



Interim Report as of June 30, 2023

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Financial summary

	Three months ended		Six months ended	
	Jun 30, 2023	Jun 30, 2022	Jun 30, 2023	Jun 30, 2022
Group targets				
Post-tax return on average tangible shareholders' equity ¹	5.4%	7.9%	6.8%	8.0%
Compound annual growth rate of revenues from 2021 ²	7.5%	4.0%	7.5%	4.0%
Cost/income ratio ³	75.6%	73.2%	73.3%	73.3%
Common Equity Tier 1 capital ratio	13.8%	13.0%	13.8%	13.0%
Statement of income				
Total net revenues, in € bn.	7.4	6.6	15.1	14.0
Provision for credit losses, in € bn.	0.4	0.2	0.8	0.5
Total noninterest expenses, in € bn.	5.6	4.9	11.1	10.2
Nonoperating costs, in € bn.	0.7	0.1	0.7	0.1
Adjusted costs, in € bn. ⁴	4.9	4.8	10.3	10.2
Pre-provision profit, in € bn. ⁵	1.8	1.8	4.0	3.7
Profit (loss) before tax, in € bn.	1.4	1.5	3.3	3.2
Profit (loss) before tax excluding nonoperating costs, in € bn.	2.1	1.6	4.0	3.3
Profit (loss), in € bn.	0.9	1.2	2.3	2.4
Profit (loss) attributable to Deutsche Bank shareholders, in € bn.	0.8	1.0	1.9	2.1
Balance sheet⁶				
Total assets, in € bn.	1,300	1,387	1,300	1,387
Net assets (adjusted), in € bn. ⁷	1,007	1,038	1,007	1,038
Average interest earning assets, in € bn.	958	970	967	972
Loans (gross of allowance for loan losses), in € bn.	482	493	482	493
Average loans (gross of allowance for loan losses), in € bn.	485	486	486	482
Deposits, in € bn.	593	613	593	613
Allowance for loan losses, in € bn.	5.1	4.8	5.1	4.8
Shareholders' equity, in € bn.	62	60	62	60
Sustainable finance volume (per quarter/year), in € bn. ⁸	17	14	39	33
Resources⁶				
Risk-weighted assets, in € bn.	359	370	359	370
of which: operational risk RWA, in € bn.	58	59	58	59
Leverage exposure, in € bn.	1,236	1,280	1,236	1,280
Tangible shareholders' equity (tangible book value), in € bn. ⁷	56	53	56	53
High-quality liquid assets (HQLA), in € bn.	204	207	204	207
Liquidity reserves in € bn.	244	244	244	244
Employees (full-time equivalent)	87,055	82,915	87,055	82,915
Branches	1,457	1,598	1,457	1,598
Ratios				
Post-tax return on average shareholders' equity ¹	4.9%	7.1%	6.1%	7.2%
Provision for credit losses as bps of average loans	33.0	19.2	31.8	21.8
Operating leverage ⁹	(3.6)%	9.2%	0.0%	6.8%
Net interest margin	1.5%	1.4%	1.5%	1.3%
Loan-to-deposit ratio	81.3%	80.5%	81.3%	80.5%
Leverage ratio (reported/phase-in)	4.7%	4.3%	4.7%	4.3%
Liquidity coverage ratio	137%	133%	137%	133%
Share-related information				
Basic earnings per share	€ 0.19	€ 0.34	€ 0.82	€ 0.90
Diluted earnings per share	€ 0.19	€ 0.33	€ 0.81	€ 0.89
Book value per basic share outstanding ⁷	€ 30.02	€ 28.74	€ 30.02	€ 28.74
Tangible book value per basic share outstanding ⁷	€ 26.95	€ 25.68	€ 26.95	€ 25.68
Dividend per share (with respect to previous financial year)	€ 0.30	€ 0.20	€ 0.30	€ 0.20

¹ Based on profit (loss) attributable to Deutsche Bank shareholders after AT1 coupon; for further information, please refer to "Additional Information: 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 The reconciliation of adjusted costs is provided in section "Additional Information: Non-GAAP Financial Measures; Adjusted costs" of this document

⁵ Defined as net revenues less noninterest expenses

⁶ At period end

⁷ For further information please refer to "Additional Information: Non-GAAP Financial Measures" of this report

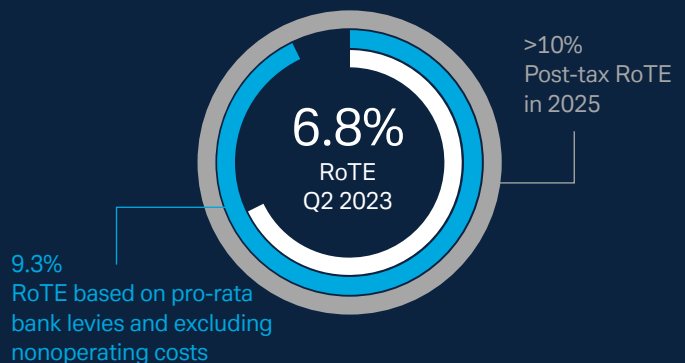
⁸ Sustainable financing and investment activities are defined in the "Sustainable Financing Framework – Deutsche Bank Group" which is available at investor-relations.db.com; in cases where validation against the Framework cannot be completed before the end of the reporting quarter, volumes are disclosed upon completion of the validation in subsequent quarters

⁹ 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

Continued positive momentum in the first half of 2023

Profitability

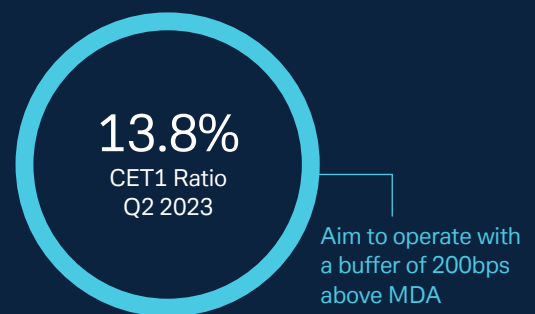
- Continued revenue momentum driven by resilient and well-balanced franchise with growth in Corporate Bank and Private Bank, and strong net inflows
- Proven earnings power with profit before tax of € 3.3bn despite absorbing over € 700m in nonoperating expenses



Resilience

CET1 Ratio

- Resilient balance sheet and strong capital reflective of disciplined risk management



Liquidity Coverage Ratio

- Sound liquidity metrics above targeted level, reflecting prudent steering



Capital distribution

- Delivering on capital distribution to shareholders through dividends and share buybacks



Sustainability

- Continued progress on Sustainability Financing and Investments across all businesses



Management report

Global economy

Economic growth (in %) ¹	Jun 30, 2023	Dec 31, 2022 ⁴	Main driver
Global Economy²	3.0	3.3	In the first half of 2023, the global economy lost momentum. Although inflation seems to have peaked, high price levels continued to weigh on demand from private households. Tighter monetary policy has also slowed down the global economy; the war in Ukraine continued to disrupt key commodity markets and supply chains
Of which:			
Developed countries	2.3	2.7	The developed countries presented a mixed picture in the first half of 2023. The economies of the U.S. and Japan were robust. By contrast, the economies in Europe were significantly weaker in some cases. Despite easing of price pressures, inflation rates were still well above the central banks' targets
Emerging markets	3.4	3.7	Inflation is also likely to have peaked in the emerging markets. The slowdown in China's growth momentum had a dampening effect on the recovery of the economies in the Asian emerging markets. Central banks in Latin America remained focused on inflation risks. In Eastern Europe, the weak demand from the developed countries was a headwind
Eurozone Economy³	0.3	3.3	The Eurozone marked a weak start to 2023, with little sign of recovery by mid-year. Elevated inflation continued to curb the purchasing power of private households and tight labor markets added to inflation persistence. The European Central Bank responded to the inflationary pressures with further interest rate hikes
Of which: Germany Economy	(0.2)	1.8	The German economy slipped into a slight recession during the past winter. The subsequent recovery was weak until the middle of 2023. Private consumption continued to suffer from still high inflation. Production in energy-intensive manufacturing sectors was particularly subdued. By contrast, positive impulse came from services
U.S. Economy³	2.4	2.1	Despite the U.S. Federal Reserve's already implemented interest rate hikes, the economy remained robust in the first half of 2023. Private households are likely to have consumed a large part of their excess savings. Inflation has passed its peak but remained sticky. The labor market has shown little weakness so far
Japanese Economy³	0.9	1.0	Japan's economy recovered in the first half of 2023. Despite higher inflation, private consumption was robust, as households were able to draw on additional savings built up during the pandemic. The Bank of Japan maintained its accommodating monetary policy despite increased inflation
Asia Economy^{3,5}	6.4	4.1	The Asian economies benefited from a rebound in travel-related services, particularly following the lifting of China's COVID-19 restrictions but also in other countries. However, due to slower growth, particularly in the developed countries, exports developed weaker, which dampened economic momentum
Of which: Chinese Economy	6.3	3.0	Following the removal of the COVID-19 restrictions, the Chinese economy got off to a strong start to 2023. However, the recovery lost momentum during the first half of 2023. As the economic recovery was mainly focused on the domestic economy, the impulse for the global economy was rather weak

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

² The Global Economy growth rates are only available on an annual basis, hence full year forecasts for 2023 were used for half year numbers

³ Quarterly Real GDP Growth (% YoY) Sources: Deutsche Bank Research. The half yearly numbers are not available, hence quarterly growth rates were used as indicative growth percentage

⁴ Some economic data for 2022 was revised by public statistics authorities. As a result, this data may differ from previously published

⁵ Includes China, Hong Kong, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, South Korea, Taiwan, Thailand and Vietnam; excludes Japan

Banking industry

Jun 30, 2023

Growth year-over-year (in %)	Corporate Lending	Retail Lending	Corporate Deposits	Retail Deposits	Main driver
Eurozone¹	3.0	1.7	0.6	1.6	After years of strong growth, lending and deposit dynamics with the private sector have materially slowed, with volumes being flat in many instances over recent months. Higher interest rates and a weaker macroeconomic-outlook impacted both firms' investment spendings and retail mortgages. Inflation affected households' purchasing power and thus impacted deposit growth momentum. For corporates, liquidity buffers remained robust though
Of which: Germany ¹	7.4	2.5	4.2	1.8	Corporate lending has slowed but remained substantially stronger than in the Eurozone as a whole, presumably due to the greater impact of the energy crisis and the repercussions of the light recession. Mortgage growth has come down to the lowest level in eight years due to a decrease in new business, while other retail loans continued to stagnate. The rate of expansion in household deposits stabilized at a low level in recent months, and corporate deposits grew at the slowest pace since the beginning of the pandemic
US	5.8	6.5	(3.9) ²	(3.9) ²	Corporate loans were still significantly up on a year-over-year basis but primarily due to the strong growth until the beginning of 2023. Retail lending remained slightly more robust, even though it is also down from double digits. Total deposits were increasingly contracting, partly as a result of the high inflation. The decline contributed to market tensions in March 2023 which afterwards decreased.
China¹	15.8	7.2	5.5	17.1	Despite the subdued economic recovery from the pandemic, corporate lending has accelerated in recent months, while retail lending remained weak compared to historical standards. The outperformance of corporate versus retail lending is a reversal of market trends that have essentially been in place since the financial crisis. Deposit showed the opposite trend: inflows from households have risen meaningfully over the past year, whereas corporate deposits continued to expand only moderately

¹ May 31, 2023

² Total U.S. deposits as sector breakdown is not available

The Origination & Advisory industry fee pool was down 23% year on year in the first half of 2023, in turn 28% lower than the record fee pool of the first half of 2021. There are three key drivers of the subdued Origination & Advisory market. The first factor is cost and availability of credit. Despite the appearance of a more conducive market on lower volatility, lower inflation and easing of spreads, credit is expensive as interest rates remain high, and banks are cautious about lending. This has the impact of forcing corporations and private equity to pause strategic activity, which also lowers acquisition financing activity. The second factor is confidence in the marketplace. As demonstrated in the past, improved equity markets and lower volatility do not immediately drive equity capital markets issuance. The continued threat of a U.S. recession also adds to the uncertainty. The third factor is the decline of activity in the technology sector. This market had a fee pool of € 25 billion in 2021, remained strong in the first half of 2022, and then dropped sharply as market conditions worsened and Silicon Valley Bank collapsed. This double-year decline in fee pools follows the pattern from past downturns, with similar declines in 2008/2009 and in 2001/2002. However, in both of these cases the industry recovered in the following year. Similarly, the bank's assessment is that Fixed Income, Currency, Sales & Trading (FIC) revenue pools have also decreased year on year. 2022 saw heightened levels of volatility and market activity driven primarily by global inflationary concerns and subsequent monetary policy reaction plus impacts from the war in Ukraine. While the first quarter of 2023 continued to see significant activity, exacerbated by the collapse of Silicon Valley Bank and takeover of Credit Suisse, the second quarter has been more benign, with markets pausing post the extreme conditions of the first quarter and concern around the U.S. debt ceiling deadline leading to limited activity and a largely risk off environment. This has been seen across ten of the most traded currencies globally, rates, emerging markets and commodities. In contrast, the credit flow business has seen a more improved environment with a general trend of spreads tightening during the first half of 2023, with the exception of a brief period in March. Financing products have maintained the momentum from a generally strong 2022, with ongoing client demand.

Strategy

The following section provides an update on the progress of Deutsche Bank's strategy implementation in the second quarter of 2023 and should be read in conjunction with the Strategy section provided in the Annual Report 2022.

Global Hausbank

In March 2022, the Group outlined its strategic and financial roadmap through 2025, which aims to position Deutsche Bank as a *Global Hausbank* and communicated Deutsche 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 in light of 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, the bank aims to reap further cost savings, accelerate the transition to a digital bank and expand upon strategic partnerships, which are already creating substantial value.

Deutsche Bank's key performance indicators 2025

Financial targets:

- Post-tax Return on Average Tangible Shareholders Equity of above 10% for the Group
- Compounded annual growth rate of revenues of 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 and capital objectives for 2025.

Post-tax Return on Average Tangible Equity is a non-GAAP financial measure. Please refer to "Non-GAAP financial measures" of this report for the definitions of such measures and reconciliations to the IFRS measures on which they are based.

Progress on strategy implementation

In the second quarter of 2023, Deutsche Bank made further progress and continued on its path to achieve the *Global Hausbank* strategy. The Group aims to accelerate the execution of the *Global Hausbank* strategy through the delivery of targeted measures on three dimensions: operational efficiency, capital efficiency, and revenue growth.

Deutsche Bank raised its ambition for incremental efficiencies through targeted efficiency measures from € 2 billion to a total of € 2.5 billion in April 2023. These measures have delivered more than € 600 million of savings to date, primarily through branch closures, standardizing loan processing and other measures. The integration of Deutsche Bank and Postbank information technology platforms in Germany through project Unity is intended to be the foundation for future digitalization efforts and will make significant contributions to cost saving efforts, delivering anticipated savings of € 300 million from 2025. Furthermore, the bank made progress on reductions in non-client facing staff, with around 80% of the targeted number of employees having been informed or having left the platform, with anticipated savings of over € 100 million once fully complete. A number of additional measures have been identified including streamlining the bank's mortgage business.

Deutsche Bank confirms its ambition to reduce risk weighted assets (RWA) by € 15 to 20 billion through 2025 versus prior expectations. Risk weighted assets (RWA) were already reduced in the second quarter of 2023, despite revenue strength, reflecting disciplined capital deployment by the bank's businesses and anticipating upcoming model changes. Also, the securitizations completed in in the second quarter of 2023 have delivered some RWA relief. Additional infrastructure measures are currently in preparation.

The Group is working to outperform its revenue growth targets announced in 2022. These ambitions have been supported by the growth momentum off a strong franchise in the second quarter of 2023. Deutsche Bank believes that a well-balanced, complementary business mix enables the bank to drive continued revenue momentum in line with the bank's *Global Hausbank* strategy. In the second quarter of 2023, Deutsche Bank announced that it reached an agreement on an all-cash offer for the acquisition of Numis Corporation Plc. The transaction is intended to allow Deutsche Bank to accelerate its *Global Hausbank* strategy by unlocking a much deeper engagement with the corporate client segment in the United Kingdom. The bank expects the transaction to be completed in the fourth quarter of 2023, subject to certain conditions. By issuing the "Lufthansa Miles & More Credit Card" from mid-2025, Deutsche Bank will continue to advance its cash management business.

The progress made has also been acknowledged by rating agencies through three positive moves on the bank's credit ratings in the second quarter of 2023. DBRS Morningstar upgraded all Deutsche Bank's long-term ratings by one notch. Fitch has upgraded the bank's ratings and S&P raised its outlook on the bank to Positive.

The Group continued to invest not only in its platforms but also to take advantage of opportunities created by the current market conditions and developments in Europe and Asia Pacific. The focus is on attracting talent globally to strengthen advisory capabilities. Leveraging the bank's deep expertise in both markets, the bank supported the first Hong Kong conglomerate Panda-bond in China. Moreover, the bank is looking actively into the opportunities that are expected to emerge from artificial intelligence (AI) and machine learning. Benefits are also expected from AI in operations and process automation. One of the latest examples is the recent edition of the Technology, Data & Innovation (TDI) Showcase series which provided insights into how the new "Large Dataset Archiving" solution was developed leveraging Google Cloud.

Sustainability

Sustainability continued to be at the top of the agenda in the second quarter of 2023. The bank was recognized as "Best Bank for ESG 2023" for its Environmental, Social and Governance (ESG)-related trade and supply chain finance programs at "Global Trade Review Leaders in Trade awards". In addition, Deutsche Bank acted as joint ESG coordinator on the State of Hesse's € 1 billion 10-year green benchmark, a transaction which marks the largest green bond issuance by a German State to date.

Deutsche Bank acted as coordinating lead arranger and joint bookrunner in the closure of an up to U.S.\$ 800 million new revolving credit facility to support the expansion of Intersect Power LLC's clean energy platform. Also, the bank contributed to conserving marine biodiversity with the Corporate Social Responsibility (CSR) environmental program "How We Live" and funded community conservation projects in several countries in Asia Pacific by partnering with The Nature Conservancy. Moreover, Deutsche Bank announced the usage of payment cards made from recycled plastic in Germany starting from mid-2023.

Furthermore, Deutsche Bank published a White Paper on carbon footprint linked to the EU residential real estate sector, as well as updated its Environmental & Social Policy Framework. The bank also established a Real Estate Sustainability Council to oversee targets and achievements for its own operations. Finally, the Group has been deepening its engagement in industry coalitions and initiatives, e.g., CEO assumed a role in the Glasgow Financial Alliance for Net Zero (GFANZ) Principals Group.

Deutsche Bank Businesses

This section should be read in conjunction with the section Deutsche Bank: Deutsche Bank's Organization in the Operating and Financial Review in the Annual Report 2022.

Corporate Bank

In the second quarter of 2023, Corporate Bank continued to make progress on the business segment's strategic objectives, leveraging the segment's strong brand and deep client relationships and aiming to offer a full range of advisory and financing solutions for corporate treasurers. The Banking Survey 2023 published by the German magazine FINANCE named Deutsche Bank as "Best bank in corporate banking". Building on its standing as the leading Corporate Bank in its home market, the Corporate Bank aims to remain the trusted partner for the German economy. The segment is also committed to connecting financial institutions worldwide, a business where the bank is one of the market leaders. Corporate Bank's initiatives target revenue growth with corporate clients across cash management and payments, including strengthening its fee-based business. In addition, the bank intends to further expand of its digital offerings. Consequently, Deutsche Bank applied to the German Federal Financial Supervisory Authority (BaFin) to obtain a license for the custody of digital assets. The approval process is expected to take about ten to twelve months. As Corporate Bank seeks to grow its business with clients globally, the segment committed to applying sound risk management principles to maintain its high-quality loan portfolio and strict lending standards. Equally, the segment saw further potential to reduce its cost base from technology and front-to-back process optimization, as well as automation and location strategy. The Corporate Bank's ambition is also to become a leader in ESG and drive the transition to a sustainable economy by supporting its corporate clients globally. ESG offerings will be an integral part of its approach. Additionally, the Corporate Bank expects investments into new products enabling new business models of the real economy, like merchant solutions, to contribute to future sustainable growth.

Investment Bank

In the second quarter of 2023, the Investment Bank continued to execute against the business segment's strategic priorities, delivering robust business performance. Within Fixed Income and Currencies, whilst business revenues were lower year on year, this was against an exceptionally strong prior year quarter. The Financing franchise continues to focus on targeted and disciplined balance sheet deployment, delivering higher quarterly revenues year-on-year, with ongoing strong client demand. Credit Trading revenues were higher compared to the prior year for both the quarter and year to date, with materially improved performance in the flow business, which has benefitted from investment into coverage and product teams. The focused evolution of the Emerging Markets business is continuing, delivering revenue performance well above the historical average. Origination & Advisory revenues increased year on year, though the industry recovery is slower than expected. However, the segment continues to assess selected focus areas of growth and targeted investment within Mergers & Acquisitions, with an aim to ensure the business is well placed to take advantage when the cycle turns. The current quarter performance also reflected a partial recovery in market share for the Debt Origination business. Investment Bank's focus on delivering front-to-back efficiency continues, with various programs in place to enhance client interaction, from the price discovery through to settlement. During the quarter the segment was awarded "best new algorithm" and "best liquidity provider for forwards/swaps" at the recent FX Markets awards. ESG continued to be a strategic focus area for the Investment Bank. During the quarter, Deutsche Bank acted as Joint ESG coordinator on the State of Hesse's € 1 billion 10-year green benchmark. This green transaction marked the largest green bond issuance by a German State up to this point.

