	0	0	3,483,460	3,009,501	373,627	629,482	2,896,341	2,311,957
Olivier Vigneron	760,500	644,584	0	0	1,405,084	644,584	543,072	423,955	1,053,069	446,932
Christiana Riley ^{2,3}	0	0	0	0	0	0	0	0	0	0
Karl von Rohr ⁴	585,001	728,000	0	0	6,034,002	5,449,001	543,542	652,035	5,739,167	4,864,821

¹ Member since July 1, 2023

² The Management Board member receive a pension allowance, which is shown in the section "Compensation granted and owed (inflow table)"

³ Member until May 17, 2023

⁴ Member until October 31, 2023

Benefits upon early termination

The Management Board members are in principle entitled to receive a severance payment upon an early termination of their appointment, provided the Bank is not entitled to revoke the appointment or give notice under the contractual agreement for cause. In accordance with the recommendation of the German Corporate Governance Code, the severance payment amounts to up to a maximum of two times the annual compensation at the maximum and must not exceed the amount that would be payable as compensation for the remaining term of the service contract. The calculation of the severance payment is based on the annual compensation for the previous financial year and, if applicable, on the expected annual compensation for the current financial year. The severance payment is determined and granted in accordance with the statutory and regulatory requirements, in particular with the provisions of the Remuneration Ordinance for Institutions (InstitutVerV).

In the event of a change of control, Management Board members have a special right to termination of their service contract. However, in such case, there is no entitlement to a severance payment.

Other service contract provisions

Term of the service contract

The term of the Management Board service contracts is linked to the duration of the appointment and is a maximum of five years in accordance with Section 84 of the German Stock Corporation Act. The Supervisory Board shall decide at an early stage, no later than six months before the expiry of the appointment period, on a renewed appointment. In the case of the Management Board member's reappointment, the service contract is extended for the duration of a renewed appointment.

For first-time appointments, a contract term of three years is not to be exceeded. The Management Board service contract ends automatically with the expiry of the appointment period without requiring the express notice of termination.

Reduction of base salary in connection with compensation from other mandates

The service contracts of the Management Board members contain an obligation of the members to ensure that they will not receive any compensation to which they would otherwise be entitled in their capacity as a member of any corporate body, in particular a supervisory board, advisory board or similar body of any group entity of the Bank pursuant to Section 18 of the German Stock Corporation Act. Accordingly, Management Board members do not receive any compensation for mandates on boards of Deutsche Bank subsidiaries.

A Management Board member's base salary will be reduced in an amount equal to 50% of the compensation from a mandate – in particular supervisory board or advisory board mandates – at a company that does not belong to Deutsche Bank Group. There is no such deduction of any compensation that does not exceed € 100,000 per mandate and calendar year.

In the 2023 financial year, the base salary of one member of the Management Board was reduced by the amount of the compensation from one mandate at a company that does not belong to Deutsche Bank Group, since the compensation exceeded the threshold amount.

Post-contractual non-compete clause

After leaving the Management Board, the members are as a general rule subject to a one-year non-compete clause. During the non-compete period, Deutsche Bank pays the Management Board member compensation (waiting allowance "Karenzentschädigung") amounting to 65% of his or her annual base salary. The waiting allowance will be credited against any claim to severance pay. In addition, the waiting allowance will be reduced by any income that the Management Board member earns during the non-compete period from self-employed, salaried or other paid activities that are not subject to the non-compete clause. Deutsche Bank may waive a Management Board member's compliance with the post-contractual non-compete clause. From the date of the waiver, if and when such waiver is granted, Deutsche Bank's obligation to pay the waiting allowance ("Karenzentschädigung") ends.

Christiana Riley left the Management Board with effect from the end of May 17, 2023. Her service contract was terminated by way of mutual agreement with effect from the end of May 31, 2023. As provided for in her service contract, a waiting allowance ("Karenzentschädigung") was agreed in accordance with the post-contractual non-competition clause in the amount of € 130,000 per month, corresponding to 65% of her fixed base salary. The post-contractual non-compete provision applies from June 1, 2023, to September 30, 2023, in the scope set forth in the service contract.

Karl von Rohr left the Management Board with effect from the end of October 31, 2023. The Service Contract ended with the end of his appointment period. As provided for in his service contract, a waiting allowance ("Karenzentschädigung") was agreed in accordance with the post-contractual non-compete clause in the amount of € 162,500 per month, corresponding to 65% of his fixed base salary. The post-contractual non-compete provision applies from November 1, 2023, to October 31, 2024, in the scope set forth in the service contract.

Deviations from the compensation system

There were no deviations from the compensation system in the 2023 financial year.

Management Board compensation 2023

Current Management Board members

Total compensation 2023

The Supervisory Board determined the aforementioned compensation on an individual basis for 2023 and 2022 as follows:

					2023	2022
in €	Base salary ¹	Short Term Award	Long Term Award	Total compensation	Target Total compensation	Total compensation
Christian Sewing	3,600,000	2,528,719	2,616,778	8,745,497	9,225,000	8,933,742
James von Moltke	3,150,000	2,163,922	2,291,135	7,605,057	8,075,000	7,073,709
Fabrizio Campelli	3,250,000	2,374,050	2,372,546	7,996,596	8,350,000	6,485,893
Claudio de Sanctis ²	1,500,000	1,072,570	1,139,752	3,712,322	3,950,000	—
Bernd Leukert	2,400,000	1,704,780	1,907,341	6,012,121	6,500,000	6,266,628
Alexander von zur Mühlen	2,400,000	1,783,500	1,907,341	6,090,841	6,500,000	6,249,101
Rebecca Short	2,400,000	1,807,767	1,907,341	6,115,108	6,500,000	6,325,053
Professor Dr. Stefan Simon	2,400,000	1,773,250	1,907,341	6,080,591	6,500,000	6,258,838
Olivier Vigneron	2,400,000	1,647,585	1,904,778	5,952,363	6,500,000	3,840,545
Christiana Riley ³	1,000,000	N/A	N/A	1,000,000	2,708,333	N/A
Karl von Rohr ⁴	2,500,000	973,988	1,841,436	5,315,424	6,458,333	7,266,592
Total	27,000,000	17,830,131	19,795,789	64,625,920	71,266,666	64,861,564

¹ In the column "Base salary", the target values set by the Supervisory Board are shown in EUR for reasons of comparability. The actual inflow differs from this target value for Management Board members Alexander von zur Mühlen and Christiana Riley due to currency fluctuations and for Bernd Leukert due to the offsetting of compensation from mandates. The inflow is shown in the section " Compensation granted and owed (inflow table)

² Member since July 1, 2023

³ Member until May 17, 2023. Pro-rata to the duration of the service contract until May 31, 2023. Due to her choice to leave the Management Board before the end of the original appointment period, Mrs. Riley is not entitled to receive variable compensation for 2023

⁴ Member until October 31, 2023. The STA-achievement level was set in relation to his departure from the Management Board in accordance with the previous year's level

The number of share awards granted to the members of the Management Board in the form of Restricted Equity Awards (REA) in 2024 for the 2023 financial year was calculated by dividing the respective amounts in euro by the average Xetra closing price of the Deutsche Bank share during the last ten trading days in February 2024 (€ 12.2012).

Members of the Management Board	Restricted Equity Award(s) (deferred with additional retention period) (in Units) ¹
Christian Sewing	214,469
James von Moltke	187,779
Fabrizio Campelli	194,514
Claudio de Sanctis ²	93,413
Bernd Leukert	156,324
Alexander von zur Mühlen	156,324
Rebecca Short	156,324
Prof. Dr. Stefan Simon	156,324
Olivier Vigneron	156,114
Christiana Riley ³	N/A
Karl von Rohr ⁴	150,923
Total	1,622,508

¹ The Restricted Equity Awards are commercially rounded for presentation purposes

² Member since July 1, 2023

³ Member until May 17, 2023. Due to her choice to leave the Management Board before the end of the original appointment period, Mrs. Riley is not entitled to receive variable compensation for 2023

⁴ Member until October 31, 2023

Granted and owed compensation (inflow table)

The following table shows the compensation paid and owed in the 2023 and 2022 financial years to incumbent members of the Management Board in the 2023 financial year, pursuant to Section 162 (1) sentence 1 of the German Stock Corporation Act. This involves the compensation components that were either actually paid or delivered to the individual Management Board members within the reporting period ("paid") or were already legally due during the reporting period but not yet delivered ("owed").

Besides the compensation amounts, the table additionally shows the relative proportions of fixed and variable compensation within the total compensation pursuant to Section 162 (1) sentence 2 of the German Stock Corporation Act.

	Christian Sewing				James von Moltke			
	2023		2022		2023		2022	
	in € t.	in %	in € t.	in %	in € t.	in %	in € t.	in %
Fixed compensation components:								
Base salary	3,600	72%	3,600	82%	3,150 ¹	77%	2,900	77%
Pension allowance	0	0%	0	0%	0	0%	0	0%
Fringe benefits	255	5%	216	5%	72	2%	84	2%
Total fixed compensation	3,855	77%	3,816	87%	3,222	79%	2,984	79%
Variable compensation components:								
Deferred variable compensation								
thereof Restricted Incentive Awards:								
2017 Restricted Incentive Award: Sign On	0	0%	0	0%	0	0%	67	2%
2019 Restricted Incentive Award for 2018	232	5%	232	5%	169	4%	169	4%
2020 Restricted Incentive Award for 2019	43	1%	43	1%	43	1%	43	1%
2021 Restricted Incentive Award for 2020	304	6%	304	7%	213	5%	213	6%
2022 Restricted Incentive Award for 2021	577	12%	0	0%	419	10%	0	0%
thereof Equity Awards:	0	0%	0	0%	0	0%	0	0%
Fringe benefits	0	0%	0	0%	0	0%	308 ²	8%
Total variable compensation	1,155	23%	579	13%	843	21%	799	21%
Total compensation	5,010	100%	4,394	100%	4,065	100%	3,783	100%

¹ For further details on compensation decision, please refer to the section "Management Board Changes and Compensation Decisions in 2023" in this report

² The variable fringe benefits represent a housing allowance which was granted until June 30, 2022

	Fabrizio Campelli				Claudio de Sanctis (Member since July 01, 2023)			
	2023		2022		2023		2022	
	in € t.	in %	in € t.	in %	in € t.	in %	in € t.	in %
Fixed compensation components:								
Base salary	3,250 ¹	83%	2,467	90%	1,500 ¹	99%	–	–
Pension allowance	0	0%	0	0%	0	0%	–	–
Fringe benefits	33	1%	57	2%	9	1%	–	–
Total fixed compensation	3,283	84%	2,524	92%	1,509	100%	–	–
Variable compensation components:								
Deferred variable compensation								
thereof Restricted Incentive Awards:								
2017 Restricted Incentive Award: Sign On	0	0%	0	0%	0	0%	–	–
2019 Restricted Incentive Award for 2018	0	0%	0	0%	0	0%	–	–
2020 Restricted Incentive Award for 2019	7	0%	7	0%	0	0%	–	–
2021 Restricted Incentive Award for 2020	213	4%	213	5%	0	0%	–	–
2022 Restricted Incentive Award for 2021	406	8%	0	0%	0	0%	–	–
thereof Equity Awards:	0	0%	0	0%	0	0%	–	–
Fringe benefits	0	0%	0	0%	0	0%	–	–
Total variable compensation	626	16%	220	8%	0	0%	–	–
Total compensation	3,909	100%	2,744	100%	1,509	100%	–	–

¹ For further details on compensation decision, please refer to the section "Management Board Changes and Compensation Decisions in 2023" in this report

	Bernd Leukert				Alexander von zur Mühlen			
	2023		2022		2023		2022	
	in € t.	in %	in € t.	in %	in € t.	in %	in € t.	in %
Fixed compensation components:								
Base salary	2,397 ¹	80%	2,397 ¹	92%	2,559 ²	68%	2,567 ²	75%
Pension allowance	0	0%	0	0%	650	17%	650	19%
Fringe benefits	6	0%	8	0%	88	2%	121	4%
Total fixed compensation	2,403	80%	2,404	93%	3,297	88%	3,338	98%
Variable compensation components:								
Deferred variable compensation								
thereof Restricted Incentive Awards:								
2017 Restricted Incentive Award: Sign On	0	0%	0	0%	0	0%	0	0%
2019 Restricted Incentive Award for 2018	0	0%	0	0%	0	0%	0	0%
2020 Restricted Incentive Award for 2019	0	0%	0	0%	0	0%	0	0%
2021 Restricted Incentive Award for 2020	188	4%	188	4%	74	2%	74	2%
2022 Restricted Incentive Award for 2021	399	8%	0	0%	395	10%	0	0%
thereof Equity Awards:	0	0%	0	0%	0	0%	0	0%
Fringe benefits	0	0%	0	0%	0	0%	0	0%
Total variable compensation	587	20%	188	7%	470	12%	74	2%
Total compensation	2,990	100%	2,593	100%	3,767	100%	3,412	100%

¹ The fixed compensation shown includes the crediting of compensation from mandates

² As the fixed compensation is granted in local currency, it is subject to foreign exchange-rate changes

	Rebecca Short				Professor Dr. Stefan Simon			
	2023		2022		2023		2022	
	in € t.	in %	in € t.	in %	in € t.	in %	in € t.	in %
Fixed compensation components:								
Base salary	2,400	90%	2,400	99%	2,429 ¹	73%	2,400	96%
Pension allowance	0	0%	0	0%	271 ²	8%	0	0%
Fringe benefits	33	1%	36	1%	55	2%	10	0%
Total fixed compensation	2,433	91%	2,436	100%	2,755	83%	2,410	97%
Variable compensation components:								
Deferred variable compensation								
thereof Restricted Incentive Awards:								
2017 Restricted Incentive Award: Sign On	0	0%	0	0%	0	0%	0	0%
2019 Restricted Incentive Award for 2018	0	0%	0	0%	0	0%	0	0%
2020 Restricted Incentive Award for 2019	0	0%	0	0%	0	0%	0	0%
2021 Restricted Incentive Award for 2020	0	0%	0	0%	78	2%	78	2%
2022 Restricted Incentive Award for 2021	241	5%	0	0%	396	10%	0	0%
thereof Equity Awards:								
Fringe benefits	0	0%	0	0%	0	0%	0	0%
Total variable compensation	241	9%	0	0%	564	17%	78	3%
Total compensation	2,674	100%	2,436	100%	3,319	100%	2,488	100%

¹ As the fixed compensation is granted in local currency, it is subject to FX-rate changes

² The Management Board Member receives a pro-rata pension allowance since the August 1, 2023

	Olivier Vigneron				Christiana Riley ¹ (Member until May 17, 2023)			
	2023		2022		2023		2022	
	in € t.	in %	in € t.	in %	in € t.	in %	in € t.	in %
Fixed compensation components:								
Base salary	2,400	99%	1,473	98%	1,059 ²	40%	2,612 ²	72%
Non-compete payment	0	0%	0	0%	543	20%	0	0%
Pension allowance	0	0%	0	0%	271	10%	650	18%
Fringe benefits	33	1%	35	2%	154	6%	204	6%
Total fixed compensation	2,433	100%	1,508	100%	2,026	76%	3,466	95%
Variable compensation components:								
Deferred variable compensation								
thereof Restricted Incentive Awards:								
2017 Restricted Incentive Award: Sign On	0	0%	0	0%	0	0%	0	0%
2019 Restricted Incentive Award for 2018	0	0%	0	0%	0	0%	0	0%
2020 Restricted Incentive Award for 2019	0	0%	0	0%	0	0%	0	0%
2021 Restricted Incentive Award for 2020	0	0%	0	0%	240	6%	186	5%
2022 Restricted Incentive Award for 2021	0	0%	0	0%	405	15%	0	0%
thereof Equity Awards:								
Fringe benefits	0	0%	0	0%	0	0%	0	0%
Total variable compensation	0	0%	0	0%	646	24%	187	5%
Total compensation	2,433	100%	1,508	100%	2,673	100%	3,653	100%

¹ Pro-rata to the duration of the service contract until May 31, 2023

² As the fixed compensation is granted in local currency, it is subject to FX-rate changes

	Karl von Rohr ¹ (Member until October 31, 2023)			
	2023		2022	
	in € t.	in %	in € t.	in %
Fixed compensation components:				
Base salary	2,500	67%	3,000	87%
Non-compete payment	325	9%	0	0%
Pension allowance	0	0%	0	0%
Fringe benefits	24	1%	8	0%
Total fixed compensation	2,849	76%	3,008	87%
Variable compensation components:				
Deferred variable compensation				
thereof Restricted Incentive Awards:				
2017 Restricted Incentive Award: Sign On	0	0%	0	0%
2019 Restricted Incentive Award for 2018	169	5%	169	5%
2020 Restricted Incentive Award for 2019	43	1%	43	1%
2021 Restricted Incentive Award for 2020	224	4%	224	5%
2022 Restricted Incentive Award for 2021	443	9%	0	0%
thereof Equity Awards:				
Fringe benefits	0	0%	0	0%
Total variable compensation	878	24%	435	13%
Total compensation	3,727	100%	3,444	100%

With respect to the deferred compensation components of previous years approved in the reporting year, the Supervisory Board confirmed that the respective performance conditions were met.

Former members of the Management Board

Granted and owed compensation (inflow table)

The following table shows the compensation paid and owed to the former members of the Management Board in the 2023 financial year pursuant to Section 162 (1) sentence 1 of the German Stock Corporation Act. This involves the compensation components that were either actually delivered to the former Management Board members within the reporting period ("paid") or were already legally due during the reporting period but not yet delivered ("owed"). Pursuant to Section 162 (5) of the German Stock Corporation Act, no personal data is provided on former members of the Management Board who ended their work for the Management Board prior to the end of the financial year 2013.

	Stuart Lewis Member until May 19, 2022 2023	Frank Kuhnke Member until April 30, 2021 2023	Werner Steinmüller Member until July 31, 2020 2023	Sylvie Matherat Member until July 31, 2019 2023
	in € t.	in %	in € t.	in %
Non-Compete payment	758	56%	0	0%
Deferred variable compensation				
Restricted Incentive Awards	604	44%	348	100%
Equity Awards	0	0%	0	0%
Fringe benefits	0	0%	0	0%
Pension benefits	0	0%	0	0%
Total compensation	1,363	100%	348	100%
			283	100%
			132	100%

	Nicolas Moreau Member until Dec 31, 2018 2023			
	DWS Management GmbH			
	DB AG in € t.	DWS Management GmbH in € t.	Overall in € t.	in %
Deferred variable compensation				
Restricted Incentive Awards	79	90	169	59%
Equity Awards ¹	0	117	117	41%
Fringe benefits	0	0	0	0%
Pension benefits	0	0	0	0%
Total compensation	79	207	286	100%

¹ The equity awards shown are share-based instruments granted by DWS Management GmbH. Details of these instruments can be found in the DWS Annual Report

	Garth Ritchie Member until July 31, 2019 2023	Frank Strauß Member until July 31, 2019 2023	Dr. Marcus Schenck Member until May 24, 2018 2023	John Cryan Member until April 8, 2018 2023
	in € t.	in %	in € t.	in %
Deferred variable compensation				
Restricted Incentive Awards	268	100%	326	100%
Equity Awards	0	0%	0	0%
Fringe benefits	0	0%	0	0%
Pension benefits	0	0%	0	0%
Total compensation	268	100%	326	100%
			65	100%
			3,312	100%

Outlook for the 2024 financial year

The current Management Board compensation system was approved by the General Meeting in 2021. Since then, it has been proven that the system works well and sets the right incentives. At the same time, the compensation system is competitive. Nevertheless, the Supervisory Board and, in preparation, the Compensation Control Committee of Deutsche Bank regularly review the compensation system of the Management Board members with regard to market trends and investor feedback. Furthermore, the regulatory requirements of the Stock Corporation Act (AktG), the Remuneration Ordinance for Institutions (InstitutsVergV) as well as the principles and recommendations of the German Corporate Governance Code (GCGC), as most recently amended, are taken into account.

As part of the review process in 2023, points of improvement were identified, which are explained below. These improvements are reflected in a new compensation system that will be submitted for approval to the General Meeting in May 2024 with effect from the beginning of 2024 onwards.

Forward-looking assessment period for the Long-Term Incentive (LTI)

In the previous compensation system, the collective objectives of the Long-Term Incentive were assessed over a period of three years. Thereby, the current financial year was weighted at 60%. The two previous years were weighted at 30% and 10%, respectively. To reflect the feedback of shareholders, a forward-looking assessment period will be used instead for the performance measurement of the future LTI. Furthermore, in contrast to the previous compensation system which stipulated different weightings for each financial year, the target achievement will be determined after three financial years. As a result, the Supervisory Board will set objectives and their target values for three years in the future. This fosters a long-term focus and thus the sustainable development of the Company.

Reduction of complexity

The Supervisory Board has identified two changes to significantly reduce the overall complexity of the compensation system and thus increase transparency in the Compensation Report:

- The complexity of variable compensation has been simplified by reducing the number of objectives. In the Short-Term Incentive (STI), a maximum of five objectives for measuring individual and divisional performance will be set in future instead of the previous three to four individual objectives, plus an additional behavior objective and a complex balanced scorecard with a large number of Key Performance Indicators. The future STI objectives can be categorized into "Financial", "ESG" and "Personal", always ensuring a balance of financial and non-financial, quantitative, and qualitative objectives. The LTI provides for a lower number of objectives compared to the previous system. The objectives of the LTI are reflected by Group financials (Return on Tangible Equity (RoTE) and Total Book Value per Share (TBVPS)), Relative Total Shareholder Return (RTSR) and ESG objectives.
- Total variable compensation will continue to be granted predominantly in deferred form to ensure the sustainability of earnings within the framework of the business and risk strategies. Furthermore, total variable compensation will continue to be granted predominantly as equity-based instruments to achieve an even stronger alignment of the Management Board members' compensation to the Bank's performance and its share price. In the previous compensation system, the underlying scheme for deferral and holding periods was perceived as complex. In the future, half of the STI will be paid out directly after the one-year assessment period in cash and the other half is granted equity-based with an additional holding period of one year. The LTI will be paid out in equity, starting one year after the three-year assessment period, and distributed over five equal, consecutive installments, each with an additional holding period of one year. In total, the full LTI pay out amount of a tranche will be available for disposal after nine years. The Supervisory Board is confident that the new scheme for deferral and holding periods is significantly simpler and more comprehensible, while at the same time fulfilling the regulatory requirements of the InstitutsVergV.

Increase of pay-for-performance alignment

Several shareholders expressed concerns regarding the design of the previous target achievement curve for the Relative Total Shareholder Return (RTSR) in the long-term component, which measures the TSR of the Deutsche Bank share in relation to the average TSR of a selected peer group. In particular, shareholders criticized that payout starts at a TSR of 40% below the peer group and an equal performance with the peer group results in a target achievement of 100%. In line with the market practices of international banks and to further strengthen the pay-for-performance alignment of Deutsche Bank's compensation, the target achievement for the RTSR will be assessed based on Deutsche Bank's percentile rank compared to the individual companies in the peer group. According to the new method, the payout starts if the percentile rank of Deutsche Bank is at the median, i.e., Deutsche Bank must outperform 50% of the companies in the peer group. A target achievement of 100% is defined as reaching the 70th percentile, which, in the current peer group of ten international banks, corresponds to achieving rank 4 in terms of TSR performance. Only ranks 1 and 2 allow a payout at the upper threshold of 150% target achievement. The Supervisory Board would like to point out that the ambition level of the new target achievement curve goes beyond the current practice in the German market and shows that shareholders' feedback has been heard and implemented.

Increase in market alignment

To increase market alignment and harmonize further contractual agreements of the Management Board compensation, changes have been made in the pension scheme, shareholding guidelines and termination benefits.

- With regard to the former pension scheme, a simple cash allowance model will be introduced for newly appointed members of the Management Board. The cash allowance is paid out directly in a lump sum. This avoids interest rate and biometric risks in financing a pension entitlement as well as the administrative procedures associated with this for the Deutsche Bank. In addition, the annual pension allowance for a newly ordinary Management Board member will be 30% lower than the pension contribution currently granted.
- Furthermore, in line with current market practice, a build-up phase of four years will be introduced for the obligation under shareholding guidelines.
- In line with German market practice as well as recommendation G.13 German Corporate Governance Code (GCGC), severance payments are currently limited to two times the annual total compensation and are not paid beyond the remaining term of the service contract (severance cap). Considering feedback from investors and other stakeholders, the Supervisory Board will reduce the severance cap at a maximum of two years' base salary for newly appointed members of the Management Board. In addition, the waiting allowance (Karentzentschädigung) for the duration of the subsequent non-competition period will be lowered from 65% of the annual base salary to 50% of the annual base salary.