Private Bank

Private Bank Germany upheld its momentum in the second quarter of 2023 with strong revenue growth compared to the prior year. In particular, rising deposit revenues contributed to this trend. Growth in assets under management was fostered by net inflows of investment products. Furthermore, Private Bank Germany's deposit campaigns attracted new customers across both Deutsche Bank and Postbank brands. On strategic initiatives, Private Bank Germany continued the transformation of its go-to-market model as planned, with 28 branch closures implemented in the second quarter of 2023. Additionally, Private Bank Germany is in discussion with the worker's council to further streamline the mortgage business to adjust to the new mortgage market environment and to further optimize the service model in our branches. As part of Private Bank Germany's digitalization roadmap, a new fully automated consumer finance process was introduced across all channels. Deutsche Bank also successfully completed the main phase of one of the largest IT migration projects in European banking, its project Unity. With the final customer migration in July 2023, a total of 12 million customers with 19 million contracts will have migrated to the unified platform, which will allow for considerable infrastructure cost reductions and accelerated time to market for digital processes going forward.

International Private Bank progressed with the successful execution against its strategic objectives in the second quarter of 2023. In an industry context still challenged by market turbulences and geopolitical uncertainty, International Private Bank maintained a sustained revenue growth momentum. Increasing deposit revenues driven by higher interest rates continued to provide tailwinds to the revenue performance, while net new asset flows showed an acceleration in the last part of the quarter. This was also fueled by the launch of differentiating investment solutions capturing the opportunities offered by the current market environment and effectively addressing client interests across all product solutions. The Bank for Entrepreneurs proposition further established itself as a strategic pillar of our holistic coverage for entrepreneurial family clients, with several deals showcasing its ability to deliver bank-wide capabilities to customers. At the same time, International Private Bank continued to focus on cost efficiency, largely self-funding growth investments and further optimizing the service model around its different client segments. In Premium Banking, the segment continued to transition the coverage from a traditional branch model towards remote advisory and modern digital branches.

In ESG, Private Bank continued its focus on sustainability and conducted a joint ESG online survey across both business units to research German investment client's sustainability needs in financial services. Additionally, Private Bank Germany announced its sustainability strategy for residential real estate and extended its ESG pension product offering. International Private Bank launched its ESG Lounge, a new advisory journey training format for client facing teams and extended the CIO Nature Framework methodology to further enhance the ESG value proposition.

On July 12, 2023, Private Bank introduced a new organizational setup and a new composition of the Private Bank Executive Committee.

Asset Management

Asset Management principally consists of DWS Group GmbH & Co., with € 859 billion in assets under management as of June 30, 2023.

With the market environment becoming increasingly uncertain and client expectations evolving, DWS has refined its strategy with a goal of growing long-term shareholder value. In December 2022 and as part of the refined strategy, DWS announced new medium-term financial targets to be delivered over the next three years.

DWS reassessed its opportunities and assigned its lines of business into four key strategic clusters of Growth, Value, Build and Reduce, categorized by the differentiation of its capabilities and the market growth potential. Material progress in the period includes the launch of a number of new funds in Passive and Alternatives, enhancement of investment platform to promote positive performance culture, entered into a strategic alliance to speed up the delivery of digital asset products, considered areas for potential divestment and executed global efficiency measures, including reorganization and de-layering.

Sustainability is embedded in DWS's overall strategy. In the first half of 2023, DWS has updated its sustainability strategy to clearly define priorities in sustainability. Its 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 its updated sustainability strategy.

Group results

Deutsche Bank announced a profit before tax of € 1.4 billion for the second quarter of 2023, down 9% compared to the second quarter of 2022. Results in the quarter include € 655 million of nonoperating costs, comprising € 395 million of litigation charges relating mainly to longstanding matters and € 260 million in restructuring and severance relating to the accelerated execution of the bank's strategy. In the prior year quarter, nonoperating costs were € 102 million. Excluding nonoperating costs in both periods, profit before tax would have been € 2.1 billion, up 25% year on year.

Second quarter post-tax profit was € 940 million, compared to € 1.2 billion in the prior year quarter, partly reflecting an effective tax rate of 33%, compared to 22% in the prior year quarter. Certain litigation charges in the second quarter of 2023 were non-tax deductible, while the tax rate in the prior year quarter benefited from the geographical mix of income.

The bank's key ratios also reflected nonoperating costs in the quarter. Post-tax return on average tangible shareholders' equity (RoTE) was 5.4%, compared to 7.9% in the second quarter of 2022 and post-tax return on average shareholders' equity (RoE) was 4.9%, down from 7.1% in the prior year quarter. The cost/income ratio was 76%, up from 73% in the prior year quarter. Assuming an equal apportionment of 2023 bank levies and excluding nonoperating costs, post-tax RoTE would have been 8.1% and the cost/income ratio would have been 68%.

For the first six months, profit before tax was € 3.3 billion, up 2% year on year and the highest first-half figure since 2011, despite absorbing nonoperating costs of € 744 million, up from € 95 million in the first six months of 2022. Excluding these nonoperating costs in both periods, profit before tax would have been € 4.0 billion in the first half of 2023, up 21% from € 3.3 billion in the prior year period.

Key ratios: a clear path toward 2025 targets

Post-tax profit in the first half year was € 2.3 billion, down 7% year on year. This development reflected an effective tax rate of 31%, which included the impact of the aforementioned non-deductible litigation charges, compared to 24% in the first six months of 2022. Post-tax RoTE was 6.8%, compared to 8.0% in the prior year period and post-tax RoE was 6.1%, down from 7.2% in the prior year period. The cost/income ratio was 73%, essentially unchanged from the prior year period.

Deutsche Bank's results for the first six months of 2023 include bank levies of € 475 million, predominantly recognized in the first quarter. Assuming an equal distribution of the annual bank levy across the four quarters of 2023, and a six-month pro rata (six-twelfths) share in the first half year, post-tax RoTE would have been 7.4% and the cost/income ratio would have been 72%.

Assuming an equal distribution of the annual bank levy across the four quarters of 2023 and excluding nonoperating costs, post-tax RoTE would have been 9.3%, close to the bank's 2025 target for a post-tax RoTE of above 10%. The cost/income ratio would have been 67%, on the path towards the bank's 2025 target of below 62.5%. Deutsche Bank reaffirmed its 2025 targets for post-tax RoTE and cost/income ratio.

Share buybacks approved and capital distribution plans reaffirmed

As announced on July 25, 2023, Deutsche Bank has received supervisory approvals for further share repurchases of up to € 450 million by year-end 2023. The bank plans to commence these repurchases in August. Anticipated 2023 share repurchases are 50% higher than in 2022, consistent with the 50% dividend growth already delivered in respect of the financial year 2022. The bank aims for total share repurchases and dividends of over € 1 billion in 2023, bringing total distributions to shareholders over 2022 and 2023 to approximately € 1.75 billion.

Deutsche Bank reaffirmed its capital objectives of € 8 billion in capital distributions for the financial years 2021-2025; 50% dividend growth per year in respect of the financial years 2022-2024, and a 50% payout ratio from 2025.

Progress on accelerated execution of the Global Hausbank strategy

Deutsche Bank made progress in accelerating execution of its *Global Hausbank* strategy on all dimensions during the quarter:

- **Operational efficiency:** Deutsche Bank aims for incremental operational efficiencies of € 2.5 billion annually predominantly by 2025. By the end of the first half of 2023, efficiencies totaling approximately € 1 billion were either already achieved or expected from measures completed. This includes over € 600 million in efficiencies already delivered through measures including branch closures in the Private Bank, standardizing loan processing and other measures in the Corporate Bank and Investment Bank, and simplifying technology infrastructure; a further € 300 million in annual savings are expected, from 2025 onwards, from the migration of some 12 million Postbank clients onto the Deutsche Bank technology platform which is now complete; and over € 100 million per year in savings are expected from reductions in non-client facing staff, where approximately 80% of impacted staff have either been informed or have departed. A significant portfolio of additional initiatives is underway and the bank reaffirms its € 2.5 billion target for annual incremental operational efficiencies
- **Capital efficiency:** Deutsche Bank aims for capital efficiencies of € 15-20 billion in risk weighted assets (RWAs) by 2025, with modest revenue impact, by 2025. In the second quarter, the bank accelerated securitizations and delivered RWA relief of around € 3 billion in the Corporate Bank. In addition, credit risk RWAs were reduced as part of the Trade Finance and Lending optimization efforts during the quarter, while the business continued to deliver revenue growth. Further optimization measures in preparation for the second half of 2023 include securitizations and reductions in sub-hurdle lending
- **Revenue growth:** Deutsche Bank delivered year-on-year revenue growth of 11% in the second quarter and 8% in the first half of 2023, substantially outperforming its original target of 3.5 – 4.5% in compound annual growth from 2021. The bank made strategic hires in capital-efficient businesses, announced the acquisition of Numis, the UK corporate broker, and was selected as issuing partner for Miles & More, Europe's leading loyalty program. The Private Bank and Asset Management together attracted € 28 billion in net inflows in the first half of 2023 including € 16 billion in the second quarter

Revenues: outperforming strategic targets

Net revenues were € 7.4 billion, up 11% year on year, in the second quarter and € 15.1 billion, up 8%, in the first six months of 2023. Revenue development by business was as follows:

- **Corporate Bank** net revenues were € 1.9 billion in the second quarter, up 25% year on year. All businesses delivered double-digit growth, driven by strong net interest income and continued pricing discipline. Revenues in Corporate Treasury Services were up 14% to € 1.1 billion, Institutional Client Services revenues rose 25% to € 492 million, and Business Banking revenues grew 78% to € 376 million. Deposits increased by € 2 billion during the quarter to € 271 billion. For the first six months, net revenues were up 30% to € 3.9 billion. Corporate Treasury Services revenues were up 23% to € 2.3 billion, Institutional Client Services revenues rose 26% to € 939 million, and Business Banking revenues rose 68% to € 713 million
- **Investment Bank** net revenues were € 2.4 billion in the quarter, down 11% year on year. FIC Sales & Trading (FIC) revenues declined by 10% to € 2.1 billion. Strong growth in Credit Trading and growth in Financing revenues was more than offset by lower revenues in Rates, Foreign Exchange and Emerging Markets compared to a very strong prior year quarter. Origination & Advisory revenues were 25% higher year on year at € 291 million, as Debt Origination benefited from the non-recurrence of leveraged lending markdowns in the prior year quarter which more than offset year-on-year declines in Equity Origination and Advisory revenues. For the first six months, net revenues were € 5.1 billion, down 15%. Revenues in FIC were € 4.5 billion, down 14%, while revenues in Origination & Advisory declined 13% to € 618 million
- **Private Bank** net revenues in the second quarter were € 2.4 billion, up 11% year on year. Growth was driven by higher revenues from deposit products, driven by higher net interest margins, partly offset by lower fee income and lower loan revenues in an environment of higher interest rates. Revenues in the Private Bank Germany grew 16% to € 1.5 billion, while revenues in the International Private Bank rose 4% to € 865 million, or 6% if adjusted for the non-recurrence of revenues of approximately € 15 million following the sale of Deutsche Bank Financial Advisors in Italy in the fourth quarter of 2022. Assets under Management rose by € 10 billion to € 541 billion during the quarter, driven largely by net inflows of € 7 billion which included inflows into investment products of € 4 billion and deposits of € 3 billion. For the first six months, net revenues were up 10% to € 4.8 billion. Revenues in the Private Bank Germany rose 15% to € 3.1 billion, while revenues in the International Private Bank were € 1.8 billion, up 3%, or up 5% if adjusted for the non-recurrence of around € 30 million in revenues from the aforementioned prior year business disposal in Italy. Assets under Management were € 541 billion, up by € 23 billion in the first six months, driven in part by net inflows of € 13 billion

- **Asset Management** net revenues were € 620 million in the second quarter, down 6% year on year. This development principally reflected a 6% decline in management fees to € 580 million, reflecting lower average assets under management compared to the prior year period, and higher allocated funding charges, partly offset by a 82% rise in performance and transaction fees to € 57 million, driven largely by Alternatives. Assets under management rose by € 19 billion to € 859 billion during the quarter. This growth included net inflows of € 9 billion, or € 10 billion ex-Cash, driven predominantly by Passive and Alternatives, compared to net outflows of € 25 billion in the second quarter of 2022. For the first six months, net revenues were € 1.2 billion, a decline of 10% compared to the first six months of 2022, partly reflecting a 7% decline in management fees and the aforementioned rise in allocated funding charges, which more than offset a rise of 18% in performance and transaction fees. Assets under management grew by € 38 billion, compared to a decline of € 94 billion in the first six months of 2022; net inflows were € 15 billion, or € 19 billion ex-Cash, compared to net outflows of € 26 billion in the prior year period

Noninterest expenses impacted by nonoperating costs, while adjusted costs remain within guidance range

Noninterest expenses were € 5.6 billion in the second quarter, up 15% year on year. This development primarily reflected nonoperating costs of € 655 million, up from € 102 million in the prior year quarter, and comprising € 395 million in litigation charges relating mainly to longstanding matters and € 260 million in restructuring & severance relating to accelerated execution of the bank's *Global Hausbank* strategy. Adjusted costs, which exclude these items, were € 4.9 billion, reflecting a monthly run-rate within the bank's guidance range, and up 4%, below the rate of inflation despite the cumulative impact of investments in technology and controls in recent periods.

For the first six months, noninterest expenses were € 11.1 billion, up 8%. The year-on-year increase was driven by nonoperating costs of € 744 million, up from € 95 million in the first half of 2022. Adjusted costs for the first six months were € 10.3 billion, up 2% from the prior year period despite continued investments and inflationary headwinds.

The workforce rose by 343 internal full-time equivalents (FTEs) to 87,055 during the quarter, including the internalization of 276 external FTEs. Hires into business growth and control functions were largely offset by leavers during the quarter, which included around 500 FTEs from the technology centre in Russia and departures related to the aforementioned reduction in non-client facing staff as part of the bank's operational efficiency initiatives.

Credit provisions: growth reflects a more challenging environment

Provision for credit losses was € 401 million in the second quarter, up from € 372 million in the first quarter. Stage 1 and 2 provisions were € 63 million, compared to releases of € 26 million in the previous quarter, reflecting portfolio and rating movements, notably in the Investment Bank. Provision for non-performing (Stage 3) loans was € 338 million, down from € 397 million in the previous quarter, partly reflecting a non-recurrence of provisions relating to a small number of idiosyncratic events in the International Private Bank in the previous quarter.

For the first six months, provision for credit losses was € 772 million, or 32 basis points of average loans (bps). For the full year 2023, Deutsche Bank expects provisions for credit losses to be at the higher end of its communicated range of 25 to 30 basis points, reflecting an uncertain macro-economic environment.

Capital and liquidity in line with goals

The Common Equity Tier 1 (CET1) capital ratio was 13.8% at the end of the second quarter, up from 13.6% at the end of the first quarter, above the bank's 2025 capital objective of around 13%. The quarter-on-quarter development largely reflected the positive impact on capital of strong earnings, together with a slight decline in risk weighted assets during the quarter. These positive factors more than offset deductions for dividends and AT1 coupons.

The Leverage ratio was 4.7% in the quarter, up from 4.6% in the previous quarter. Leverage exposure was € 1,236 billion at the end of the second quarter, essentially unchanged from the first quarter.

Liquidity reserves were € 244 billion at the end of the second quarter, up from € 241 billion at the end of the first quarter, including High Quality Liquid Assets of € 204 billion. The Liquidity Coverage Ratio was 137%, above the regulatory requirement of 100%, representing a surplus of € 55 billion. The Net Stable Funding Ratio was 119%, within the bank's target range of 115-120%, representing a surplus of € 97 billion above required levels.

Sustainable Finance: further progress toward accelerated targets

Sustainability continued to be on the top of the agenda in the second quarter of 2023. The bank was recognized as “Best Bank for ESG 2023” for its Environmental, Social and Governance (ESG)-related trade and supply chain finance programs at “Global Trade Review Leaders in Trade awards”.

In the second quarter of 2023, Deutsche Bank continued to deliver on the bank’s targets and further pillars of its sustainability strategy. For example, the bank:

- Acted as joint ESG coordinator on the State of Hesse’s € 1 billion 10-year green benchmark, a transaction which marks the largest green bond issuance by a German State to date
- Acted as coordinating lead arranger and joint bookrunner in the closure of an up to U.S.\$ 800 million new revolving credit facility to support the expansion of Intersect Power LLC’s clean energy platform
- Contributed to conserving marine biodiversity with the Corporate Social Responsibility (CSR) environmental program “How We Live” and funded community conservation projects in several countries in Asia Pacific by partnering with The Nature Conservancy
- Announced the usage of payment cards made from recycled plastic in Germany starting from mid-2023

Furthermore, Deutsche Bank published a White Paper on carbon footprint linked to the EU residential real estate sector, as well as updated its Environmental & Social Policy Framework. The bank also established a Real Estate Sustainability Council to oversee targets and achievements for its own operations. Finally, the Group has been deepening its engagement in industry coalitions and initiatives, e.g., CEO assumed a role in the Glasgow Financial Alliance for Net Zero (GFANZ) Principals Group.

Group results at a glance

in € m. (unless stated otherwise)	Three months ended				Six months ended			
	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %
Net revenues:								
Of which:								
Corporate Bank (CB)	1,943	1,551	392	25	3,916	3,013	903	30
Investment Bank (IB)	2,361	2,646	(285)	(11)	5,052	5,969	(917)	(15)
Private Bank (PB)	2,400	2,160	240	11	4,838	4,380	458	10
Asset Management (AM)	620	656	(36)	(6)	1,209	1,338	(129)	(10)
Corporate & Other (C&O)	85	(363)	448	N/M	75	(722)	797	N/M
Total net revenues	7,409	6,650	759	11	15,089	13,977	1,112	8
Provision for credit losses	401	233	168	72	772	525	248	47
Noninterest expenses:								
Compensation and benefits	2,812	2,690	122	5	5,508	5,346	161	3
General and administrative expenses	2,657	2,217	440	20	5,417	4,981	437	9
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	134	(36)	170	N/M	134	(80)	214	N/M
Total noninterest expenses	5,602	4,870	732	15	11,059	10,247	812	8
Profit (loss) before tax	1,405	1,547	(142)	(9)	3,258	3,205	53	2
Income tax expense (benefit)	466	336	130	39	996	767	229	30
Profit (loss)	940	1,211	(272)	(22)	2,261	2,438	(177)	(7)
Profit (loss) attributable to noncontrolling interests	39	33	6	18	64	73	(8)	(12)
Profit (loss) attributable to Deutsche Bank shareholders and additional equity components	900	1,179	(278)	(24)	2,197	2,365	(168)	(7)
Profit (loss) attributable to additional equity components	138	133	5	4	276	259	17	7
Profit (loss) attributable to Deutsche Bank shareholders	763	1,046	(283)	(27)	1,921	2,106	(186)	(9)
Post-tax return on average tangible shareholders' equity ¹	5.4%	7.9%	(2.5)ppt	N/M	6.8%	8.0%	(1.2)ppt	N/M
Cost/income ratio	75.6%	73.2%	2.4ppt	N/M	73.3%	73.3%	(0.0)ppt	N/M
Common Equity Tier 1 capital ratio	13.8%	13.0%	0.8ppt	N/M	13.8%	13.0%	0.8ppt	N/M
Loans (gross of allowance for loan losses, in € bn) ²	482	493	(11)	(2)	482	493	(11)	(2)
Deposits (in € bn) ²	593	613	(19)	(3)	593	613	(19)	(3)
Risk-weighted assets (in € bn) ²	359	370	(11)	(3)	359	370	(11)	(3)
of which: operational risk RWA (in € bn) ²	58	59	(1)	(1)	58	59	(1)	(1)
Leverage exposure (in € bn) ²	1,236	1,280	(44)	(3)	1,236	1,280	(44)	(3)
Employees (full-time equivalent) ²	87,055	82,915	4,140	5	87,055	82,915	4,140	5
Post-tax return on average shareholders' equity ¹	4.9%	7.1%	(2.2)ppt	N/M	6.1%	7.2%	(1.0)ppt	N/M
Leverage ratio (reported/phase-in)	4.7%	4.3%	0.4ppt	N/M	4.7%	4.3%	0.4ppt	N/M

N/M – Not meaningful

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

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

² As of quarter-end

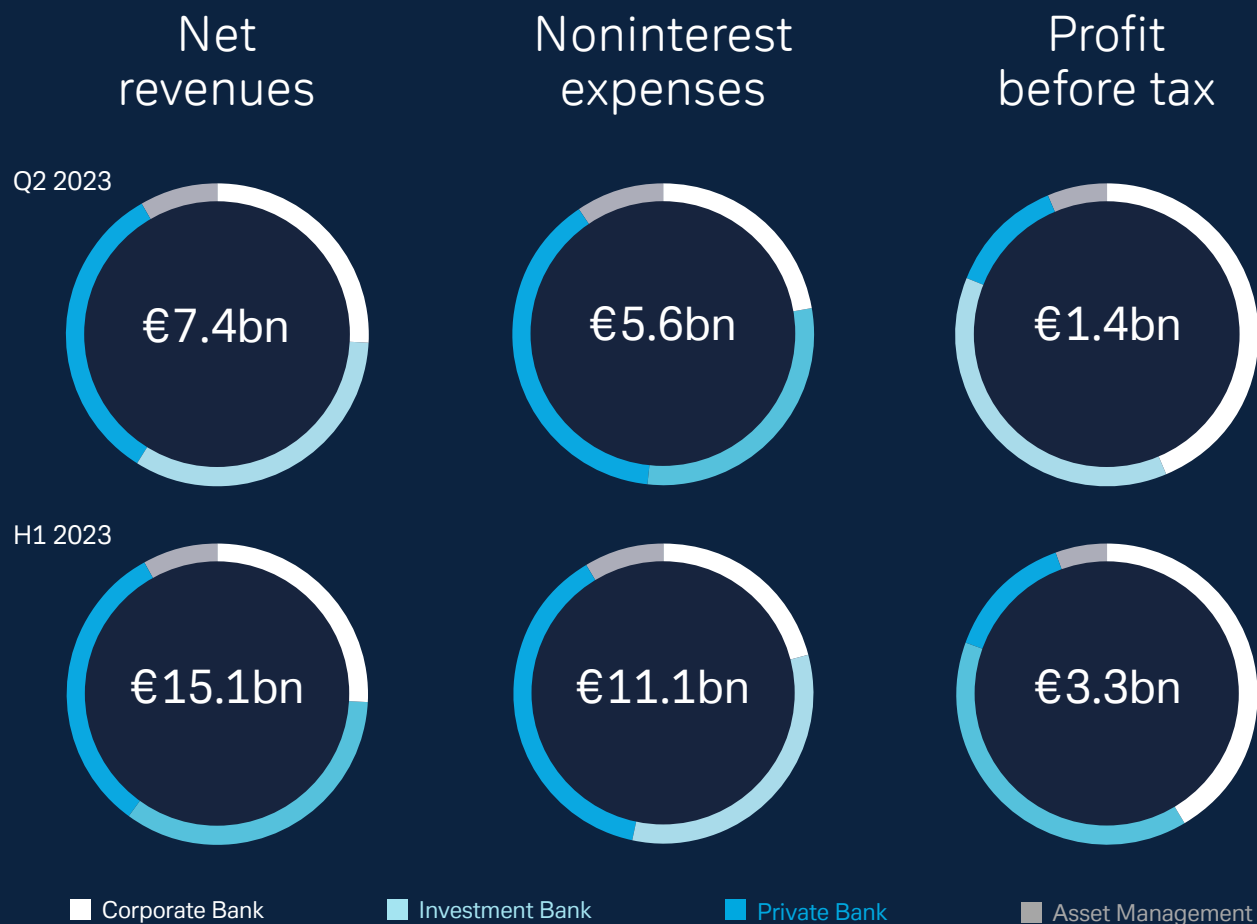
Well positioned franchise across divisions

Corporate Bank

- Strong revenue momentum and continued high operating leverage
- Securing strong market positioning via investments in technology and coverage

Investment Bank

- Leading global FIC franchise, with longstanding stable Financing business
- Targeted investments to support diversification in capital light O&A business



Private Bank

- Double digit growth in revenues and record half year result
- Successful migration of Postbank customers is a key enabler for efficiency and growth

Asset Management

- Significant net inflows across strategic growth areas
- Continued investment in platform transformation

Segment results

Corporate Bank

Corporate Bank Profit before tax was € 670 million in the quarter, up by 52% year on year. Post-tax RoTE was 14.8%, up from 10.8% in the prior year quarter, and post-tax RoE was 13.6%, up from 9.9%. The cost/income ratio was 59%, down from 68% in Q2 2022.

Net revenues were € 1.9 billion, 25% higher year on year. Revenue growth was driven by net interest income in an environment of higher interest rates and continued pricing discipline. Deposits declined by 1%, or € 4 billion year on year, but increased by 1% or € 2 billion compared to the previous quarter. Loans gross of allowances were down 10%, or € 13 billion compared to the second quarter of 2022 and 4%, or € 5 billion lower compared to prior quarter.

All of the Corporate Bank's businesses contributed to revenue growth. Corporate Treasury Services net revenues were € 1.1 billion, up 14% year on year. Institutional Client Services net revenues were € 492 million, 25% higher year on year. Business Banking net revenues were € 376 million, 78% higher year on year.

Noninterest expenses were € 1.2 billion, up 10% year on year. This development was driven by nonoperating costs of € 106 million, including litigation charges of € 91 million and restructuring and severance of € 15 million, compared to nonoperating costs of € 6 million, including litigation charges of € 5 million and restructuring and severance of € 1 million, in the prior year quarter. Adjusted costs, which exclude these items, remained stable year on year at € 1.1 billion.

Provision for credit losses was € 117 million in the quarter, up from € 56 million in the prior year quarter, and 40 basis points of average loans, due to weakening in certain sub-sectors.

For the first six months of 2023, profit before tax was € 1.5 billion, more than double the first six months of 2022. Post-tax RoTE rose to 16.6%, from 8.4% in the prior year period, while post-tax RoE was 15.3%, up from 7.7%. The cost/income ratio improved to 57%, from 70% in the prior year period. This development was driven by 30% growth in net revenues to € 3.9 billion, while noninterest expenses rose 6% to € 2.2 billion and adjusted costs rose only 1% to € 2.1 billion, with provision for credit losses reduced by 11% to € 182 million.

Corporate Bank results at a glance

in € m. (unless stated otherwise)	Three months ended				Six months ended			
	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %
Net revenues:								
Corporate Treasury Services	1,076	946	130	14	2,264	1,845	419	23
Institutional Client Services	492	394	98	25	939	744	195	26
Business Banking	376	211	164	78	713	424	289	68
Total net revenues	1,943	1,551	392	25	3,916	3,013	903	30
Of which:								
Net interest income	1,312	825	488	59	2,645	1,604	1,040	65
Commissions and fee income	573	622	(49)	(8)	1,149	1,192	(43)	(4)
Remaining income	58	104	(47)	(45)	122	217	(95)	(44)
Provision for credit losses	117	56	62	110	182	204	(22)	(11)
Noninterest expenses:								
Compensation and benefits	375	356	19	5	736	709	27	4
General and administrative expenses	781	700	81	12	1,506	1,415	91	6
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(0)	(2)	2	(92)	0	(2)	2	N/M
Total noninterest expenses	1,156	1,054	102	10	2,242	2,122	120	6
Noncontrolling interests	0	0	0	N/M	0	0	0	N/M
Profit (loss) before tax	670	441	228	52	1,492	687	805	117
Employees (front office, full-time equivalent) ¹	7,627	7,331	297	4	7,627	7,331	297	4
Employees (business-aligned operations, full-time equivalent) ¹	6,971	5,980	991	17	6,971	5,980	991	17
Employees (allocated central infrastructure, full-time equivalent) ¹	8,716	7,586	1,130	15	8,716	7,586	1,130	15
Total employees (full-time equivalent)¹	23,314	20,897	2,417	12	23,314	20,897	2,417	12
Total assets (in € bn) ^{1,2}	245	258	(13)	(5)	245	258	(13)	(5)
Risk-weighted assets (in € bn) ¹	71	72	(1)	(1)	71	72	(1)	(1)
of which: operational risk RWA (in € bn) ¹	5	5	(0)	(0)	5	5	(0)	(0)
Leverage exposure (in € bn) ¹	306	317	(11)	(3)	306	317	(11)	(3)
Deposits (in € bn) ¹	271	275	(4)	(1)	271	275	(4)	(1)
Loans (gross of allowance for loan losses, in € bn) ¹	116	129	(13)	(10)	116	129	(13)	(10)
Cost/income ratio	59.5%	68.0%	(8.5)ppt	N/M	57.3%	70.4%	(13.2)ppt	N/M
Post-tax return on average shareholders' equity	13.6%	9.9%	3.7ppt	N/M	15.3%	7.7%	7.6ppt	N/M
Post-tax return on average tangible shareholders' equity	14.8%	10.8%	4.0ppt	N/M	16.6%	8.4%	8.2ppt	N/M

N/M – Not meaningful

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

¹ As of quarter-end

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

Investment Bank

Profit before tax was € 576 million, down 44% year on year. The year-on-year development was driven by lower revenues in FIC Sales & Trading compared to the very strong levels of the prior year quarter, higher costs relating to investments in the business and controls, combined with increased provision for credit losses. As a result, post-tax RoTE was 5.3% and post-tax RoE was 5.0% compared to 11.1% and 10.6% respectively in the prior year quarter. The cost/income ratio was 69%, compared to 58% in the prior year quarter.

Net revenues were € 2.4 billion, down 11% year on year. Revenues in FIC Sales & Trading were lower than in the very strong second quarter of 2022, reflecting levels of volatility and market activity in the prior year period which did not recur in the current quarter. Origination & Advisory revenues were significantly higher, due to the non-recurrence of leveraged lending markdowns in Debt Origination which impacted the prior year quarter.

FIC Sales & Trading revenues were € 2.1 billion, down 10% year on year compared to an exceptionally strong prior year quarter. Financing revenues were higher, reflecting the ongoing strength of the franchise. Credit Trading revenues were significantly higher, with improvements in the flow business and strong performance in Distressed. In Rates and Foreign Exchange, revenues were significantly lower compared to a very strong prior year quarter. Emerging Markets revenues were lower, as expected, as the prior year quarter saw heightened market activity in the Central & Eastern Europe, Middle East & Africa region and strong performance in Asia.

Origination & Advisory revenues were € 291 million, up 25% year on year, with the prior year having been impacted by leveraged lending markdowns. Debt Origination revenues were significantly higher benefitting from the non-recurrence of the aforementioned leveraged lending markdowns, though performance also reflected a partial year-on-year recovery in market share for Leveraged Debt Capital Markets (source: Dealogic). While Investment Grade debt revenues were lower, the business saw market share gains in a lower industry fee pool (source: Dealogic). Advisory revenues were significantly lower, reflecting a materially reduced industry fee pool year-on-year.

Noninterest expenses were € 1.6 billion in the quarter, an increase of 7% year-on-year, reflecting further control improvements and investment in the business to support the Investment Bank's ongoing strategic objectives, partly offset by lower litigation provisions compared to the prior year period.

Provision for credit losses was € 141 million in the quarter, or 54 basis points of average loans. The increase over the prior year period was primarily driven by higher stage 1 and 2 model calculations, combined with higher stage 3 impairments, primarily in the Commercial Real Estate sector.

For the first six months of 2023, profit before tax was € 1.4 billion, down 43%. This development reflected a 15% decline in net revenues to € 5.1 billion and a 3% rise in noninterest expenses to € 3.4 billion. Provision for credit losses was € 181 million in the first six months, up from € 108 million in the prior year period. Post-tax RoTE was 6.9%, compared to 13.9% in the prior year period, and post-tax RoE was 6.6%, versus 13.2% in the first six months of 2022.

Investment Bank results at a glance

in € m. (unless stated otherwise)	Three months ended				Six months ended			
	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %
Net revenues:								
Fixed Income, Currency (FIC) Sales & Trading	2,146	2,385	(240)	(10)	4,506	5,226	(720)	(14)
Debt Origination	212	21	191	N/M	425	328	97	30
Equity Origination	30	45	(15)	(33)	52	79	(27)	(34)
Advisory	48	166	(118)	(71)	140	299	(159)	(53)
Origination & Advisory	291	232	59	25	618	707	(89)	(13)
Other	(76)	28	(104)	N/M	(71)	37	(108)	N/M
Total net revenues	2,361	2,646	(285)	(11)	5,052	5,969	(917)	(15)
Provision for credit losses	141	72	68	94	181	108	73	68
Noninterest expenses:								
Compensation and benefits	646	588	58	10	1,259	1,200	59	5
General and administrative expenses	990	943	47	5	2,169	2,127	42	2
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(1)	2	(3)	N/M	(0)	3	(3)	N/M
Total noninterest expenses	1,636	1,533	102	7	3,427	3,330	98	3
Noncontrolling interests	8	2	6	N/M	6	3	3	75
Profit (loss) before tax	576	1,038	(462)	(44)	1,437	2,528	(1,090)	(43)
Employees (front office, full-time equivalent) ¹	4,377	4,199	177	4	4,377	4,199	177	4
Employees (business-aligned operations, full-time equivalent) ¹	3,547	3,012	535	18	3,547	3,012	535	18
Employees (allocated central infrastructure, full-time equivalent) ¹	11,476	9,914	1,562	16	11,476	9,914	1,562	16
Total employees (full-time equivalent)¹	19,400	17,126	2,274	13	19,400	17,126	2,274	13
Total assets (in € bn) ^{1,2}	662	706	(45)	(6)	662	706	(45)	(6)
Risk-weighted assets (in € bn) ¹	145	144	1	1	145	144	1	1
of which: operational risk RWA (in € bn) ¹	23	24	(1)	(6)	23	24	(1)	(6)
Leverage exposure (in € bn) ¹	546	557	(11)	(2)	546	557	(11)	(2)
Deposits (in € bn) ¹	12	17	(5)	(29)	12	17	(5)	(29)
Loans (gross of allowance for loan losses, in € bn) ¹	103	99	3	3	103	99	3	3
Cost/income ratio	69.3%	58.0%	11.3ppt	N/M	67.8%	55.8%	12.1ppt	N/M
Post-tax return on average shareholders' equity	5.0%	10.6%	(5.6)ppt	N/M	6.6%	13.2%	(6.7)ppt	N/M
Post-tax return on average tangible shareholders' equity	5.3%	11.1%	(5.9)ppt	N/M	6.9%	13.9%	(7.0)ppt	N/M

N/M – Not meaningful

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

¹ As of quarter-end

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

Private Bank

Profit before tax was € 171 million in the quarter, after € 254 million in nonoperating costs, including restructuring and severance related to strategy execution and individual litigation cases. In the prior year quarter, profit before tax of € 412 million benefitted from net releases of € 96 million relating to these items. This impact was partly offset by double-digit year-on-year revenue growth in the quarter. Reflecting the aforementioned nonoperating cost items, the cost/income ratio increased to 87%, from 76% in the prior year quarter, while post-tax RoTE declined from 8.6% to 2.8% and post-tax RoE was 2.6%.

Net revenues were € 2.4 billion, up 11% year on year. Revenue growth was driven by higher net interest income from deposit products, as the net interest margin increased to 2.3% compared to 1.9% in the prior year quarter. This was in part 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 € 7 billion in the quarter, with net inflows in both investment products and deposits. Quarterly loan development reflected lower client demand against a backdrop of rising interest rates mainly in mortgage loans in Germany.

Net revenues in the Private Bank Germany grew significantly by 16% to € 1.5 billion in the quarter. Growth was driven by higher net interest income from deposit products, which more than offset impacts from lower fee income due to changes in contractual and regulatory conditions. In addition, the prior year quarter benefitted from higher valuation impacts.

In the International Private Bank, net revenues were € 865 million, up 4% year on year, or 6% if adjusted for the aforementioned impact of non-recurring revenues following the sale of the Deutsche Bank Financial Advisors business in Italy in the fourth quarter of 2022. Growth was driven by higher deposit revenues, partly offset by lower loan and investment revenues.

Assets under management in the Private Bank were € 541 billion at quarter end, up € 10 billion in the quarter. The increase was driven by the aforementioned net inflows of € 7 billion and a € 4 billion positive impact from higher market levels.

Noninterest expenses were € 2.1 billion, up 26% year on year. This development was mainly attributable to the aforementioned nonoperating costs of € 254 million, including restructuring and severance of € 183 million and litigation charges of € 71 million. Adjusted costs, which exclude these items, were up 5%, mainly reflecting investments in infrastructure control improvements and strategic initiatives. Inflation impacts were largely mitigated by continued savings.

Provision for credit losses was € 147 million, or 22 basis points of average loans, compared to € 96 million in the prior year quarter, which benefitted from releases of credit loss allowances 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. Provisions were significantly lower quarter on quarter, reflecting a non-recurrence of certain idiosyncratic events in the International Private Bank in the first quarter of 2023.

For the first six months of 2023, the Private Bank reported a profit before tax of € 452 million, down from € 805 million in the prior year period. The decline was primarily attributable to nonoperating costs, including restructuring and severance and litigation charges of € 286 million, compared to releases of € 136 million in the first half of 2022. This development was also the primary driver for a year-on-year increase in noninterest expenses of 18% to € 4.0 billion. Excluding the aforementioned nonoperating costs from both periods, profit before tax in the first six months of 2023 would have been € 738 million, compared to € 669 million in the prior year period. Provision for credit losses was € 413 million, up from € 197 million in the prior year period, driven mainly by a small number of single name losses in the International Private Bank in the first quarter of 2023 and the non-recurrence of the aforementioned releases of credit loss allowances in 2022. These negative impacts were in part offset by revenue growth of 10% to € 4.8 billion in the first half of 2023, the highest first-half revenues since the formation of Private Bank. Key ratios fell short of the levels of the prior year period, mainly reflecting the aforementioned year-on-year increase in nonoperating costs. Accordingly, the cost/income ratio rose to 82% compared to 77% in the prior year period. Post-tax RoTE declined from 8.5% in the prior year period to 4.0% in the first half of 2023, while post-tax RoE was 3.7%. Business growth of € 12 billion in the first six months of the year was driven by net inflows into assets under management.

Private Bank results at a glance

in € m. (unless stated otherwise)	Three months ended				Six months ended			
	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %
Net revenues:								
Private Bank Germany	1,535	1,326	209	16	3,085	2,683	402	15
International Private Bank	865	834	31	4	1,752	1,696	56	3
Premium Banking	257	232	25	11	499	477	22	5
Wealth Management & Bank for Entrepreneurs	608	602	6	1	1,253	1,220	34	3
Total net revenues	2,400	2,160	240	11	4,838	4,380	458	10
Of which:								
Net interest income	1,543	1,274	269	21	3,075	2,457	618	25
Commissions and fee income	724	783	(59)	(8)	1,501	1,740	(239)	(14)
Remaining income	132	102	29	29	262	182	79	43
Provision for credit losses	147	96	50	52	413	197	216	109
Noninterest expenses:								
Compensation and benefits	716	700	15	2	1,405	1,383	22	2
General and administrative expenses	1,231	986	245	25	2,433	2,074	359	17
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	135	(35)	170	N/M	135	(80)	215	N/M
Total noninterest expenses	2,082	1,652	430	26	3,973	3,377	596	18
Noncontrolling interests	0	(0)	0	N/M	0	(0)	0	N/M
Profit (loss) before tax	171	412	(240)	(58)	452	805	(354)	(44)
Employees (front office, full-time equivalent) ¹	20,957	21,683	(725)	(3)	20,957	21,683	(725)	(3)
Employees (business-aligned operations, full-time equivalent) ¹	5,819	5,982	(164)	(3)	5,819	5,982	(164)	(3)
Employees (allocated central infrastructure, full-time equivalent) ¹	11,168	9,675	1,493	15	11,168	9,675	1,493	15
Total employees (full-time equivalent)¹	37,944	37,340	604	2	37,944	37,340	604	2
Total assets (in € bn) ^{1,2}	330	330	0	0	330	330	0	0
Risk-weighted assets (in € bn) ¹	87	88	(1)	(2)	87	88	(1)	(2)
of which: operational risk RWA (in € bn) ¹	8	7	1	8	8	7	1	8
Leverage exposure (in € bn) ¹	341	341	(0)	(0)	341	341	(0)	(0)
Deposits (in € bn) ¹	307	319	(12)	(4)	307	319	(12)	(4)
Loans (gross of allowance for loan losses, in € bn) ¹	263	264	(1)	(0)	263	264	(1)	(0)
Assets under Management (in € bn) ^{1,3}	541	529	13	2	541	529	13	2
Net flows (in € bn)	7	7	(0)	(3)	13	17	(4)	(24)
Cost/income ratio	86.8%	76.5%	10.3ppt	N/M	82.1%	77.1%	5.0ppt	N/M
Post-tax return on average shareholders' equity	2.6%	7.9%	(5.4)ppt	N/M	3.7%	7.8%	(4.1)ppt	N/M
Post-tax return on average tangible shareholders' equity	2.8%	8.6%	(5.9)ppt	N/M	4.0%	8.5%	(4.5)ppt	N/M

N/M – Not meaningful

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

¹ As of quarter-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

Asset Management

Profit before tax was € 103 million in the second quarter, a 34% decrease over the prior year period, mainly driven by lower revenues. The cost/income ratio rose year-on-year by 7 percentage points to 76% in the quarter.

Net revenues were € 620 million, down 6% over the prior year period. This was predominantly driven by a 6% decline in management fees to € 580 million, reflecting lower average assets under management, and higher allocated funding charges. These impacts were partly offset by an 82% rise in performance and transactions fees to € 57 million, driven by Alternatives, compared to € 31 million in the prior year quarter.

Noninterest expenses were € 474 million in the quarter, slightly higher year-on-year. Compensation and benefits costs and general and administrative expenses were slightly higher by 4% and 5% respectively. Adjusted costs were € 446 million, up by 3%.

Excluding Cash, net inflows were € 10 billion, driven by Passive product inflows of € 6 billion, including Xtrackers and € 4 billion in Alternatives. These were partly offset by outflows of € 1 billion in low-margin Cash products. Total net inflows were € 9 billion in the quarter.