Outlook on the objectives of the variable compensation 2024-2026

The new compensation system establishes a strong alignment of interests between the Management Board members and shareholders of Deutsche Bank and allows for a high degree of transparency for stakeholders. Against this background, the Supervisory Board made a commitment to disclose the long-term objectives and target values of the variable compensation 2024, which is based on the new compensation system, before the start of the respective assessment period. Short term individual targets will continue to be disclosed retrospectively.

Long-Term Incentive KPI*	Weighting	Definition/Comment	Lower Limit (0%)	Target (100%)	Upper Limit (150%)
Group Financials	25%				
RoTE	15%	Return on Tangible Equity by end of 2026	< 9% At 9%: 33% achievement	11%	12%
TBVPS	10%	Tangible Book Value Per Share - average annual growth (excl. foreign exchange) 2024-2026	≤ 6.5%	8.5%	9.5%
RTSR	15%				
RTSR	15%	Ranking of Deutsche Bank vs. Peer Group by end of 2026	< median At median: 50% achievement	70. percentile	90. percentile
ESG	20%				
Environmental	8%	Driving climate risk management - measures MB against agreed KPIs linked to reduction targets for disclosed carbon intensive sectors in line with published pathways to net zero Achievement is calculated as 'Average of for 2025-2026'	≤ 50% of pre-defined data points of set reduction targets for carbon intense industry sectors meet threshold	70% of pre-defined data points of set reduction targets for carbon intense industry sectors meet threshold	85% of pre-defined data points of set reduction targets for carbon intense industry sectors meet threshold
Social	4%	Gender Diversity (MB – 1, MB -2) by end of 2026	≤ 30%	32.5%	35%
Governance	8%	Control Risk Management Grade by end of 2026	≤ 1.5	3	5
		Anti-Money-Laundering / Know-Your-Client Remediation Activities by end of 2026	0%	100%	150%

*Calculation between Lower Limit and Target as well as Target and Upper Limit is a linear straight line.

The achievement level of each KPI can be between 0%-150%. Calculation between Lower Limit and Target as well as Target and Upper Limit is a linear straight line.

Compensation of members of the Supervisory Board

Supervisory Board compensation, which can be amended by the General Meeting if necessary, is regulated in Section 14 of the Articles of Association. New compensation provisions were last adopted by resolution of the General Meeting on May 17, 2023. Accordingly, the following provisions apply as of May 17, 2023:

The members of the Supervisory Board receive a fixed annual compensation ("Supervisory Board Compensation"). The amount of the annual base compensation for each Supervisory Board member is € 300,000, for the Supervisory Board Chairman € 950,000, and for each Deputy Chairperson € 475,000.

Chairs of the committees of the Supervisory Board are paid additional fixed annual compensation amounts as follows:

Committee chair in €	
Audit Committee	150,000
Risk Committee	150,000
Technology, Data and Innovation Committee	150,000
Chairman's Committee	100,000
Nomination Committee	100,000
Compensation Control Committee	100,000
Regulatory Oversight Committee	100,000
Strategy and Sustainability Committee	100,000
Mediation Committee	0

If a Supervisory Board member is chair of more than one committee, compensation is only paid for the committee entitled to the highest amount. The Chairman of the Supervisory Board does not receive any additional compensation for chairing of the committees. Members of the committees also do not receive additional compensation.

In connection with the new regulation of Supervisory Board Compensation, the General Meeting resolved to approve the following transitional regulations with effect from May 17, 2023:

If the amount of the Supervisory Board Compensation does not exceed the Supervisory Board Compensation previously paid in the individual case (calculated compensation for the 2023 financial year based on the previous regulation in the Articles of Association), a member of the Supervisory Board whose current term of office began before May 17, 2023, will receive a compensating payment in the form of a cash payment in the amount of the difference between the previously granted Supervisory Board Compensation and the Supervisory Board Compensation pursuant to paragraphs 1 and 2 of Section 14 of the Articles of Association. In the event of a re-election as member of the Supervisory Board, the provisions of the Articles of Association in the version adopted on May 17, 2023, apply.

Members of the Supervisory Board whose current term of office began before May 17, 2023, will receive the virtual shares cumulatively earned during the current term of office paid out in February 2024 on the basis of the average closing price during the last 10 trading days of the Frankfurt Stock Exchange (Xetra or successor system) of the preceding January.

The compensation determined will be paid to the respective member of the Supervisory Board by, at the latest, two months after submitting invoices and as a rule within the first three months of the following year.

In case of a change in Supervisory Board membership during the year, compensation for the financial year will be paid on a pro rata basis, rounded up/down to full months.

The company reimburses the Supervisory Board members for the cash expenses they incur in the performance of their office, including any value added tax (VAT) on their compensation and reimbursements of expenses. Furthermore, any employer contributions to social security schemes that may be applicable under foreign law to the performance of their Supervisory Board work shall be paid for each Supervisory Board member affected. Finally, the Supervisory Board Chairman will be reimbursed appropriately for travel expenses incurred in performing representative tasks due to his function and reimbursed for costs for the security measures required based on his function.

In the interest of the company, the members of the Supervisory Board will be included in an appropriate amount in any financial liability insurance policy held by the company. The premiums for this are paid by the company. A deductible does not have to be specified for the members of the Supervisory Board.

Until the new provisions became effective as of May 17, 2023, the following provisions applied for the compensation of the Supervisory Board:

The members of the Supervisory Board received a fixed annual compensation (“Supervisory Board Compensation”). The annual base compensation amounted to € 100,000 for each Supervisory Board member. The Supervisory Board Chairman received twice that amount and the Deputy Chairpersons one and a half times that amount.

Members and chairs of the committees of the Supervisory Board were paid additional fixed annual compensation as follows:

Committee in €	until May 17, 2023	
	Chair	Member
Audit Committee	200,000	100,000
Risk Committee	200,000	100,000
Nomination Committee	100,000	50,000
Mediation Committee	0	0
Regulatory Oversight Committee	200,000	100,000
Chairman's Committee	100,000	50,000
Compensation Control Committee	100,000	50,000
Strategy and Sustainability Committee	100,000	50,000
Technology, Data and Innovation Committee	200,000	100,000

75% of the compensation determined was disbursed to each Supervisory Board member after submitting invoices within the first three months of the following year. The other 25% was converted by the company at the same time into company shares based on the average closing price on the Frankfurt Stock Exchange (Xetra or successor system) during the last ten trading days of the preceding January, calculated to three digits after the decimal point. The share value of this number of shares was paid to the respective Supervisory Board member in February of the year following his departure from the Supervisory Board or the expiration of his term of office, based on the average closing price on the Frankfurt Stock Exchange (Xetra or successor system) during the last ten trading days of the preceding January, provided that the member did not leave the Supervisory Board due to important cause which would have justified dismissal (forfeiture regulation).

In case of a change in Supervisory Board membership during the year, compensation for the financial year was paid on a pro rata basis, rounded up/down to full months. For the year of departure, the entire compensation was paid in cash; a forfeiture regulation applied to 25% of the compensation for that financial year.

The company reimbursed the Supervisory Board members for the cash expenses incurred in the performance of their office, including any value added tax (VAT) on their compensation and reimbursements of expenses. Furthermore, any employer contributions to social security schemes that may be applicable under foreign law to the performance of their Supervisory Board work was paid for each Supervisory Board member affected. Finally, the Supervisory Board Chairman was reimbursed appropriately for travel expenses incurred in performing representative tasks due to his function and reimbursed for costs for the security measures required based on his function.

In the interest of the company, the members of the Supervisory Board were included in an appropriate amount in a financial liability insurance policy held by the company. The premiums for this were paid by the company.

Supervisory Board Compensation for the 2023 and 2022 financial years

Individual members of the Supervisory Board received the following compensation for the 2023 and 2022 financial years (excluding value added tax). The tables show the compensation paid and owed to the members of the Supervisory Board in the 2023 and 2022 financial years pursuant to Section 162 (1) sentence 1 of the German Stock Corporation Act (AktG). For a clearer overview, the compensation for the 2023 financial year is first shown separately based on the compensation provisions applicable until May 17, 2023, and then based on the new compensation provision applicable since that date. In each case the calculation is rounded up/down to full months.

Members of the Supervisory Board	Compensation for the 2023 financial year for the period from January 1, 2023 to May 17, 2023				
	Base compensation		Committee compensation ¹		Total
	in €	in %	in €	in %	
Alexander Wynaedts	83,333	22%	291,667	78%	375,000
Detlef Polaschek ²	62,500	33%	125,000	67%	187,500
Prof. Dr. Norbert Winkeljohann	62,500	27%	166,667	73%	229,167
Ludwig Blomeyer-Bartenstein ²	41,667	33%	83,333	67%	125,000
Mayree Clark	41,667	25%	125,000	75%	166,667
Jan Duscheck	41,667	33%	83,333	67%	125,000
Manja Eifert	41,667	50%	41,667	50%	83,334
Sigmar Gabriel	41,667	50%	41,667	50%	83,334
Timo Heider	41,667	40%	62,500	60%	104,167
Martina Klee ²	41,667	50%	41,667	50%	83,334
Gabriele Platscher ²	41,667	33%	83,333	67%	125,000
Bernd Rose ²	41,667	29%	104,167	71%	145,834
Yngve Slyngstad	41,667	50%	41,667	50%	83,334
John Alexander Thain	41,667	50%	41,667	50%	83,334
Michele Trogni	41,667	22%	145,833	78%	187,500
Dr. Dagmar Valcárcel	41,667	22%	145,833	78%	187,500
Stefan Viertel ²	41,667	29%	104,167	71%	145,834
Dr. Theodor Weimer	41,667	50%	41,667	50%	83,334
Frank Werneke ²	41,667	33%	83,333	67%	125,000
Frank Witter	41,667	33%	83,333	67%	125,000
Total	916,672	32%	1,937,501	68%	2,854,173

¹ The respective memberships of the Supervisory Board committees in the 2023 financial year are presented on pages XVIII-XIX

² Member of the Supervisory Board until May 17, 2023

Members of the Supervisory Board	Compensation for the 2023 financial year for the period from May 17, 2023, to December 31, 2023				
	Base compensation		Compensation for chairing of the committees ¹		Total
	in €	in %	in €	in %	
Alexander Wynaedts	554,167	100%	0	0%	554,167
Frank Schulze ²	277,083	100%	0	0%	277,083
Prof. Dr. Norbert Winkeljohann	277,083	83%	58,333	17%	335,417
Susanne Bleidt ²	175,000	100%	0	0%	175,000
Mayree Clark	175,000	67%	87,500	33%	262,500
Jan Duscheck	175,000	100%	0	0%	175,000
Manja Eifert	175,000	100%	0	0%	175,000
Claudia Fieber ²	175,000	100%	0	0%	175,000
Sigmar Gabriel	175,000	100%	0	0%	175,000
Timo Heider	175,000	100%	0	0%	175,000
Birgit Laumen ²	175,000	100%	0	0%	175,000
Gerlinde Siebert ²	175,000	100%	0	0%	175,000
Yngve Slyngstad	175,000	100%	0	0%	175,000
Stephan Szukalski ²	175,000	100%	0	0%	175,000
John Alexander Thain	175,000	75%	58,333	25%	233,333
Jürgen Tögel ²	175,000	100%	0	0%	175,000
Michele Trogni	175,000	67%	87,500	33%	262,500
Dr. Dagmar Valcárcel	175,000	75%	58,333	25%	229,167
Dr. Theodor Weimer	175,000	100%	0	0%	175,000
Frank Witter	175,000	67%	87,500	33%	262,500
Total	4,083,333	90%	437,500	10%	4,550,000

¹ The respective chairs of the Supervisory Board committees in the 2023 financial year are presented on pages XVIII-XIX. If a Supervisory Board member is chair of more than one committee, compensation is only paid for the committee entitled to the highest amount. The Chairman of the Supervisory Board does not receive any additional compensation for chairing of the committees

² Member of the Supervisory Board since May 17, 2023

³ Provision on the transition pursuant to Section § 14 (3) paragraph 1 of the Articles of Association

For the Supervisory Board members in office in the 2023 financial year, the following total compensation results:

Members of the Supervisory Board	Total compensation for the 2023 financial year					
	Base compensation		Committee compensation and/or compensation for chairing of the committees ¹		Total Compensation	
	in €	in %	in €	in %	in €	
Alexander Wynaedts	637,500	69%	291,667	31%	929,167	
Detlef Polaschek ²	62,500	33%	125,000	67%	187,500	
Frank Schulze ³	277,083	100%	0	0%	277,083	
Prof. Dr. Norbert Winkeljohann	339,583	60%	225,000	40%	564,583	
Ludwig Blomeyer-Bartenstein ²	41,667	33%	83,333	67%	125,000	
Susanne Bleidt ³	175,000	100%	0	0%	175,000	
Mayree Clark	216,667	50%	212,500	50%	429,167	
Jan Duscheck	216,667	72%	83,333	28%	300,000	
Manja Eifert	216,667	84%	41,667	16%	258,334	
Claudia Fieber ³	175,000	100%	0	0%	175,000	
Sigmar Gabriel	216,667	84%	41,667	16%	258,334	
Timo Heider	216,667	78%	62,500	22%	279,167	
Martina Klee ²	41,667	50%	41,667	50%	83,334	
Birgit Laumen ³	175,000	100%	0	0%	175,000	
Gabriele Platscher ²	41,667	33%	83,333	67%	125,000	
Bernd Rose ²	41,667	29%	104,167	71%	145,834	
Gerlinde Siebert ³	175,000	100%	0	0%	175,000	
Yngve Slyngstad	216,667	84%	41,667	16%	258,334	
Stephan Szukalski ³	175,000	100%	0	0%	175,000	
John Alexander Thain	216,667	68%	100,000	32%	316,667	
Jürgen Tögel ³	175,000	100%	0	0%	175,000	
Michele Trogni	216,667	48%	233,333	52%	450,000	
Dr. Dagmar Valcárcel ⁴	216,667	48%	233,333	52%	450,000	
Stefan Viertel ²	41,667	29%	104,167	71%	145,834	
Dr. Theodor Weimer	216,667	84%	41,667	16%	258,334	
Frank Werneke ²	41,667	33%	83,333	67%	125,000	
Frank Witter	216,667	56%	170,833	44%	387,500	
Total	5,000,005	68%	2,404,167	32%	7,404,172	

¹ The respective memberships of the Supervisory Board committees in the 2023 financial year are presented on pages XVIII-XIX

² Member of the Supervisory Board until May 17, 2023

³ Member of the Supervisory Board since May 17, 2023

⁴ Committee compensation including cash payment pursuant to Section § 14 (3) paragraph 1 of the Articles of Association

Members of the Supervisory Board	Total compensation for the 2022 financial year					
	Base compensation		Committee compensation ¹		Total compensation	Thereof paid in 1st quarter 2023
	in €	in %	in €	in %	in €	in €
Alexander Wynaedts ²	116,667	24%	379,167	76%	495,833	371,875
Dr. Paul Achleitner ³	83,333	22%	291,667	78%	375,000	375,000
Detlef Polaschek	150,000	33%	300,000	67%	450,000	337,500
Ludwig Blomeyer-Bartenstein	100,000	33%	200,000	67%	300,000	225,000
Mayree Clark	100,000	23%	329,167	77%	429,167	321,875
Jan Duscheck	100,000	33%	200,000	67%	300,000	225,000
Manja Eifert ⁴	75,000	64%	41,667	36%	116,667	87,500
Dr. Gerhard Eschelbeck ³	41,667	40%	62,500	60%	104,167	104,167
Sigmar Gabriel	100,000	50%	100,000	50%	200,000	150,000
Timo Heider	100,000	32%	208,333	68%	308,333	231,250
Martina Klee	100,000	50%	100,000	50%	200,000	150,000
Henriette Mark ⁵	25,000	40%	37,500	60%	62,500	62,500
Gabriele Platscher	100,000	33%	200,000	67%	300,000	225,000
Bernd Rose	100,000	29%	250,000	71%	350,000	262,500
Yngve Slyngstad ²	58,333	58%	41,667	42%	100,000	75,000
John Alexander Thain	100,000	50%	100,000	50%	200,000	150,000
Michele Trogni	100,000	22%	350,000	78%	450,000	337,500
Dr. Dagmar Valcárcel	100,000	22%	350,000	78%	450,000	337,500
Stefan Viertel	100,000	31%	220,833	69%	320,833	240,625
Dr. Theodor Weimer	100,000	50%	100,000	50%	200,000	150,000
Frank Werneke	100,000	33%	200,000	67%	300,000	225,000
Prof. Dr. Norbert Winkeljohann	120,833	23%	400,000	77%	520,833	390,625
Frank Witter	100,000	33%	200,000	67%	300,000	225,000
Total	2,170,833	32%	4,662,500	68%	6,833,333	5,260,417

¹ The respective memberships of the Supervisory Board committees in the 2022 financial year are presented in the Annual Report 2022 on pages XIX-XX

² Member of the Supervisory Board since May 19, 2022

³ Member of the Supervisory Board until May 19, 2022

⁴ Member of the Supervisory Board since April 7, 2022

⁵ Member of the Supervisory Board until March 31, 2022

The General Meeting resolved together with the new regulations for the Supervisory Board Compensation with effect from May 2023 that the members of the Supervisory Board whose current term of office began before May 17, 2023, received the virtual shares cumulatively earned during the current term of office paid out in February 2024 on the basis of the average closing price during the last 10 trading days of the Frankfurt Stock Exchange (Xetra or successor system) of the preceding January. The following table shows the virtual share units paid out on this basis pursuant to Section 14 (3) paragraph 2:

	Payment of the virtual share units	
	Virtual share units accrued during the term of office until May 17, 2023	Amount paid out in February 2024 in €
Members of the Supervisory Board		
Alexander Wynaendts	10,287.340	123,534
Detlef Polaschek	54,246.218	651,410
Ludwig Blomeyer-Bartenstein	36,164.145	434,274
Mayree Clark	48,753.546	585,452
Jan Duscheck	31,622.388	379,734
Manja Eifert	2,420.551	29,067
Sigmar Gabriel	13,123.540	157,593
Timo Heider	32,243.505	387,193
Martina Klee	19,567.673	234,976
Gabriele Platscher	36,164.145	434,274
Bernd Rose	34,436.163	413,523
Yngve Slyngstad	2,074.758	24,915
John Alexander Thain	24,109.430	289,516
Michele Trogni	43,315.856	520,154
Dr. Dagmar Valcárcel	36,257.853	435,399
Stefan Viertel	11,855.883	142,370
Dr. Theodor Weimer	11,488.655	137,960
Frank Werneke	6,403.562	76,897
Prof. Dr. Norbert Winkeljohann	49,368.978	592,842
Frank Witter	9,272.179	111,344
Total	513,176.368	6,162,427

¹ At a value of € 12.008 based on the average closing price on the Frankfurt Stock Exchange (Xetra or successor system) during the last ten trading days of January 2024

All employee representatives on the Supervisory Board, with the exception of Jan Duscheck, Birgit Laumen, Stephan Szukalski and Frank Werneke, are or were employed by Deutsche Bank Group. In the 2023 financial year, we paid such members a total amount of € 1.32 million (in the form of salary, retirement and pension payments) in addition to their Supervisory Board compensation.

We do not provide members of the Supervisory Board with any benefits after they have left the Supervisory Board, although members who are or were employed by us are entitled to the benefits associated with the end of such employment (i.e., not on the basis of their Supervisory Board work). During 2023, we set aside € 0.10 million for pension, retirement or similar benefits for the members of the Supervisory Board who are or were employed by us.

Comparative presentation of compensation and earnings trends

The following table shows the comparative presentation of the change from year to year in the compensation, in the earnings of the company and the Group as well as the average compensation of employees on a full-time equivalent basis. The information provided pursuant to Section 162 (1) sentence 2 No. 2 of the German Stock Corporation Act will be successively expanded with the change from one financial year to the prior year until a reporting period of five years is reached. Starting with the 2025 financial year, the year-to-year changes will be shown for each of the past five years.

The information on the compensation of the current and former members of the Management Board and Supervisory Board reflects the individualized statement in the Compensation Report of the paid or owed compensation pursuant to Section 162 (1) sentence 2 No. 1 of the German Stock Corporation Act. The presentation of the development of the company's earnings is to reflect, according to the legal requirements, those of the stand-alone listed company, i.e. Deutsche Bank AG. Accordingly, the net income (net loss) of Deutsche Bank AG is used to present earnings within the meaning of Section 162 (1) sentence 2 No. 2 of the German Stock Corporation Act. As the Management Board compensation is measured on the basis of Group figures, the earnings figures for the Group are additionally shown for the comparative presentation. These Group earnings figures are net income (net loss), cost/income ratio and Return on Tangible Equity (RoTE). For the group of employees for the comparison, the data relevant for Deutsche Bank Group were used in light of Deutsche Bank's global workforce. The group of employees for the comparison comprises all of the employees worldwide of Deutsche Bank Group.