Assets under Management rose by € 19 billion, or 2%, to € 859 billion during the quarter. This increase was mainly due to positive market developments and net inflows during the quarter, while exchange rate movements had a negative impact. Compared to the prior year quarter, assets under management have increased by 3%.

For the first six months of 2023, Asset Management reported a profit before tax of € 218 million, down 40% over the first six months in 2022. Post-tax RoTE was 13% and the cost/income ratio was 75%. Year-to-date net inflows were € 15 billion, and € 19 billion ex-Cash.

Asset Management results at a glance

in € m. (unless stated otherwise)	Three months ended				Six months ended			
	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %
Net revenues:								
Management Fees	580	619	(39)	(6)	1,151	1,239	(89)	(7)
Performance and transaction fees	57	31	26	82	68	58	11	18
Other	(17)	6	(23)	N/M	(10)	41	(51)	N/M
Total net revenues	620	656	(36)	(6)	1,209	1,338	(129)	(10)
Provision for credit losses	(0)	(0)	0	(93)	(1)	(0)	(1)	N/M
Noninterest expenses:								
Compensation and benefits	234	224	10	4	456	453	3	1
General and administrative expenses	241	229	11	5	454	421	33	8
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(0)	0	(0)	N/M	0	0	(0)	(83)
Total noninterest expenses	474	453	21	5	910	875	35	4
Noncontrolling interests	43	46	(3)	(7)	82	101	(19)	(18)
Profit (loss) before tax	103	157	(54)	(34)	218	362	(145)	(40)
Employees (front office, full-time equivalent) ¹	1,999	1,907	92	5	1,999	1,907	92	5
Employees (business-aligned operations, full-time equivalent) ¹	2,313	2,326	(13)	(1)	2,313	2,326	(13)	(1)
Employees (allocated central infrastructure, full-time equivalent) ¹	522	485	37	8	522	485	37	8
Total employees (full-time equivalent)¹	4,834	4,718	117	2	4,834	4,718	117	2
Total assets (in € bn) ^{1,2}	10	11	(1)	(7)	10	11	(1)	(7)
Risk-weighted assets (in € bn) ¹	14	13	1	7	14	13	1	7
of which: operational risk RWA (in € bn) ¹	3	3	0	3	3	3	0	3
Leverage exposure (in € bn) ¹	9	9	(0)	(4)	9	9	(0)	(4)
Assets under Management (in € bn) ¹	859	833	26	3	859	833	26	3
Net flows (in € bn)	9	(25)	34	N/M	15	(26)	41	N/M
Cost/income ratio	76.5%	69.1%	7.4ppt	N/M	75.3%	65.4%	9.9ppt	N/M
Post-tax return on average shareholders' equity	5.3%	8.1%	(2.7)ppt	N/M	5.6%	9.5%	(3.9)ppt	N/M
Post-tax return on average tangible shareholders' equity	12.5%	18.6%	(6.1)ppt	N/M	13.0%	22.0%	(9.0)ppt	N/M

N/M – Not meaningful

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

¹ As of quarter-end

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

Corporate & Other

Corporate & Other (C&O) reported a loss before tax of € 115 million in the second quarter of 2023, compared to a loss before tax of € 500 million in the prior year quarter. This development was primarily driven by higher revenues.

Net revenues were positive € 85 million in the quarter, compared to negative € 363 million in the prior year quarter. The improvement was primarily driven by revenues relating to valuation and timing differences of positive € 253 million, compared to negative € 185 million in the prior year quarter. Revenues related to funding and liquidity were negative € 10 million in the quarter of 2023, compared to negative € 112 million in the prior year quarter.

Noninterest expenses were € 255 million in the quarter, compared to € 178 million in the prior year quarter, with the increase primarily driven by higher nonoperating costs. Expenses associated with shareholder activities, as defined in the OECD Transfer Pricing guidelines, were € 138 million in this quarter, compared to € 120 million in the prior year quarter.

Noncontrolling interests are reversed in C&O after deduction from the divisional profit before tax. These were positive € 51 million for the quarter, broadly flat to the prior year, and were mainly related to DWS.

For the first six months of 2023, the loss before tax in C&O was € 341 million, an improvement of over 70%, compared to the loss before tax of € 1.2 billion in the prior year period.

Risk-weighted assets stood at € 41 billion at the end of the second quarter, including € 19 billion of operational risk RWA, down € 2 billion since the first quarter of 2023 and down € 11 billion compared to the prior year quarter. This reduction compared to the prior year was primarily driven by lower market risk.

Corporate & Other results at a glance

in € m. (unless stated otherwise)	Three months ended				Six months ended			
	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %
Net revenues	85	(363)	448	N/M	75	(722)	797	N/M
Provision for credit losses	(4)	8	(12)	N/M	(3)	16	(18)	N/M
Noninterest expenses:								
Compensation and benefits	841	821	20	2	1,652	1,602	51	3
General and administrative expenses	(586)	(642)	55	(9)	(1,144)	(1,056)	(88)	8
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	0	(1)	1	N/M	(1)	(1)	0	(29)
Total noninterest expenses	255	178	77	44	507	544	(37)	(7)
Noncontrolling interests	(51)	(49)	(3)	5	(89)	(104)	16	(15)
Profit (loss) before tax	(115)	(500)	386	(77)	(341)	(1,178)	837	(71)
Employees (C&O, net, full-time equivalent)¹	1,563	2,835	(1,272)	(45)	1,563	2,835	(1,272)	(45)
Employees (central infrastructure allocated to businesses, full-time equivalent)¹	31,882	27,660	4,222	15	31,882	27,660	4,222	15
Total Employees (full-time equivalent)¹	33,445	30,495	2,950	10	33,445	30,495	2,950	10
Risk-weighted assets (in € bn)¹	41	52	(11)	(21)	41	52	(11)	(21)
Leverage exposure (in € bn)¹	34	56	(22)	(39)	34	56	(22)	(39)

N/M – Not meaningful

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

¹ As of quarter-end

Capital expenditures and divestitures

During the first six months of 2023, the Group announced the following significant capital expenditures:

In April 2023, Deutsche Bank announced that it reached an agreement on an all-cash offer for the acquisition of Numis Corporation Plc. The transaction is intended to allow Deutsche Bank to accelerate its *Global Hausbank* strategy by unlocking a much deeper engagement with the corporate client segment in the United Kingdom. The bank expects the transaction to be completed during the fourth quarter of 2023, subject to certain conditions.

During the first six months of 2023, the Group did not make any significant divestitures.

Financial position

Assets

in € m. (unless stated otherwise)	Jun 30, 2023	Dec 31, 2022	Absolute Change	Change in %
Cash, central bank and interbank balances	171,152	186,091	(14,939)	(8)
Central bank funds sold, securities purchased under resale agreements and securities borrowed	11,651	11,478	173	2
Financial assets at fair value through profit or loss	459,278	482,376	(23,098)	(5)
Of which: Trading assets	108,465	92,867	15,598	17
Of which: Positive market values from derivative financial instruments	258,731	299,686	(40,955)	(14)
Of which: Non-trading financial assets mandatory at fair value through profit and loss	91,915	89,654	2,261	3
Financial assets at fair value through other comprehensive income	29,824	31,675	(1,851)	(6)
Loans at amortized cost	477,380	483,700	(6,320)	(1)
Remaining assets	151,008	141,468	9,540	7
Of which: Brokerage and securities related receivables	82,387	71,250	11,137	16
Total assets	1,300,293	1,336,788	(36,495)	(3)

Liabilities and equity

in € m. (unless stated otherwise)	Jun 30, 2023	Dec 31, 2022	Absolute Change	Change in %
Deposits	593,223	621,456	(28,233)	(5)
Central bank funds purchased, securities sold under repurchase agreements and securities loaned	2,341	585	1,756	N/M
Financial liabilities at fair value through profit or loss	376,907	388,072	(11,165)	(3)
Of which: Trading liabilities	54,006	50,616	3,390	7
Of which: Negative market values from derivative financial instruments	243,272	282,353	(39,081)	(14)
Of which: Financial liabilities designated at fair value through profit or loss	79,146	54,634	24,512	45
Other short-term borrowings	7,081	5,122	1,959	38
Long-term debt	122,323	131,525	(9,202)	(7)
Remaining liabilities	125,704	117,700	8,004	7
Of which: Brokerage and securities related payables	87,689	82,711	4,978	6
Total liabilities	1,227,579	1,264,460	(36,881)	(3)
Total equity	72,714	72,328	386	1
Total liabilities and equity	1,300,293	1,336,788	(36,495)	(3)

Movements in assets and liabilities

As of June 30, 2023, the total balance sheet of € 1.3 trillion was essentially flat compared to year end 2022.

Deposits decreased by € 28.2 billion, mainly with non-bank deposits. In the Corporate Bank, deposits have decreased primarily in the Corporate Cash Management business driven by clients' active reduction of excess liquidity, increased price competition and increased market volatility. In the Private Bank, deposits have decreased primarily due to migration into higher yielding investment products and continued inflationary pressure impacting retail clients. This decline in deposits was the primary driver of € 14.9 billion decrease in cash, central bank and interbank balances.

Central bank funds purchased, securities sold under repurchase agreements and securities loaned across all applicable measurement categories increased by € 24.1 billion, mainly attributable to increased secured funding of trading inventory. Corresponding assets increased by € 3.6 billion.

Trading assets and trading liabilities increased by € 15.6 billion and € 3.4 billion, respectively, mainly due to increased exposure in government securities from higher client flows and desk positioning in relation to the current environment.

Positive and negative market values of derivative financial instruments decreased by € 41.0 billion and € 39.1 billion, respectively, driven by foreign exchange products primarily due to the weakening of the U.S. dollar against the euro and market volatility as well as interest rate products due to moves in interest rate curves.

Loans at amortized cost decreased by € 6.3 billion, primarily driven by decrease in Corporate Bank due to lower demand and continued selective balance sheet deployment coupled with impact of foreign exchange movements.

Long term debt decreased by € 9.2 billion as a result of prepayment of Targeted Longer-Term Refinancing Operations (TLTRO) funding and matured issuances which were partly offset by new issuances during the year.

Remaining assets increased by € 9.5 billion, mainly driven by increases in brokerage and securities related receivables of € 11.1 billion. This was mainly attributable to a seasonal increase in pending settlements of regular way trades compared to low year-end levels, partly offset by a decrease in cash margin receivables, in line with decreasing derivative exposures. This seasonality pattern was also reflected in an increase in brokerage and securities related payables by € 5.0 billion, driving the € 8.0 billion increase in remaining liabilities.

The overall movement of the balance sheet included a decrease of € 12.7 billion due to foreign exchange rate movements, mainly driven by a weakening of the U.S. dollar against the euro. The effects of foreign exchange rate movements are embedded in the movements 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 were € 204 billion as of June 30, 2023, compared to € 219 billion as of December 31, 2022. The decrease was primarily on account of TLTRO repayment, buy back of senior non preferred issuances and the April call of a Tier 2 instrument. 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 € 40 billion as at the end of June 30, 2023, such that the Group's total Liquidity Reserves were € 244 billion. The Liquidity Coverage Ratio was 137% in the second quarter of 2023, a surplus to regulatory requirements of € 55 billion.

Equity

Total equity as of June 30, 2023, increased by € 386 million compared to December 31, 2022. This change was driven by a number of factors including the profit reported for the period of € 2.2 billion, treasury shares distributed under share-based compensation plans of € 384 million and remeasurement gains related to defined benefit plans of € 161 million, net of tax. Further contributing factors include unrealized net gains on accumulated other comprehensive income, mainly attributable to financial assets at fair value through other comprehensive income of € 205 million, net of tax. These were partially offset by a negative impact from foreign currency translation of € 703 million, net of tax, mainly resulting from the weakening of the U.S. dollar against the Euro, coupons paid on additional equity components of € 498 million, net of tax as well as cash dividends paid to Deutsche Bank shareholders of € 610 million. Further contributing factors include net purchases of treasury shares of € 407 million, a net change in share awards for the period of € 274 million and cash dividends paid to noncontrolling interests of € 92 million.

On February 28, 2023, Deutsche Bank cancelled 27 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. 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 the first six months of 2023.

Outlook

The following section provides an overview of Deutsche Bank's outlook for the Group and business segments for the financial year 2023 and should be read in conjunction with the Outlook section provided in the Annual Report 2022. 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

Economic growth (in %) ¹	2023 ²	2022	Main driver
Global Economy			
GDP	2.8	3.3	Global economic growth is likely to slow, mainly due to weaker economic growth in the developed countries. In addition, the slower recovery of China's economy is also expected to provide weaker impetus for the global economy. The central banks' interest rate hikes continued to have a dampening effect on various economic sectors but it is expected that inflation has peaked.
Inflation	6.5	8.7	
Of which:			
Developed countries			Growth momentum of the developed countries has been dampened during the first half of 2023 by the weakness of various European countries, which are expected to slowly recover in the second half of 2023. As a result of monetary tightening, a slowdown is likely in the U.S. towards the end of the year. In other developed countries, interest rate hikes by central banks are also dampening economic activity.
GDP	1.1	2.7	
Inflation	4.6	7.4	
Emerging markets			In the course of 2023, growth momentum in the emerging markets is likely to pick up further. The extent of this is likely to be determined not least by the economic recovery in China. Regional geopolitical factors are expected to remain important for Eastern Europe. Overall inflation momentum is easing, but core inflation is expected to be stickier.
GDP	3.9	3.7	
Inflation	7.8	9.5	
Eurozone Economy			
GDP	0.5	3.5	For the remainder of 2023, economic growth in the Eurozone is expected to remain slow, although falling energy prices and inflation should lift disposable income. However, there are several headwinds such as the high price level weighing on demand, a drag from an expected U.S. recession, delayed impact of European Central Bank interest rate hikes and a less supportive fiscal stance.
Inflation	5.5	8.4	
Of which: German economy			Following a technical recession in the winter, an only muted recovery is expected in the second half of 2023. Private consumption is likely to catch up somewhat as headline inflation declines and the agreed wage increases filter through. However, the anticipated U.S. recession and the increasing impact of monetary tightening is expected to weigh on growth, which will also be impacted by structural factors such as labor shortages, weaker globalization and the energy transition to renewables.
GDP	(0.3)	1.8	
Inflation	6.1	6.9	
US Economy			
GDP	1.8	2.1	As a result of the Federal Reserve's monetary tightening, the U.S. economy is likely to dive into a recession by the end of 2023. Private households should have used up their excess savings by then and the labor market will probably weaken. Inflation has peaked, but it is sticky and far from the Federal Reserve's 2% target.
Inflation	3.9	8.0	
Japanese Economy			
GDP	1.1	1.0	Domestic demand in Japan is expected to continue to trend upward in 2023, as a result of the post-pandemic catch-up, faster wage growth, and availability of private savings. GDP growth is likely to slow at the end of 2023 as a result of a U.S. recession. Despite the pickup in inflation dynamics the Bank of Japan is expected to maintain its accommodating policy stance.
Inflation	3.3	2.5	
Asian Economy³			
GDP	4.9	4.1	Overall, the Asian economies should grow robustly in the second half of 2023, but much depends on how strongly China's economy will recover. The rather weak economic outlook for overseas trading partners is limiting Asia's growth momentum in the short term. The easing of inflationary pressures should support GDP growth. China's recovery is expected to continue in 2023 at a modest pace. Although some catch-up potential was already realized at the beginning of the year, there are still several areas with recovery potential. The labor market is expected to improve further. Overall, the recovery is focused on the domestic economy. Expected fiscal measures and People's Bank of China's monetary policy should provide support.
Inflation	2.5	3.8	
Of which: Chinese Economy			
GDP	5.3	3.0	
Inflation	0.7	2.0	

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

² Source: Deutsche Bank Research

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

There are a number of risks to the global economic outlook. Geopolitical risks remain elevated in Ukraine, and U.S. versus China strategic competition could possibly continue to intensify. If inflation remains above central bank targets and with elevated probability of recession in major economies, the risk of stagflation will rise. Moreover, a combination of declining growth and above-target inflation could lead to higher default rates and consequently affect financial stability.

Banking Industry

In the U.S. and Europe, on the back of the recent strong improvements in bank performance due to the surge in interest rates, further upside may be more limited in the second half of 2023. Some of the factors contributing to the relatively positive sector environment may weaken going forward, and headwinds could intensify. Interest rate increases by Western central banks are likely to come to an end in the next few months, while deposit funding cost may continue to rise, putting pressure on interest margins which have widened significantly since the start of the rate hiking cycle. Likewise, loan demand will probably recede further, across most market segments, exacerbating the effect of banks' tighter credit standards. On top of that, with weak economic growth across the U.S. and Europe and normalized interest rates, corporate and household insolvencies may rise, requiring higher loan loss provisions not least on real estate-linked assets, although from a very low starting point. In contrast, capital market activity could potentially pick up following the recent drought as issuers and investors adjust to the new market environment.

Bank revenues and particularly net interest income should continue to rise, though at a slower pace, on both sides of the Atlantic. Profitability is likely to remain elevated, but further gains may become harder to achieve. At the same time, financial stability risks have increased due to the substantially higher rates. However, sector-wide capital and liquidity ratios should stay strong and therefore limit the potential for stress, despite idiosyncratic vulnerabilities. Across the industry, significant capital distributions to shareholders will likely continue.

In China and Japan, banks are benefiting much less from interest rate tailwinds and also face a relatively weak economic growth environment including low inflation, which may weigh on revenue momentum across business segments.

In June, European Commissioner McGuinness and UK Chancellor of the Exchequer Hunt signed a memorandum of understanding (MoU) on financial services. The main purpose of the MoU is to establish a regular forum for exchange about financial services regulation between the EU and UK, similar to an existing structure between the U.S. and the EU which meets on a semi-annual basis. This opened the door to discuss further cooperation arrangements and outstanding equivalence decisions. A first EU/UK financial services dialogue will most likely take place in October to establish processes for the forum. In addition, the UK regulators (Prudential Regulation Authority, PRA and Financial Conduct Authority, FCA) have formally been given policymaking powers. For 2023 they will still be transposing European regulations into a new UK financial services framework, further developing proposals to progress the UK banking and financial services sector and reflect on the possible implications of the financial turmoil.

In Europe, the European Commission has published all draft proposals they had planned within this Commission cycle. This includes proposals on open finance, digital euro, artificial intelligence (AI), Crisis Management Deposit Insurance review and the Retail Investment Strategy. Member States and the European Parliament will spend the second half of 2023 formulating their positions on these proposals. This is in addition to files such as on the European Clearing framework (EMIR 3.0) and the EU Listing Act which are more advanced but still not close to a conclusion. This could be a challenge, as the current members of the European Parliament will need to focus their time and attention on their election campaigns later in the year.

In the U.S., most of the attention will be on the proposals from the U.S. agencies to implement the Basel package in the U.S. framework. It is expected that more banks will be brought within the scope of having to implement the Basel standards and capital requirements for U.S. banks are expected to increase.

In 2024, elections will be held in key jurisdictions, starting with the elections to the European Parliament in June 2024, followed by elections towards the end of the year in the UK and in November in the U.S. In addition, the mandate of the current European Commission will terminate in October 2024. A new Commission will be installed in the following months. As the focus will be on these various elections it is not expected that any real progress will be made on the outstanding political discussions.

Deutsche Bank Outlook

In March 2022, Deutsche Bank outlined its strategic and financial road map through 2025, referred to as the *Global Hausbank* strategy, and communicated the bank's 2025 financial targets and capital objectives. In addition, the bank is working to refine and accelerate its *Global Hausbank* strategy with measures which, if successfully implemented, could allow the bank to outperform its 2025 financial targets.

	Jun 30, 2023	Financial targets and capital objectives 2025
Financial targets		
Post-tax return on average tangible shareholders' equity ¹	6.8%	Above 10.0%
Compound annual growth rate of revenues from 2021 ²	7.5%	3.5 to 4.5%
Cost/income ratio ³	73.3%	Less than 62.5%
Capital objectives		
Common Equity Tier 1 capital ratio ⁴	13.8%	~ 13.0%
Total payout ratio ⁵	12.1%	50%

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

² Twelve month 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 Further detail on the calculation of this ratio is provided in the Risk information in this report

⁵ 2023 distributions in form of common share dividend paid in relation to 2022 net income attributable to shareholders

Deutsche Bank reaffirms its financial targets to be achieved by 2025 of a post-tax return on average tangible equity of above 10%, well positioned to drive returns above cost of equity based on sustained operating leverage over the period, a compound annual revenue growth in revenues of between 3.5% and 4.5% for 2021 to 2025 and a cost/income ratio of below 62.5%. The bank also confirms its capital objectives of a CET1 capital ratio of around 13% and a payout ratio of 50% from 2025 onwards.

The bank expects Group revenues to be slightly higher in 2023 compared to the prior year. Deutsche Bank expects revenues to be in the range of € 28 billion to € 29 billion at Group level reflecting the positive impact of interest rates, particularly in the Corporate Bank and Private Bank, and stable contributions from the Investment Bank's Financing business which more than offset normalizing conditions in the bank's more market-sensitive businesses. Deutsche Bank expects the growth momentum experienced in the first half of 2023 to continue for the remainder of the year with revenues above the mid-point of the bank's guidance range of € 28 billion to € 29 billion.

Corporate Bank expects to build on the strong momentum in the first half of 2023, with the interest rate environment and progress on its initiatives supporting performance in 2023, despite macro-economic uncertainties. Revenues are expected to be higher compared to the prior year with growth across all three client segments, driven by improvements in interest rates, pricing discipline and further impacts of our growth initiatives. The business segment expects the interest revenues to normalize in the second half of the year and an acceleration of the pass-through of higher interest rates to clients. Corporate Treasury Services revenues are anticipated to be higher with a strong momentum in the Corporate Cash Management business and growth in noninterest revenues. Corporate Cash Management revenues will continue to be driven by the net interest income from interest rates above prior year and pricing discipline. Trade Finance & Lending revenues will be impacted by our continued selective balance sheet deployment and reduced funding benefits including from the ECB's TLTRO program. Institutional Client Services revenues are expected to be higher, supported by higher interest rates and business growth. In Business Banking, revenues are expected to be significantly higher compared to the prior year from growth in net interest income, principally due to higher interest rates in Germany and supported by stable loan volumes and deposit balances.

Investment Bank revenues are expected to be slightly lower in 2023 compared to the prior year. The recovery in Origination and Advisory has been slower than expected year to date and is likely to only partially offset a normalization in Fixed Income, Currency (FIC) Sales & Trading.

FIC Sales and Trading revenues are expected to be lower than in 2022. The performance in Rates has been robust so far in 2023 and the business will seek to develop targeted areas where it believes there are opportunities to do so. But the market normalization the business started to witness in the second quarter of 2023 is expected to continue through the remainder of the year. Global Emerging Markets will continue to develop the segment's onshore footprint and client workflow solutions further, although volatility levels in the Central and Eastern Europe as well as Middle East and Africa regions and the associated revenues seen in 2022 are unlikely to be repeated. The Foreign Exchange business was negatively impacted by the extreme interest rate volatility in the first quarter of 2023, while the second quarter saw reduced currency volatility resulting in lower activity. Both of these factors will impact the full year performance. Within Credit Trading the flow credit business is building on investments into product and coverage teams which have contributed to improved performance in the first half of the year. This will support the broader Credit Trading franchise performance. The Financing business will continue to take a disciplined and selective approach to the deployment of resources and look to benefit going forward from the increase in interest rates seen over the last twelve months.

Origination & Advisory revenues are expected to be significantly higher in 2023 compared to 2022, primarily due to an expected recovery in the Debt Origination business. The industry saw an increase in High Yield activity in the first half of 2023, which is expected to feed into the rest of the year, although the Leveraged Debt market has continued to be muted. Additionally, the business does not expect a recurrence of the leveraged lending markdowns that occurred across the industry in 2022. The Investment Grade Debt business will look to build on its solid performance in the first half of the year, and further develop its ESG capabilities for clients. Equity Origination will continue to provide a competitive offering across products and will look to benefit from a market that began to improve in the second quarter. Advisory plans to build on the momentum of investment that has been made over the last six months, however, the reduced levels of announced volumes seen over the last year has materially lowered the industry fee pool in the first half of 2023, which will impact revenues for the remainder of the year.

Net revenues in the **Private Bank** in 2023 are anticipated to remain essentially flat compared to 2022. The year-on-year comparison will be impacted by the non-recurrence of a gain on the sale of the Deutsche Bank Financial Advisors business in Italy and by lower revenues from workout activities in Sal. Oppenheim. Revenues excluding these specific items are expected to be slightly higher compared to 2022 driven by net positive effects from the rising interest rate environment and by continued business growth despite an expected slowdown in loan volume growth, especially in the German mortgage book.

In the Private Bank Germany, revenues are expected to be higher compared to 2022. Net interest income is expected to grow driven by higher deposit revenues which will be partly offset by reduced funding benefits. Fee income is expected to be lower driven by changes in contractual and regulatory conditions. Fee income from investment product revenues is expected to be essentially flat.

Net revenues in the International Private Bank are expected to be lower compared to 2022 driven by the non-recurrence of the aforementioned gain in Italy of approximately € 310 million and Sal. Oppenheim workout revenues of approximately € 130 million. Excluding these specific items, revenues are anticipated to be slightly higher year on year reflecting continued business growth supported by prior relationship manager hiring. Positive impacts from rising interest rates are expected to more than compensate for the impact of reduced funding benefits and of forgone revenues after the aforementioned business sale.

Asset under management (AuM) volumes are expected to be higher compared to year end 2022 reflecting continued net inflows mainly in investment products. Net AuM deposit outflows in the first quarter of 2023 were essentially offset by inflows in the second quarter following dedicated client deposit campaigns. The overall development of AuM volumes will highly depend on market parameters, including equity indices and foreign exchange rates. Growth dynamics in the loan businesses in the Private Bank are expected to slow down mainly reflecting lower demand in mortgage loans in Germany.

In 2023, **Asset Management** expects total net revenues to be slightly lower for the full year 2023. Management fees are expected to be slightly lower in 2023 and other revenues to be significantly lower, partly offset by higher performance and transaction fees. Asset Management expects AuM to be slightly higher at the end of 2023 compared to the end of 2022, as it expects net inflows into growth areas like Passive including Xtrackers and Alternatives. This should be further enhanced by strategic partnerships and product innovations, including further ESG offerings.

For 2023, **Corporate & Other** is expected to generate a pre-tax loss and, as previously disclosed, will include financial impacts of Legacy Portfolios, previously reported as the Capital Release Unit. The pre-tax loss associated with Legacy Portfolios is expected to be lower than the pre-tax loss on the same basis in 2022, primarily from lower noninterest expenses. 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. Corporate & Other will also continue to retain certain funding and liquidity impacts, which in total are expected to be around € 300 million for the full year. Shareholder expenses are expected to be around € 500 million for the full year.

Deutsche Bank is managing the Group's cost base towards its 2025 cost/income ratio target of 62.5%. The Group remains highly focused on cost discipline and delivery of the initiatives underway, with further incremental operational efficiencies in the process of being implemented underlining the Group's commitment to continuous improvement as outlined in April 2023. For 2023 the bank now expects noninterest expenses to be slightly higher compared to 2022. This development reflects higher than originally anticipated litigation charges recorded in the second quarter of this year and impacts in relation to the Numis transaction, which is set to close in the last quarter of 2023. Adjusted costs for the full year 2023 are expected to be essentially flat compared to 2022, benefiting from strict cost management, lower Single Resolution Fund charges for the current year as well as a potential restitution payment from a national resolution fund. Moreover, Deutsche Bank continues to execute on its agenda to foster the bank's growth ambitions and to improve the bank's structural efficiency, including optimization of its Germany platform, the upgrade of its technology architecture, the front-to-back redesign of processes, measures to increase infrastructure efficiency, and the reductions in non-client facing senior roles. Benefits from these measures in the year are expected to be partially or fully offset by inflationary pressures as well as the impact of selective investments in further business growth and temporarily higher-than-expected costs in relation to the retirement of legacy technology infrastructure.

For the full year 2023, the Group expects provision for credit losses at the upper end of the bank's guidance range of 25 to 30 basis points of average loans, reflecting the uncertain macroeconomic backdrop and lower loan balances than initially anticipated. The bank expects provision for credit losses in 2023, unlike in 2022, to be driven by single-name losses rather than a deterioration of macro-economic forward-looking indicators. Deutsche Bank remains committed to stringent underwriting standards and tight risk management framework. Further details on the calculation of expected credit losses are provided in the section "Risk information" in this report.

Common Equity Tier 1 ratio (CET 1 ratio) by year end 2023 is expected to remain essentially flat compared to 2022. The Group expects several regulatory decisions on internal credit and market risk models in 2023. On a net basis, risk weighted assets are also expected to remain essentially flat when considering model impacts, respective mitigation initiatives, share buybacks and business growth. Deutsche Bank aims for a Common Equity Tier 1 capital ratio of 200 basis points above the Maximum Distributable Amount (MDA) threshold at the end of 2023. The timing of model decisions might drive CET1 ratio variability within the year.

Deutsche Bank is committed to delivering sustainable growth on cash dividends and, over time, returning excess capital that is over and above what is required to support profitable growth and upcoming regulatory changes to shareholders through share buybacks, subject to regulatory approval, shareholder authorization and meeting German corporate law requirements. To that end, subject to meeting the Group's strategic targets, the Management Board intends to grow the cash dividend per share by 50% per annum over three years, starting from the € 0.20 per share paid for the financial year 2021. This would translate into approximately € 3.3 billion of cumulative dividend payments by 2025 with respect to financial years 2021-2024. In relation to the financial year 2024 the bank intends to achieve a total payout ratio of 50% from a combination of dividends paid and share buybacks executed in 2025; and the bank intends to maintain a 50% total payout ratio in subsequent years. In addition to the share buyback of € 300 million already concluded in 2022 and the up to € 450 million share buyback announced for the second half of 2023, successfully executing the Group's financial and strategic plans through 2025 would therefore support the previously announced cumulative distributions to shareholders in the form of dividends paid or share buybacks executed of approximately € 8 billion in respect of financial years 2021-2025.

Deutsche Bank decided to initiate a share repurchase program of up to € 450 million, 50% higher than in 2022, expected to be executed in the second half of the year. Together with the dividend, the Group paid in respect of 2022, the bank aims to distribute more than € 1 billion of capital to shareholders in 2023.

By the nature of its 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. Deutsche Bank resolved a number of longstanding matters and made progress on others during the second quarter of 2023. For more details please refer to "Provisions" of this report. The Group expects the litigation and enforcement environment to remain challenging. With a caveat that forecasting litigation charges is subject to many uncertainties, and considering the cost of resolving matters and making progress on others, Deutsche Bank presently expects net litigation charges for 2023 to exceed the levels experienced in 2022.

Risks to the Group's outlook include but are not limited to potential impacts on the business model from worse than expected macroeconomic environment including elevated persistent inflation forcing central banks to continue increasing interest rates and financial conditions to tighten further which, in turn, could lead to a deeper and more protracted recession. This could result in lower client activity and may impact the performance of certain sectors such as Commercial Real Estate thereby resulting in uncertainties on the bank's estimates for credit loss provision and costs. In addition, geopolitical uncertainties across several themes including the ongoing war in Ukraine, the tensions between China and Taiwan and a possible intensification of U.S. versus China strategic competition could pose further risks including downside risks to growth, also impacting foreign exchange rates or securities. Failures in the bank's control environment including from cyber threats may also result in unexpected impacts. 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 "Non-GAAP financial measures" of this report for the definitions of such measures and reconciliations to the IFRS measures on which they are based.

Risks and opportunities

The following section focuses on future trends or events that may result in downside risk or upside potential from what the Group has anticipated in its “Outlook”. The main development in the six months ended June 30, 2023 were the significant episodes of 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. The Group assessment of risks and opportunities that the businesses are exposed to has not materially changed compared to the information presented in Deutsche Bank’s Annual Report 2022.

Key downside risks stem from the ongoing impacts of rising interest rates and persistently elevated inflation, the potential for further tightening of bank lending standards following the March market stress, a deterioration in the macroeconomic environment and elevated geopolitical risks.

Opportunities may arise if macroeconomic conditions improve beyond currently forecasted levels, which may lead to higher revenues and improve the Group’s ability to meet its financial targets. At the same time, 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. Deutsche Bank could also benefit from helping clients navigate increasingly volatile financial markets. By focusing on and investing in Deutsche Bank’s areas of core strengths, including through selective acquisitions, 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

During the first six months of 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 banking sector fundamentals remain sound, as indicated by the recently released U.S. CCAR stress tests, and market sentiment has stabilized, recent events 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. A pronounced tightening in financial conditions would lead to higher client refinancing risks, with Commercial Real Estate and higher leveraged corporate clients among the sectors with increased risk.

Major central banks continue to tighten monetary policy despite headline inflation likely passing its peak in key economies, but core inflation remains sticky and the path towards normalization remains uncertain.

The impact of recent events on investor appetite may impact the Group’s ability to distribute and de-risk capital market commitments, which could potentially result in losses. Recent events have also increased the risk of idiosyncratic counterparty events both directly and indirectly, for example as a result of shortfalls under Lombard or securities financing transactions.

Additionally, 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 since the onset of the U.S. regional banking crisis has resulted in a pronounced decline in transactions, particularly in the U.S. office market with risks compounded by post-pandemic shifts in working patterns. Moreover, corporate default rates are expected to rise in 2023 and 2024 as earnings fall and higher leveraged clients face refinancing risks. As higher rates and quantitative tightening feed through the economy, further liquidity events may crystallize.

In the U.S., a debt-ceiling crisis was averted, but a shallow U.S. recession is still expected to start by the end of 2023 even though recent data suggests that disinflation could yet be achieved without a recession (‘soft landing’). The Eurozone area narrowly avoided a technical recession over the winter despite the surge in energy costs, but economic activity has been weak, particularly in manufacturing, and economic growth is likely to stagnate well into 2024. A U.S. recession and higher rates pose headwinds to Eurozone GDP growth, while tailwinds from an economic rebound in China may be more muted than expected as the recovery appears to have lost some momentum.

Geopolitical developments may also pose risks as the geoeconomic competition between the U.S. and China remains intense. For its part, the German government recently 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.

Elevated interest rates may adversely affect Deutsche Bank's planned results of operations, financial targets and costs. This may lead to increased losses, including higher provisions for credit losses, and rating downgrades across the bank's client franchise leading to credit risk RWA inflation. More persistent inflation and higher terminal interest rates could also dampen consumer spending and private client investments and lead to a reduction in new lending for consumer finance and/or private mortgages.

Political risks

Amidst the continued war in Ukraine, further sanctions packages have been introduced since the end of 2022. New sanctions, as well as countermeasures by the Russian government, increase differences between the local application / implementation of relevant requirements by Deutsche Bank Moscow and the Deutsche Bank Group. 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. Such activity may unfold in part especially within countries which maintain a neutral stance towards Russia and the West. 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 dragged into economic disputes of counterparties which could result in costs or losses which would not occur in the normal course of business.

Strategy

While the Group continuously plans and adapts to changing situations, it 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 the Group to miss its publicly communicated targets. As such it may incur unexpected losses including further impairments and provisions, experience lower than planned profitability or an erosion of the Group's capital and funding base, leading to a material adverse effect on Deutsche Bank's results of operations and share price.

The financial results of the bank could be adversely impacted if anticipated benefits from mergers and acquisitions, joint ventures, strategic partnerships 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. On April 28, 2023, the bank announced the acquisition of Numis Corporation PLC. If the acquisition does not materialize in accordance with the terms of the agreement, the bank could be exposed to regulatory action, litigation, reputational or adverse financial impacts.

Continued volatility in the markets in which the bank operates could exacerbate the risk that the bank could miss publicly announced targets and objectives, including its CET1 ratio objective of circa 200 basis points above the bank's Maximum Distributable Amount (MDA) threshold as highlighted in the "Outlook" section of this report.

Liquidity and funding risks

Deutsche Bank retained investment grade ratings with all leading credit rating agencies through the end of June 2023 and does not expect that recent banking sector events will have a negative impact on its credit ratings. In contrast, the bank's credit ratings remain on an upward trajectory. In June 2023, DBRS Morningstar upgraded Deutsche Bank's Long-Term Issuer Rating and Long-Term Deposit Rating to A (Stable). This was in addition to S&P's announcement in May 2023 to raise the bank's credit ratings outlook from Stable to Positive, reaffirming the bank's issuer credit rating at A-. In early July 2023, Fitch Ratings also upgraded its principal ratings for Deutsche Bank with the Issuer Default rating now at A-.

Early repayments and maturing of the Targeted Longer Term Refinancing Operations (TLTRO) in the second quarter of 2023 contributed to the reduction in ECB's balance sheet, leading to a net liquidity absorbing effect and higher funding costs for European banks. Additionally, central banks continue to raise interest rates, and quantitative tightening will reduce the size of their balance sheets. This in turn is placing pressure on the bank's funding capabilities and could lead to elevated borrowing costs (especially for short term funding).

At the same time, a further downturn in the macro-economic environment could lead to reduced savings rates and a decline in levels of deposits. Changes in allocation of surplus liquidity by material counterparties may also affect Deutsche bank's liquidity position. This effect could be further exacerbated by competitive pricing pressures from other deposit-taking institutions, as well as any broader counterparty concerns about exposures to certain segments of the banking sector.

Following the market events in the first quarter of 2023, the risk environment has stabilized after a period of uncertainty and volatility. Deutsche Bank's credit spreads increased during the first quarter market volatility, but they have normalized materially in the second quarter of 2023. Key liquidity metrics remained well above regulatory minimum requirements throughout the year, providing a strong basis to manage through volatile markets. Although 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.

Regulatory supervisory reforms, assessments and proceedings

The European Commission had previously announced a review of the EU macroprudential regime and a review of the EU securitization regime, and more technical aspects of securitization, for 2022-2023. Deutsche Bank now understands that these reviews will not take place within the envisaged timeline. However, more limited changes may be pursued in connection with the comprehensive package of reforms with respect to European Union banking rules (commonly referred to as “CRR III” and “CRD VI”). 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 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, 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 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 on taxonomies 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 programme for 2025 to 2029.

On December 7, 2022, the Commission published a legislative proposal for a refit of the European Market Infrastructure Regulation. This proposal is currently in discussion among the Council (representing Member States) and the European Parliament with negotiations between the co-legislators expected to start later in 2023.

For Indian Central Counterparties (CCPs), no Memorandum of Understanding was signed between the European Securities and Markets Authority and Indian authorities before the deadline of April 30, 2023, which resulted in six Indian CCPs being derecognized in the EU. The BaFin has published a statement on February 17, 2023, allowing German credit institutions, including Deutsche Bank, the possibility to remain members of the six India CCPs for a maximum period of 18 months, up until October 31, 2024.

Compliance and Anti-Financial Crime risks

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, 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.

Risk management policies, procedures and methods as well as operational risks

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 these can be driven by differences 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.

Third Party Risk

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.

For example, the European Digital Operational Resilience Act (DORA) package which entered into force on January 16, 2023, expands the EU framework for third party risk management by introducing further monitoring, reporting, testing and oversight requirements (among others) applicable to EU financial institutions in respect of services carried out by their third-party Information Communication Technologies service providers. The DORA legislative package will apply from January 17, 2025 and will complement pre-existing EU "outsourcing" requirements applicable to the financial services sector. The UK regulators are also in the process of developing the Critical Third-Party regime to promote resilience across all critical third parties in the UK. Further, the Financial Stability Board has recently launched a consultation on a "toolkit for enhancing third-party risk management and oversight" and makes a number of recommendations including calling for greater convergence of supervisory frameworks.

Geopolitical risk developments are also leading to increased scrutiny towards technology providers from third countries and growing localization requirements.

When using third-party service providers the bank remains fully responsible and accountable for complying with all of 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.

Technology, data and innovation

Major technology transformations in the bank's business and infrastructure areas are executed via dedicated initiatives. One of these initiatives, project Unity, aims at simplifying the bank's IT environment through the migration of Postbank clients onto the IT systems of Deutsche Bank.

The last migration wave of project Unity occurred in July 2023 and included the remaining loan portfolios with respective credit loss allowances. Subsequent to the transfer, all Postbank clients and products will be migrated to the Deutsche Bank IT Infrastructure. However, migration related risks could still have an impact including but not limited to (1) downstream data quality which could require correction and subsequently impact credit loss allowances, (2) resource shortage for collection activities as staff training on Deutsche Bank IT Infrastructure continues, (3) delayed reviews of problem loans which may impact the development of provision for credit losses in the second half of 2023 and (4) reduced capabilities to support new business and therefore impact future earnings potential.

The bank continues to closely observe the global geopolitical landscape for any emerging threats related to security of the bank's operations and information. In addition, the bank's security threat intelligence function also monitors relevant industry trends and developments, including, e.g., Artificial Intelligence and Quantum Computing.

Environmental, social and governance

While Deutsche Bank remains committed to the targets 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.

Opportunities

Macroeconomic and market conditions

An improvement in macroeconomic conditions beyond currently forecasted levels including a possible soft landing of the US economy could result in higher than planned revenues. The continued increases in interest rates and elevated market volatility observed in the first quarter of 2023 also present opportunities including increased revenues from higher trading flows as private, corporate and institutional customers reposition their portfolios and higher net interest income.

Strategy

The bank continues to pursue the Group strategy of targeted growth and to become the first point of call for all clients of the bank, addressing the full range of their financial needs as their *Global Hausbank*.

On April 28, 2023, the bank announced the intention to acquire Numis Corporation PLC which aims to establish a prominent position across UK corporate broking and strategic advisory. The acquisition may benefit the bank with opportunities to grow market share, profitability, and client base across the UK region.

Ongoing market volatility continues to present opportunities for the bank to accelerate talent acquisition and wider growth initiatives, target market share gains and undertake acquisitions that are in line with stated Group strategy. More broadly, labor market conditions started to normalize at the end of 2022. Attrition rates in the first half of 2023 were significantly below the first half of 2022 across all regions and below the first half of 2019 pre-COVID, resulting in more stability across the franchise.

Technology, data and innovation

Digital innovation offers various 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.

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. 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 information

Key risk metrics

The following section provides qualitative and quantitative disclosures about credit, market, liquidity and other risk metrics and its developments within the six months ended June 30, 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 (CET1) ratio, Economic Capital Adequacy (ECA) ratio, Leverage ratio, Total Loss Absorbing Capacity (TLAC), Minimum Requirement for Own Funds and Eligible Liabilities (MREL), Liquidity Coverage Ratio (LCR), Stressed Net Liquidity Position (sNLP) and Net Stable Funding Ratio (NSFR) 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. For additional details on the Group's Regulatory Framework, information on key risk categories and on the management of its material risks, please refer to the Annual Report 2022 under the chapter "Risk report".