	2023	2022	2021	2020	Annual change from 2023 to 2022 in %	Annual change from 2022 to 2021 in %	Annual change from 2021 to 2020 in %
1. Company profit development							
Net income (net loss) of Deutsche Bank AG (in € m)	4,999	5,506	1,919	(1,769)	(3)	187	N/M
Net income (net loss) of Deutsche Bank Group (in € m)	4,772	5,525	2,365	495	(14)	134	N/M
Cost/income ratio of Deutsche Bank Group (in %)	75.1%	74.9%	84.6%	88.3%	0	(11)	(4)
Return on Tangible Equity (RoTE) of Deutsche Bank Group (in %)	7.4%	9.4%	3.8%	0.2%	(21)	147	N/M
2. Average compensation employees							
World-wide on a full-time equivalent basis	116,713	125,301	120,336	113,350	(7)	4	6
3. Management Board compensation (in € t.)							
Current Management Board members							
Christian Sewing (Member since January 1, 2015)	5,010	4,394	3,867	3,352	14	14	15
James von Moltke (Member since July 1, 2017)	4,065	3,783	4,009	3,635	7	(6)	10
Fabrizio Campelli (Member since November 1, 2019)	3,909	2,744	2,420	2,222	42	13	9
Claudio de Sanctis (Member since July 1, 2023)	1,509	-	-	-			
Bernd Leukert (Member since January 1, 2020)	2,990	2,593	2,419	2,222	15	7	9
Alexander von zur Mühlen (Member since August 1, 2020)	3,767	3,412	3,157	1,282	10	8	146
Rebecca Short (Member since May 1, 2021)	2,674	2,436	1,606	-	10	52	N/M
Prof. Dr. Stefan Simon (Member since August 1, 2020)	3,319	2,488	2,446	1,007	33	2	143
Olivier Vigneron (Member since May 20, 2023)	2,433	1,508	-	-	61	N/M	N/M
Members who left the Management Board during the financial year							
Christiana Riley (Member until May 17, 2023)	2,673	3,653	3,079	3,034	(27)	19	1
Karl von Rohr (Member until October 31, 2023)	3,727	3,444	3,235	2,930	8	6	10
Members who left the Management Board before the financial year							
Stuart Lewis (Member until May 19, 2023)	1,363	2,648	3,079	2,912	(14)	6	6
Frank Kuhnke (Member until 30 April 2021)	348	1,626	2,264	2,207	(79)	(28)	3
Werner Steinmüller (Member until July 31, 2020)	283	283	3,117	2,436	N/M	(91)	28
Sylvie Matherat (Member until July 31, 2019)	132	134	211	2,719	(1)	(36)	(92)
Garth Ritchie (Member until July 31, 2019)	268	268	2,071	4,185	N/M	(87)	(51)
Frank Strauß (Member until July 31, 2019)	326	326	326	2,168	N/M	N/M	(85)
Nicolas Moreau (Member until Dec 31, 2018)	286	317	299	1,826	(10)	6	(84)
Dr. Marcus Schenck (Member until May 24, 2018)	65	65	65	65	N/M	N/M	N/M
John Cryan (Member until April 8, 2018)	3,312	47	47	47	N/M	N/M	N/M

	2023	2022	2021	2020	Annual change from 2023 to 2022 in %	Annual change from 2022 to 2021 in %	Annual change from 2021 to 2020 in %
4. Supervisory Board compensation (in € t.)							
Current Supervisory Board members							
Alexander Wynaedts (Member since May 19, 2022)	929	496	-	-	87	N/M	N/M
Frank Schulze (Member since May 17, 2023)	277	-	-	-	N/M	N/M	N/M
Prof. Dr. Norbert Winkeljohann (Member since August 1, 2018)	565	521	496	450	8	5	10
Susanne Bleidt (Member since May 17, 2023)	175	-	-	-	N/M	N/M	N/M
Mayree Clark (Member since May 24, 2018)	429	429	450	425	N/M	(5)	6
Jan Duscheck (Member since August 2, 2016)	300	300	271	250	N/M	11	8
Manja Eifert (Member since April 7, 2022)	258	117	-	-	121	N/M	N/M
Claudia Fieber (Member since May 17, 2023)	175	-	-	-	N/M	N/M	N/M
Sigmar Gabriel (Member since March 11, 2020)	258	200	200	167	29	N/M	20
Timo Heider (Member since May 23, 2013)	279	308	292	250	(9)	5	17
Birgit Laumen (Member since May 17, 2023)	175	-	-	-	N/M	N/M	N/M
Gerlinde Siebert (Member since May 17, 2023)	175	-	-	-	N/M	N/M	N/M
Yngve Slyngstad (Member since May 19, 2022)	258	100	-	-	158	N/M	N/M
Stephan Szukalski (Member until December 31, 2020; Member since May 17, 2023)	175	-	-	200	N/M	N/M	N/M
John Alexander Thain (Member since May 24, 2018)	317	200	200	200	59	N/M	N/M
Jürgen Tögel (Member since May 17, 2023)	175	-	-	-	N/M	N/M	N/M
Michele Trogni (Member since May 24, 2018)	450	450	392	350	N/M	15	12
Dr. Dagmar Valcárcel (Member since August 1, 2019)	450	450	450	425	N/M	N/M	6
Dr. Theodor Weimer (Member since May 20, 2020)	258	200	200	108	29	N/M	85
Frank Witter (Member since May 27, 2021)	388	300	142	-	29	111	N/M
Former Members of the Supervisory Board							
Ludwig Blomeyer-Bartenstein (Member until May 17, 2023)	125	300	300	300	(58)	N/M	N/M
Detlef Polaschek (Member until May 17, 2023)	188	450	450	450	(58)	N/M	N/M
Martina Klee (Member until May 17, 2023)	83	200	171	150	(59)	17	14
Gabriele Platscher (Member until May 17, 2023)	125	300	300	300	(58)	N/M	N/M
Bernd Rose (Member until May 17, 2023)	146	350	321	275	(58)	9	17
Stefan Viertel (Member until May 17, 2023)	146	321	242	-	(55)	33	N/M
Frank Werneke (Member until May 17, 2023)	125	300	8	-	(58)	N/M	N/M
Dr. Paul Achleitner (Member until May 19, 2022)	-	375	871	802	N/M	(57)	9
Dr. Gerhard Eschelbeck (Member until May 19, 2022)	-	104	217	150	N/M	(52)	45
Henriette Mark (Member until March 31, 2022)	-	63	250	250	N/M	(75)	N/M
Frank Bsirske (Member until October 27, 2021)	-	-	250	300	N/M	N/M	(17)
Gerd Alexander Schütz (Member until May 27, 2021)	-	-	50	175	N/M	N/M	(71)
Katherine Garrett-Cox (Member until May 20, 2020)	-	-	-	100	N/M	N/M	N/M

Independent auditor's report

To Deutsche Bank Aktiengesellschaft, Frankfurt am Main

We have audited the attached remuneration report of Deutsche Bank Aktiengesellschaft, Frankfurt am Main, prepared to comply with Sec. 162 AktG ("Aktiengesetz": German Stock Corporation Act) for the fiscal year from 1 January 2023 to 31 December 2023 and the related disclosures. We have not audited the content of the disclosures in section "Compensation of the employees" where they go beyond the scope of Sec. 162 AktG.

Responsibilities of the executive directors and the supervisory board

The executive directors and supervisory board of Deutsche Bank Aktiengesellschaft are responsible for the preparation of the remuneration report and the related disclosures in compliance with the requirements of Sec. 162 AktG. In addition, the executive directors and supervisory board are responsible for such internal control as they determine is necessary to enable the preparation of a remuneration report and the related disclosures that are free from material misstatement, whether due to fraud (i.e., fraudulent financial reporting and misappropriation of assets) or error.

Auditor's responsibility

Our responsibility is to express an opinion on this remuneration report and the related disclosures based on our audit. We conducted our audit in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the remuneration report and the related disclosures are free from material misstatement, whether due to fraud or error.

An audit involves performing procedures to obtain audit evidence about the amounts in the remuneration report and the related disclosures. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the remuneration report and the related disclosures, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the preparation of the remuneration report and the related disclosures in order to plan and perform audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the accounting policies used and the reasonableness of accounting estimates made by the executive directors and supervisory board, as well as evaluating the overall presentation of the remuneration report and the related disclosures.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Opinion

In our opinion, on the basis of the knowledge obtained in the audit, the remuneration report for the fiscal year from 1 January 2023 to 31 December 2023 and the related disclosures comply, in all material respects, with the financial reporting provisions of Sec. 162 AktG. We do not express an opinion on the content of the abovementioned disclosures of the remuneration report that go beyond the scope of Sec. 162 AktG.

Other matter – formal audit of the remuneration report

The audit of the content of the remuneration report described in this auditor's report comprises the formal audit of the remuneration report required by Sec. 162 (3) AktG and the issue of a report on this audit. As we are issuing an unqualified opinion on the audit of the content of the remuneration report, this also includes the opinion that the disclosures pursuant to Sec. 162 (1) and (2) AktG are made in the remuneration report in all material respects.

Limitation of liability

The "General Engagement Terms for „Allgemeinen Auftragsbedingungen für „Wirtschaftsprüferinnen, Wirtschaftsprüfer und Wirtschaftsprüfungsgesellschaften [German Public Auditors and Public Audit Firms]" as issued by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] on 1 January 2024, which are attached to this report, are applicable to this engagement and also govern our responsibility and liability to third parties in the context of this engagement.

Eschborn/Frankfurt am Main, 11 March 2024

EY GmbH & Co. KG Wirtschaftsprüfungsgesellschaft

Lösken

Mai

Wirtschaftsprüfer
[German Public Auditor]

Wirtschaftsprüfer
[German Public Auditor]

Compensation of the employees (unaudited)

The content of the 2023 Employee Compensation Report is based on the qualitative and quantitative remuneration disclosure requirements outlined in Article 450 No. 1 (a) to (j) Capital Requirements Regulation (CRR) in conjunction with Section 16 of the Remuneration Ordinance for Institutions (*Institutsvergütungsverordnung – InstVV*).

This Compensation Report takes a group-wide view and covers all consolidated entities of the Deutsche Bank Group. In accordance with regulatory requirements, equivalent reports for 2023 are prepared for the following Significant Institutions within Deutsche Bank Group: BHW Bausparkasse AG, Germany; Deutsche Bank Luxembourg S.A., Luxembourg; Deutsche Bank S.p.A., Italy; Deutsche Bank Mutui S.p.A., Italy; Deutsche Bank S.A.E., Spain.

Regulatory environment

Ensuring compliance with regulatory requirements is an overarching consideration in the bank's Group Compensation Strategy. The bank strives to be at the forefront of implementing regulatory requirements with respect to compensation and will continue to maintain a close exchange with its prudential supervisor, the European Central Bank (ECB), to be in compliance with all existing and new requirements.

As an EU-headquartered institution, Deutsche Bank is subject to the Capital Requirements Regulation/Directive (CRR/CRD) globally, as transposed into German national law in the German Banking Act and InstVV. These rules are applied to all of Deutsche Bank subsidiaries and branches world-wide to the extent required in accordance with Section 27 InstVV. As a Significant Institution within the meaning of InstVV, Deutsche Bank identifies all employees whose work is deemed to have a material impact on the overall risk profile (Material Risk Takers or MRTs) in accordance with the criteria stipulated in the German Banking Act and in the Commission Delegated Regulation 2021/923. Deutsche Bank identifies MRTs at a Group level, at the level of Significant Institutions and, in accordance with the German Banking Act, for all CRR institutions at a solo level.

Taking into account more specific sectorial legislation and in accordance with InstVV, some of Deutsche Bank's subsidiaries (in particular within the DWS Group) fall under sector specific remuneration rules, such as the Alternative Investments Fund Managers Directive (AIFMD), the Undertakings for Collective Investments in Transferable Securities Directive (UCITS) and the Investment Firm Directive (IFD) including the applicable local transpositions. MRTs are also identified in these subsidiaries. Identified employees are subject to the remuneration provisions outlined in the applicable Guidelines on sound remuneration policies published by the European Securities and Markets Authority (ESMA) and the European Banking Authority (EBA).

Deutsche Bank takes into account the regulations targeted at employees who engage directly or indirectly with the bank's clients, for instance as per the local transpositions of the Markets in Financial Instruments Directive II – MiFID II. Accordingly, specific provisions for employees deemed to be Relevant Persons are implemented with a view to ensuring that they act in the best interest of the bank's clients.

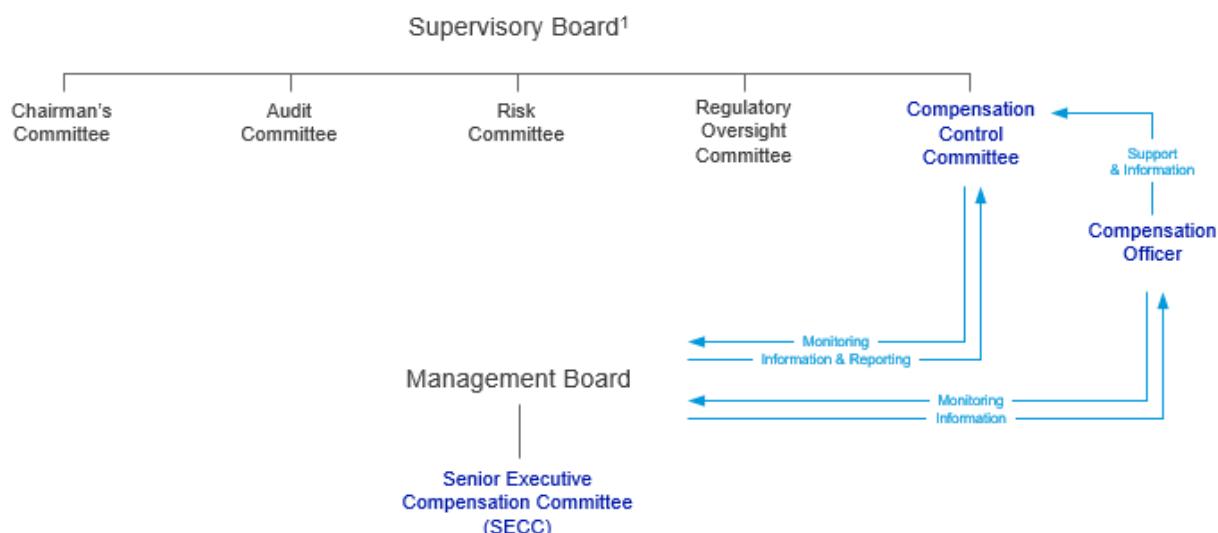
Where applicable, Deutsche Bank is also subject to specific rules and regulations implemented by local regulators. Many of these requirements are aligned with the InstVV. However, where variations are apparent, proactive and open discussions with regulators have enabled the bank to follow the local regulations whilst ensuring that any impacted employees or locations remain within the bank's overall Group Compensation Framework. This includes, amongst others, the compensation structures applied to Covered Employees in the United States under the requirements of the Federal Reserve Board as well as the requirements related to compensation recovery for executive officers in the event of an accounting restatement as required by the U.S. Securities and Exchange Commission. In any case, the InstVV requirements are applied as minimum standards globally.

Compensation governance

Deutsche Bank has a robust governance structure enabling it to operate within the clear parameters of its Compensation Strategy and Policy. In accordance with the German two-tier board structure, the Supervisory Board governs the compensation of the Management Board members while the Management Board oversees compensation matters for all other employees in the Group. Both the Supervisory Board and the Management Board are supported by specific committees and functions, in particular the Compensation Control Committee (CCC), the Compensation Officer, and the Senior Executive Compensation Committee (SECC).

In line with their responsibilities, the bank's control functions are involved in the design and application of the bank's remuneration systems, in the identification of MRTs and in determining the total amount of VC. This includes assessing the impact of employees' behavior and the business-related risks, performance criteria, granting of remuneration and severances as well as ex-post risk adjustments.

Reward governance structure



¹ Does not comprise a complete list of Supervisory Board Committees

Compensation Control Committee (CCC)

The Supervisory Board has set up the CCC to support in establishing and monitoring the structure of the compensation system for the Management Board Members of Deutsche Bank AG. Furthermore, the CCC monitors the appropriateness of the compensation systems for the employees of Deutsche Bank Group, as established by the Management Board and the SECC. The CCC reviews whether the total amount of variable compensation is affordable and set in accordance with the risk, capital and liquidity situation as well as in alignment with the business and risk strategies. Furthermore, the CCC supports the Supervisory Board in monitoring the MRT identification process.

The CCC consists of the Supervisory Board Chairperson as well as two other Supervisory Board Members representing shareholders and three Supervisory Board Members representing employees. The Committee held seven meetings in the calendar year 2023. The members of the Risk Committee attended two meetings as guests, the Chairperson of the Risk Committee attended four meetings as guest. The Chairperson of the CCC is also a member of the Risk Committee. Further details can be found in the Report of the Supervisory Board within the Annual Report.

Compensation Officer

The Management Board, in cooperation with the CCC, has appointed a Group Compensation Officer to support the Supervisory Boards of Deutsche Bank AG and of the bank's Significant Institutions in Germany in performing their compensation related duties. The Compensation Officer is involved in the conceptual review, development, monitoring and application of the employees' compensation systems, the MRT identification and remuneration disclosures on an ongoing basis. The Compensation Officer performs all relevant monitoring obligations independently, provides an assessment on the appropriateness of the design and strategy of the compensation systems for employees at least annually and regularly supports and advises the CCC.

Senior Executive Compensation Committee (SECC)

The SECC is a delegated committee established by the Management Board which has the mandate to develop sustainable compensation principles, to prepare recommendations on Total Compensation levels and to ensure appropriate compensation governance and oversight. The SECC establishes the Compensation and Benefits Strategy, Policy and corresponding guiding principles. Moreover, using quantitative and qualitative factors, the SECC assesses Group and divisional performance as a basis for compensation decisions and makes recommendations to the Management Board regarding the total amount of annual variable compensation and its allocation across business divisions and infrastructure functions.

In order to maintain its independence, only representatives from infrastructure and control functions who are not aligned to any of the business divisions are members of the SECC. In 2023, the SECC's membership comprised of the DB AG Management Board member responsible for Human Resources and the Chief Financial Officer as Co-Chairpersons, the Head of Compliance, the Head of Performance & Reward as well as an additional representative from both Finance and Risk as voting members. The Compensation Officer, the Deputy Compensation Officer and an additional representative from Finance participated as non-voting members. The SECC generally meets on a monthly basis but with more frequent meetings during the compensation process. It held 19 meetings in total with regard to the compensation process for the performance year 2023.

Compensation and Benefits Strategy

Deutsche Bank recognizes that its compensation framework plays a vital role in supporting its strategic objectives. It enables the bank to attract and retain the individuals required to achieve the bank's objectives. The Compensation and Benefits Strategy is built on three core pillars that support the bank's global, client-centric business and risk strategy, reinforced by safe and sound compensation practices that operate within the bank's profitability, solvency, and liquidity position.

Principles	Performance	Processes
<ul style="list-style-type: none"> – Support the delivery of our sustainable growth strategy as a Global Hausbank – Align with clients' and shareholder interests and manage costs effectively – Prevent inappropriate risk taking and taking into account various risk types including Environmental, Social and Governance (ESG) risk – Attract and retain best talent by having market-aligned and competitive frameworks and processes – Support our culture aspirations, incl. promotion of a strong risk and "speak up" culture 	<ul style="list-style-type: none"> – Create an environment for motivated, engaged and committed employees – Strong link between performance and pay outcomes to foster a sustainable performance culture – Apply and promote the bank's corporate Values and Beliefs and the Code of Conduct and apply appropriate consequences for failing to meet required standards 	<p>Processes designed to:</p> <ul style="list-style-type: none"> – Foster a gender-neutral approach, be simple and transparent and ensure equity and fairness – Ensure compliance with legal and regulatory requirements – Prevent inappropriate risk-taking by incorporating risk management measures

Group Compensation Framework

The compensation framework, generally applicable globally across all regions and business lines, emphasizes an appropriate balance between Fixed Pay (FP) and Variable Compensation (VC) – together forming Total Compensation (TC). It aligns incentives for sustainable performance at all levels of Deutsche Bank whilst ensuring the transparency of compensation decisions and their impact on shareholders and employees. The underlying principles of the compensation framework are applied to all employees equally, irrespective of differences in seniority, tenure, gender or ethnicity.

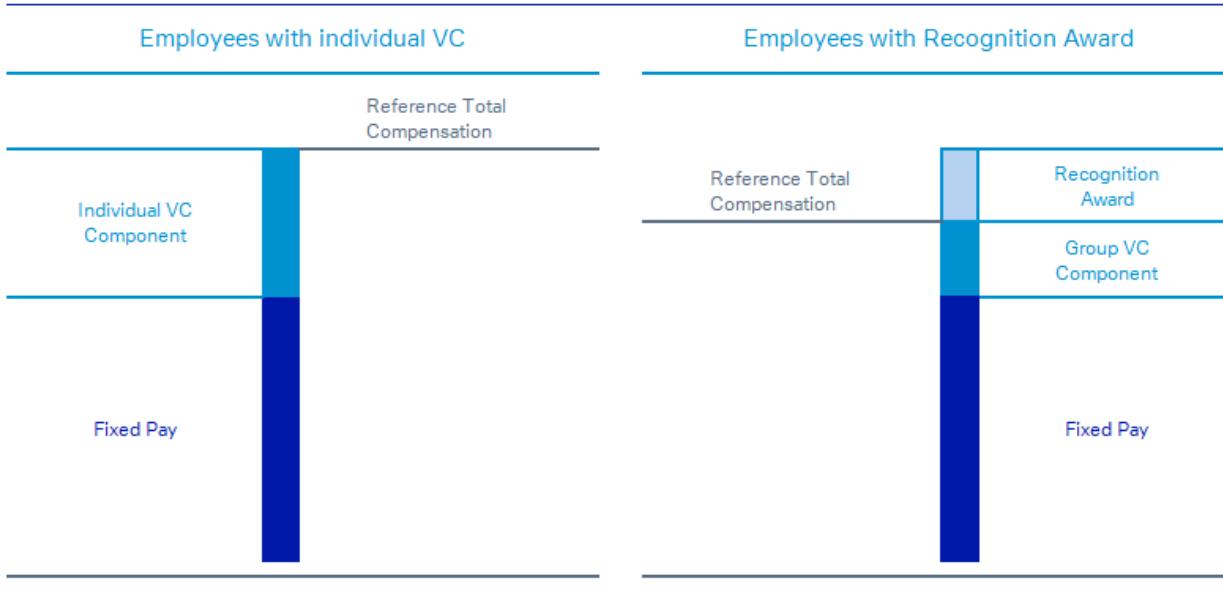
Pursuant to CRD and the requirements subsequently adopted in the German Banking Act, Deutsche Bank is subject to a maximum ratio of 1:1 with regard to fixed-to-variable remuneration components, which was increased to 1:2 for a limited population with shareholder approval on May 22, 2014 with an approval rate of 95.27%, based on valid votes by 27.68% of the share capital represented at the Annual General Meeting. Nonetheless, the bank has determined that employees in specific infrastructure functions (such as Legal, Group Tax and Human Resources) should in general continue to be subject to a maximum ratio of 1:1 while Control Functions as defined by InstVV are subject to a maximum ratio of 2:1. These Control Functions comprise Risk, Compliance, Anti-Financial Crime, Group Audit and the Compensation Officer and his Deputy.

The bank has assigned a Reference Total Compensation (RTC) to eligible employees that describes a reference value for their role. This value provides employees with orientation on their FP and VC. Actual individual TC can be at, above or below the Reference Total Compensation, depending on VC decisions.

Fixed Pay is used to compensate employees for their skills, experience and competencies, commensurate with the requirements, size and scope of their role. The appropriate level of FP is determined with reference to the prevailing market rates for each role, internal comparisons and applicable regulatory requirements. FP plays a key role in order to attract and retain the right talent. For the majority of employees, FP is the primary compensation component.

Variable Compensation reflects affordability and performance at Group, divisional, and individual level. It allows the bank to differentiate individual performance and to drive behavior through appropriate incentives that can positively influence culture. It also allows for flexibility in the cost base. For most employees globally, VC is granted as **Individual VC** and considers the applicable divisional and the employee's individual performance, conduct, and adherence to values and beliefs. In addition, it is subject to Group affordability and linked to Group performance. Employees who are not eligible for an award of Individual VC are granted a Group VC Component and may be nominated for a **Recognition Award** (where applicable). The Group VC Component reflects the bank's annual achievements in reaching its strategic targets whilst Recognition Awards provide the opportunity to acknowledge and reward outstanding contributions made by the employees of lower seniority levels in a timely and transparent manner.

Key components of the compensation framework



In the context of InstVV, **severance payments** are considered variable compensation. The bank's severance framework ensures full alignment with the respective InstVV requirements.

Employee benefits complement Total Compensation and are considered FP from a regulatory perspective, as they have no direct link to performance or discretion. They are granted in accordance with applicable local market practices and requirements. Pension expenses represent the main element of the bank's benefits portfolio globally.

Employee groups with specific compensation structures

For some areas of the bank, compensation structures apply that deviate, within regulatory boundaries, in some aspects from the Group Compensation Framework outlined above.

Postbank units

While generally executive staff of former Postbank follow the remuneration structure of Deutsche Bank, the compensation for any other staff in Postbank units is based on specific frameworks agreed with trade unions or with the respective workers' councils. Where no collective agreements exist, compensation is subject to individual contracts. In general, non-executive and tariff staff in Postbank units receive VC, but the structure and portion of VC can differ between legal entities.

DWS

The vast majority of DWS asset management entities and employees fall under AIFMD, UCITS or IFD, while a limited number of employees remain in scope of the bank's Group Compensation Framework and InstVV. DWS has established its own compensation governance, policy, and structures, as well as Risk Taker identification process in line with AIFMD/UCITS/IFD requirements. These structures and processes are aligned with InstVV where required but tailored towards the Asset Management business. Pursuant to the ESMA/EBA Guidelines, DWS's compensation strategy is designed to ensure an appropriate ratio between fixed and variable compensation.

Generally, DWS applies remuneration rules that are equivalent to the Deutsche Bank Group approach, but use DWS Group-related parameters, where possible. Notable deviations from the Group Compensation Framework include the use of share-based instruments linked to DWS shares and fund-linked instruments. These serve to improve the alignment of employee compensation with DWS' shareholders' and investors' interests.

Tariff staff

Within Deutsche Bank Group there are 17,105 tariff employees in Germany (based on full-time equivalent as of December 31, 2023). Tariff staff are either subject to a collective agreement (*Tarifvertrag für das private Bankgewerbe und die öffentlichen Banken*), as negotiated between trade unions and employer associations, or subject to agreements as negotiated with the respective trade unions directly. The remuneration of tariff staff is included in the quantitative disclosures in this Report.

Determination of performance-based variable compensation

The bank puts a strong focus on its governance related to compensation decision-making processes. A robust set of rule-based principles for compensation decisions with close links to the performance of both business and individual were applied.

The total amount of VC for any given performance year is derived from an assessment of the bank's profitability, solvency, and liquidity position, and the determination of VC pools for divisions and infrastructure functions based on their performance in support of achieving the bank's strategic objectives.

In a first step, Deutsche Bank assesses the bank's profitability, solvency and liquidity position in line with its Risk Appetite Framework, including a holistic review against the bank's multi-year strategic plan to determine what the bank "can" award in line with regulatory requirements (i.e., Group affordability). During this assessment, the bank also considers other limitations such as cost constraints. The proportion of the VC pools that is related to Group performance is determined based on the performance of a selected number of Group's KPIs, such as Common Equity Tier 1 (CET 1) Capital Ratio, Cost/Income Ratio (CIR), Post-Tax Return on Tangible Equity (RoTE), ESG – Sustainable Finance Volume, Gender Diversity and Control Risk Management Grade. In the next step, the bank assesses divisional risk-adjusted performance, i.e. what the bank "should" award in order to provide an appropriate compensation for contributions to the bank's success.

When assessing divisional performance, a range of considerations are referenced. Performance is assessed in the context of financial and – based on Balanced Scorecards – non-financial targets. The financial targets for front-office divisions are subject to appropriate risk-adjustment, in particular by referencing the degree of future potential risks to which Deutsche Bank may be exposed, and the amount of capital required to absorb severe unexpected losses arising from these risks. For the infrastructure functions, the financial performance assessment is mainly based on the achievement of cost targets. While the allocation of VC to infrastructure functions, and in particular to control functions, depends on both Deutsche Bank's overall and their own performance, it is not dependent on the performance of the division(s) that these functions oversee.

At the level of the individual employee, the Variable Compensation Guiding Principles are established, which detail the factors and metrics that have to be taken into account when making Individual VC decisions. Managers must fully appreciate the risk-taking activities of individuals to ensure that VC allocations are balanced and risk-taking is not inappropriately incentivized. The factors and metrics to be considered include, but are not limited to, (i) business delivery ("What"), i.e. quantitative and qualitative financial, risk-adjusted and non-financial performance metrics, and (ii) behavior ("How"), i.e. culture, conduct and control considerations such as qualitative inputs from control functions or disciplinary sanctions. Generally, performance is assessed based on a one-year period. However, for Management Board members of Significant Institutions, the performance across three years is taken into account.

Variable compensation structure

The compensation structures are designed to provide a mechanism that promotes and supports long-term performance of employees and the bank. Whilst a portion of VC is paid upfront, these structures require that an appropriate portion is deferred to ensure alignment to the sustainable performance of the Group. For both parts of VC, Deutsche Bank shares are used as instruments and as an effective way to align compensation with Deutsche Bank's sustainable performance and the interests of shareholders.

The bank continues to go beyond regulatory requirements with the scope as well as the amount of VC that is deferred and the minimum deferral periods for certain employee groups. The deferral rate and period are determined based on the risk categorization of the employee as well as the business unit. Where applicable, the bank starts to defer parts of variable compensation for MRTs where VC is set at or above € 50,000 or where VC exceeds 1/3 of TC. For non-MRTs, deferrals start at higher levels of VC. MRTs are on average subject to deferral rates in excess of the minimum 40% (60% for Senior Management) as required by InstVV. For MRTs in Material Business Units (MBU) the bank applies a deferral rate of at least 50%. The VC threshold for MRTs requiring at least 60% deferral is set at € 500,000. Moreover, for all employees whose FP exceeds the amount of € 500,000, the full amount of the VC is deferred.

As detailed in the table below, deferral periods range from three to five years, dependent on employee groups.

Overview on 2023 award types (excluding DWS Group)

Award Type	Description	Beneficiaries	Deferral Period	Retention Period	Portion
Upfront: Cash VC	Upfront cash	All eligible employees	N/A	N/A	100% of VC, except employees with deferred awards
Upfront: Equity Upfront Award (EUA)	Upfront equity (linked to Deutsche Bank's share price over the retention period)	MRTs with VC ≥ € 50,000 or where VC exceeds 1/3 of TC Non-MRTs with deferred awards where 2023 TC > € 500,000	N/A	12 months	50% of upfront VC
Deferred: Restricted Incentive Award (RIA)	Deferred cash	All employees with deferred VC	Equal tranche vesting: MRTs: 4 years Senior Mgmt. ¹ : 5 years Non-MRTs: 3 years	N/A	50% of deferred VC
Deferred: Restricted Equity Award (REA)	Deferred equity (linked to Deutsche Bank's share price over the vesting and retention period)	All employees with deferred VC	Equal tranche vesting: MRTs: 4 years Senior Mgmt. ¹ : 5 years Non-MRTs: 3 years	12 months for MRTs	50% of deferred VC

N/A – Not applicable

¹ For the purpose of Performance Year 2023 annual awards, Senior Management is defined as Deutsche Bank AG MB-1 positions; voting members of Business Division Top Executive Committees; MB members of Significant Institutions; respective MB-1 positions with managerial responsibility; for the specific deferral rules for the Management Board of Deutsche Bank AG refer to the Compensation Report for the Management Board

Employees are not allowed to sell, pledge, transfer or assign a deferred award or any rights in respect to the award. They may not enter into any transaction having an economic effect of hedging any variable compensation, for example offsetting the risk of price movement with respect to the equity-based award. The Human Resources and Compliance functions, overseen by the Compensation Officer, work together to monitor employee trading activity and to ensure that all employees comply with this requirement.

Ex-post risk adjustment of variable compensation

In line with regulatory requirements relating to ex-post risk adjustment of variable compensation, the bank believes that a long-term view on conduct and performance of its employees is a key element of deferred VC. As a result, under the Management Board's oversight, all deferred awards are subject to performance conditions and forfeiture provisions as detailed below.

Overview on Deutsche Bank Group performance conditions and forfeiture provisions of variable compensation granted for Performance Year 2023

Provision	Description	Forfeiture
Solvency and Liquidity	<ul style="list-style-type: none"> - If at the quarter end preceding vesting and release, any one of the following falls below a defined Risk Appetite threshold: CET1 Capital Ratio; Leverage Ratio; Economic Capital Adequacy Ratio; Liquidity Coverage Ratio; High Quality Liquid Assets (HQLA) 	<ul style="list-style-type: none"> - Between 10% and 100% of the next tranche of deferred award due for delivery / of the Equity Upfront Award, depending on the Risk Appetite threshold and the extent the Group / Divisional PBT condition(s) is/ are met
Group PBT	<ul style="list-style-type: none"> - If for the financial year end preceding the vesting date adjusted Group PBT is negative¹ 	<ul style="list-style-type: none"> - Between 10% and 100% of the next tranche of deferred award due for delivery, depending on the extent Solvency and Liquidity condition is met and whether Divisional PBT condition is met (if applicable)
Divisional PBT	<ul style="list-style-type: none"> - If for the financial year end preceding the vesting date adjusted Divisional PBT is negative¹ 	<ul style="list-style-type: none"> - Between 10% and 100% of the next tranche of deferred award due for delivery, depending on the extent Solvency and Liquidity condition is met and whether Group PBT condition is met
Forfeiture Provisions ²	<ul style="list-style-type: none"> - In the event of an internal policy or procedure breach, breach of any applicable laws or regulations, or a Control Failure - If any award was based on performance measures or assumptions that are later deemed to be materially inaccurate - Where a Significant Adverse Event occurs, and the Participant is considered sufficiently proximate - If forfeiture is required to comply with prevailing regulatory requirements 	<ul style="list-style-type: none"> - Up to 100% of undelivered awards
Clawback	<ul style="list-style-type: none"> - In the event an InstVV MRT participated in conduct that resulted in significant loss or regulatory sanction/supervisory measures; or failed to comply with relevant external or internal rules regarding appropriate standards of conduct - in relation to a competent regulatory authority or other legal requirements 	<ul style="list-style-type: none"> - 100% of award which has been delivered, before the second anniversary of the last vesting date for the award

¹ Considering clearly defined and governed adjustments for relevant Profit and Loss items (e.g., business restructurings; impairments of goodwill or intangibles)

² Other provisions may apply as outlined in the respective plan rules

Compensation decisions for 2023

Year-end considerations and decisions for 2023

All compensation decisions are made within the boundaries of regulatory requirements. These requirements form the overarching framework for determining compensation at Deutsche Bank. In particular, management must ensure that compensation decisions are not detrimental to maintaining the bank's sound capital base and liquidity reserves.

Despite a persistently difficult macroeconomic environment, Deutsche Bank has demonstrated resilience and achieved sustainable business growth and revenues, resulting in a pre-tax profit of € 5.7 billion.

2023 was a successful year for Deutsche Bank, further proving the strength of its Global Hausbank model: a client centric approach coupled with targeted investment decisions, without losing focus on continued cost discipline, capital generation and strong controls. The bank reconfirmed a measured and forward-looking approach when deciding on variable compensation for 2023. This approach balanced the need to grow sustainably whilst remaining within the boundaries of cost commitments as well as remunerating employees fairly and competitively based on performance. This resulted in VC levels for 2023 that are more conservative than the bank's financial performance might have indicated. As in previous years, the SECC continuously monitored and reviewed the implications of potential VC awards, both for the bank's capital and liquidity base and for its ambitious cost targets.

With due consideration for all these factors, the Management Board determined that the bank is in a position to award variable compensation, including a year-end performance-based VC pool, of € 1.996 billion for 2023 (2022: € 2.126 billion). The VC for the Management Board of Deutsche Bank AG was determined, as always, by the Supervisory Board in a separate process, but is included in the tables and charts below.

As part of the overall 2023 VC awards granted in March 2024, the Group VC Component was awarded to all eligible employees in line with the assessment of the four defined KPI categories which are outlined in the Group Compensation Framework chapter of this Report. The Management Board determined a payout rate of 70% for the Group VC Component in 2023, compared to 80% in 2022 and 77.5% in 2021.

Compensation awards for 2023 – all employees

									2023	2022
in € m. (unless stated otherwise) ¹	Supervi- sory Board ²	Manag- ement Board ³	CB ³	IB ³	PB ³	AM ³	Control Func- tions ³	Corporate Func- tions ³	Group Total	Group Total
Number of employees (full-time equivalent)	20	9	15,712	7,990	26,236	4,386	7,088	28,709	90,130	84,930
Total compensation	7	72	1,329	2,271	2,415	796	796	2,646	10,324	10,237
Base salary and allowances	7	28	986	1,255	1,902	478	665	2,106	7,421	7,135
Pension expenses	0	6	69	62	87	36	48	133	440	540
Fixed Pay according to § 2 InstVV	7	34	1,055	1,317	1,989	514	713	2,240	7,861	7,674
Year-end performance-based VC ⁴	0	38	228	893	259	209	68	301	1,996	2,126
Other VC ⁴	0	0	8	28	44	28	5	20	133	110
Severance payments	0	0	38	34	122	44	11	86	334	328
Variable Pay according to § 2 InstVV	0	38	274	955	425	281	84	406	2,463	2,563

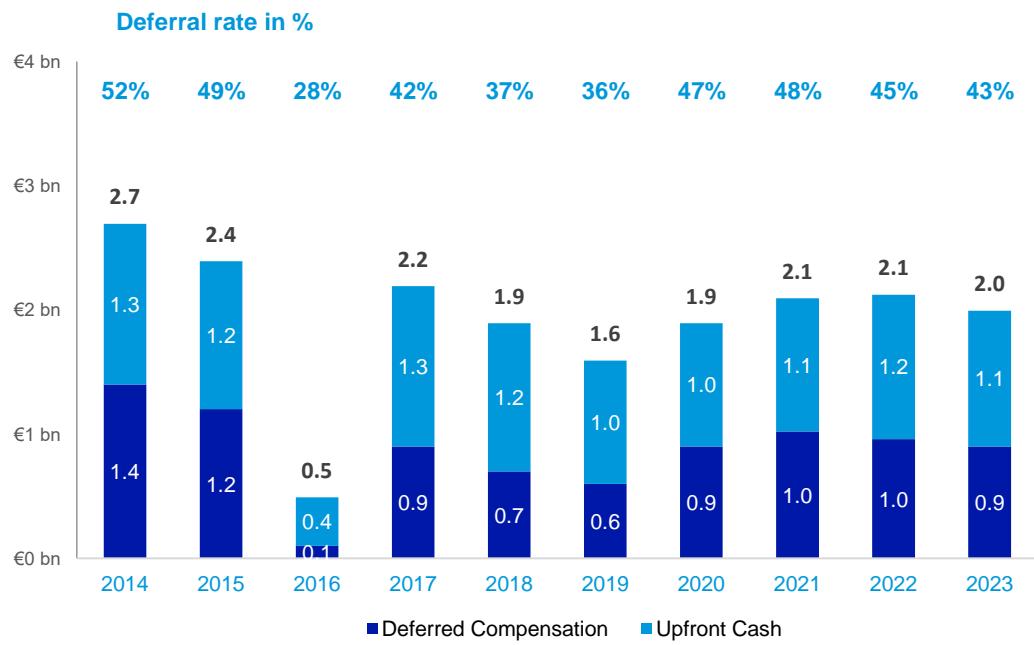
¹ The table may contain marginal rounding differences; FTE (full-time equivalent) as of December 31, 2023; shows remuneration awarded to all employees (including 2023 leavers)

² Supervisory Board represents the Supervisory Board Members of Deutsche Bank AG (they are not considered for the Group Total number of employees); employee representatives are considered with their compensation for the Supervisory Board role only (their employee compensation is included in the relevant divisional column); the remuneration for members of the Deutsche Bank AG Supervisory Board is not reflected in the Group Total

³ Management Board represents the Management Board Members of Deutsche Bank AG; IB = Investment Bank; CB = Corporate Bank; PB = Private Bank; AM = Asset Management (DWS); Control Functions include Chief Risk Office, Group Audit, Compliance and Anti-Financial Crime; Corporate Functions include any Infrastructure function which is neither captured as a Control Function nor part of any division

⁴ Year-end performance-based VC includes Individual and Group VC; other VC includes other contractual VC commitments such as sign-on awards, retention awards, recognition awards and specific VC elements for tariff staff and civil servants; it also includes fringe benefits awarded to Management Board Members of Deutsche Bank AG which are to be classified as variable remuneration; the table does not include new hire replacement awards for lost entitlements from previous employers (buyouts)

Reported year-end performance-based variable compensation and deferral rates year over year – all employees



Due to rounding, numbers presented may not add up precisely to the totals.

Deutsche Bank continues to apply deferral structures that go beyond the regulatory minimum, resulting in an overall deferral rate (all employees including non-MRT population) of 43% in 2023. For the MRT population only, the deferral rate amounts to 91%.

Material Risk Taker compensation disclosure

On a global basis, 1,477 employees were identified as MRTs according to InstVV for financial year 2023, compared to 1,426 employees for 2022. This slight increase is attributable to the increased number of quantitative (remuneration driven) MRTs. The number of 2023 Group MRTs amounts to 1,246 individuals. Moreover, 179 individuals were identified by Significant Institutions (thereof 44 Group MRTs and two MRTs identified by Other CRR Institutions) and 112 individuals were identified by Other CRR Institutions (thereof 16 Group MRTs and two MRTs identified by Significant Institutions). The remuneration elements for all those MRTs on a consolidated basis are detailed in the tables below in accordance with Article 450 CRR. Where applicable, the EU REM tables display the prescribed business lines as per Annex XXXIII of Regulation No 575/2013.

With regard to deferral arrangements and pay-out instruments, 81 MRTs identified by Other CRR Institutions, whose total remuneration amounts to € 16.9 million (thereof € 5.7 million variable remuneration including severance payments) benefit from a derogation laid down in Article 94(3) CRD point (a) and 70 MRTs identified by Group or Significant Institutions, whose total remuneration amounts to € 15.8 million (thereof € 1.9 million variable remuneration including severance payments) benefit from a derogation laid down in Article 94(3) CRD point (b).

Remuneration for 2023 - Material Risk Takers (REM 1)

					2023	
	in € m. (unless stated otherwise) ¹	Supervisory Board ²	Management Board ³	Senior Management ⁴	Other Material Risk Takers	Group Total
Fixed Pay	Number of MRTs ⁵	20	9	241	1,043	1,313
	Total Fixed Pay	7	34	169	617	828
	of which: cash-based	7	29	161	588	786
	of which: shares or equivalent ownership interests	0	0	0	0	0
	of which: share-linked instruments or equivalent non-cash instruments	0	0	0	0	0
	of which: other instruments	0	0	0	0	0
	of which: other forms	0	5	8	30	43
	Number of MRTs ⁵	0	9	234	975	1,218
	Total Variable Pay ⁶	0	38	150	474	661
	of which: cash-based	0	18	78	246	342
Variable Pay	of which: deferred	0	18	62	183	263
	of which: shares or equivalent ownership interests	0	20	60	228	308
	of which: deferred	0	20	58	183	260
	of which: share-linked instruments or equivalent non-cash instruments	0	0	10	0	10
	of which: deferred	0	0	6	0	6
	of which: other instruments	0	0	2	0	2
	of which: deferred	0	0	2	0	2
	of which: other forms	0	0	0	0	0
	of which: deferred	0	0	0	0	0
	Total Pay	7	72	319	1,091	1,489

¹ The table may contain marginal rounding differences

² Supervisory Board represents the Supervisory Board Members of Deutsche Bank AG

³ Management Board represents the Management Board Members of Deutsche Bank AG

⁴ Senior Management is defined as Deutsche Bank AG MB-1 positions; voting members of Business Division Top Executive Committees; MB members of Significant and Other CRR Institutions and respective MB-1 positions with managerial responsibility

⁵ Beneficiaries only as of December 31, 2023 (HC reported for Supervisory Board and Management Board, FTE reported for the remaining part); therefore, the totals do not add up to the 1,477 individuals identified as MRTs; shows remuneration awarded to all MRTs (including 2023 leavers)

⁶ Variable Pay includes Deutsche Bank's Year-end performance-based VC for 2023, other VC and severance payments; it also includes fringe benefits awarded to Management Board Members of Deutsche Bank AG which are to be classified as variable remuneration; the table does not include new hire replacement awards for lost entitlements from previous employers (buyouts)

Guaranteed variable remuneration and severance payments - Material Risk Takers (REM 2)

	2023				
in € m. (unless stated otherwise) ¹	Super- visory Board ²	Manage- ment Board ³	Senior Management ⁴	Other Material Risk Takers	Group Total
Guaranteed variable remuneration awards					
Number of MRTs ⁵	0	0	2	1	3
Total amount	0	0	1	1	2
of which: paid during financial year, not taken into account in bonus cap	0	0	1	1	2
Severance payments awarded in previous periods, paid out during financial year					
Number of MRTs ⁵	0	0	0	0	0
Total amount	0	0	0	0	0
Severance payments awarded during financial year					
Number of MRTs ⁵	0	0	11	63	74
Total amount ⁶	0	0	20	17	37
of which: paid during financial year	0	0	12	17	29
of which: deferred	0	0	8	0	8
of which: paid during financial year, not taken into account in bonus cap	0	0	20	17	37
of which: highest payment that has been awarded to a single person	0	0	8	2	8

¹ The table may contain marginal rounding differences

² Supervisory Board represents the Supervisory Board Members of Deutsche Bank AG

³ Management Board represents the Management Board Members of Deutsche Bank AG

⁴ Senior Management is defined as Deutsche Bank AG MB-1 positions; voting members of Business Division Top Executive Committees; MB members of Significant and Other CRR Institutions and respective MB-1 positions with managerial responsibility

⁵ Beneficiaries only (HC reported for all categories)

Deferred remuneration - Material Risk Takers (REM 3)

								2023
	Total amount of deferred remuneration awarded for previous performance periods	Of which due to vest in the financial year	Of which vesting in subsequent financial years	Amount of performance adjustment made in the financial year to deferred remuneration that was due to vest in the financial year	Amount of performance adjustment made in the financial year to deferred remuneration that was due to vest in future performance years	Total amount of adjustment during the financial year due to ex post implicit adjustments ⁵	Total amount of deferred remuneration awarded before the financial year actually paid out in the financial year ⁶	Total of amount of deferred remuneration awarded for previous performance period that has vested but is subject to retention periods
in € m. (unless stated otherwise) ¹								
Supervisory Board ²	0	0	0	0	0	0	0	0
Cash-based	0	0	0	0	0	0	0	0
Shares or equivalent ownership interests	0	0	0	0	0	0	0	0
Share-linked instruments or equivalent non-cash instruments	0	0	0	0	0	0	0	0
Other instruments	0	0	0	0	0	0	0	0
Other forms	0	0	0	0	0	0	0	0
Management Board ³	123	12	111	0	0	8	12	3
Cash-based	55	8	46	0	0	0	8	0
Shares or equivalent ownership interests	68	3	64	0	0	8	3	3
Share-linked instruments or equivalent non-cash instruments	0	0	0	0	0	0	0	0
Other instruments	0	0	0	0	0	0	0	0
Other forms	0	0	0	0	0	0	0	0
Senior management ⁴	405	102	303	0	2	28	102	50
Cash-based	197	49	148	0	1	0	48	0
Shares or equivalent ownership interests	194	50	144	0	1	26	50	47
Share-linked instruments or equivalent non-cash instruments	12	3	9	0	0	1	3	3
Other instruments	2	0	2	0	0	0	0	0
Other forms	0	0	0	0	0	0	0	0
Other Material Risk Takers	1,536	439	1,096	0	0	99	438	183
Cash-based	756	215	542	0	0	0	214	0
Shares or equivalent ownership interests	779	224	554	0	0	99	223	183
Share-linked instruments or equivalent non-cash instruments	1	0	1	0	0	0	0	0
Other instruments	0	0	0	0	0	0	0	0
Other forms	0	0	0	0	0	0	0	0
Total amount	2,064	553	1,510	0	2	135	551	236

¹ The table may contain marginal rounding differences

² Supervisory Board represents the Supervisory Board Members of Deutsche Bank AG

³ Management Board represents the Management Board Members of Deutsche Bank AG

⁴ Senior Management is defined as Deutsche Bank AG MB-1 positions; voting members of Business Division Top Executive Committees; MB members of Significant and Other CRR Institutions and respective MB-1 positions with managerial responsibility

⁵ Changes of value of deferred remuneration due to the changes of prices of instruments

⁶ Defined as remuneration awarded before the financial year which vested in the financial year (including where subject to a retention period)

Remuneration of high earners – Material Risk Takers (REM 4)

in €	2023	2022
	Number of individuals ¹	Number of individuals
Total Pay ²		
1,000,000 to 1,499,999	290	299
1,500,000 to 1,999,999	88	120
2,000,000 to 2,499,999	53	47
2,500,000 to 2,999,999	16	36
3,000,000 to 3,499,999	8	16
3,500,000 to 3,999,999	14	12
4,000,000 to 4,499,999	11	9
4,500,000 to 4,999,999	1	5
5,000,000 to 5,999,999	4	7
6,000,000 to 6,999,999	8	6
7,000,000 to 7,999,999	5	8
8,000,000 to 8,999,999	4	4
9,000,000 to 9,999,999	2	2
10,000,000 to 10,999,999	0	1
11,000,000 to 11,999,999	0	0
12,000,000 to 12,999,999	0	0
13,000,000 to 13,999,999	0	0
14,000,000 to 14,999,999	1	0
Total	505	572

¹ Comprises MRTs only (including 2023 leavers)

² Includes all components of FP and VC (including severances); buyouts are not included

In total, 505 MRTs received a Total Pay of € 1 million or more for 2023.