Common Equity Tier 1 ratio		Total risk-weighted assets	
30.6.2023	13.8%	30.6.2023	€ 358.8 bn
31.12.2022	13.4%	31.12.2022	€ 360.0 bn
Economic capital adequacy ratio		Total economic capital	
30.6.2023	223%	30.6.2023	€ 22.8 bn
31.12.2022	239%	31.12.2022	€ 20.9 bn
Leverage ratio		Leverage exposure	
30.6.2023	4.7%	30.6.2023	€ 1,236 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)	
30.6.2023 (Risk Weighted Asset based)	31.9%	30.6.2023	33.8%
30.6.2023 (Leverage Exposure based)	9.3%	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)	
30.6.2023	137%	30.6.2023	€ 40.9 bn
31.12.2022	142%	31.12.2022	€ 48.1 bn
		Net Stable Funding Ratio (NSFR)	
		30.6.2023	119%
		31.12.2022	120%

Risk-weighted assets

Risk-weighted assets by risk type and business segment

	Jun 30, 2023					
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total
Credit risk	65,161	97,188	79,140	10,619	19,118	271,225
Settlement risk	0	1	0	0	34	35
Credit valuation adjustment (CVA)	41	5,811	29	4	700	6,585
Market risk	519	19,262	49	35	2,587	22,452
Operational risk	5,325	22,922	7,909	3,494	18,839	58,488
Total	71,045	145,184	87,127	14,151	41,278	358,785

	Dec 31, 2022 ¹					
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total
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 Comparatives aligned to current presentation

The RWA of Deutsche Bank were € 358.8 billion as of June 30, 2023, compared to € 360.0 billion at the end of 2022. The decrease of € 1.2 billion was driven by market risk RWA, which was partially offset by credit risk RWA and credit valuation adjustment (CVA) RWA. The reduction in market risk RWA by € 3.7 billion was primarily driven by decreases in the Value-at-Risk and Stressed Value-at-Risk components due to a lower Capital Multiplier, following a reduction in the qualitative and quantitative components. Exposure changes also led to a lower Stressed Value-at-Risk but a higher Incremental Risk Charge that partially offset each other. The increase in credit risk RWA by € 2.0 billion was primarily driven by growth within the Investment Bank and Asset Management, an increase in exposure within Corporate & Other as well as impacts from rating migration. The increase in credit risk RWA was partially offset by foreign exchange movements, a relief from synthetic securitizations in the Corporate Bank and lower RWA for deferred tax assets. The increase in credit valuation adjustment (CVA) RWA by € 0.4 billion was mainly driven by certain clients no longer being exempt including pension funds.

CET1 capital reconciliation to shareholders equity

in € m.	Jun 30, 2023	Dec 31, 2022
Total shareholders' equity per accounting balance sheet	62,440	61,959
Deconsolidation/Consolidation of entities	68	29
Of which:		
Additional paid-in capital	0	0
Retained earnings	68	29
Accumulated other comprehensive income (loss), net of tax	0	0
Total shareholders' equity per regulatory balance sheet	62,509	61,988
Minority Interests (amount allowed in consolidated CET1)	981	1,002
AT1 coupon and shareholder dividend deduction ¹	(556)	(1,342)
Capital instruments not eligible under CET1 as per CRR 28(1)	(27)	(14)
Common Equity Tier 1 (CET1) capital before regulatory adjustments	62,906	61,634
Prudential filters	(1,312)	(1,427)
Of which:		
Additional value adjustments	(1,812)	(2,026)
Any increase in equity that results from securitized assets	(0)	(0)
Fair value reserves related to gains or losses on cash flow hedges and gains or losses on liabilities designated at fair value resulting from changes in own credit standing	499	600
Regulatory adjustments relating to unrealized gains and losses pursuant to Art. 467 and 468 CRR	0	0
Regulatory adjustments	(12,246)	(12,110)
Of which:		
Goodwill and other intangible assets (net of related tax liabilities) (negative amount)	(4,963)	(5,024)
Deferred tax assets that rely on future profitability	(2,997)	(3,244)
Negative amounts resulting from the calculation of expected loss amounts	(509)	(466)
Defined benefit pension fund assets (net of related tax liabilities) (negative amount)	(1,384)	(1,149)
Direct, indirect and synthetic holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities	0	0
Securitization positions not included in risk-weighted assets	0	0
Other ²	(2,393)	(2,225)
Common Equity Tier 1 capital	49,348	48,097

¹ Interim profits are recognized subject to approval 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 € 1.3 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, € 1.1 billion (Dec 2022: € 1 billion) based on ECB's supervisory recommendation for a prudential provisioning of non-performing exposures, € 1.3 million (Dec 2022 € 7.4 million) resulting from minimum value commitments as per Article 36 (1)(n) of the CRR and CET 1 decrease of € 0 million (Dec 2022: € 14.7 million) from IFRS 9 transitional provision as per Article 473a of the CRR

As of June 30, 2023, Deutsche Bank's CET1 capital ratio increased to 13.8% compared to 13.4% as of December 31, 2022. The increase of 39 basis points is mainly driven by higher CET1 capital and partially by decreased RWA due to the aforementioned developments. CET1 capital increased by € 1.3 billion compared to year end 2022 which was mainly the result of the net profit of € 2.2 billion for the first half of the year 2023, partially offset by regulatory deductions for future common share dividend and AT1 coupon payments of € 0.5 billion which is in line with the ECB Decision (EU) (2015/656) on the recognition of interim or year-end profits in CET1 capital in accordance with the Article 26(2) of Regulation (EU) No 575/2013 (ECB/2015/4). In addition, CET1 capital increased as a result of positive impacts from € 0.3 billion unrealized gains and losses from financial instruments at fair value through other comprehensive income (mainly stemming from € 0.2 billion reduced unrealized net losses on securities available for sale and € 0.1 billion reduced unrealized net losses on cash flow derivatives hedging).

These positive impacts were partly offset by € 0.2 billion defined benefit pension fund assets deduction and € 0.1 billion capital deductions based on ECB guidance on irrevocable payment commitments related to the Single Resolution Fund and the Deposit Guarantee Scheme. Additionally, CET 1 capital decreased due to currency translation adjustments of € 0.5 billion net of foreign exchange counter-effects of capital deduction items of € 0.1 billion.

Economic capital adequacy ratio and economic capital

The economic capital adequacy ratio was 223% as of June 30, 2023, compared to 239% as of December 31, 2022. The decrease was mainly driven by the increase in economic capital demand, which was partly offset by the increase in economic capital supply.

The economic capital demand amounted to € 22.8 billion as of June 30, 2023, compared to € 20.9 billion as of December 31, 2022. The increase of € 1.9 billion was mainly driven by the economic capital demand for credit risk and market risk. The economic capital demand for credit risk increased by € 1.3 billion primarily driven by the increase in exposures in the Investment Bank and the newly added placeholder for climate risk. The economic capital demand for market risk increased by € 0.7 billion primarily driven by the increase in long USD FX exposures, a model adjustment related to liquidity horizons and higher credit inventory in the Investment Bank.

The economic capital supply amounted to € 50.9 billion as of June 30, 2023, compared to € 50.0 billion as of December 31, 2022. The increase of € 0.9 billion was primarily driven by positive net income of € 2.2 billion and lower capital deductions of € 0.3 billion from deferred tax assets, which was partly offset by currency translation adjustments of € 0.7 billion, deductions for future common share dividend and AT1 coupon payments of € 0.5 billion, decrease in stock awards of € 0.3 billion and higher capital deduction of € 0.2 billion from defined benefit pension fund assets.

Leverage ratio and leverage exposure

A minimum leverage ratio requirement of 3% was introduced effective starting with June 28, 2021. Starting with 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.

As of June 30, 2023, the leverage ratio was 4.7% compared to 4.6% as of December 31, 2022. This takes into account a Tier 1 capital of € 57.7 billion over an applicable exposure measure of € 1,236 billion as of June 30, 2023 (€ 56.6 billion and € 1,240 billion as of December 31, 2022, respectively).

In the first half of 2023 the leverage exposure decreased by € 4 billion to € 1,236 billion, largely driven by the leverage exposure for the asset items not related to derivatives and secured financing transactions (SFTs) which decreased by € 5 billion. This reflects the development of the balance sheet (for additional information please refer to section "Movements in assets and liabilities" in this report): decreases in cash and central bank/interbank balances by € 16 billion and loans by € 6 billion were partly offset by increases in non-derivative trading assets by € 15 billion and pending settlements by € 5 billion on a net basis (€ 23 billion on a gross basis from seasonally low year-end levels); the remaining asset items not outlined separately decreased by € 3 billion. In addition, off-balance sheet leverage exposures decreased by € 3 billion corresponding to lower notional amounts for financial guarantees. Furthermore, the leverage exposure related to derivatives decreased by € 2 billion. These decreases were partly offset by SFT-related items (securities purchased under resale agreements, securities borrowed and receivables from prime brokerage) which increased by € 6 billion, in line with the development on the balance sheet.

The decrease in leverage exposure in the first half of 2023 included a negative foreign exchange impact of € 13 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.

Minimum Requirement of Own Funds and Eligible Liabilities (“MREL”) and Total Loss Absorbing Capacity (“TLAC”)

MREL and TLAC

in € m.

(unless stated otherwise)

	Jun 30, 2023	Dec 31, 2022
Regulatory capital elements of TLAC/MREL		
Common Equity Tier 1 capital (CET1)	49,348	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	9,043	9,531
Tier 2 (T2) capital instruments adjustments for TLAC/MREL	2,209	1,898
Tier 2 (T2) capital instruments eligible under TLAC/MREL	11,252	11,429
Total regulatory capital elements of TLAC/MREL	68,928	68,045
Other elements of TLAC/MREL		
Senior non-preferred plain vanilla	45,441	47,862
Holdings of eligible liabilities instruments of other G-SIIs (TLAC only)	–	–
Total Loss Absorbing Capacity (TLAC)	114,370	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)	114,370	115,907
Senior preferred plain vanilla	3,880	4,552
Senior preferred structured products	3,031	3,215
Available Minimum Own Funds and Eligible Liabilities (MREL)	121,281	123,674
Risk Weighted Assets (RWA)	358,785	360,003
Leverage Ratio Exposure (LRE)	1,236,042	1,240,483
TLAC ratio		
TLAC ratio (as percentage of RWA)	31.88	32.20
TLAC requirement (as percentage of RWA)	23.12	22.57
TLAC ratio (as percentage of Leverage Exposure)	9.25	9.34
TLAC requirement (as percentage of Leverage Exposure)	6.75	6.75
TLAC surplus over RWA requirement	31,435	34,638
TLAC surplus over LRE requirement	30,937	32,174
MREL subordination		
MREL subordination ratio ¹	31.88	32.20
MREL subordination requirement ¹	24.66	24.85
Surplus over MREL subordination requirement	25,910	26,430
MREL ratio		
MREL ratio ¹	33.80	34.35
MREL requirement ¹	30.33	29.46
MREL surplus over requirement	12,478	17,600

¹ As percentage of RWA (requirement including the combined buffer requirement)

MREL ratio development

As of June 30, 2023, available MREL were € 121.3 billion, corresponding to a ratio of 33.80% of RWA. This means that Deutsche Bank has a surplus of € 12.5 billion above the Group's MREL requirement of € 108.8 billion (i.e. 30.33% of RWA including combined buffer requirement). € 114.4 billion of the Group's available MREL were own funds and subordinated liabilities, corresponding to a MREL subordination ratio of 31.88% of RWA, a buffer of € 25.9 billion over the Group's subordination requirement of € 88.5 billion (i.e. 24.66% of RWA including combined buffer requirement). Compared to December 31, 2022, available MREL and subordinated MREL reduced primarily due to a new deduction rule for general prior permission amounts which entered into force on May 9, 2023. At the same time, the MREL requirement increased by higher countercyclical and systemic risk buffer requirements applicable in Germany and higher requirements set by the Single Resolution Board.

TLAC ratio development

As of June 30, 2023, TLAC was € 114.4 billion and the corresponding TLAC ratios were 31.88% of RWA and 9.25% of LRE. This means that Deutsche Bank has a comfortable TLAC surplus of € 30.9 billion over its TLAC requirement of € 83.4 billion (6.75% of LRE).

Liquidity coverage ratio

The Group's Liquidity Coverage Ratio was 137% as of June 30, 2023, or € 55 billion of excess over the regulatory minimum of 100%. This compares to 142%, or € 64 billion of excess liquidity at December 31, 2022. The decrease is primarily related to TLTRO repayment, buy back of senior non preferred issuances and Tier 2 issuance calls with other offsetting business movements.

Stressed net liquidity position

The Group's internal eight week stressed Net Liquidity Position decreased to € 40.9 billion as of June 30, 2023 from € 48.1 billion as of December 31, 2022. The decrease was primarily on account of TLTRO repayment, buy back of senior non preferred issuances and Tier 2 issuance call offset by other business movements.

Net Stable Funding Ratio

The Group's Net Stable Funding Ratio (NSFR) as of June 30, 2023, was 119% or a surplus of € 97 billion over the regulatory minimum of 100%. This compares to 120%, or a surplus of € 99 billion over the regulatory minimum of 100% as of December 31, 2022. The decrease was primarily on account of TLTRO repayment, buy back of senior non preferred issuances and Tier 2 issuance call offset by other business movements.

IFRS 9 Impairment

Model overview

During the first half of 2023, Deutsche Bank continued to apply the same IFRS 9 impairment model and methodologies, key assumptions and risk management activities as disclosed in the Annual Report 2022.

In July 2023, the Group completed the migration of Postbank clients into the IT systems of Deutsche Bank through its project Unity, which will impact Deutsche Bank's application of the IFRS 9 impairment model and methodologies thereafter. As outlined in the Annual Report 2022, the Group leverages existing models used for the determination of capital demand under the Basel Internal Ratings Based Approach and internal risk management practices to calculate ECL. Deutsche Bank has applied specific models for Postbank clients, which will be partially decommissioned after the migration and the Deutsche Bank infrastructure will be used going forward. In the first half of 2023, two migrations waves were successfully executed and resulted in an immaterial impact on the Group's credit loss allowances. The last wave of the migration in July 2023 will include the German mortgages and consumer finance portfolios. See details on potential migration related risks in section Risks and Opportunities of this report.

The section below focuses on the latest developments and uncertainties in the first half of 2023 and their consideration in the bank's expected credit loss (ECL) calculation, along with the bank's ongoing credit risk management activities and governance framework. 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, and regular model validations. The Group also considers each reporting period if there are any potential model imprecision or uncertainties not included in the model that require an overlay. Lastly, the Group presents a sensitivity analysis for one of the key inputs into the IFRS 9 model (i.e., forward looking macroeconomic variables).

Forward-looking information

The tables below contain the macroeconomic variables (MEV's) included in the application of forward-looking information in the IFRS 9 model as of June 30, 2023 and as of December 31, 2022. At each reporting date, the consensus data included the latest macroeconomic developments and no overlays were required.

Macroeconomic variables applied

	as of June 2023 ^{1 2}	
	Year 1 (4 quarter avg)	Year 2 (4 quarter avg)
Commodity - Gold	1,948.85	1,972.20
Commodity - WTI	77.82	82.31
Credit - CDX Emerging Markets	247.55	222.05
Credit - CDX High Yield	486.44	464.74
Credit - CDX IG	78.74	76.23
Credit - High Yield Index	4.71%	4.38%
Credit - ITX Europe 125	85.68	82.17
Equity - MSCI Asia	1,279	1,290
Equity - Nikkei	30,573	31,183
Equity - S&P500	4,178	4,215
GDP - Developing Asia	5.07%	4.70%
GDP - Emerging Markets	4.20%	4.05%
GDP - Eurozone	0.44%	0.99%
GDP - Germany	0.14%	1.27%
GDP - Italy	0.73%	0.95%
GDP - USA	1.02%	1.13%
Real Estate Prices - US CRE Index	350.73	342.32
Unemployment - Eurozone	6.77%	6.72%
Unemployment - Germany	3.15%	3.28%
Unemployment - Italy	8.09%	8.15%
Unemployment - Japan	2.58%	2.47%
Unemployment - Spain	12.85%	12.46%
Unemployment - USA	4.05%	4.51%

¹ MEV as of 27 June 2023

² Year 1 equals second quarter of 2023 to first quarter of 2024, Year 2 equals second quarter of 2024 to first quarter of 2025

	as of December 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 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 second quarter of 2023

Commercial Real Estate

Commercial Real Estate (CRE) markets continue to face headwinds due to the impacts of rising interest rates, decreasing market liquidity combined with tightened lending conditions which have an additional negative impact in particular to the US office market. The combination of risk factors leads to higher refinancing risk for maturing loans as some transactions may have to be adjusted to qualify for an extension to ensure appropriate debt service coverage and loan-to-value (LTV) ratios.

The CRE portfolio across the Group consists of financing/lending arrangements that are recourse and non-recourse financing, across various parts of the Group and client segments. While the exact definition of what constitutes a CRE exposure is subjective, the Group's CRE portfolio includes exposures reported under the Main Credit Exposure Categories by Industry Sectors for Real Estate Activities NACE was € 49.8 billion and € 48.0 billion as of June 30, 2023 and December 31, 2022, respectively. Please refer to "Risk Report" in the Combined Management Report in the Annual Report 2022.

Exposures reported under Real Estate Activities NACE which are recourse CRE financing have an inherently lower risk profile as they typically benefit from recourse to creditworthy entities or individuals, in addition to mortgage collateral, with internal ratings based on the financial strength of the guaranteeing entities / individuals. Exposures range from secured recourse lending to property companies, secured recourse lending to Wealth Management clients, as well as private and corporate clients for business or commercial properties.

Non-recourse financings are subject to increased risk since sources of repayment are typically limited to the cash flows generated by the financed property and the ability to refinance may be constrained by the underlying property value and income stream generated by such property at the time of refinancing. Non-recourse exposures reported under Real Estate Activities (NACE) was € 25.8 billion and € 24.8 billion as of June 30, 2023, and December 31, 2022, respectively.

Based on Deutsche Bank's definition of non-recourse CRE loans, the total non-recourse portfolio as of June 30, 2023 and December 31, 2022, respectively, amounted to € 40.1 billion and € 38.9 billion, respectively, which included exposures not reported under the Real Estate Activities (NACE). These non-recourse portfolios are primarily in the core CRE business units of the Investment Bank and Corporate Bank, with additional smaller portfolios added across other business units.

Amidst interest rate hikes commencing in 2022 and real estate market stresses increasing, the Group has been proactively working with borrowers to address upcoming maturities in the non-recourse portfolio. One of the key mitigants to refinancing risks remains that Deutsche Bank is primarily lending to strong institutional sponsors with significant equity invested in the financed properties.

For the three and six months ended June 30, 2023 and June 30, 2022, the total provision for credit losses for the total non-recourse CRE financing portfolio was € 109 million (2022: € 20 million) and € 143 million (2022: € 31 million), respectively. As of June 30, 2023, 17% and 5% of the exposure were in Stage 2 and Stage 3, and 14% and 4% as of December 31, 2022, respectively.

To obtain a more comprehensive understanding of potential downside risks, Deutsche Bank has run a severe stress test on a subset of the non-recourse financing portfolio deemed higher risk, which includes all non-recourse loans except for sub-portfolios subject to different risk drivers such as data centers and municipal social housing. As of June 30, 2023, the stress-tested non-recourse portfolio amounted to € 32.9 billion of the € 40.1 billion non-recourse portfolio, based on Deutsche Bank's definition.

This portfolio is diversified by property type, with the largest concentration of 41% in Office space, while Hospitality and Retail account for 11% and 9%, respectively as of June 30, 2023, and 41%, 11% and 9% as of December 31, 2022. Weighted average loan-to-value (LTV) is around 63% in the Investment Bank, 52% in the Corporate Bank, and 58% in other business units as of June 30, 2023, and 62%, 53% and 56% as of December 31, 2022. From a regional perspective, 55% of the portfolio is in the US, 37% in Europe, and 8% in the APAC region as of June 30, 2023, and 55%, 39% and 7% as of December 31, 2022, respectively, with loan originations primarily focused on larger, institutional quality assets in more liquid primary markets.

As of June 30, 2023, the Group considered the impact of its severe stress scenario on higher-risk non-recourse CRE loans focused on property values. The stress scenario applied additional haircuts ranging from 10-25% on top of the observed market index decline for each property type assuming a liquidation scenario. Based on these assumptions, such a severe stress could result in approximately € 800 million of additional credit losses spread over multiple years, which would equate to 16 bps of the total loan book. The likelihood and magnitude of occurrence will depend on the developments of the CRE markets, particularly in the US, and depend on the exposure specific fundamentals which allow a borrower to refinance. It is important to emphasize that this stress scenarios only an estimation and does not assume additional sponsor support, which could significantly reduce the actual expected credit losses.

Residential Real Estate

The Group's Residential Real Estate portfolio consists of mainly private client mortgage loans which are regularly repaid and fully recourse. The majority of these loans are in Germany where mortgage loans have a long-fixed period. Current unemployment rates in Germany, Italy and Spain are stable so there is no major increase in risk related to private clients.