Compensation awards 2023 – Material Risk Takers (REM 5)

in € m. (unless stated otherwise) ¹	Management Body Remuneration			Business Areas					
	Supervisory Board ²	Management Board ²	Total Management Body	Investment Banking ²	Retail Banking ²	Asset Management ²	Corporate Functions ²	Control Functions ²	Total
Total number of Material Risk Takers³									1,313
of which: Management Body	20	9	29	N/A	N/A	N/A	N/A	N/A	N/A
of which: Senior Management ⁴	N/A	N/A	N/A	29	84	5	91	32	241
of which: Other Material Risk Takers	N/A	N/A	N/A	620	205	0	128	89	1,043
Total Pay of Material Risk Takers	7	72	79	906	244	29	165	66	1,489
of which: variable pay ⁵	0	38	38	419	108	20	63	13	661
of which: fixed pay	7	34	41	488	135	9	102	52	828

¹ The table may contain marginal rounding differences

² Supervisory Board represents the Supervisory Board Members of Deutsche Bank AG, Management Board represents the Management Board Members of Deutsche Bank AG; Investment Banking = Investment Bank; Retail Banking = Private Bank and Corporate Bank; Asset Management = Asset Management (DWS); Control Functions include Chief Risk Office, Group Audit, Compliance and Anti-Financial Crime; Corporate Functions include any Infrastructure function which is neither captured as a Control Function nor part of any division

³ HC as of December 31, 2023 reported for Supervisory Board and Management Board, FTE as of December 31, 2023 reported for the remaining part; therefore, the totals do not add up to the 1,477 individuals identified as MRTs; shows remuneration awarded to all MRTs (including 2023 leavers)

⁴ Senior Management is defined as Deutsche Bank AG MB-1 positions; voting members of Business Division Top Executive Committees; MB members of Significant and Other CRR Institutions and respective MB-1 positions with managerial responsibility

⁵ Variable Pay includes Deutsche Bank's Year-end performance-based VC for 2023, other VC and severance payments; it also includes fringe benefits awarded to Management Board Members of Deutsche Bank AG which are to be classified as variable remuneration; the table does not include new hire replacement awards for lost entitlements from previous employers (buyouts)

4

Corporate Governance Statement according to Sections 289f and 315d of the German Commercial Code/Corporate Governance Report

- 449 Management Board and Supervisory Board
- 462 Reporting and Transparency
- 462 Related Party Transactions
- 463 Auditing and Controlling
- 466 Compliance with the German Corporate Governance Code

All information presented in this Corporate Governance Statement according to Sections 289f and 315d of the German Commercial Code is as of February 9, 2024.

Management Board and Supervisory Board

Management Board

Deutsche Bank's Management Board is responsible for the management of the company in accordance with the law, its Articles of Association and the Terms of Reference for the Management Board with the objective of creating sustainable value in the interests of the company. It considers the interests of shareholders, employees and other company-related stakeholders. The members of the Management Board are collectively responsible for managing the bank's business. The Management Board, as the Group Management Board, manages Deutsche Bank Group in accordance with uniform guidelines; it exercises general control over all Group companies.

The Management Board decides on all matters prescribed by law and the Articles of Association and ensures compliance with the legal requirements and internal guidelines (compliance). It also takes the necessary measures to ensure that adequate internal guidelines are developed and implemented. The Management Board's responsibilities include, in particular, the bank's strategic management and direction, the allocation of resources, financial accounting and reporting, control and risk management, the proper functioning of the business organization, the systematic identification and assessment of the environmental and social impacts of the company's operations as well as corporate control. The Management Board decides on the appointments to the senior management level below the Management Board and, in particular, on the appointment of Global Key Function Holders. In appointing people to management functions in the Group, the Management Board takes diversity into account and strives, in particular, to achieve an appropriate representation of women (more detailed information in section "Goals for the proportion of women in management positions / gender quota" in this Corporate Governance Statement).

The Management Board works closely together with the Supervisory Board in a cooperative relationship of trust and for the benefit of the company. The Management Board reports to the Supervisory Board at a minimum within the scope prescribed by law or administrative guidelines, in particular on all issues with relevance for the Group concerning strategy, the intended business policy, planning, business development, risk situation, risk management, staff development, reputation and compliance.

A comprehensive presentation of the duties, responsibilities and procedures of our Management Board is specified in its Terms of Reference, the current version of which is available on our website (www.db.com/ir/en/documents.htm).

Personnel changes to the Management Board and the current members of the Management Board

The following member of the Management Board was appointed for a three-year period:

- Claudio de Sanctis with effect from July 1, 2023.

The following members left the Management Board:

- Christiana Riley as of May 17, 2023.
- Karl von Rohr as of October 31, 2023.

The following information is provided on the current members of the Management Board on the year in which they were born, year in which they were first appointed and year in which their term expires as well as their current positions and area of responsibility according to the current Business Allocation Plan for the Management Board. Also specified are their other board mandates or directorships outside of Deutsche Bank Group as well as all memberships in legally prescribed supervisory boards or other comparable domestic or foreign supervisory bodies of commercial enterprises. Listed companies are marked with an **. The Terms of Reference for the Management Board specify that the members of our Management Board generally should not accept the chair of supervisory boards of companies outside Deutsche Bank Group.

Christian Sewing

Year of birth: 1970
First appointed: 2015
Term expires: 2026

Christian Sewing became a member of the Management Board on January 1, 2015 and is Chief Executive Officer with effect from April 8, 2018. He is responsible on the Management Board for Communications & Corporate Social Responsibility (CSR), Research and Group Audit. He handed over responsibility for Human Resources on May 31, 2023.

Prior to assuming his role on the Management Board, Mr. Sewing was Global Head of Group Audit and held a number of positions before that in Risk, including Deputy Chief Risk Officer (from 2012 to 2013) and Chief Credit Officer (from 2010 to 2012) of Deutsche Bank.

From 2005 until 2007, Mr. Sewing was a member of the Management Board of Deutsche Genossenschafts-Hypothekenbank.

Before graduating with a diploma from the Bankakademie Bielefeld and Hamburg, Mr. Sewing completed a bank apprenticeship at Deutsche Bank in 1989.

Mr. Sewing does not have any external directorships subject to disclosure.

James von Moltke

Year of birth: 1969
First appointed: 2017
Term expires: 2026

James von Moltke became a member of the Management Board on July 1, 2017, and President as of March 25, 2022. He is Chief Financial Officer and in this function, he is responsible for, among other things, Finance, Group Tax, Treasury and Investor Relations. As of July 1, 2023, he took on responsibility for Asset Management (DWS).

Before Mr. von Moltke joined Deutsche Bank he served as Treasurer of Citigroup. He started his career at the investment bank Credit Suisse First Boston in London in 1992. In 1995, he joined J.P. Morgan, working at the bank for 10 years in New York and Hong Kong. After next working at Morgan Stanley in New York for four years, where he led the Financial Technology advisory team globally, Mr. von Moltke joined Citigroup as Head of Corporate Mergers and Acquisitions (M&A) in 2009 and three years later became the Global Head of Financial Planning.

He holds a Bachelor of Arts degree from New College, University of Oxford.

Mr. von Moltke does not have any external directorships subject to disclosure.

Fabrizio Campelli

Year of birth: 1973
First appointed: 2019
Term expires: 2025

Fabrizio Campelli became a member of the Management Board on November 1, 2019. He is responsible for the Corporate Bank and the Investment Bank and also for the bank's UK & Ireland region.

From November 2019 to April 2021, he was the Management Board member responsible for transformation, as Chief Transformation Officer, and for Human Resources. He previously spent four years as the Global Head of Deutsche Bank Wealth Management. Before that, he was Head of Strategy & Organizational Development as well as Deputy Chief Operating Officer for Deutsche Bank Group.

He joined Deutsche Bank in 2004 after working at McKinsey & Company in the firm's London and Milan offices, focusing on strategic assignments mainly for global financial institutions.

He holds an MBA from MIT Sloan School of Management and a Business Administration degree from Bocconi University in Milan.

Mr. Campelli is a member of the following Supervisory Boards: BVV Versicherungsverein des Bankgewerbes a.G. and BVV Versorgungskasse des Bankgewerbes e.V.

Bernd Leukert

Year of birth: 1967
First appointed: 2020
Term expires: 2025

Bernd Leukert became a member of the Management Board on January 1, 2020. He is Chief Technology, Data and Innovation Officer and is responsible for the Chief Information Office for the Infrastructure areas and the business divisions, as well as for the Chief Technology Office and the Chief Security Office. He is also responsible for Data Governance and Oversight and Trade Settlement as well as for Cloud Transformation and Chief Innovation Office.

He joined Deutsche Bank on September 1, 2019. He previously worked for many years at SAP SE, the global software company. He joined SAP in 1994 and held various management positions. From 2014 to 2019, he was responsible for product development and innovations as well as the Digital Business Services division on the Executive Board.

Mr. Leukert studied Industrial Engineering and Management at the University of Karlsruhe and at Trinity College Dublin, graduating in 1994 with a Master's Degree in Business Administration.

He is member of the Supervisory Board of Bertelsmann SE & Co. KGaA.

He is a member of the Supervisory Board of DWS Group GmbH & Co. KGaA.*

Alexander von zur Mühlen

Year of birth: 1975
First appointed: 2020
Term expires: 2026

Alexander von zur Mühlen became a member of the Management Board on August 1, 2020 and was CEO Asia-Pacific until June 30, 2023. As of July 1, 2023, he became the CEO for Asia-Pacific, Europe, the Middle East and Africa (EMEA) and Germany.

Mr. von zur Mühlen joined Deutsche Bank in 1998 and over the years has held a range of management roles in London and Frankfurt across infrastructure and business divisions. From 2018 to 2020 he was responsible for the Group's strategic development and was the advisor to the Chief Executive Officer (CEO). Before that, he served as Co-Head of Global Capital Markets, with a regional focus on Asia-Pacific and Europe, the Middle East and Africa (EMEA). From 2009 to 2017, he was Group Treasurer.

Alexander von zur Mühlen holds a Diploma in Business Administration from the Berlin School of Economics and Law in Berlin.

Mr. von zur Mühlen does not have any external directorships subject to disclosure.

Claudio de Sanctis

Year of birth: 1972
First appointed: 2023
Term expires: 2026

Claudio de Sanctis became a member of the Management Board on July 1, 2023. He is Head of the Private Bank.

Mr. de Sanctis was responsible for the International Private Bank since June 2020 and at the same time he was also Chief Executive Officer (CEO) of Europe, the Middle East and Africa (EMEA). He had previously been Global Head of Deutsche Bank Wealth Management since November 2019 after joining Deutsche Bank in December 2018 as Head of Deutsche Bank Wealth Management Europe. In addition, he was also the Chief Executive Officer (CEO) of Deutsche Bank (Switzerland) Ltd from February to December 2019.

Before joining Deutsche Bank, he was Head of Private Banking, Europe, at Credit Suisse, where he started in 2013 as Market Area Head Southeast Asia for Private Banking. Before then, he spent seven years at UBS Wealth Management Europe, most recently as Market Head Iberia and Nordics.

Earlier in his career he was at Barclays as Head of Key Clients Unit Europe in Private Banking focusing on UHNW clients. He also worked at Merrill Lynch Private Wealth Management in Europe, the Middle East and Africa (EMEA).

He earned a BA degree in Philosophy at La Sapienza University of Rome.

Mr. de Sanctis does not have any external directorships subject to disclosure.

Rebecca Short

Year of birth: 1974
First appointed: 2021
Term expires: 2027

Rebecca Short became a member of the Management Board on May 1, 2021. She is Chief Operating Officer with responsibility for Human Resources as well as the Bank's transformation on June 1, 2023. Until May 31, 2023, she was Chief Transformation Officer, responsible for the bank's transformation. Ms. Short was responsible for the Capital Release Unit until January 31, 2023 and continues to retain oversight for the remaining activities in this context.

She previously spent almost six years within Finance as Head of Group Planning & Performance Management.

She joined Deutsche Bank through its graduate program in Auckland in 1998. She moved to London in 2000 with Credit Risk Management, where she worked for 12 years and advanced to, become European Head of Corporates. She then set up a new Risk-wide team, Strategic Risk Analysis & Reporting in 2012 before moving to a senior central management role in Group Audit in 2013, where she spent two years.

She has a Bachelor of Commerce (Honours) degree in Finance & Accounting from the University of Otago, Dunedin, New Zealand.

Ms. Short does not have any external directorships subject to disclosure.

Professor Dr. Stefan Simon

Year of birth: 1969
First appointed: 2020
Term expires: 2026

Professor Dr. Stefan Simon became a member of the Management Board on August 1, 2020. He is Chief Administrative Officer (CAO) and is responsible for Government and Regulatory Affairs as well as for Legal and Governance. Additionally, he is responsible for Compliance, Anti-Financial-Crime (AFC) and the Business Selection and Conflicts Office, as well as for Controls Testing & Assurance. At the end of the Annual General Meeting on May 17, 2023, he also became responsible for the bank's Americas region.

Professor Dr. Simon joined Deutsche Bank on August 1, 2019. He was a member of the Supervisory Board from August 2016 until July 2019 and was Chairman of its Integrity Committee. He is a lawyer and tax consultant and between 1997 and 2016 worked at the law firm Flick Gocke Schaumburg, where he became a partner in 2002. Since 2008 he has also been an Honorary Professor of the University of Cologne.

He studied law at the University of Cologne and received his doctorate there in 1998.

Professor Dr. Simon is a member of the Supervisory Board of The Clearing House Payments Company LLC and Chairman of the Advisory Council of Leop. Krawinkel GmbH & Co. KG.

Olivier Vigneron

Year of birth: 1971
First appointed: 2022
Term expires: 2025

Olivier Vigneron became a member of the Management Board on May 20, 2022. He is Chief Risk Officer responsible for the functions managing Credit Risk, Market Risk and Liquidity Risk as well as for other Risk-Infrastructure units.

Mr. Vigneron re-joined Deutsche Bank on March 1, 2022. From January 2020 until re-joining Deutsche Bank in 2022, Olivier Vigneron was Chief Risk Officer of Natixis, where he also served on the Senior Management Committee. From 2008 to 2020, he worked at J.P. Morgan, where he served as Chief Risk Officer for Europe, the Middle East and Africa (EMEA) and Firmwide Risk Executive for Market Risk. Prior to this, he worked for BNP Paribas, UniCredit, and Goldman Sachs. Between 2002 and 2005 he worked in Structured Credit Trading for Deutsche Bank in London.

He has also served on the Supervisory Board of J.P. Morgan Germany and on the board of Natixis Assurances.

Olivier Vigneron studied at the Lycée Louis-le-Grand in Paris and holds a Diplôme d'Ingénieur (degree in Engineering) from France's École Polytechnique. He also holds a PhD in Economics from the University of Chicago.

Mr. Vigneron does not have any external directorships subject to disclosure.

Supervisory Board

The Supervisory Board of Deutsche Bank AG appoints and dismisses the members of the Management Board, supervises and advises the Management Board and is directly involved in decisions of fundamental importance to the bank. Supervision and advice also include in particular, sustainability issues. The Supervisory Board works together closely with the Management Board in a cooperative relationship of trust and for the benefit of the company. The internal organization of the Supervisory Board and its committees as well as the requirements for its members are subject not only to the regulations of the German Banking Act (Kreditwesengesetz (KWG)) and the recommendations of the German Corporate Governance Code (CGCG), but also to specific supervisory requirements. Such requirements are founded on, among other things, the German Banking Act (KWG), the Remuneration Ordinance for Institutions (Institutsvergütungsverordnung (InstitutsVergV)), the guidelines of the European Banking Authority (EBA) and European Securities and Markets Authority (ESMA) and the administrative practices of the European Central Bank (ECB) as our prudential supervisory authority. In individual cases, the regulatory requirements may diverge from the recommendations of the German Corporate Governance Code (GCBC).

The types of business that require the approval of the Supervisory Board to be transacted are specified in the Articles of Association of Deutsche Bank AG. Furthermore, the Supervisory Board may specify additional transactions that require its approval.

The procedures of the Supervisory Board and the tasks and procedures of the Supervisory Board committees are set out in their respective terms of reference, which are published on Deutsche Bank's website (www.db.com/ir/en/documents.htm) in their currently applicable versions. The Supervisory Board meets regularly also without the Management Board. In addition, the representatives of the employees and the representatives of the shareholders regularly conduct preliminary discussions separately. The number of meetings and their execution are specified in the Report of the Supervisory Board, along with details on the work of the Supervisory Board and its committees.

The Chairman of the Supervisory Board plays a crucial role in the proper functioning of the Supervisory Board and has a leadership role in this. He can issue internal guidelines and principles concerning the Supervisory Board's internal organization and communications, the coordination of the work within the Supervisory Board and the Supervisory Board's interaction with the Management Board. The Chairman of the Supervisory Board engages in investor discussions on Supervisory Board-related topics when necessary and regularly informs the Supervisory Board of the substance of such discussions. These also cover Environmental, Social and Governance (ESG) topics. The Chairperson of the Audit Committee furthermore conducts regular discussions with the auditor outside the meetings.

Between meetings, the Chairman of the Supervisory Board and, to the extent expedient, the chairpersons of the Supervisory Board committees maintain regular contact with the members of the Management Board, especially with the Chairman of the Management Board, and deliberate with them, among other things, on issues of Deutsche Bank Group's strategy, planning, the development of its business, risk situation, risk management, risk controlling, governance, compliance, compensation systems, IT, data and digitalization, sustainability as well as material litigation cases. The Chairman of the Supervisory Board and – within their respective functional responsibility – the chairpersons of the Supervisory Board committees are informed without delay by the Chairman of the Management Board or by the respectively responsible Management Board member about important events of material significance for the assessment of the situation, development and management of Deutsche Bank Group.

Together with the Management Board, the Supervisory Board arranges for a long-term succession planning. Promoting diversity on the Management Board is very important to the Supervisory Board, and it is intensively addressing the topic. It is actively working on Management Board diversity, e.g., in terms of gender, nationality and age, as well as different backgrounds and mindsets. The Nomination Committee supports the Chairman's Committee and the Supervisory Board in identifying suitable candidates to fill a position on the bank's Management Board. In doing so, the Committee prepares a position description with a candidate profile and states the expected time commitment. Suitable candidates are identified, in some cases in collaboration with external recruiting consultants, and structured interviews are conducted. Besides this succession planning with external candidates, the Management Board and Supervisory Board maintain a list of internal candidates. The Nomination Committee and Supervisory Board regularly receive reports from the Management Board on internal candidates for succession planning and the process from the perspective of the Management Board. For the selection of suitable candidates, external and internal, the Nomination Committee takes into account the balance and diversity of the knowledge, skills and experience of all members of the Management Board. It also seeks to foster diversity on the Management Board, for example, with regard to gender, nationality and age.

Building on the work of the Nomination Committee, the Chairman's Committee submits a recommendation for the Supervisory Board's resolution. Based on this, the Supervisory Board decides on the appointment of Management Board members. The first appointment period is for a maximum of three years. Management Board members can be reappointed for one or several terms of office, which may be for a maximum of five years pursuant to the law, whereby at Deutsche Bank such reappointments should generally also be for a maximum of three years. Besides proposals for the appointment of members of the Management Board, the Chairman's Committee also submits proposals for the dismissal of Management Board members, which the Supervisory Board decides on.

The Supervisory Board ensures compliance with the legally required minimum gender participation pursuant to Section 76 (3a) of the Stock Corporation Act (AktG). The Management Board comprised ten members until May 17, 2023, including two women: Christiana Riley and Rebecca Short. Christiana Riley decided to leave the bank, so the Management Board, reduced in size to nine members since then, has one female member: Rebecca Short. Internal and external feedback on the smaller Management Board has generally been with very positive in recognition of its efficiency. As stated at the General Meeting 2023, the Supervisory Board is not satisfied, however, with the current ratio of women and intends to raise the percentage of women in the future. To increase the number of suitable internal female candidates, the Supervisory Board set a corresponding objective for the Management Board for the current financial year for appointing women to senior management positions directly below the Management Board and embedded this objective within the long-term performance metrics of the new compensation system for the Management Board. To reach a 100% achievement level in this category, at least 32,5% females need to be represented below the two levels of the Management Board by end 2026.

Based on proposals of the Compensation Control Committee, the Supervisory Board determines the total compensation of the individual members of the Management Board and also regularly reviews and resolves on the compensation system for the Management Board.

The Supervisory Board receives reports from the Management Board within the scope prescribed by law or administrative guidelines, in particular on all issues of relevance for the Group concerning strategy, intended business policy, planning, business development, risk situation, risk management, staff development, reputation and compliance. Furthermore, Group Audit informs the Audit Committee of any deficiencies identified regularly and – in the case of severe deficiencies – without undue delay. In addition, the Chairman of the Supervisory Board is informed of any serious findings relating to the members of the Management Board. The Supervisory Board and Management Board adopted an Information Regime, a general engagement (interaction) protocol and another engagement (interaction) protocol specifically for regulatory topics. These regulate not only the reporting to the Supervisory Board, but also, among other things the Supervisory Board's enquiries and requests for information from employees of the company as well as the exchange of information in connection with preparations for the meetings and between the meetings.

The Nomination Committee and Supervisory Board addressed the assessment of the Supervisory Board which is to be conducted at least annually as prescribed by law pursuant to Section 25d of the German Banking Act (KWG), and which is also the self-assessment of the Supervisory Board pursuant to Section D.12 of the German Corporate Governance Code (GCGC). The concrete implementation of and the schedule for the assessment were deliberated on and set out at the meeting of the Nomination Committee on October 23, 2023. Services of an external advisor were not mandated in this context. The assessment was performed essentially on the basis of extensive questionnaires regarding the work of the Supervisory Board, of the Supervisory Board committees and of the Management Board, interviews conducted by members of the Nomination Committee with the individual members of the Management Board, and an assessment of the individual members of both the Management Board and Supervisory Board. The final discussion and approval of the results of the assessment took place at the Supervisory Board meeting in plenum on January 31, 2024, and the results were set out in a written final report. The Supervisory Board continues to hold the opinion that the Supervisory Board and Management Board have achieved a high standard and that there are no reservations, in particular, regarding the professional qualifications, personal reliability and time availability of the members of the Management Board and of the Supervisory Board.

Members of the Supervisory Board

The Supervisory Board has 20 members. In accordance with the German Co-Determination Act (Mitbestimmungsgesetz), it comprises an equal number of shareholder representatives and employee representatives.

In accordance with the Articles of Association, the members of the Supervisory Board are elected for the period until the conclusion of the General Meeting which adopts the resolutions concerning the ratification of the acts of management for the fourth financial year following the beginning of the term of office. For the election of shareholder representatives, the General Meeting may establish that the terms of office of individual members may begin or end on differing dates. In accordance with the Terms of Reference for the Supervisory Board since July 2020, shareholder representatives are proposed to the General Meeting for election for a maximum of approximately four years, i.e. until the conclusion of the General Meeting which adopts the resolutions concerning the ratification of the acts of management for the third financial year following the beginning of the term of office, whereby the financial year in which the term of office begins is not taken into account.

The following table shows information on the current members of our Supervisory Board (as of February 9, 2024).

Member	Principal occupation	Supervisory board memberships and other directorships
Alexander Wynaedts	Chairman of the Supervisory Board, Deutsche Bank AG	Air France-KLM Group S.A. ² (Member of the Board of Directors); Uber Technologies, Inc. ² (Member of the Board of Directors); Uber Payments B.V. (Non-Executive Director, Chairman); Puissance Holding B.V. (Non-Executive Director, Chairman)
Year of birth: 1960		
First elected: May 19, 2022		
Term expires: 2026		
Susanne Bleidt ¹	Staff Council Member	Postbank Filialvertrieb AG ³ ; Erholungswerk Post Postbank Telekom e.V. (Member of the Members' General Meeting); Postbeamtenkrankenkasse (Member of the Advisory Board)
Year of birth: 1967		
First elected: May 17, 2023		
Term expires: 2028		
Mayree Clark	Supervisory Board Member	Ally Financial, Inc. ² (Member of the Board of Directors); Allvue Systems Holdings, Inc. (Member of the Board of Directors)
Year of birth: 1957		
First elected: May 24, 2018		
Term expires: 2027		
Jan Duscheck ¹	Head of National Working Group Banking, ver.di (Vereinte Dienstleistungsgewerkschaft (United Services Union))	No memberships or directorships subject to disclosure
Year of birth: 1984		
Appointed by the court: August 2, 2016		
First elected: May 18, 2017		
Term expires: 2028		
Manja Eifert ¹	Staff Council Member	No memberships or directorships subject to disclosure
Year of birth: 1971		
Appointed by the court: April 7, 2022		
First elected: May 17, 2023		
Term expires: 2028		
Claudia Fieber ¹	Staff Council Member	No memberships or directorships subject to disclosure
Year of birth: 1966		
First elected: May 17, 2023		
Term expires: 2028		
Sigmar Gabriel	Former German Federal Government Minister	Heristo AG (since July 2023); Siemens Energy AG ² , Siemens Energy Management GmbH; ThyssenKrupp Steel Europe AG (Chairman)
Year of birth: 1959		
Appointed by the court: March 11, 2020		
First elected: May 20, 2020		
Term expires: 2025		
Florian Hagenmiller ¹	Head of the National Working Group: Information and Communications Technology, ver.di (Vereinte Dienstleistungsgewerkschaft (United Services Union))	IBM Deutschland GmbH; IBM Central Holding GmbH
Year of birth: 1982		
Appointed by the court: January 16, 2024		
Term expires: 2028		

Timo Heider¹ Year of birth: 1975 First elected: May 17, 2013 Term expires: 2028	Staff Council Member	BHW Bausparkasse AG ³ (Deputy Chairman); PCC Services GmbH der Deutschen Bank ³ (Deputy Chairman); Pensionskasse der BHW Bausparkasse VVaG ³ (Deputy Chairman)
Frank Schulze¹ Year of birth: 1968 First elected: May 17, 2023 Term expires: 2028	Deputy Chairman of the Supervisory Board, Deutsche Bank AG; Staff Council Member	No memberships or directorships subject to disclosure
Gerlinde Siebert¹ Year of birth: 1967 First elected: May 17, 2023 Term expires: 2028	Global Head of Governance, Deutsche Bank AG	Deutsche Holdings (Luxembourg) S.á.r.l. ³ (until December 2023)
Yngve Slyngstad Year of birth: 1962 First elected: May 19, 2022 Term expires: 2026	Chief Executive Officer of Aker Asset Management AS	No memberships or directorships subject to disclosure
Stephan Szukalski¹ Year of birth: 1967 First elected: May 17, 2023 ⁴ Term expires: 2028	Federal Chairman, Deutscher Bankangestellten-Verband e.V. (DBV) (German Association of Bank Employees)) – Gewerkschaft der Finanzdienstleister (Financial Services Providers Union)	PCC Services GmbH der Deutschen Bank ³
John Alexander Thain Year of birth: 1955 First elected: May 24, 2018 Term expires: 2027	Supervisory Board Member	Uber Technologies, Inc. ² (Member of the Board of Directors); Aperture Investors LLC (Member of the Board of Directors); Pine Island Capital Partners LLC (Chairman)
Jürgen Tögel¹ Year of birth: 1968 First elected: May 17, 2023 Term expires: 2028	Staff Council Member	BVV Versicherungsverein des Bankgewerbes a.G.; BVV Versorgungskasse des Bankgewerbes e.V.; BKK Deutsche Bank AG ³ (Member of the Advisory Board)
Michele Trogni Year of birth: 1965 First elected: May 24, 2018 Term expires: 2027	Operating Partner Eldridge; Chief Executive Officer, Zinnia Corporate Holdings, LLC	Everly Life, LLC (Member of the Non-Executive Board) (since September 2023.); Zinnia Corporate Holdings, LLC ((CEO and Chairperson of the Board of Directors)
Dr. Dagmar Valcárcel Year of birth: 1966 Appointed by the court: August 1, 2019 Term expires: 2025	Supervisory Board Member	amedes Holding GmbH; Antin Infrastructure Partners S.A. ² (Member of the Board of Directors)
Dr. Theodor Weimer Year of birth: 1959 First elected: May 20, 2020 Term expires: 2025	Chief Executive Officer, Deutsche Börse AG	Knorr Bremse AG ²
Professor Dr. Norbert Winkeljohann Year of birth: 1957 First elected: August 1, 2018 Term expires: 2027	Deputy Chairman of the Supervisory Board of Deutsche Bank AG; Self-Employed Corporate Consultant Norbert Winkeljohann Advisory & Investments	Bayer AG ² (Chairman); Georgsmarienhütte Holding GmbH; Sievert SE (Chairman); Bohnenkamp AG (Chairman)
Frank Witter Year of birth: 1959 First elected: May 27, 2021 Term expires: 2025	Supervisory Board Member	Traton SE ² ; VfL Wolfsburg-Fußball GmbH (Chairman); CGI Inc. ² (Member of the Board of Directors)

¹ Employee representatives

² Listed company

³ Group-internal mandate

⁴ Mr. Szukalski already was a member of the Supervisory Board from May 2013 to November 2015 and May 2018 to December 2020.

Objectives for the composition of the Supervisory Board, Profile of Requirements, diversity concept and status of implementation

The composition of the Supervisory Board should ensure the effective and qualified control of and advice for the Management Board of an internationally operating, broadly positioned bank. The suitability of each individual member is assessed, determined and continuously monitored both internally by the Nomination Committee and the Supervisory Board and externally by the regulatory authorities. This suitability assessment covers the expertise, reliability and time available of each individual member (individual suitability). In addition, there is an assessment of the entire Supervisory Board's knowledge, skills and experience that are necessary for the performance of its tasks (collective suitability). Passing the suitability assessment of the European Central Bank (ECB) after the mandate is accepted and the continual suitability of the Supervisory Board member during the entire mandate with Deutsche Bank AG are mandatory regulatory prerequisites for the performance of the tasks as a member of the Supervisory Board.

The Supervisory Board confirmed its adopted Profile of Requirements at its meeting on July 27, 2023. The Supervisory Board specified general fields of expertise and expanded fields of expertise.

General fields of expertise:

Ideally, every member of the Supervisory Board possesses these individual qualifications.

- Understanding of commercial business issues
- Analytical and strategic mindset
- Understanding of the German corporate governance system, and – as a result – an understanding of a Supervisory Board member's responsibilities
- Understanding of the business model and the structure of Deutsche Bank AG
- Basic understanding of the financial services sector, e. g. (i) knowledge in the areas of banking, financial services, financial markets, financial industry, including the bank's home market as well as Europe and the bank's key markets outside Europe, and (ii) knowledge of the relevant clients for the bank, the market's expectations and the operational environment.

The fulfillment of these fields of expertise is reported on in summary in the qualification matrix in the line "General fields of expertise".

Expanded fields of expertise:

These fields of expertise refer to the Supervisory Board in its entirety (collective suitability). The Supervisory Board, as a whole, must have an understanding of the specified fields of expertise that is appropriate for the size and complexity of Deutsche Bank AG. They are derived from the bank's business model and from specific laws and regulations that apply to the bank. The fields of expertise are:

Accounting, including sustainability reporting:

- Accounting (International Financial Reporting Standards (IFRS) and German Commercial Code (HGB)) and auditing of annual financial statements
- Taxation

Regulatory framework and legal requirements:

- Understanding of the key legal framework conditions in the countries in which the company has its main operations
- Understanding of the key relevant legal systems for the bank
- Experience in the executive management / supervisory board of large enterprises
- Regulatory framework and legal requirements, in particular, knowledge of the legal systems relevant for the bank
- Knowledge of the social, political and regulatory expectations in the home market

Human capital, compensation and corporate culture:

- Human resources and staff management
- Compensation and compensation systems
- Selection procedure for management body members and assessment of their suitability
- Corporate culture

Risk management:

- Risk management (investigation, assessment, mitigation, management and control of financial and non-financial risks, capital and liquidity management, shareholdings)
- Combating money laundering and prevention of financial crime and the financing of terrorism

Information technology, data and digitalization:

- Digitalization, including digital banking
- Data, including data governance
- Information technology (IT), IT systems and IT security, including cyber risks

Strategy, transformation and Environmental, Social and Governance (ESG) issues:

- Strategic planning of business models and risk strategies as well as their implementation
- Climate and other environmental aspects
- Knowledge of social and political expectations (in particular in the home market) and their impacts on corporate social responsibility
- Company's purpose

Organizational structure and control of a financial institution

- Governance
- Management of a large, international regulated company
- Internal organization of the bank
- Internal audit
- Compliance and internal controls

In order to adequately reflect the bank's business model, the Supervisory Board shall demonstrate not only these professional qualifications but also qualifications and experience in the various client segments and different sales markets.

Client segments

- Private Banking and Wealth Management
- Corporate Banking
- Investment Banking
- Asset Management

Regional expertise

- Germany
- Europe
- Americas
- Asia-Pacific (APAC)

The Supervisory Board believes that it complies with the specified concrete objectives regarding its composition and the Profile of Requirements – as shown in the following qualifications matrix. The members of the Supervisory Board as a whole possess the knowledge, ability and expert experience to properly complete their tasks.

There are ten independent shareholder representatives on the Supervisory Board. All members act with independence of mind, i.e., all members of the Supervisory Board engage actively in their duties and are able to make their own sound, objective and independent decisions and judgements when performing their functions and responsibilities. In the preceding financial year, there were no former members of the Management Board on the Supervisory Board.

	Alexander Wynaedts	Susanne Bleidt	Mayree Clark	Jan Duscheck	Manja Eifert	Claudia Fieber	Sigmar Gabriel	Florian Haggenniller	Timo Heider	Frank Schulze	Gerlinde Siebert	Yngve Slyngstad	Stephan Szukalski	John Thain	Jürgen Tögel	Michele Trojni	Dr. Dagmar Valcárce	Dr. Theodor Weimer	Prof. Dr. Norbert Winkeljohann	Frank Witter
Membership	No Overboarding*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Independent **	✓	ER	✓	ER	ER	ER	✓	ER	ER	ER	✓	ER	✓	ER	✓	✓	✓	✓	
Professional expertise	General fields of expertise	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Accounting and reporting, incl. sustainability reporting	✓	✓	✓								✓	✓	✓	✓	✓	✓	✓	✓	
	Audit Committee Financial Experts ***	♦															♦	♦	♦	
	Expertise in the area of accounting ***	♦															♦	♦	♦	
	Expertise in the area of auditing ***	♦															♦	♦	♦	
	Regulatory framework and Legal requirements	✓		✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Human Capital, Compensation and Corporate Culture	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Compensation Control Committee Compensation Experts***	♦															♦	♦		
	Risk Management	✓		✓	✓		✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	
	Information technology, data and digitalization	✓	✓	✓	✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		
Client/ business expertise	Strategy, Transformation and ESG	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Organizational structure and control of a financial institution	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Private Banking and Wealth Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Corporate Banking	✓			✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Regional Expertise	Investment Banking	✓		✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Asset Management	✓		✓						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Germany		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Regional Expertise	Europe	✓		✓			✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Americas	✓		✓				✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	APAC	✓		✓				✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

✓ Profound and professional knowledge / expert

♦ Regulatory expert / expertise required by law and/or supervisory regulation

ER Employees representatives

* Definition of no overboarding: All Supervisory Board members hold an admissible number of board directorships in various companies in addition to Deutsche Bank AG. Overboarding, i.e. holding an inadmissible number of board directorships in different companies, is determined on the basis of the statutory regulation in Section 25d (3) of the German Banking Act (KWG). A Supervisory Board member may concurrently be a member of the supervisory body of a maximum of five companies (including Deutsche Bank AG). If a Supervisory Board member is also an executive director of a company, this Supervisory Board member may concurrently be a member of the supervisory body of a maximum of three companies (including Deutsche Bank AG). The decisive factors for determining if this is the case are the supervisory authority's regulatory requirements in consideration of the local laws. Compliance with this statutory regulation is continually monitored by the regulatory authorities. In the event of directorship overboarding, the supervisory authorities may require that Deutsche Bank AG revoke a Supervisory Board member's appointment and prohibit this Supervisory Board member from performing his or her work

** Definition of independence: A Supervisory Board member is independent when there are no personal or business relations with Deutsche Bank or its Management Board that may cause a substantial and not merely temporary conflict of interest. The Supervisory Board issued guidelines for the consistent assessment of the independence of its members back in 2017 and updates them regularly. These guidelines also take into account the regulatory requirements on independence. The bank has no controlling shareholder at present

*** Definition of experts given in the "Auditing and Controlling" section of this report

There is a regular maximum age limit of 70. In well-founded, individual cases, a Supervisory Board member may be elected or appointed for a period that extends at the latest until the end of the fourth Ordinary General Meeting that takes place after he or she has reached the age of 70. This age limit was taken into account in the election proposals to the General Meeting and shall also be taken into account for the next Supervisory Board elections or subsequent appointments for Supervisory Board positions that become vacant.

For shareholder representatives on the Supervisory Board, the length of Supervisory Board membership shall not, as a rule, exceed 12 years.

The Supervisory Board respects diversity when proposing its members for appointment. In light of the international operations of Deutsche Bank AG, care should be taken that the Supervisory Board has an appropriate number of members with long-term international experience. Currently, the professional careers or private lives of six members of the Supervisory Board are centered outside Germany. Furthermore, all of the shareholder representatives on the Supervisory Board have many years of international experience from their current or former activities, for example, as management board members or chief executive officers or in a comparable executive function of corporations or organizations with international operations. The Supervisory Board believes that in these two ways the international activities of the company are sufficiently taken into account. The objective is to retain the currently existing international profile.

Special importance has already been attached to an appropriate consideration of women in the selection process since the Supervisory Board elections in 2008. For the election proposals to the General Meeting, the Supervisory Board takes into account the recommendations of the Nomination Committee and the legal requirements according to which the Supervisory Board shall be composed of at least 30% women and at least 30% men. In reviewing potential candidates for a new election or subsequent appointments to Supervisory Board positions that have become vacant, qualified women are included in the selection process and appropriately considered in the election proposals. At the end of the financial year, five women and five men were members of the Supervisory Board on the employee representatives' side and three women and seven men on the shareholder representatives' side. The statutory minimum quota of 30% has thus been fulfilled for many years now.

The average age of the Supervisory Board members was 57.25 as of December 31, 2023. The age structure is diverse, ranging from 39 to 68 years of age and spanning three generations, according to the general definition of the term.

The length of membership on the Supervisory Board of Deutsche Bank AG ranged from under one year to around 10 years at the end of the financial year. The average length of membership on the Supervisory Board as of December 31, 2023, was 3.2 years.

The diverse range of the members' educational and professional backgrounds includes banking, business administration, economics, auditing, law, German studies, political science, electrical engineering and healthcare. The resumes of the members of the Supervisory Board are published on Deutsche Bank's website (www.db.com/ir/en/supervisory-board.htm).

The members of the Supervisory Board do not exercise functions on a management body of, or perform advisory duties at, major competitors. Material conflicts of interest involving a member of the Supervisory Board that are not merely temporary shall result in the termination of that member's Supervisory Board mandate. Members of the Supervisory Board may not, according to Section 25d of the German Banking Act (KWG), and shall not, according to the recommendations under C.4 and C.5 of the German Corporate Governance Code (GCGC), hold more than the allowed number of supervisory board mandates or mandates in supervisory bodies of companies which have similar requirements. These requirements were met in the preceding financial year.

Some members of the Supervisory Board are, or were last year, in high-ranking positions at other companies that Deutsche Bank has business relations with. Business transactions with these companies were conducted under the same conditions as those between unrelated third parties. In the opinion of the Management Board and the Supervisory Board, these transactions did not affect the independence of the Supervisory Board members involved.

Committees of the Supervisory Board

The Supervisory Board has established eight standing committees. The committees coordinate their work and consult each other on an ad hoc basis. The committee chairpersons report regularly to the Supervisory Board on the work of the committees.

The committees and their members are or were:

Chairman's Committee: Alexander Wynaedts, Chairman, Timo Heider (since May 17, 2023), Detlef Polaschek (until May 17, 2023), Frank Schulze (since May 17, 2023), Frank Werneke (until May 17, 2023), Professor Dr. Norbert Winkeljohann

Nomination Committee: Alexander Wynaedts, Chairman, Mayree Clark, Timo Heider (since May 17, 2023), Detlef Polaschek (until May 17, 2023), Frank Schulze (since May 17, 2023), Frank Werneke (until May 17, 2023), Professor Dr. Norbert Winkeljohann

Audit Committee: Frank Witter, Chairman, Susanne Bleidt (since May 17, 2023), Manja Eifert, Birgit Laumen (from May 17, 2023 until January 12, 2024), Gabriele Platscher (until May 17, 2023), Detlef Polaschek (until May 17, 2023), Bernd Rose (until May 17, 2023), Gerlinde Siebert (since May 17, 2023), Dr. Dagmar Valcárcel, Stefan Viertel (until May 17, 2023), Dr. Theodor Weimer, Professor Dr. Norbert Winkeljohann, Alexander Wynaedts (until May 17, 2023)

Risk Committee: Mayree Clark, Chairman, Ludwig Blomeyer-Bartenstein (until May 17, 2023), Jan Duscheck, Gerlinde Siebert (since May 17, 2023), Stephan Szukalski (since May 17, 2023), Michele Trogni, Stefan Viertel (until May 17, 2023), Professor Dr. Norbert Winkeljohann, Alexander Wynaedts

Regulatory Oversight Committee: Dr. Dagmar Valcárcel, Chairman, Ludwig Blomeyer-Bartenstein (until May 17, 2023), Jan Duscheck (since May 17, 2023), Sigmar Gabriel, Timo Heider, Gabriele Platscher (until May 17, 2023), Stephan Szukalski (since May 17, 2023), Alexander Wynaedts

Compensation Control Committee: Professor Dr. Norbert Winkeljohann, Chairman, Jan Duscheck (since May 17, 2023), Timo Heider (since May 17, 2023), Detlef Polaschek (until May 17, 2023), Bernd Rose (until May 17, 2023), Jürgen Tögel (since May 17, 2023), Dr. Dagmar Valcárcel, Frank Werneke (until May 17, 2023), Alexander Wynaedts

Strategy and Sustainability Committee: John Alexander Thain, Chairman, Mayree Clark, Claudia Fieber (since May 17, 2023), Florian Haggenmüller (since January 31, 2024), Timo Heider (until May 17, 2023), Birgit Laumen (from May 17, 2023 until January 12, 2024), Detlef Polaschek (until May 17, 2023), Frank Schulze (since May 17, 2023), Jürgen Tögel (since May 17, 2023), Michele Trogni, Stefan Viertel (until May 17, 2023), Frank Werneke (until May 17, 2023), Alexander Wynaedts

Technology, Data and Innovation Committee: Michele Trogni, Chairman, Susanne Bleidt (since May 17, 2023), Jan Duscheck (until May 17, 2023), Manja Eifert (since May 17, 2023), Claudia Fieber (from May 17, 2023 until January 31, 2024), Florian Haggenmüller (since January 31, 2024), Martina Klee (until May 17, 2023), Bernd Rose (until May 17, 2023), Yngve Slyngstad, Alexander Wynaedts

The Report of the Supervisory Board provides information on the concrete work of the committees over the preceding financial year. In addition to the eight standing committees, the Mediation Committee, which is required by German law, makes proposals to the Supervisory Board on the appointment or dismissal of members of the Management Board in cases where the Supervisory Board is unable to reach a two-thirds majority decision. The Mediation Committee only meets if necessary. Its members are or were Alexander Wynaedts (Chairman), Timo Heider (since May 17, 2023), Detlef Polaschek (until May 17, 2023), Frank Schulze (since May 17, 2023), Frank Werneke (until May 17, 2023) and Professor Dr. Norbert Winkeljohann.

Share Plans

For information on the employee share plans, please refer to the additional Note 33 "Employee Benefits" to the Consolidated Financial Statements.

Reporting and Transparency

Directors' Share Ownership

Management Board: For information on the share ownership of the Management Board, please refer to our detailed Compensation Report in the Management Report.

Supervisory Board: The individual members of the Supervisory Board held the following numbers of shares (and share awards under employee share plans).

Members of the Supervisory Board	Number of shares	Number of share awards
Alexander Wynaedts	0	0
Susanne Bleidt	0	0
Mayree Clark	109,444	0
Jan Duscheck	0	0
Manja Eifert	158	10
Claudia Fieber	360	10
Sigmar Gabriel	0	0
Florian Hagenmiller	0	0
Timo Heider	0	0
Frank Schulze	577	0
Gerlinde M. Siebert	4,056	1,117 ¹
Yngve Slyngstad	0	0
Stephan Szukalski	0	0
John Alexander Thain	100,000	0
Jürgen Tögel	1,052	10
Michele Trogni	15,000	0
Dr. Dagmar Valcárcel	0	0
Dr. Theodor Weimer	108,000	0
Professor Dr. Norbert Winkeljohann	0	0
Frank Witter	0	0
Total	338,647	1,147

¹ Restricted Equity Awards. Ms Siebert has an entitlement to 1,117 shares through Restricted Equity Awards as part of her variable compensation as an employee. These share awards will be due for delivery in the years 2024 to 2026

As of February 9, 2024, the members of the Supervisory Board held 338,647 shares, which is less than 0.02% of the shares issued as of the reporting day.

The “Number of share awards” column in the table lists share awards granted under the Global Share Purchase Plan to Supervisory Board members who are employees of Deutsche Bank (“Matching Awards”), which are scheduled to be delivered to them on November 1, 2023, as well as Restricted Equity Awards (deferred share awards), which are granted to employees with deferred variable compensation. The Restricted Equity Awards are indicated with a footnote in the table, and further details on them as a compensation instrument are provided in the “Employee compensation report”.

As described in the “Management Report: Compensation of members of the Supervisory Board”, the General Meeting on May 17, 2023, adopted new compensation provisions. The members of the Supervisory Board receive a fixed annual compensation. Chairs of the committees are paid additional fixed annual compensation. Apart from that there is no compensation in shares. For members of the Supervisory Board whose current term of office began before May 17, 2023, there are transitional regulations.

The Compensation Report on the preceding financial year and the auditor’s report pursuant to Section 162 of the German Stock Corporation Act (AktG), the currently applicable compensation system pursuant to Section 87a (1) and (2) sentence 1 AktG as well as the last resolution on compensation pursuant to Section 113 (3) AktG are available from the bank’s website www.db.com (under the Investor Relations headings “Reports and Events”, “Annual Reports”).

Related Party Transactions

For information on related party transactions please refer to Note 36 “Related party transactions”.

Auditing and Controlling

Audit Committee Financial Expert

The Supervisory Board determined that the following members of the Audit Committee are "Audit Committee Financial Experts", as such term is defined by the implementation rules of the U.S. Securities and Exchange Commission issued pursuant to Section 407 of the Sarbanes-Oxley Act of 2002: Dr. Dagmar Valcárcel, Dr. Theodor Weimer, Professor Dr. Norbert Winkeljohann and Frank Witter. These Audit Committee Financial Experts are "independent" of the bank, as defined in Rule 10A-3 under the U.S. Securities Exchange Act of 1934.

Furthermore, the Supervisory Board determined in accordance with Sections 107 (4) and 100 (5) of the Stock Corporation Act (AktG) and Section 25d (9) of the German Banking Act (KWG) that Dr. Dagmar Valcárcel, Dr. Theodor Weimer, Professor Dr. Norbert Winkeljohann and Frank Witter have expert knowledge in financial accounting and the auditing of financial statements.

Dr. Dagmar Valcárcel has expertise in the areas of accounting and auditing through her many years of experience as Chair of the Management Board of Andbank Asset Management Luxembourg S.A. and Barclays Vida y Pensiones, S.A.U. and through her current work as member of the Board of Directors of Antin Infrastructure Partners S.A. Dr. Theodor Weimer has expertise in the areas of accounting and auditing through his many years of experience as Chief Executive Officer of HypoVereinsbank / UniCredit AG and as a former member of the Audit Committee of ERGO Gruppe AG as well as through his current work as Chairman of the Executive Board of Deutsche Börse AG. Professor Dr. Norbert Winkeljohann has expertise in the areas of accounting and auditing through his education and training as an auditor and his many years of experience as an auditor at various auditing firms and as Chairman of the Management Board of PwC Europe SE. Frank Witter has expertise in the areas of accounting and auditing through his many years of experience as Chief Financial Officer of Volkswagen AG and as Chairman of the Board of Management of Volkswagen Financial Services AG.

Compensation Control Committee Compensation Experts

Pursuant to Section 25d (12) of the German Banking Act (KWG), at least one member of the Compensation Control Committee must have sufficient expertise and professional experience in the field of risk management and risk controlling, in particular, with regard to the mechanisms to align compensation systems to the company's overall risk appetite and strategy and the bank's capital base. Based on the recommendation of the Compensation Control Committee, the Supervisory Board resolved to specify by name Dr. Dagmar Valcárcel, Mr. Alexander Wynaedts and Professor Dr. Norbert Winkeljohann as Compensation Control Committee Compensation Experts. All of them have expertise and professional experience in the field of risk management and risk controlling, in particular with regard to mechanisms to align the compensation systems to the company's overall risk appetite and strategy and its capital base. They therefore fulfill the requirements of Section 25d (12) of the German Banking Act (KWG). Dr Valcárcel has comprehensive legal experience with compensation frameworks, including reputational risks, from her time as, among other things, Head of the Legal Department of Barclays PLC for Western Europe. Based on their years of experience as Management Board Chairman and/or Chief Executive Officer, Mr. Alexander Wynaedts and Professor Dr. Norbert Winkeljohann have sufficient expertise and professional experience in the area of risk management and risk controlling.