In instances where Deutsche Bank has identified counterparties where credit quality has or is expected to deteriorate to the point where they present a heightened risk of default / loss, the respective counterparty is placed on the watchlist, and the counterparty is generally transferred to Stage 2. Deutsche Bank aims to identify those counterparties well in advance of payment issues materializing and continues to refine its early warning capabilities to support the identification of vulnerable clients or portfolios.

Overall Assessment of ECL's

To ensure that Deutsche Bank's ECL model accounted for the uncertainties in the macroeconomic environment throughout the second quarter and first half of 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 June 30, 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.

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. As of June 30, 2023, the Group did not identify any additional downside risks not reflected in the IFRS 9 ECL model or other material model imprecisions that would require an additional overlay other than the existing € 92 million overlay related to the new definition of default as disclosed in the Annual Report 2022.

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 on forward looking macroeconomic variables, if these key assumptions applied in the ECL model were to deviate from the bank's base case expectations. The sensitivity of 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 have not materially changed versus amounts disclosed in the Annual Report 2022.

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 June 30, 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 slightly lower as of June 30, 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

	Jun 30, 2023			
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in € m.	Downward shift	ECL impact in € m.
GDP growth rates	1pp	(80.7)	(1)pp	98.7
Unemployment rates	(0.5)pp	(41.7)	0.5pp	56.0
Real estate prices	5%	(5.9)	(5)%	6.2
Equities	10%	(13.1)	(10)%	17.5
Credit spreads	(40)%	(33.5)	40%	39.6
Commodities ¹	10%	(12.7)	(10)%	13.6

¹ The sign of the shift applies to oil prices changes. Gold price changes have the opposite sign

	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 ¹	10%	(14.8)	(10)%	15.6

¹ The sign of the shift applies to oil prices changes. Gold price changes have the opposite sign

IFRS 9 Expected Credit Losses

In the first six months of 2023, provision for credit losses was € 773 million, which is higher than the € 525 million recorded for the same period in 2022 and was mainly driven by the Private Bank which recorded credit loss provisions of € 414 million. This includes two larger Stage 3 events in the International Private Bank of € 118 million in total which occurred in the first quarter of 2023.

For the second quarter the Group reported credit loss provisions of € 401 million significantly higher than the € 233 million in the second quarter of 2022. The quarter over quarter increase was mainly driven by increased provisioning levels across all businesses in a less favorable macroeconomic environment with Commercial Real Estate as one of the main drivers in the Investment Bank and German MidCaps in the Corporate Bank, while Private Bank returned to rather normalized provisioning levels.

Stage 1 and Stage 2 provisions increased in the second quarter of 2023 by € 63 million compared to € 52 million increase recorded in the same period in 2022, which was driven by portfolio and rating changes especially in the Investment Bank, most notably in CRE.

Stage 3 provisions increased in the second quarter of 2023 to € 338 million compared to € 181 million recorded for the same period in 2022. This was primarily driven by an increased number of impairment events across all businesses with Commercial Real Estate as main driver in the Investment Bank, while Corporate Bank was mainly affected by higher provisions in German MidCaps across various sectors.

In regard to the business segments, Corporate Bank recorded credit loss provisions of € 117 million in the second quarter of 2023 versus € 56 million in the second quarter of 2022. The Investment Bank recorded € 141 million credit loss provisions in the second quarter of 2023 versus € 72 million in the second quarter of 2022. Private Bank recorded credit loss provisions of € 147 million in the second quarter of 2023 versus € 96 million reported in the second quarter of 2022 which was benefitting from portfolio sales.

Exposure to Russia

As disclosed in the Annual Report 2022, 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 € 0.7 billion as of June 30, 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 June 30, 2023 and December 31, 2022.

Breakdown of total exposure and allowance for credit losses by stages

in € m.	Jun 30, 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	105	0	59	209	0	59
Stage 2	1,032	6	435	1,182	10	375
Stage 3	277	46	106	336	68	152
Total	1,414	53	599	1,726	79	586

¹ Allowance for credit losses do not include allowance for country risk amounting to € 3 million as of June 30, 2023 and € 11 million as of December 31, 2022

Total exposure of € 1.4 billion consists of € 0.7 billion loan exposure to Russia, € 37 million of undrawn commitments and € 0.7 billion of unsecured overnight deposits in Rubles with the Central Bank of Russia (which continues to be reflected in Stage 2 as of June 30, 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.

Asset quality

This section describes the quality of debt instruments subject to impairment, which under IFRS 9 consist of debt instruments measured at amortized cost (AC), 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').

The following table provides an overview of the exposure amount and allowance for credit losses by class of financial instrument broken down into stages as per IFRS 9 requirements.

Overview of financial instruments subject to impairment

in € m.	Jun 30, 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	679,391	52,967	12,259	952	745,570	721,546	45,335	11,379	1,041	779,300
of which: Loans	419,244	50,444	11,845	952	482,485	433,081	43,711	10,686	1,027	488,504
Allowance for credit losses ²	519	679	3,890	146	5,235	533	626	3,656	180	4,995
of which: Loans	498	678	3,780	140	5,095	507	619	3,491	174	4,790
Fair value through OCI										
Fair value	28,789	972	64	0	29,824	31,123	482	70	0	31,675
Allowance for credit losses	15	11	43	0	69	14	12	43	0	69
Off-balance sheet positions										
Notional amount	291,897	21,275	2,571	12	315,756	296,062	18,478	2,625	8	317,173
Allowance for credit losses ³	134	98	260	0	492	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 € 10 million as of June 30, 2023 and € 14 million as of December 31, 2022

³ Allowance for credit losses do not include allowance for country risk amounting to € 7 million as of June 30, 2023 and € 9 million as of December 31, 2022

Additional information

Management and Supervisory Board

Management Board

On April 26, 2023, the Supervisory Board:

- Noted that Karl von Rohr, responsible for the Private Bank, Asset Management and the German and EMEA regions, will not renew his contract once his current term as Management Board Member concludes on October 31, 2023
- Agreed that Christiana Riley, CEO for the Americas, will leave the Management Board after conclusion of the Annual General Meeting on May 17, 2023; she has decided to take on a new challenge outside of Deutsche Bank
- Appointed Claudio de Sanctis to become new Member of the Management Board with responsibility for the Private Bank as of November 1, 2023

In addition, the Supervisory Board decided that:

- James von Moltke, Chief Financial Officer (CFO) will assume responsibility for the Asset Management segment in addition to his current role as of November 1, 2023
- Stefan Simon, Chief Administrative Officer (CAO) will take on additional responsibilities and become CEO for the Americas after conclusion of the Annual General Meeting on May 17, 2023
- The regional responsibilities for Germany, Europe, the Middle East and Africa (EMEA, ex UK and Ireland) and Asia-Pacific will be combined under the leadership of Alexander von zur Mühlen as of November 1, 2023
- Rebecca Short, who managed Deutsche Bank's transformation in recent years, will take on an expanded Chief Operating Officer (COO) role, effective June 1, 2023; she also assumes responsibility for Human Resources as well as Global Real Estate from Christian Sewing
- Fabrizio Campelli remains responsible for the Corporate Bank and Investment Bank
- Bernd Leukert will continue to lead Technology, Data and Innovation
- Olivier Vigneron will continue as Chief Risk Officer (CRO).

After the Annual General Meeting on May 17, 2023:

- Christiana Riley left the Management Board
- Stefan Simon took on additional responsibilities and became CEO for the Americas.

Rebecca Short assumed her expanded role as Chief Operating Officer (COO) on June 1, 2023 with additional responsibility for Human Resources and Global Real Estate.

On June 20, 2023, the Supervisory Board decided to bring forward the appointment of Claudio de Sanctis as a member of the Management Board as of July 1, 2023.

On July 1, 2023, earlier than planned, Karl von Rohr handed over his functional responsibilities as follows:

- Claudio de Sanctis took over responsibility for the Private Bank
- Alexander von zur Mühlen assumed responsibility for Europe, the Middle East and Africa (EMEA, excluding the UK and Ireland) and Germany in addition to his existing mandate in the Asia-Pacific region
- James von Moltke assumed additional responsibility for Asset Management.

Supervisory Board

Ludwig Blomeyer-Bartenstein, Martina Klee, Gabriele Platscher, Detlef Polaschek, Bernd Rose, Stefan Viertel and Frank Werneke were members of the Supervisory Board until the end of the Annual General Meeting on May 17, 2023.

The election of employee representatives took place on April 5, 2023:

- The following were newly elected: Susanne Bleidt, Manja Eifert, Claudia Fieber, Birgit Laumen, Gerlinde M. Siebert, Frank Schulze, Stephan Szukalski and Jürgen Tögel.
- The following were re-elected: Jan Duscheck and Timo Heider.

At the conclusion of the Annual General Meeting on May 17, 2023, Mayree Clark, John Alexander Thain, Michele Trogni and Professor Dr. Norbert Winkeljohann's periods of office as members of the Supervisory Board ended as scheduled. They were re-elected members of the Supervisory Board as of May 17, 2023, for a period of four years.

At its subsequent meeting, the Supervisory Board elected Frank Schulze as Deputy Chairman.

Consolidated statement of income

Income statement

in € m.	Three months ended		Six months ended	
	Jun 30, 2023	Jun 30, 2022	Jun 30, 2023	Jun 30, 2022
Interest and similar income ¹	10,659	5,245	20,369	9,670
Interest expense	7,048	1,874	13,334	3,422
Net interest income	3,610	3,372	7,035	6,248
Provision for credit losses	401	233	772	525
Net interest income after provision for credit losses	3,209	3,139	6,262	5,724
Commissions and fee income	2,321	2,501	4,669	5,257
Net gains (losses) on financial assets/liabilities at fair value through profit or loss	1,334	605	2,957	2,070
Net gains (losses) on derecognition of financial assets measured at amortized cost	(2)	(4)	(4)	(4)
Net gains (losses) on financial assets at fair value through other comprehensive income	(2)	(39)	22	(34)
Net income (loss) from equity method investments	11	67	7	95
Other income (loss)	137	148	405	345
Total noninterest income	3,798	3,278	8,054	7,729
Compensation and benefits	2,812	2,690	5,508	5,346
General and administrative expenses	2,657	2,217	5,417	4,981
Impairment of goodwill and other intangible assets	0	0	0	0
Restructuring activities	134	(36)	134	(80)
Total noninterest expenses	5,602	4,870	11,059	10,247
Profit (loss) before tax	1,405	1,547	3,258	3,205
Income tax expense (benefit)	466	336	996	767
Profit (loss)	940	1,211	2,261	2,438
Profit (loss) attributable to noncontrolling interests	39	33	64	73
Profit (loss) attributable to Deutsche Bank shareholders and additional equity components	900	1,179	2,197	2,365

¹ Interest and similar income of € 8.3 billion for the three months ended June 30, 2023 and € 4.2 billion for the three months ended June 30, 2022, € 16.1 billion for the six months ended June 30, 2023 and € 7.7 billion for the six months ended June 30, 2022 was calculated based on the effective interest method

Earnings per common share

	Three months ended		Six months ended	
	Jun 30, 2023	Jun 30, 2022	Jun 30, 2023	Jun 30, 2022
Earnings per common share:¹				
Basic	€ 0.19	€ 0.34	€ 0.82	€ 0.90
Diluted	€ 0.19	€ 0.33	€ 0.81	€ 0.89
Number of shares in million:				
Denominator for basic earnings per share – weighted-average shares outstanding	2,079.0	2,080.7	2,073.0	2,086.5
Denominator for diluted earnings per share – adjusted weighted-average shares after assumed conversions	2,108.7	2,115.2	2,109.6	2,128.4

¹ Earnings were adjusted by € 498 million and € 479 million before tax for the coupons paid on Additional Tier 1 Notes in the second quarter of 2023 and 2022, respectively. The coupons paid on Additional Tier 1 Notes are not attributable to Deutsche Bank shareholders and therefore need to be deducted in the calculation in accordance with IAS 33.

Consolidated statement of comprehensive income

in € m.	Three months ended		Six months ended	
	Jun 30, 2023	Jun 30, 2022	Jun 30, 2023	Jun 30, 2022
Profit (loss) recognized in the income statement	940	1,211	2,261	2,438
Other comprehensive income				
Items that will not be reclassified to profit or loss				
Remeasurement gains (losses) related to defined benefit plans, before tax	(57)	797	188	946
Net fair value gains (losses) attributable to credit risk related to financial liabilities designated as at fair value through profit or loss, before tax	(72)	55	10	54
Total of income tax related to items that will not be reclassified to profit or loss	50	(513)	(30)	(597)
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	(58)	(507)	148	(884)
Realized net (gains) losses arising during the period (reclassified to profit or loss), before tax	2	39	(22)	34
Derivatives hedging variability of cash flows				
Unrealized net gains (losses) arising during the period, before tax	(268)	(80)	(72)	(317)
Realized net (gains) losses arising during the period (reclassified to profit or loss), before tax	92	(2)	191	(13)
Assets classified as held for sale				
Unrealized net gains (losses) arising during the period, before tax	0	0	0	0
Realized net (gains) losses arising during the period (reclassified to profit or loss), before tax	0	0	0	0
Foreign currency translation				
Unrealized net gains (losses) arising during the period, before tax	(277)	905	(789)	1,289
Realized net (gains) losses arising during the period (reclassified to profit or loss), before tax	0	0	(1)	0
Equity Method Investments				
Net gains (losses) arising during the period	(1)	23	(31)	25
Total of income tax related to items that are or may be reclassified to profit or loss	86	228	113	421
Other comprehensive income (loss), net of tax	(503)	947	(295)	959
Total comprehensive income (loss), net of tax	436	2,159	1,966	3,398
Attributable to:				
Noncontrolling interests	31	91	31	150
Deutsche Bank shareholders and additional equity components	405	2,068	1,936	3,247

Consolidated balance sheet

Assets

in € m.	Jun 30, 2023	Dec 31, 2022
Cash and central bank balances	164,586	178,896
Interbank balances (without central banks)	6,567	7,195
Central bank funds sold and securities purchased under resale agreements	11,547	11,478
Securities borrowed	104	0
Financial assets at fair value through profit or loss		
Trading assets	108,465	92,867
Positive market values from derivative financial instruments	258,731	299,686
Non-trading financial assets mandatory at fair value through profit and loss	91,915	89,654
Financial assets designated at fair value through profit or loss	166	168
Total financial assets at fair value through profit or loss	459,278	482,376
Financial assets at fair value through other comprehensive income	29,824	31,675
Equity method investments	1,023	1,124
Loans at amortized cost	477,380	483,700
Property and equipment	6,010	6,103
Goodwill and other intangible assets	7,141	7,092
Other assets ¹	128,377	118,293
Assets for current tax	1,552	1,584
Deferred tax assets	6,904	7,272
Total assets	1,300,293	1,336,788

Liabilities and equity

in € m.	Jun 30, 2023	Dec 31, 2022
Deposits	593,223	621,456
Central bank funds purchased and securities sold under repurchase agreements	2,331	573
Securities loaned	10	13
Financial liabilities at fair value through profit or loss		
Trading liabilities	54,006	50,616
Negative market values from derivative financial instruments	243,272	282,353
Financial liabilities designated at fair value through profit or loss	79,146	54,634
Investment contract liabilities	483	469
Total financial liabilities at fair value through profit or loss	376,907	388,072
Other short-term borrowings	7,081	5,122
Other liabilities ¹	121,162	113,714
Provisions	2,806	2,449
Liabilities for current tax	587	388
Deferred tax liabilities	637	650
Long-term debt	122,323	131,525
Trust preferred securities	513	500
Total liabilities	1,227,579	1,264,460
Common shares, no par value, nominal value of € 2.56	5,223	5,291
Additional paid-in capital	39,958	40,513
Retained earnings	19,050	17,800
Common shares in treasury, at cost	(54)	(331)
Accumulated other comprehensive income (loss), net of tax	(1,737)	(1,314)
Total shareholders' equity	62,440	61,959
Additional equity components	8,551	8,578
Noncontrolling interests	1,723	1,791
Total equity	72,714	72,328
Total liabilities and equity	1,300,293	1,336,788

¹ Includes non-current assets and disposal groups held for sale

Consolidated statement of changes in equity

in € m.	Unrealized net gains (losses)											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	Accumulated other comprehensive income, net of tax ¹				
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	2,365	0	(605)	38	(245)	0	1,316	18	522	2,888	0	145	3,033
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	(82)	(489)
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	360	0	0	0	0	0	0	0	0	360	0	5	365
Net change in share awards in the reporting period	0	(175)	0	0	0	0	0	0	0	0	0	(175)	0	0	(175)
Treasury shares distributed under share-based compensation plans	0	0	0	305	0	0	0	0	0	0	0	305	0	0	305
Tax benefits related to share-based compensation plans	0	(34)	0	0	0	0	0	0	0	0	0	(34)	0	0	(34)
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	55	1	0	0	0	0	0	0	0	0	56	(977) ⁴	4	(917)
Balance as of June 30, 2022	5,291	40,367	14,448	(396)	(724)	34	(277)	0	1,034	12	78	59,788	7,328	1,769	68,885
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	2,197	0	205	7	90	0	(703)	(20)	(422)	1,775	0	30	1,805
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	(92)	(702)
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	161	0	0	0	0	0	0	0	0	161	0	1	162
Net change in share awards in the reporting period	0	(274)	0	0	0	0	0	0	0	0	0	(274)	0	0	(275)
Treasury shares distributed under share-based compensation plans	0	0	0	384	0	0	0	0	0	0	0	384	0	0	384
Tax benefits related to share-based compensation plans	0	(34)	0	0	0	0	0	0	0	0	0	(34)	0	(1)	(35)
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	(407)	0	0	0	0	0	0	0	(407)	0	0	(407)
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	51	0	0	0	0	0	0	0	0	0	51	(27) ⁴	(6)	18
Balance as of June 30, 2023	5,223	39,958	19,050	(54)	(781)	68	(480)	0	(533)	(11)	(1,737)	62,440	8,551	1,723	72,714

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 effect from issuance, repayment, purchase and sale of Additional Equity Components

⁵ At February 28, 2023, Deutsche Bank cancelled 27 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.	Six months ended	
	Jun 30, 2023	Jun 30, 2022
Profit (loss)	2,261	2,438
Cash flows from operating activities:		
Adjustments to reconcile profit (loss) to net cash provided by (used in) operating activities:		
Provision for credit losses	772	525
Restructuring activities	134	(80)
Gain on sale of financial assets at fair value through other comprehensive income, equity method investments and other	(65)	14
Deferred income taxes, net	316	230
Impairment, depreciation and other amortization, and accretion	1,183	2,085
Share of net income (loss) from equity method investments	70	(94)
Profit (loss) adjusted for noncash charges, credits and other items	4,672	5,118
Adjustments for net change in operating assets and liabilities:		
Interest-earning time deposits with central banks and banks	(919)	(2,286)
Central bank funds sold, securities purchased under resale agreements, securities borrowed	(172)	(853)
Non-Trading financial assets mandatory at fair value through profit and loss	(2,826)	1,403
Financial assets designated at fair value through profit or loss	2	42
Loans at amortized cost	4,856	(13,434)
Other assets	(13,923)	(18,087)
Deposits	(27,184)	5,590
Financial liabilities designated at fair value through profit or loss and investment contract liabilities ¹	24,869	462
Central bank funds purchased, securities sold under repurchase agreements and securities loaned	1,756	448
Other short-term borrowings	1,988	1,143
Other liabilities	7,833	26,819
Senior long-term debt ²	(8,873)	(4,121)
Trading assets and liabilities, positive and negative market values from derivative financial instruments, net	(10,603)	(3,341)
Other, net	2,047	(2,483)
Net cash provided by (used in) operating activities	(16,477)	(3,581)
Cash flows from investing activities:		
Proceeds from:		
Sale of financial assets at fair value through other comprehensive income	12,100	11,458
Maturities of financial assets at fair value through other comprehensive income	9,504	7,550
Sale of debt securities held to collect at amortized cost	0	0
Maturities of debt securities held to collect at amortized cost	4,735	2,284
Sale of equity method investments	4	2
Sale of property and equipment	6	14
Purchase of:		
Financial assets at fair value through other comprehensive income	(19,683)	(22,653)
Debt Securities held to collect at amortized cost	(2,364)	(13,436)
Equity method investments	(17)	(121)
Property and equipment	(178)	(183)
Net cash received in (paid for) business combinations/divestitures	0	34
Other, net	(604)	(506)
Net cash provided by (used in) investing activities	3,505	(15,559)
Cash flows from financing activities:		
Issuances of subordinated long-term debt	1,400 ³	2,681
Repayments and extinguishments of subordinated long-term debt	(1,379) ³	(52)
Issuances of trust preferred securities	0 ⁴	0
Repayments and extinguishments of trust preferred securities	0 ⁴	0
Principal portion of lease payments	(264)	(320)
Common shares issued	0	0
Purchases of treasury shares	(407)	(695)
Sale of treasury shares	0	0
Additional Equity Components (AT1) issued	0	750
Additional Equity Components (AT1) repaid	0	(1,750)
Purchases of Additional Equity Components (AT1)	(173)	(1,648)
Sale of Additional Equity Components (AT1)	175	1,641
Coupon on additional equity components, pre tax	(498)	(479)
Dividends paid to noncontrolling interests	(92)	(82)
Net change in noncontrolling interests	(6)	4
Cash dividends paid to Deutsche Bank shareholders	(610)	(406)
Other, net	0	0
Net cash provided by (used in) financing activities	(1,855)	(357)
Net effect of exchange rate changes on cash and cash equivalents	(772)	2,234
Net increase (decrease) in cash and cash equivalents	(15,599)	(17,263)
Cash and cash equivalents at beginning of period	165,626	179,946
Cash and cash equivalents at end of period	150,026	162,683

in € m.	Six months ended	
	Jun 30, 2023	Jun 30, 2022
Net cash provided by (used in) operating activities including		
Income taxes paid (received), net	412	515
Interest paid	12,207	3,173
Interest received	20,134	8,759
Dividends received	60	50
Cash and cash equivalents comprise		
Cash and central bank balances ⁵	145,475	156,533
Interbank balances (w/o central banks) ⁶	4,552	6,150
Total	150,026	162,683

¹ Included are senior long-term debt issuances of € 2.8 billion and € 1.6 billion and repayments and extinguishments of € 921 million and € 505 million through June 30, 2023 and June 30, 2022, respectively.