Values and leadership principles of Deutsche Bank AG and Deutsche Bank Group

Deutsche Bank Group Code of Conduct and Code of Ethics for Senior Financial Officers

Deutsche Bank Group's Code of Conduct sets out Deutsche Banks's purpose, values and beliefs and minimum standards of conduct that the bank expects all members of the Management Board and employees to follow. These values and standards govern employee interactions with the bank's clients, competitors, business partners, government and regulatory authorities, and shareholders, as well as with other employees. In addition, the Code forms the cornerstone of the bank's policies, which provide guidance on compliance with applicable laws and regulations.

In accordance with Section 406 of the Sarbanes-Oxley Act of 2002, the bank adopted a Code of Ethics for Senior Financial Officers of Deutsche Bank AG and Deutsche Bank Group with special obligations that apply to the "Senior Financial Officers", which currently consist of Deutsche Bank's Chairman of the Management Board and the Chief Financial Officer as well as certain other Senior Financial Officers. There were no amendments or waivers to this Code of Ethics in 2023.

The current versions of the Code of Conduct as well as the Code of Ethics for Senior Financial Officers of Deutsche Bank AG and Deutsche Bank Group are available from Deutsche Bank's website: www.db.com/ir/en/documents.htm.

Corporate Governance at Deutsche Bank AG and Deutsche Bank Group

Deutsche Bank established a Group Governance function to define, implement and monitor the corporate governance framework of Deutsche Bank AG and Deutsche Bank Group and to perform this governance function throughout the Group. Group Governance addresses corporate governance issues in Deutsche Bank AG and Deutsche Bank Group, while focusing closely on clear organizational structures aligned to the key elements of good corporate governance.

Deutsche Bank AG and Deutsche Bank Group are committed to ensuring a corporate governance framework in accordance with international standards and statutory provisions. In support of this objective, Deutsche Bank AG and Deutsche Bank Group have instituted clear corporate governance principles.

Further details on corporate governance are published on Deutsche Bank's website (www.db.com/ir/en/corporate-governance.htm).

Principal accountant fees and services

In accordance with German law, Deutsche Bank's principal accountant is appointed at the Annual General Meeting based on a recommendation of Deutsche Bank's Supervisory Board. The Audit Committee of the Supervisory Board prepares such a recommendation. Subsequent to the principal accountant's appointment, the Audit Committee awards the contract and in its sole authority approves the terms and scope of the audit and all audit engagement fees as well as monitors the principal accountant's independence. EY GmbH & Co. KG Wirtschaftsprüfungsgesellschaft („EY“) was the bank's principal accountant for the 2022 and 2023 fiscal years, respectively.

The tables set forth below contain the aggregate fees billed for each of the last two fiscal years by EY in each of the following categories: (1) Audit fees, which are fees for professional services for the audit of Deutsche Bank's annual financial statements or services that are normally provided by the accountant in connection with statutory and regulatory filings or engagements for those fiscal years, (2) Audit-related fees, which are fees for assurance and related services that are reasonably related to the performance of the audit or review of the bank's financial statements and are not reported as Audit fees, (3) Tax-related fees, which are fees for professional services rendered for tax compliance, tax consulting and tax planning, and (4) All other fees, which are fees for products and services other than Audit fees, Audit-related fees and Tax-related fees. These amounts include expenses and exclude Value Added Tax (VAT).

Fees billed by EY

Fee category in € m.	2023	2022
Audit fees	66	59
Audit-related fees	12	8
Tax-related fees	0	0
All other fees	0	1
Total fees	78	68

The Audit fees include fees for professional services for the audit of Deutsche Bank's annual financial statements and consolidated financial statements and do not include audit fees for DWS and its subsidiaries that are not audited by EY. The Audit-related fees include fees for other assurance services required by law or regulations, in particular for financial service specific attestation, for quarterly reviews, for spin-off audits and for merger audits, as well as fees for voluntary assurance services, like voluntary audits for internal management purposes and the issuance of comfort letters. The bank's Tax-related fees include fees for services relating to the preparation and review of tax returns and related compliance assistance and advice, tax consultation and advice relating to Group tax planning strategies and initiatives and assistance with assessing compliance with tax regulations.

Under SEC regulations, the principal accountant fees are required to be presented as follows: audit fees were € 68 million in 2023 compared to € 61 million in 2022, audit-related fees were € 10 million in 2023 compared to € 6 million in 2022, tax-related fees were € 0 million in 2023 compared to € 0 million in 2022, and all other fees were € 0 million in 2023 compared to € 1 million in 2022.

United States law and regulations, and the bank's own policies, generally require that all engagements of Deutsche Bank's principal accountant be pre-approved by the Audit Committee or pursuant to policies and procedures adopted by it. The bank's Audit Committee has adopted the following policies and procedures for consideration and approval of requests to engage the principal accountant to perform non-audit services. Engagement requests must in the first instance be submitted to the Accounting Engagement Team. If the request relates to services that would impair the independence of the principal accountant, the request must be rejected. The bank's Audit Committee has given its pre-approval for specified assurance, financial advisory and tax services, provided the expected fees for any such service do not exceed € 1 million. If the engagement request relates to such specified pre-approved services, it may be approved by the Accounting Engagement Team and must thereafter be reported to the Audit Committee. If the engagement request relates neither to prohibited non-audit services nor to pre-approved non-audit services, it must be forwarded to the Audit Committee for consideration. In addition, to facilitate the consideration of engagement requests between its meetings, the Audit Committee has delegated approval authority to several of its members who are "independent" as defined by the Securities and Exchange Commission and the New York Stock Exchange. Such members are required to report any approvals made by them to the Audit Committee at its next meeting.

Additionally, United States law and regulations permit the pre-approval requirement to be waived with respect to engagements for non-audit services aggregating to no more than five percent of the total amount of revenues the bank paid to the principal accountant, if such engagements were not recognized by the bank at the time of engagement and were promptly brought to the attention of the bank's Audit Committee or a designated member thereof and approved prior to the completion of the audit. In 2022 and 2023, the percentage of the total amount of revenues Deutsche Bank paid to its principal accountant for non-audit services that was subject to such a waiver was less than 5% for each year.

Compliance with the German Corporate Governance Code

Declaration pursuant to Section 161 German Stock Corporation Act (AktG) (Declaration of Conformity 2023)

In updating the Declaration of Conformity issued on October 26, 2022, the Management Board and Supervisory Board of Deutsche Bank AG approved the following Declaration of Conformity on October 25, 2023.

"The Management Board and Supervisory Board of Deutsche Bank Aktiengesellschaft state pursuant to Section 161 German Stock Corporation Act (AktG):

1. The last Declaration of Conformity was issued on October 26, 2022. Since then, Deutsche Bank Aktiengesellschaft has complied with the recommendations of the "Government Commission on the German Corporate Governance Code" in the version of the Code dated April 28, 2022, published in the Federal Gazette (Bundesanzeiger) on June 27, 2022, and will continue to will continue with them in the future, with the exception of the following deviation:

With regard to recommendation G.10 second sentence, according to which long-term variable remuneration components shall be accessible to a Management Board member only after a period of four years.

The compensation system for the Management Board provides that the long-term components of variable compensation vest over a deferral period of five years. As this involves share-based compensation elements, these are subject to an additional holding period of one year after their vesting. With regard to the structure of the deferral period, the Supervisory Board members will in future already be able to dispose over a first part after three years and over the last part of the long-term components after six years. The Supervisory Board thus remains within the requirements for financial institutions set out in the Remuneration Ordinance for Institutions (Institutionsvergütungsverordnung). We do not consider a further tightening of the bank-specific regulatory requirements to be appropriate. We declare a deviation from the recommendation, just like last year, although the Management Board members will not be able to dispose over the first part of the long-term component granted for the 2021 financial year until 2025 and for the 2022 financial year until 2026.

2. The German Corporate Governance Code limits the applicability of the Code's recommendations to the credit institutions and insurance companies to the extent that the recommendations apply to them only insofar as there are no statutory provisions to the contrary. Deutsche Bank Aktiengesellschaft last reported on the statutory regulations and the effects for the Declaration of Conformity in its Corporate Governance Statement in the Annual Report 2022.

Frankfurt am Main, in October 2023

The Management Board
of Deutsche Bank Aktiengesellschaft

The Supervisory Board
of Deutsche Bank Aktiengesellschaft"

Inapplicable Code recommendations due to the precedence of statutory provisions

Pursuant to the recommendation in Section F.4 of the German Corporate Governance Code in the version of April 28, 2022, companies subject to special legal regulations shall specify in the Corporate Governance Statement which Code recommendations were not applicable due to over-riding legal stipulations.

For Deutsche Bank Aktiengesellschaft, this currently applies to the recommendation in Section D.5 of the German Corporate Governance Code in the version of April 28, 2022, which states that the Supervisory Board shall form a Nomination Committee which is composed exclusively of shareholder representatives.

Deutsche Bank Aktiengesellschaft, as a supervised credit institution, is subject to the special legal regulations of the German Banking Act (KWG). The Supervisory Board of Deutsche Bank Aktiengesellschaft established a Nomination Committee in accordance with Section 25d (11) of the German Banking Act (KWG) whose tasks are to support the Supervisory Board in the following tasks:

- identifying candidates to fill a position on the Management Board and preparing proposals for the election of members of the Supervisory Board;
- drawing up an objective to promote the representation of the under-represented gender on the Supervisory Board as well as a strategy for achieving this;
- the regular assessment, to be performed at least once a year, of the structure, size, composition and performance of the Management Board and of the Supervisory Board and making recommendations regarding this to the Supervisory Board;
- the regular assessment, to be performed at least once a year, of the knowledge, skills and experience of the individual members of the Management Board and of the Supervisory Board as well as of the respective body collectively; and
- the review of the Management Board's principles for selecting and appointing persons to the upper management level and the recommendations made to the Management Board in this respect.

The Nomination Committee to be established in accordance with the German Banking Act (KWG) therefore has numerous tasks that go beyond the preparation of the election proposals for the shareholder representatives on the Supervisory Board. A general exclusion of a supervisory board's employee representatives from a membership on a committee is only admissible, according to prevailing opinion, if there is a material reason for this. Whereas such a material reason can exist for a committee that solely handles the preparation of the proposals to the General Meeting for the election of shareholder representatives, a justification for the exclusion of employee representatives is lacking for a nomination committee with the range of tasks assigned to it by the German Banking Act (KWG). Due to the Nomination Committee's range of mandatory tasks stipulated by the German Banking Act (KWG) and the inadmissibility of discriminating against employee representatives in the composition of the committees, the recommendation in Section D.4 of the German Corporate Governance Code is therefore not applicable to Deutsche Bank Aktiengesellschaft. Nonetheless, in order to take this recommendation into account, Section 2 (3) of the Terms of Reference for the Nomination Committee provides that the election proposals to the General Meeting are prepared only by the shareholder representatives on the Nomination Committee.

Goals for the proportion of women in management positions/gender quota

As of December 31, 2023 the percentage of women on the Supervisory Board of Deutsche Bank AG is 40%. The statutory minimum of 30% pursuant to Section 96 (2) of the German Stock Corporation Act (AktG) is thereby exceeded.

The current German Act to Supplement and Amend Regulations on the Equal Participation of Women and Men in Management Positions in the Private and Public Sectors (Equal Participation Act II (FüPoG II)) requires that at least one woman and one man are to be appointed to a management board with more than three members; however, no additional goals must be set. With one woman, Rebecca Short, on the Management Board of Deutsche Bank AG, the bank fulfilled the requirement as of December 31, 2023.

Deutsche Bank is firmly convinced that an improved gender balance in leadership roles will meaningfully contribute to its future success.

In accordance with the legal framework conditions and based on the bank's own strategy on diversity, equity and inclusion, the bank is working on making progress on its ambitious goals of the "35 by 25" program that the Management Board set on May 4, 2021. By 2025 women should represent a minimum of 35% of Managing Director, Director and Vice President positions combined.

The goals for the representation of women on the two management levels below the Management Board are now for at least 30% women on the first management level and at least 30% women on the second management level below the Management Board. These goals are to be reached by December 31, 2025.

The population of staff on the first management level below the Management Board comprises Managing Directors and Directors who report directly to the Management Board and managers with comparable responsibilities. The population of staff on the second management level comprises Managing Directors and Directors who report to the first management level.

Implementing German gender quota legislation at Deutsche Bank AG

	Dec 31, 2023		Dec 31, 2022	Dec 31, 2021
	Goal	Result	Result	Result
Level (headcount, in %)¹				
Supervisory Board	30.0	40.0	30.0	30.0
Management Board ²	1.0	1.0	2.0	2.0
Management Board level -1 ³	30.0	20.0	17.1	20.0
Management Board level -2 ³	30.0	27.6	29.6	27.5
Senior Corporate Titles (headcount, in %)^{4,5}				
Managing Directors, Directors, Vice Presidents	35.0	32.3	30.7	29.9

¹ German Gender Quota Law (Zweites Führungspositionen-Gesetz, FüPoG II)

² Goal reflects requirement of German Gender Quota Law (Zweites Führungspositionen-Gesetz, FüPoG II)

³ Goal reflects December 2025

⁴ Goal reflects December 2025 including the following year's promotions

⁵ Excluding Asset Management and Corporate & Other

As of December 31, 2023, the proportion of women was 20.0% (2022: 17.1%) on the first management level below the Management Board and 27.6% (2022: 29.6%) on the second management level below the Management Board.

While the bank's commitment to increase the representation of women in senior management positions is global, the bank's implementation is local. Each region and each business have their own diversity and inclusion needs because cultures and current social challenges differ from nation to nation and from business area to business area. However, the Management Board remains committed to these goals and focused initiatives are put in place to accelerate change. These initiatives apply to all phases of career development, spanning across talent recruitment, development, retention and promotions.

Within this framework, the bank's decisions on promotions and appointments are aligned, in particular, to the suitability of the candidates for the respective roles, their demonstrated performance and their future potential. In line with the bank's basic diversity concept, the bank also take into account the knowledge and skills required for the proper performance of tasks and the necessary experience of the employees for the composition of the two levels below the Management Board.

Diversity concept

As an integral part of Deutsche Bank's strategy as a leading European bank with a global reach and a strong home market in Germany, diversity is a decisive factor for the bank's success. Diversity, equity and inclusion help Deutsche Bank in forming and strengthening relationships with its clients and partners in the societies where the bank does business.

Age and gender as well as educational and professional backgrounds have long been accepted as key aspects of the far more comprehensive understanding of diversity at Deutsche Bank.

The bank is convinced that diversity, equity and inclusion stimulate innovation, for example, and helps the bank to take more balanced decisions and thus play a decisive role for the success of Deutsche Bank. Diversity and inclusion are therefore integral components of the bank's values and beliefs and its Code of Conduct.

The Supervisory Board and Management Board strive to and should serve as role models for the bank regarding diversity, equity and inclusion. In accordance with the bank's values and beliefs specified above, diversity in the composition of the Supervisory Board and the Management Board also facilitates the proper performance of the tasks and duties assigned to them by law, Articles of Association and Terms of Reference.

Based on Deutsche Bank's understanding of diversity, equity and inclusion, the values and beliefs and the measures described in the following for their implementation also apply – to the extent legally admissible – to the Supervisory Board and the Management Board of Deutsche Bank AG. The Supervisory Board considers diversity in the company, in particular, when filling positions on the Management Board and Supervisory Board.

On July 27, 2023, the Supervisory Board of Deutsche Bank AG updated the Suitability Guideline for selecting members of the Supervisory Board and Management Board of Deutsche Bank AG, which also continues to comprise diversity principles. This Suitability Guideline implements the "Guidelines on the assessment of the suitability of members of the management body and key function holders" issued jointly by the European Banking Authority and European Securities and Markets Authority.

Diversity concept for the Supervisory Board

The diversity concept for the Supervisory Board and its implementation are described above in the section "Objectives for the composition of the Supervisory Board, Profile of Requirements, diversity concept and status of implementation".

Diversity concept and succession planning for the Management Board

Through the composition of the Management Board, it is to be ensured that its members have, at all times, the required knowledge, skills and experience necessary to properly perform their tasks. Accordingly, when selecting members for the Management Board, care is to be taken that they collectively have sufficient expertise and diversity within the meaning of the objectives specified above. Furthermore, the Supervisory Board and Management Board are to ensure long-term succession planning.

The current German Act to Supplement and Amend Regulations on the Equal Participation of Women and Men in Management Positions in the Private and Public Sectors (Equal Participation Act II (FüPoG II)) requires that at least one woman and one man be appointed to a management board with more than three members; however, no additional goals must be set. The bank fulfilled this requirement as of December 31, 2023, as it has one woman on the Management Board. In general, a Management Board member should not be older at the end of his or her appointment period than the regular retirement age according to the rules of the statutory pension insurance scheme applicable in Germany for the long-term insured to claim an early retirement pension.

Implementation

In accordance with the law, the Articles of Association and Terms of Reference, the Supervisory Board adopted a candidate profile for the members of the Management Board, based on a proposal from the Nomination Committee. This profile takes into account an “Expertise and Capabilities Matrix”, specifying, among other things, the required knowledge, skills and experience to perform the tasks as Management Board member, in order to successfully develop and implement the bank’s strategy in the respective market or the respective division and as a management body collectively. The Management Board reviews succession plans for Management Board positions, both individually and as a group. Individual succession plans are reviewed and internal succession candidates are discussed in detail based on potential, leadership skills and experience as well as fit and proper suitability. As gender diversity is a key focus of Deutsche Bank, the respective succession metrics and data analytics support this process. After approval by the Management Board these plans are submitted to the Nomination Committee and the Supervisory Board in principle at a meeting for extensive deliberation.

In identifying candidates to fill a position on the bank’s Management Board, the Supervisory Board’s Nomination Committee takes into account the appropriate diversity balance of all Management Board members collectively. Furthermore, it also considers the targets set by the Supervisory Board in accordance with statutory requirements for the percentage of women on the Management Board.

The Nomination Committee supports the Supervisory Board with the periodic assessment, to be performed at least once a year, of the knowledge, skills and experience of the individual members of the Management Board and of the Management Board in its entirety.

Results achieved in the 2023 financial year

As of December 31, 2023, the Management Board comprised one woman (11%) and eight men.

The age structure is diverse, ranging from 48 to 56 years of age as of December 31, 2023. The length of experience as member of the Management Board of Deutsche Bank as of December 31, 2023, ranged from less than one year to around eight years.

In light of the bank’s strategy as a leading European bank with a global reach and a strong home market in Germany, five of the nine Management Board members as of December 31, 2023 have a German background. Furthermore, the Management Board members come from Italy, the United Kingdom, France, Australia, New Zealand and Switzerland. However, the ethnic diversity of the Management Board does not currently reflect the full diversity of the markets where the bank does business or the diversity of Deutsche Bank’s employees.

The diverse range of the Management Board members’ educational and professional backgrounds includes accounting, banking, business administration, economics, engineering finance, literature law and philosophy.

The bank transparently reports on Management Board diversity in addition to the information presented above in this Corporate Governance Report in the section “Management Board and Supervisory Board:

Management Board” as well as on the bank’s website: www.db.com (Heading: Investor Relations, “Corporate Governance”, “Management Board”).

5

Supplementary Information (Unaudited)

- 472 Non-GAAP Financial Measures
- 480 Declaration of Backing
- 481 Group Five-Year Record
- 482 Imprint/Publications

Non-GAAP Financial Measures

This document and other documents the Group has published or may publish contain non-GAAP financial measures. Non-GAAP financial measures are measures of the Group's historical or future performance, financial position or cash flows that contain adjustments that exclude or include amounts that are included or excluded, as the case may be, from the most directly comparable measure calculated and presented in accordance with IFRS in the Group's financial statements.

Return on Equity Ratios

The Group reports a post-tax return on average shareholders' equity and a post-tax return on average tangible shareholders' equity, each of which is a non-GAAP financial measure.

The post-tax returns on average shareholders' equity and average tangible shareholders' equity are calculated as profit (loss) attributable to Deutsche Bank shareholders after profit (loss) attributable to additional equity components (AT1 coupon) as a percentage of average shareholders' equity and average tangible shareholders' equity, respectively.

Profit (loss) attributable to Deutsche Bank shareholders after profit (loss) attributable to additional equity components (AT1 coupon) for the segments is a non-GAAP financial measure and is defined as profit (loss) excluding post-tax profit (loss) attributable to noncontrolling interests and after profit (loss) attributable to additional equity components (AT1 coupon), which are allocated to segments based on their allocated average tangible shareholders' equity. For the Group, it reflects the reported effective tax rate, which was 14% for the full year 2023, (1)% for 2022 and 26% for 2021. For the segments, the applied tax rate was 28% for 2023, 2022 and 2021.

At the Group level, tangible shareholders' equity is shareholders' equity as reported in the Consolidated Balance Sheet excluding goodwill and other intangible assets. Tangible shareholders' equity for the segments is calculated by deducting goodwill and other intangible assets from shareholders' equity as allocated to the segments. Shareholders' equity and tangible shareholders' equity are presented on an average basis.

The Group believes that a presentation of average tangible shareholders' equity makes comparisons to its competitors easier and refers to this measure in the return on equity ratios presented by the Group. However, average tangible shareholders' equity is not a measure provided for in IFRS, and the Group's ratios based on this measure should not be compared to other companies' ratios without considering differences in the calculations.

The reconciliation of the aforementioned ratios is set forth in the table below:

	2023				
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other
Profit (loss) before tax	2,984	1,836	1,015	396	(553)
Profit (loss)	2,148	1,322	731	285	405
Profit (loss) attributable to noncontrolling interests	0	0	0	0	120
Profit (loss) attributable to DB shareholders and additional equity components	2,148	1,322	731	285	286
Profit (loss) attributable to additional equity components	121	262	132	23	23
Profit (loss) attributable to Deutsche Bank shareholders	2,027	1,060	599	263	263
Average allocated shareholders' equity	13,306	27,593	14,477	5,318	2,318
Deduct: Average allocated goodwill and other intangible assets ¹	1,059	1,246	1,094	2,989	45
Average allocated tangible shareholders' equity	12,247	26,346	13,383	2,328	2,273
Post-tax return on average shareholders' equity	15.2%	3.8%	4.1%	4.9%	N/M
Post-tax return on average tangible shareholders' equity	16.6%	4.0%	4.5%	11.3%	N/M
N/M – Not meaningful					7.4%

¹ Goodwill and other intangible assets related to the share of DWS that is not held by Deutsche Bank are excluded since the first quarter of 2018

						2022
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total
Profit (loss) before tax	1,814	3,217	1,722	584	(1,743)	5,594
Profit (loss)	1,306	2,316	1,240	421	376	5,659
Profit (loss) attributable to noncontrolling interests	0	0	0	0	134	134
Profit (loss) attributable to DB shareholders and additional equity components	1,306	2,316	1,240	421	242	5,525
Profit (loss) attributable to additional equity components	103	232	116	22	28	500
Profit (loss) attributable to Deutsche Bank shareholders	1,203	2,084	1,124	399	214	5,025
Average allocated shareholders' equity	12,015	26,036	13,557	5,395	2,991	59,994
Deduct: Average allocated goodwill and other intangible assets ¹	953	1,139	1,108	3,067	61	6,328
Average allocated tangible shareholders' equity	11,062	24,897	12,449	2,328	2,929	53,666
Post-tax return on average shareholders' equity	10.0%	8.0%	8.3%	7.4%	N/M	8.4%
Post-tax return on average tangible shareholders' equity	10.9%	8.4%	9.0%	17.1%	N/M	9.4%

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

¹ Goodwill and other intangible assets related to the share of DWS that is not held by Deutsche Bank are excluded since the first quarter of 2018

						2021
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total
Profit (loss) before tax	609	3,458	(133)	809	(1,353)	3,390
Profit (loss)	438	2,490	(96)	583	(906)	2,510
Profit (loss) attributable to noncontrolling interests	0	0	0	0	144	144
Profit (loss) attributable to DB shareholders and additional equity components	438	2,490	(96)	583	(1,050)	2,365
Profit (loss) attributable to additional equity components	81	207	103	17	18	426
Profit (loss) attributable to Deutsche Bank shareholders	358	2,282	(199)	566	(1,067)	1,940
Average allocated shareholders' equity	11,101	25,281	13,041	5,128	1,883	56,434
Deduct: Average allocated goodwill and other intangible assets ¹	893	1,072	1,105	2,936	42	6,049
Average allocated tangible shareholders' equity	10,208	24,208	11,936	2,192	1,841	50,385
Post-tax return on average shareholders' equity	3.2%	9.0%	(1.5)%	11.0%	N/M	3.4%
Post-tax return on average tangible shareholders' equity	3.5%	9.4%	(1.7)%	25.8%	N/M	3.8%

N/M – Not meaningful

Prior year's comparatives aligned to presentation in the current year

¹ Goodwill and other intangible assets related to the share of DWS that is not held by Deutsche Bank are excluded since the first quarter of 2018

Revenues excluding specific items

Revenues excluding specific items is a performance indicator that is a non-GAAP financial measure most directly comparable to the IFRS financial measure net revenues. Revenues excluding specific items is calculated by adjusting net revenues under IFRS for specific revenue items which generally fall outside the usual nature or scope of the business and are likely to distort an accurate assessment of the divisional operating performance. Excluded items are Debt Valuation Adjustment (DVA) and material transactions or events that are either one-off in nature or belong to a portfolio of connected transactions or events where the P&L impact is limited to a specific period of time. The Group believes that a presentation of net revenues excluding the impact of these items provides a more meaningful depiction of the revenues associated with the business.

	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	2023 Total consolidated
in € m.						
Revenues	7,716	9,160	9,575	2,383	45	28,879
DVA	0	47	0	0	(5)	42
Sal. Oppenheim workout						
- International Private Bank	0	0	0	0	0	0
Gain on sale Financial Advisors business						
Italy – International Private Bank	0	0	0	0	0	0
Total Specific revenue items	0	47	0	0	(5)	42
Revenues excluding specific items	7,716	9,207	9,575	2,383	40	28,921

	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	2022 Total consolidated
in € m.						
Revenues	6,337	10,016	9,153	2,608	(904)	27,210
DVA	0	(49)	0	0	6	(43)
Sal. Oppenheim workout						
- International Private Bank	0	0	(125)	0	0	(125)
Gain on sale Financial Advisors business						
Italy – International Private Bank ¹	0	0	(305)	0	0	(305)
Total Specific revenue items	0	(49)	(430)	0	6	(473)
Revenues excluding specific items	6,337	9,968	8,723	2,608	(898)	26,737

Prior year's comparatives aligned to presentation in the current year

¹ Gain on sale of € 312 million, net of transaction-related fees of € 6 million

	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	2021 Total consolidated
in € m.						
Revenues	5,153	9,631	8,233	2,708	(314)	25,410
DVA	0	28	0	0	2	30
Sal. Oppenheim workout						
- International Private Bank	0	0	(103)	0	0	(103)
Gain on sale Financial Advisors business						
Italy – International Private Bank	0	0	0	0	0	0
Total Specific revenue items	0	28	(103)	0	2	(73)
Revenues excluding specific items	5,153	9,660	8,130	2,708	(312)	25,337

Prior year's comparatives aligned to presentation in the current year

Adjusted costs/nonoperating costs

Adjusted costs is one of the Group's key performance indicators and is a non-GAAP financial measure for which the most directly comparable IFRS financial measure is noninterest expenses. Adjusted costs is calculated by deducting (i) impairment of goodwill and other intangible assets, (ii) net litigation charges and (iii) restructuring and severance (in total referred to as nonoperating costs) from noninterest expenses under IFRS. The Group believes that a presentation of noninterest expenses excluding the impact of these items provides a more meaningful depiction of the costs associated with the operating businesses.

	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	2023 Total consolidated
in € m.						
Noninterest expenses	4,466	6,890	7,777	1,825	738	21,695
Nonoperating costs:						
Impairment of goodwill and other intangible assets	0	233	0	0	0	233
Litigation charges, net	53	147	123	26	(37)	311
Restructuring and severance	76	87	346	34	23	566
Total nonoperating costs	129	468	468	59	(14)	1,110
Adjusted costs	4,337	6,422	7,308	1,765	752	20,585

	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	2022 Total consolidated
in € m.						
Noninterest expenses	4,188	6,466	6,848	1,850	1,037	20,390
Nonoperating costs:						
Impairment of goodwill and other intangible assets	0	0	0	68	0	68
Litigation charges, net	23	166	(60)	24	261	413
Restructuring and severance	(6)	43	(87)	37	6	(8)
Total nonoperating costs	16	209	(147)	129	267	474
Adjusted costs	4,172	6,257	6,995	1,722	770	19,916

Prior year's comparatives aligned to presentation in the current year

	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	2021 Total consolidated
in € m.						
Noninterest expenses	4,547	6,087	7,920	1,670	1,281	21,505
Nonoperating costs:						
Impairment of goodwill and other intangible assets	5	0	0	0	0	5
Litigation charges, net	2	99	134	2	231	466
Restructuring and severance	111	87	236	21	13	468
Total nonoperating costs	117	186	371	23	243	939
Adjusted costs	4,429	5,901	7,549	1,647	1,038	20,566

Prior year's comparatives aligned to presentation in the current year

Revenues and costs on a currency adjusted basis

Revenues and costs on a currency-adjusted basis are calculated by translating prior-period revenues or costs that were generated or incurred in non-euro currencies into euros at the foreign exchange rates that prevailed during the current year period. These adjusted figures, and period-to-period percentage changes based thereon, are intended to provide information on the development of underlying business volumes and costs.

Adjusted profit (loss) before tax

Adjusted profit (loss) before tax is calculated by adjusting the profit (loss) before tax under IFRS for specific revenue items and nonoperating costs. A detailed overview of nonoperating costs, which consist of (i) impairment of goodwill and other intangible assets, (ii) net litigation charges and (iii) restructuring and severance, is presented in the section "Adjusted costs/nonoperating costs". The Group believes that a presentation of profit (losses) before tax excluding the impact of the foregoing items provides a more meaningful depiction of the profitability of the operating business.

						2023
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total consolidated
Profit (loss) before tax	2,984	1,836	1,015	396	(553)	5,678
Specific revenue items	0	47	0	0	(5)	42
Nonoperating costs	129	468	468	59	(14)	1,110
Adjusted profit (loss) before tax	3,112	2,351	1,484	456	(571)	6,831

						2022
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total consolidated
Profit (loss) before tax	1,814	3,217	1,722	584	(1,743)	5,594
Specific revenue items	0	(49)	(430)	0	6	(473)
Nonoperating costs	16	209	(147)	129	267	474
Adjusted profit (loss) before tax	1,831	3,377	1,145	713	(1,470)	5,595

Prior year's comparatives aligned to presentation in the current year

						2021
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total consolidated
Profit (loss) before tax	609	3,458	(133)	809	(1,353)	3,390
Specific revenue items	0	28	(103)	0	2	(73)
Nonoperating costs	117	186	371	23	243	939
Adjusted profit (loss) before tax	726	3,672	135	832	(1,108)	4,256

Prior year's comparatives aligned to presentation in the current year

Adjusted post-tax return (Group)

Adjusted post-tax return (Group) adjusts Profit (loss) attributable to Deutsche Bank shareholders for specific revenue items and nonoperating costs, as well as for the impact of tax net of these items. Adjusted post-tax return on average tangible shareholders' equity is calculated by dividing Adjusted profit (loss) attributable to Deutsche Bank shareholders by Average allocated tangible shareholders' equity. The Group believes that a presentation of Adjusted post-tax return makes comparisons to its competitors easier.

A detailed overview of nonoperating costs, which consist of (i) impairment of goodwill and other intangible assets, (ii) net litigation charges and (iii) restructuring and severance, is presented in the section "Adjusted costs/nonoperating costs".

in € m. (unless stated otherwise)	2023	2022	2021
Profit (loss) attributable to Deutsche Bank shareholders	4,212	5,025	1,940
Specific revenue items	42	(473)	(73)
Nonoperating costs	1,110	474	939
Tax adjustments	323	3	244
of which: Tax effect of above adjustment items ¹	323	0	243
of which: Adjustments for share-based payment related effects	0	3	1
Adjusted profit (loss) attributable to Deutsche Bank shareholders	5,042	5,022	2,562
Average allocated tangible shareholders' equity	56,577	53,666	50,385
Adjusted post-tax return on average tangible shareholders' equity	8.9%	9.4%	5.1%

¹ Pre-tax adjustments taxed at a rate of 28%

Profit (loss) before tax excluding nonoperating costs

Profit (loss) before tax excluding nonoperating costs is a non-GAAP financial measure for which the most directly comparable IFRS financial measure is Profit (loss) before tax. Profit (loss) before tax excluding nonoperating costs is calculated by deducting nonoperating costs, which consist of (i) impairment of goodwill and other intangible assets, (ii) net litigation charges and (iii) restructuring and severance from Profit (loss) before tax under IFRS. A detailed overview of nonoperating costs is presented in the section “Adjusted costs/nonoperating costs”. The Group believes that a presentation of Profit (loss) before tax excluding nonoperating costs provides a more meaningful depiction of the costs associated with its operating businesses.

The following table provides a reconciliation of Profit (loss) before tax excluding nonoperating costs for the Group:

in € m. (unless stated otherwise)	2023	2022	2021
Profit (loss) before tax	5,678	5,594	3,390
Nonoperating costs	1,110	474	939
Profit (loss) before tax excluding nonoperating costs	6,789	6,068	4,329

The following table provides a reconciliation of Profit (loss) before tax excluding nonoperating costs for the Private Bank:

in € m. (unless stated otherwise)	2023	2022	2021
Profit (loss) before tax	1,015	1,722	(133)
Nonoperating costs	468	(147)	371
Profit (loss) before tax excluding nonoperating costs	1,484	1,575	238

Post-tax return on average tangible shareholders' equity excluding nonoperating costs

Post-tax return on average tangible shareholders' equity excluding nonoperating costs is an adjustment to the aforementioned post-tax return on average tangible shareholders' equity, which is a non-GAAP financial measure. Post-tax return on average tangible shareholders' equity excluding nonoperating costs is calculated by deducting nonoperating costs from Profit (loss) attributable to Deutsche Bank shareholders. The Group believes that a presentation of Post-tax return on average tangible shareholders' equity excluding nonoperating costs provides a more meaningful depiction of the costs associated with its operating businesses and of its financial performance.

A detailed overview of nonoperating costs, which consist of (i) impairment of goodwill and other intangible assets, (ii) net litigation charges and (iii) restructuring and severance, is presented in the section “Adjusted costs/nonoperating costs”.

in € m. (unless stated otherwise)	2023	2022	2021
Profit (loss) attributable to Deutsche Bank shareholders	4,212	5,025	1,940
Adjustment for nonoperating costs	1,110	474	939
Income tax effect from the adjustment for nonoperating costs ¹	311	133	263
Profit (loss) attributable to DB shareholders excluding nonoperating costs	5,011	5,366	2,616
Average allocated shareholders' equity	63,011	59,994	56,434
Average tangible shareholders' equity	56,577	53,666	50,385
Post-tax return on average shareholders' equity excluding nonoperating costs	8.0%	8.9%	4.6%
Post-tax return on average tangible shareholders' equity excluding nonoperating costs	8.9%	10.0%	5.2%

¹ Pre-tax adjustments taxed at a rate of 28%

Cost/income ratio excluding nonoperating costs

Cost/income ratio excluding nonoperating costs is a non-GAAP financial measure for which the most directly comparable IFRS financial measure is the ratio of total noninterest expenses divided by total net revenues, which we refer to as our cost/income ratio. Cost/income ratio excluding nonoperating costs is calculated by deducting nonoperating costs from noninterest expenses. The Group believes that a presentation of Cost/income ratio excluding nonoperating costs provides a more meaningful depiction of the costs associated with its operating businesses and of its financial performance.

A detailed overview of nonoperating costs, which consist of (i) impairment of goodwill and other intangible assets, (ii) net litigation charges and (iii) restructuring and severance, is presented in the section "Adjusted costs/nonoperating costs".

in € m. (unless stated otherwise)	2023	2022	2021
Net revenues	28,879	27,210	25,410
Noninterest expenses	21,695	20,390	21,505
Cost/Income ratio	75.1%	74.9%	84.6%
Adjustment for nonoperating costs	1,110	474	939
Noninterest expenses excluding nonoperating costs	20,585	19,916	20,566
Cost/Income ratio excluding nonoperating costs	71.3%	73.2%	80.9%

Net assets (adjusted)

Net assets (adjusted) are defined as IFRS Total assets adjusted to reflect the recognition of legal netting agreements, offsetting of cash collateral received and paid and offsetting pending settlements balances. The Group believes that a presentation of net assets (adjusted) makes comparisons to its competitors easier.

in € m. (unless stated otherwise)	2023	2022	2021
Total assets	1,312	1,337	1,324
Deduct: Derivatives (incl. hedging derivatives) credit line netting	196	228	239
Deduct: Derivatives cash collateral received / paid	56	70	65
Deduct: Securities Financing Transactions credit line netting	2	2	2
Deduct: Pending settlements netting	29	17	15
Net assets (adjusted)	1,029	1,019	1,002

Book Value and Tangible Book Value per Basic Share Outstanding

Book value per basic share outstanding and tangible book value per basic share outstanding are non-GAAP financial measures that are used and relied upon by investors and industry analysts as capital adequacy metrics. Book value per basic share outstanding represents the Bank's total shareholders' equity divided by the number of basic shares outstanding at period-end. Tangible book value represents the Bank's total shareholders' equity less goodwill and other intangible assets. Tangible book value per basic share outstanding is computed by dividing tangible book value by period-end basic shares outstanding.

Tangible Book Value

in € m. (unless stated otherwise)				2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
	2023	2022	2021	in € m.	in %	in € m.	in %
Total shareholders' equity (Book value)	64,486	61,959	58,027	2,527	4	3,932	7
Goodwill and other intangible assets ¹	(6,573)	(6,327)	(6,079)	(246)	4	(248)	4
Tangible shareholders' equity (Tangible book value)	57,913	55,632	51,949	2,281	4	3,683	7

¹ Excludes Goodwill and other intangible assets attributable to partial sale of DWS

Basic Shares Outstanding

in € m. (unless stated otherwise)				2023 increase (decrease) from 2022		2022 increase (decrease) from 2021	
	2023	2022	2021	in € m.	in %	in € m.	in %
Number of shares	2,040.2	2,066.8	2,066.8	(26.5)	(1.3)	0	0
Shares outstanding:							
Treasury shares	(48.2)	(28.9)	(0.7)	(19.3)	66.6	(28.3)	N/M
Vested share awards	46.3	45.6	34.5	0.8	1.7	11.1	32.0
Basic shares outstanding	2,038.4	2,083.4	2,100.6	(45.0)	(2.2)	(17.2)	(0.8)
Book value per basic share outstanding in €	31.64	29.74	27.62	1.90	6.4	2.12	7.7
Tangible book value per basic share outstanding in €	28.41	26.70	24.73	1.71	6.4	1.97	8.0

CRR/CRD Regulatory measures

The Group's regulatory assets, exposures, risk-weighted assets, capital and ratios are calculated for regulatory purposes and are set forth throughout this document under the CRR/CRD as currently applicable.

For the comparatives as of December 31, 2021 certain figures are based on the CRR definition of own fund instruments (applicable for Additional Tier 1 (AT1) capital and Tier 2 capital and figures based thereon, including Tier 1, Total Capital and Leverage Ratio) are presented on a "fully loaded" basis. Such fully loaded figures are calculated excluding the transitional arrangements for own fund instruments as provided in the currently applicable CRR/CRD. Deutsche Bank had immaterial amounts of such instruments outstanding at year end 2022 and 2023. For those comparatives periods the CET 1 and RWA figures include the transitional impacts from the IFRS 9 add-back also in the fully-loaded figures given it is an immaterial difference. Measures calculated pursuant to the Group's fully loaded methodology are non-GAAP financial measures.

Deutsche Bank believes that these fully loaded calculations provided useful information to investors as they reflected the bank's progress against then known future regulatory capital standards. Many of Deutsche Bank's competitors have been describing calculations on a fully loaded basis, however, competitors' assumptions and estimates regarding fully loaded calculations may have varied such that the bank's fully loaded measures may not have been comparable with similarly labelled measures used by its competitors.

Declaration of Backing

Deutsche Bank AG ensures, except in the case of political risk, that the following subsidiaries are able to meet their contractual liabilities:

D B Investments (GB) Limited, London	Deutsche Holdings (Grand Duchy), Luxembourg
DB International (Asia) Limited, Singapore	Deutsche Immobilien Leasing GmbH, Düsseldorf
Deutsche Australia Limited, Sydney	Deutsche Morgan Grenfell Group Limited i. L., London
DEUTSCHE BANK A.Ş., Istanbul	Deutsche Securities, S.A. de C.V., Casa de Bolsa, Mexico
Deutsche Bank Americas Holding Corp., Wilmington	Deutsche Securities Inc., Tokyo
Deutsche Bank (China) Co., Ltd., Beijing	Deutsche Securities Asia Limited, Hong Kong
Deutsche Bank Europe GmbH, Frankfurt am Main	Deutsche Securities Saudi Arabia (a closed joint stock company), Riyadh
Deutsche Bank Luxembourg S.A., Luxembourg	norisbank GmbH, Bonn
Deutsche Bank (Malaysia) Berhad, Kuala Lumpur	Joint Stock Company Deutsche Bank DBU, Kiev
Deutsche Bank Polska Spółka Akcyjna, Warsaw	OOO "Deutsche Bank", Moscow
Deutsche Bank S.A. – Banco Alemão, São Paulo	Deutsche Oppenheim Family Office AG, Cologne
Deutsche Bank, Sociedad Anónima Española, Madrid	BHW Bausparkasse Aktiengesellschaft, Hameln
Deutsche Bank Società per Azioni, Milan	PB Factoring GmbH, Bonn
Deutsche Bank (Suisse) SA, Geneva	
Deutsche Bank Trust Company Americas, New York	

Group Five-Year Record

in € m.	2023	2022	2021	2020	2019
Net interest income	13,602	13,650	11,155	11,526	13,749
Provision for credit losses	1,505	1,226	515	1,792	723
Net interest income after provision for credit losses	12,097	12,425	10,640	9,734	13,026
Commissions and fee income	9,206	9,838	10,934	9,424	9,520
Net gains (losses) on financial assets/liabilities at fair value through profit or loss	4,947	2,999	3,045	2,465	193
Other noninterest income (loss)	1,125	723	277	614	(298)
Total net revenues	28,879	27,210	25,410	24,028	23,165
Compensation and benefits	11,131	10,712	10,418	10,471	11,142
General and administrative expenses	10,112	9,728	10,821	10,259	12,253
Policyholder benefits and claims	0	0	0	0	0
Impairment of goodwill and other intangible assets	233	68	5	0	1,037
Restructuring activities	220	(118)	261	485	644
Total noninterest expenses	21,695	20,390	21,505	21,216	25,076
Income (loss) before income taxes	5,678	5,594	3,390	1,021	(2,634)
Income tax expense	787	(64)	880	397	2,630
Net income (loss)	4,892	5,659	2,510	624	(5,265)
Net income attributable to noncontrolling interests	120	134	144	129	125
Net income (loss) attributable to Deutsche Bank shareholders and additional equity components	4,772	5,525	2,365	495	(5,390)

in € (unless stated otherwise)	2023	2022	2021	2020	2019
Basic earnings per share ¹	2.07	2.42	0.96	0.07	(2.71)
Diluted earnings per share ²	2.03	2.37	0.93	0.07	(2.71)
Dividends paid per share ³	0.30	0.20	0.00	0.00	0.11
Dividends paid per share in U.S.\$ ⁴	0.32	0.21	0.00	0.00	0.12

¹ Basic earnings per share for each period are calculated by dividing net income attributable to Deutsche Bank shareholders by the average number of common shares outstanding; earnings were adjusted by € 498 million, € 479 million, € 363 million, € 349 million and € 330 million before tax for the coupons paid on Additional Tier 1 Notes in May 2023, May 2022, April 2021, April 2020 and April 2019 respectively

² Diluted earnings per share for each period are calculated by dividing net income attributable to Deutsche Bank shareholders by the average number of common shares outstanding, both after assumed conversions; earnings were adjusted by € 498 million, € 479 million, € 363 million, € 349 million and € 330 million before tax for the coupons paid on Additional Tier 1 Notes in May 2023, May 2022, April 2021, April 2020 and April 2019, respectively

³ Dividends declared and paid in the year

⁴ Dividends declared and paid in U.S.\$ were translated from € into U.S.\$ based on the exchange rates as of the respective payment days

in € m.	2023	2022	2021	2020	2019
Total assets	1,312,331	1,336,788	1,323,993	1,325,259	1,297,674
Loans at amortized cost	473,705	483,700	471,319	426,995	429,841
Deposits	622,035	621,456	603,750	568,031	572,208
Long-term debt	119,390	131,525	144,485	149,163	136,473
Common shares	5,223	5,291	5,291	5,291	5,291
Total shareholders' equity	64,486	61,959	58,027	54,786	55,857
Common Equity Tier 1 capital (CRR/CRD 4 reported/phase-in) ¹	48,066	48,097	46,506	44,885	44,148
Common Equity Tier 1 capital (CRR/CRD 4 fully loaded) ^{1,2}	N/A	N/A	46,506	44,885	44,148
Tier 1 capital (CRR/CRD 4 reported/phase-in) ¹	56,395	56,616	55,375	51,734	50,546
Tier 1 capital (CRR/CRD 4 fully loaded) ^{1,2}	N/A	N/A	54,775	50,634	48,733
Total regulatory capital (CRR/CRD 4 reported/phase-in) ¹	65,005	66,146	62,732	58,677	56,503
Total regulatory capital (CRR/CRD 4 fully loaded) ^{1,2}	N/A	N/A	62,102	57,257	56,503

N/A – not applicable

¹ Figures presented based on the transitional rules ("CRR/CRD 4") and the full application ("CRR/CRD 4 fully loaded") of the CRR/CRD 4 framework

² Starting with the first quarter of 2022, information is presented as reported as the fully loaded definition has been eliminated as resulting only in an immaterial difference; comparative information for earlier periods is unchanged and based on Deutsche Bank's earlier fully loaded definition

Due to rounding, numbers presented throughout this document may not sum precisely to the totals provided and percentages may not precisely reflect the absolute figures

Imprint/Publications

Deutsche Bank
Aktiengesellschaft
Taunusanlage 12
60325 Frankfurt am Main
(for letters and postcards: 60262)
Germany
Telephone: +49 69 910-00
deutsche.bank@db.com

Contact for shareholders
+49 800 910-8000
db.ir@db.com

AGM Hotline
+49 6196 8870704

Online
All publications relating to our
financial reporting are available at:
www.db.com/reports

Publication
Published on March 14, 2024

Cautionary statement regarding forward-looking statements

This report contains forward-looking statements. Forward-looking statements are statements that are not historical facts; they include statements about our beliefs and expectations and the assumptions underlying them. These statements are based on plans, estimates and projections as they are currently available to the management of Deutsche Bank. Forward-looking statements therefore speak only as of the date they are made, and we undertake no obligation to update publicly any of them in light of new information or future events.

By their very nature, forward-looking statements involve risks and uncertainties. A number of important factors could therefore cause actual results to differ materially from those contained in any forward-looking statement. Such factors include the conditions in the financial markets in Germany, in Europe, in the United States and elsewhere from which the bank derives a substantial portion of its revenues and in which we hold a substantial portion of its assets, the development of asset prices and market volatility, potential defaults of borrowers or trading counterparties, the implementation of the Group's strategic initiatives, the reliability of its risk management policies, procedures and methods, and other risks referenced in its filings with the U.S. Securities and Exchange Commission. Such factors are described in detail in the bank's SEC Form 20-F of March 14, 2024, under the heading "Risk Factors." Copies of this document are readily available upon request or can be downloaded from www.db.com/ir.

2024

Financial Calendar

April 25, 2024

Earnings Report as of March 31, 2024

May 16, 2024

Annual General Meeting

July 24, 2024

Interim Report as of June 30, 2024

October 23, 2024

Earnings Report as of September 30, 2024

2025

Financial Calendar

January 30, 2025

Preliminary results for the 2024 financial year

March 13, 2025

Annual Report 2024 and Form 20-F

April 29, 2025

Earnings Report as of March 31, 2025

May 22, 2025

Annual General Meeting

July 24, 2025

Interim Report as of June 30, 2025

October 29, 2025

Earnings Report as of September 30, 2025