² Included are issuances of € 15.4 billion and € 21.1 billion and repayments and extinguishments of € 24.1 billion and € 21.7 billion through June 30, 2023 and June 30, 2022, respectively.

³ Non-cash changes for Subordinated Long-Term Debt are € (130) million in total and mainly driven by Fair Value changes of € 18 million and Foreign Exchange movements of € (151) million.

⁴ Non-cash changes for Trust Preferred Securities are € 13 million in total and mainly driven by Fair Value changes of € 10 million.

⁵ Not included: Interest-earning time deposits with central banks of € 19.1 billion as of June 30, 2023 and € 20.5 billion as of June 30, 2022.

⁶ Not included: Interest-earning time deposits with banks of € 2.0 billion as of June 30, 2023 and € 1.8 billion as of June 30, 2022.

As of June 30, 2023 cash and central bank balances include time and demand deposits at the Russian Central Bank of € 652 million (€ 554 million as of June 30, 2022). These are subject to foreign exchange restrictions. Thereof, demand deposits of € 30 million (€ 27 million as of June 2022) qualify as Cash and cash equivalents at end of period.

Basis of preparation/impact of changes in accounting principles

The consolidated interim financial statements of Deutsche Bank Aktiengesellschaft, Taunusanlage 12, Frankfurt am Main, Germany and its subsidiaries (collectively the “Group” or “Deutsche Bank”) for the six-month period ended June 30, 2023, are stated in euros, the presentation currency of the Group. It has been prepared based on the International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and endorsed by the European Union (EU). The consolidated interim financial statements take particular account of the requirements of IAS 34 relating to interim financial reporting.

The Group’s consolidated interim financial statements are unaudited and include the consolidated balance sheet as of June 30, 2023, the related consolidated statements of income, comprehensive income, changes in equity and cash flows for the six-month period ended June 30, 2023, as well as other information.

The Group’s consolidated interim financial statements should be read in conjunction with the audited consolidated financial statements of Deutsche Bank for the year ended December 31, 2022, for which the same accounting policies, critical accounting estimates and changes in accounting estimates have been applied with the exception of the newly adopted accounting pronouncements outlined in section “Recently adopted accounting pronouncements”.

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. In addition, the EU carve out version of IAS 39 hedge ineffectiveness 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. 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 application of the EU carve out version of IAS 39 had a positive impact of € 250 million on profit before tax and of € 177 million on profit after tax for the six-month period ended June 30, 2023, compared to a negative impact of € 910 million on profit before taxes and of € 717 million on profit post taxes for the six-month period ended June 30, 2022. The application of the EU carve out version of IAS 39 had a positive impact of € 346 million on profit before tax and of € 247 million on profit after tax for the three-month period ended June 30, 2023, compared to a negative impact of € 1.0 billion on profit before taxes and of € 823 million on profit post taxes for the three-month period ended June 30, 2022. The Group’s regulatory capital and ratios thereof are also reported on the basis of the EU carve-out version of IAS 39. For the six-month period ended June 30, 2023, application of the EU carve-out had a positive impact on the CET1 capital ratio of about 5 basis points and a negative impact of about 19 basis points for the six-month period ended June 30, 2022.

The preparation of financial information 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, especially in relation to potential impacts from the rise in inflation and resulting increases in interest rates since the start of the war in Ukraine, and the results reported should not be regarded as necessarily indicative of results that may be expected for the entire year.

As of January 1, 2023, the Group discontinued its COVID-19 related disclosures based on recent regulatory and accounting guidance and its own assessment that such specific disclosures are no longer relevant.

The Group has considered the war in Ukraine and its impact on the financial statements. Further details on the related risks, exposures and the impact on financial instrument impairment can be found in the sections, “IFRS 9 impairment” and “Exposure to Russia”.

Recently adopted accounting pronouncements

The following are those accounting pronouncements which are relevant to the Group, and which have been newly applied in the first six months of 2023.

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.

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 June 30, 2023, and therefore have not been applied in the first six months of 2023.

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. These amendments have yet to be endorsed by the EU.

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. The amendments have yet to be endorsed by the EU.

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. The amendments have yet to be endorsed by the EU.

IAS 12 “Income Taxes”

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 has to be applied immediately with the disclosure requirements to be effective for annual periods beginning on or after January 1, 2023. The amendments have yet to be endorsed by the EU. The Group’s accounting for income taxes in accordance with IAS 12 is consistent with the IASB’s amendments and there has been no impact on the Group’s consolidated financial statements.

Business Segments

Changes in business segments

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. Its remaining portfolio, resources and employees are reported within the Corporate & Other segment. In line with that 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. The Group consists of the following reportable segments: Corporate Bank, Investment Bank, Private Bank, Asset Management and Corporate & Other. Prior-period segment information has been restated to reflect these changes.

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.

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 has been restated, resulting in an increase in noninterest expenses (corresponding decrease in profit before tax) for Corporate Bank of € 98 million, for Investment Bank of € 19 million, for Private Bank of € 53 million, for Asset Management of € 13 million, with a corresponding decrease in noninterest expenses (corresponding reduction in loss before tax) for Corporate and Other of € 183 million for the second quarter of 2022. For the first half of 2022, the prior-period restatement resulted in an increase in noninterest expenses (corresponding decrease in profit before tax) for Corporate Bank of € 151 million, for Investment Bank of € 33 million, for Private Bank of € 77 million and for Asset Management of € 14 million, with a corresponding decrease in noninterest expenses (corresponding reduction in loss before tax) for Corporate and Other of € 275 million.

Segment results

	Three months ended Jun 30, 2023					
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Net revenues	1,943	2,361	2,400	620	85	7,409
Provision for credit losses	117	141	147	(0)	(4)	401
Noninterest expenses:						
Compensation and benefits	375	646	716	234	841	2,812
General and administrative expenses	781	990	1,231	241	(586)	2,657
Impairment of goodwill and other intangible assets	0	0	0	0	0	0
Restructuring activities	(0)	(1)	135	(0)	0	134
Total noninterest expenses	1,156	1,636	2,082	474	255	5,602
Noncontrolling interests	0	8	0	43	(51)	0
Profit (loss) before tax	670	576	171	103	(115)	1,405

N/M – Not meaningful

	Three months ended Jun 30, 2022					
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Net revenues	1,551	2,646	2,160	656	(363)	6,650
Provision for credit losses	56	72	96	(0)	8	233
Noninterest expenses:						
Compensation and benefits	356	588	700	224	821	2,690
General and administrative expenses	700	943	986	229	(642)	2,217
Impairment of goodwill and other intangible assets	0	0	0	0	0	0
Restructuring activities	(2)	2	(35)	0	(1)	(36)
Total noninterest expenses	1,054	1,533	1,652	453	178	4,870
Noncontrolling interests	0	2	(0)	46	(49)	0
Profit (loss) before tax	441	1,038	412	157	(500)	1,547

N/M – Not meaningful

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

	Six months ended Jun 30, 2023					
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Net revenues	3,916	5,052	4,838	1,209	75	15,089
Provision for credit losses	182	181	413	(1)	(3)	772
Noninterest expenses:						
Compensation and benefits	736	1,259	1,405	456	1,652	5,508
General and administrative expenses	1,506	2,169	2,433	454	(1,144)	5,417
Impairment of goodwill and other intangible assets	0	0	0	0	0	0
Restructuring activities	0	(0)	135	0	(1)	134
Total noninterest expenses	2,242	3,427	3,973	910	507	11,059
Noncontrolling interests	0	6	0	82	(89)	0
Profit (loss) before tax	1,492	1,437	452	218	(341)	3,258

N/M – Not meaningful

	Six months ended Jun 30, 2022					
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Net revenues	3,013	5,969	4,380	1,338	(722)	13,977
Provision for credit losses	204	108	197	(0)	16	525
Noninterest expenses:						
Compensation and benefits	709	1,200	1,383	453	1,602	5,346
General and administrative expenses	1,415	2,127	2,074	421	(1,056)	4,981
Impairment of goodwill and other intangible assets	0	0	0	0	0	0
Restructuring activities	(2)	3	(80)	0	(1)	(80)
Total noninterest expenses	2,122	3,330	3,377	875	544	10,247
Noncontrolling interests	0	3	(0)	101	(104)	0
Profit (loss) before tax	687	2,528	805	362	(1,178)	3,205

N/M – Not meaningful

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

Corporate Bank

in € m. (unless stated otherwise)	Three months ended				Six months ended			
	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %
Net revenues:								
Corporate Treasury Services	1,076	946	130	14	2,264	1,845	419	23
Institutional Client Services	492	394	98	25	939	744	195	26
Business Banking	376	211	164	78	713	424	289	68
Total net revenues	1,943	1,551	392	25	3,916	3,013	903	30
Of which:								
Net interest income	1,312	825	488	59	2,645	1,604	1,040	65
Commissions and fee income	573	622	(49)	(8)	1,149	1,192	(43)	(4)
Remaining income	58	104	(47)	(45)	122	217	(95)	(44)
Provision for credit losses	117	56	62	110	182	204	(22)	(11)
Noninterest expenses:								
Compensation and benefits	375	356	19	5	736	709	27	4
General and administrative expenses	781	700	81	12	1,506	1,415	91	6
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(0)	(2)	2	(92)	0	(2)	2	N/M
Total noninterest expenses	1,156	1,054	102	10	2,242	2,122	120	6
Noncontrolling interests	0	0	0	N/M	0	0	0	N/M
Profit (loss) before tax	670	441	228	52	1,492	687	805	117
Employees (front office, full-time equivalent) ¹	7,627	7,331	297	4	7,627	7,331	297	4
Employees (business-aligned operations, full-time equivalent) ¹	6,971	5,980	991	17	6,971	5,980	991	17
Employees (allocated central infrastructure, full-time equivalent) ¹	8,716	7,586	1,130	15	8,716	7,586	1,130	15
Total employees (full-time equivalent)¹	23,314	20,897	2,417	12	23,314	20,897	2,417	12
Total assets (in € bn) ^{1,2}	245	258	(13)	(5)	245	258	(13)	(5)
Risk-weighted assets (in € bn) ¹	71	72	(1)	(1)	71	72	(1)	(1)
of which: operational risk RWA (in € bn) ¹	5	5	(0)	(0)	5	5	(0)	(0)
Leverage exposure (in € bn) ¹	306	317	(11)	(3)	306	317	(11)	(3)
Deposits (in € bn) ¹	271	275	(4)	(1)	271	275	(4)	(1)
Loans (gross of allowance for loan losses, in € bn) ¹	116	129	(13)	(10)	116	129	(13)	(10)
Cost/income ratio	59.5%	68.0%	(8.5)ppt	N/M	57.3%	70.4%	(13.2)ppt	N/M
Post-tax return on average shareholders' equity	13.6%	9.9%	3.7ppt	N/M	15.3%	7.7%	7.6ppt	N/M
Post-tax return on average tangible shareholders' equity	14.8%	10.8%	4.0ppt	N/M	16.6%	8.4%	8.2ppt	N/M

N/M – Not meaningful

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

¹ As of quarter-end

² Segment assets represent consolidated view, i.e. the amounts do not include intersegment balances as of quarter-end

Investment Bank

in € m. (unless stated otherwise)	Three months ended				Six months ended			
	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %
Net revenues:								
Fixed Income, Currency (FIC) Sales & Trading	2,146	2,385	(240)	(10)	4,506	5,226	(720)	(14)
Debt Origination	212	21	191	N/M	425	328	97	30
Equity Origination	30	45	(15)	(33)	52	79	(27)	(34)
Advisory	48	166	(118)	(71)	140	299	(159)	(53)
Origination & Advisory	291	232	59	25	618	707	(89)	(13)
Other	(76)	28	(104)	N/M	(71)	37	(108)	N/M
Total net revenues	2,361	2,646	(285)	(11)	5,052	5,969	(917)	(15)
Provision for credit losses	141	72	68	94	181	108	73	68
Noninterest expenses:								
Compensation and benefits	646	588	58	10	1,259	1,200	59	5
General and administrative expenses	990	943	47	5	2,169	2,127	42	2
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(1)	2	(3)	N/M	(0)	3	(3)	N/M
Total noninterest expenses	1,636	1,533	102	7	3,427	3,330	98	3
Noncontrolling interests	8	2	6	N/M	6	3	3	75
Profit (loss) before tax	576	1,038	(462)	(44)	1,437	2,528	(1,090)	(43)
Employees (front office, full-time equivalent) ¹	4,377	4,199	177	4	4,377	4,199	177	4
Employees (business-aligned operations, full-time equivalent) ¹	3,547	3,012	535	18	3,547	3,012	535	18
Employees (allocated central infrastructure, full-time equivalent) ¹	11,476	9,914	1,562	16	11,476	9,914	1,562	16
Total employees (full-time equivalent)¹	19,400	17,126	2,274	13	19,400	17,126	2,274	13
Total assets (in € bn) ^{1,2}	662	706	(45)	(6)	662	706	(45)	(6)
Risk-weighted assets (in € bn) ¹	145	144	1	1	145	144	1	1
of which: operational risk RWA (in € bn) ¹	23	24	(1)	(6)	23	24	(1)	(6)
Leverage exposure (in € bn) ¹	546	557	(11)	(2)	546	557	(11)	(2)
Deposits (in € bn) ¹	12	17	(5)	(29)	12	17	(5)	(29)
Loans (gross of allowance for loan losses, in € bn) ¹	103	99	3	3	103	99	3	3
Cost/income ratio	69.3%	58.0%	11.3ppt	N/M	67.8%	55.8%	12.1ppt	N/M
Post-tax return on average shareholders' equity	5.0%	10.6%	(5.6)ppt	N/M	6.6%	13.2%	(6.7)ppt	N/M
Post-tax return on average tangible shareholders' equity	5.3%	11.1%	(5.9)ppt	N/M	6.9%	13.9%	(7.0)ppt	N/M

N/M – Not meaningful

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

¹ As of quarter-end

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

Private Bank

in € m. (unless stated otherwise)	Three months ended				Six months ended			
	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %
Net revenues:								
Private Bank Germany	1,535	1,326	209	16	3,085	2,683	402	15
International Private Bank	865	834	31	4	1,752	1,696	56	3
Premium Banking	257	232	25	11	499	477	22	5
Wealth Management & Bank for Entrepreneurs	608	602	6	1	1,253	1,220	34	3
Total net revenues	2,400	2,160	240	11	4,838	4,380	458	10
Of which:								
Net interest income	1,543	1,274	269	21	3,075	2,457	618	25
Commissions and fee income	724	783	(59)	(8)	1,501	1,740	(239)	(14)
Remaining income	132	102	29	29	262	182	79	43
Provision for credit losses	147	96	50	52	413	197	216	109
Noninterest expenses:								
Compensation and benefits	716	700	15	2	1,405	1,383	22	2
General and administrative expenses	1,231	986	245	25	2,433	2,074	359	17
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	135	(35)	170	N/M	135	(80)	215	N/M
Total noninterest expenses	2,082	1,652	430	26	3,973	3,377	596	18
Noncontrolling interests	0	(0)	0	N/M	0	(0)	0	N/M
Profit (loss) before tax	171	412	(240)	(58)	452	805	(354)	(44)
Employees (front office, full-time equivalent) ¹	20,957	21,683	(725)	(3)	20,957	21,683	(725)	(3)
Employees (business-aligned operations, full-time equivalent) ¹	5,819	5,982	(164)	(3)	5,819	5,982	(164)	(3)
Employees (allocated central infrastructure, full-time equivalent) ¹	11,168	9,675	1,493	15	11,168	9,675	1,493	15
Total employees (full-time equivalent)¹	37,944	37,340	604	2	37,944	37,340	604	2
Total assets (in € bn) ^{1,2}	330	330	0	0	330	330	0	0
Risk-weighted assets (in € bn) ¹	87	88	(1)	(2)	87	88	(1)	(2)
of which: operational risk RWA (in € bn) ¹	8	7	1	8	8	7	1	8
Leverage exposure (in € bn) ¹	341	341	(0)	(0)	341	341	(0)	(0)
Deposits (in € bn) ¹	307	319	(12)	(4)	307	319	(12)	(4)
Loans (gross of allowance for loan losses, in € bn) ¹	263	264	(1)	(0)	263	264	(1)	(0)
Assets under Management (in € bn) ^{1,3}	541	529	13	2	541	529	13	2
Net flows (in € bn)	7	7	(0)	(3)	13	17	(4)	(24)
Cost/income ratio	86.8%	76.5%	10.3ppt	N/M	82.1%	77.1%	5.0ppt	N/M
Post-tax return on average shareholders' equity	2.6%	7.9%	(5.4)ppt	N/M	3.7%	7.8%	(4.1)ppt	N/M
Post-tax return on average tangible shareholders' equity	2.8%	8.6%	(5.9)ppt	N/M	4.0%	8.5%	(4.5)ppt	N/M

N/M – Not meaningful

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

¹ As of quarter-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

Asset Management

in € m. (unless stated otherwise)	Three months ended				Six months ended			
	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %
Net revenues:								
Management Fees	580	619	(39)	(6)	1,151	1,239	(89)	(7)
Performance and transaction fees	57	31	26	82	68	58	11	18
Other	(17)	6	(23)	N/M	(10)	41	(51)	N/M
Total net revenues	620	656	(36)	(6)	1,209	1,338	(129)	(10)
Provision for credit losses	(0)	(0)	0	(93)	(1)	(0)	(1)	N/M
Noninterest expenses:								
Compensation and benefits	234	224	10	4	456	453	3	1
General and administrative expenses	241	229	11	5	454	421	33	8
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(0)	0	(0)	N/M	0	0	(0)	(83)
Total noninterest expenses	474	453	21	5	910	875	35	4
Noncontrolling interests	43	46	(3)	(7)	82	101	(19)	(18)
Profit (loss) before tax	103	157	(54)	(34)	218	362	(145)	(40)
Employees (front office, full-time equivalent) ¹	1,999	1,907	92	5	1,999	1,907	92	5
Employees (business-aligned operations, full-time equivalent) ¹	2,313	2,326	(13)	(1)	2,313	2,326	(13)	(1)
Employees (allocated central infrastructure, full-time equivalent) ¹	522	485	37	8	522	485	37	8
Total employees (full-time equivalent) ¹	4,834	4,718	117	2	4,834	4,718	117	2
Total assets (in € bn) ^{1,2}	10	11	(1)	(7)	10	11	(1)	(7)
Risk-weighted assets (in € bn) ¹	14	13	1	7	14	13	1	7
of which: operational risk RWA (in € bn) ¹	3	3	0	3	3	3	0	3
Leverage exposure (in € bn) ¹	9	9	(0)	(4)	9	9	(0)	(4)
Assets under Management (in € bn) ¹	859	833	26	3	859	833	26	3
Net flows (in € bn)	9	(25)	34	N/M	15	(26)	41	N/M
Cost/income ratio	76.5%	69.1%	7.4ppt	N/M	75.3%	65.4%	9.9ppt	N/M
Post-tax return on average shareholders' equity	5.3%	8.1%	(2.7)ppt	N/M	5.6%	9.5%	(3.9)ppt	N/M
Post-tax return on average tangible shareholders' equity	12.5%	18.6%	(6.1)ppt	N/M	13.0%	22.0%	(9.0)ppt	N/M

N/M – Not meaningful

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

¹ As of quarter-end

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

Corporate & Other

in € m. (unless stated otherwise)	Three months ended				Six months ended			
	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %	Jun 30, 2023	Jun 30, 2022	Absolute Change	Change in %
Net revenues	85	(363)	448	N/M	75	(722)	797	N/M
Provision for credit losses	(4)	8	(12)	N/M	(3)	16	(18)	N/M
Noninterest expenses:								
Compensation and benefits	841	821	20	2	1,652	1,602	51	3
General and administrative expenses	(586)	(642)	55	(9)	(1,144)	(1,056)	(88)	8
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	0	(1)	1	N/M	(1)	(1)	0	(29)
Total noninterest expenses	255	178	77	44	507	544	(37)	(7)
Noncontrolling interests	(51)	(49)	(3)	5	(89)	(104)	16	(15)
Profit (loss) before tax	(115)	(500)	386	(77)	(341)	(1,178)	837	(71)
Employees (C&O, net, full-time equivalent) ¹	1,563	2,835	(1,272)	(45)	1,563	2,835	(1,272)	(45)
Employees (central infrastructure allocated to businesses, full-time equivalent) ¹	31,882	27,660	4,222	15	31,882	27,660	4,222	15
Total Employees (full-time equivalent)¹	33,445	30,495	2,950	10	33,445	30,495	2,950	10
Risk-weighted assets (in € bn) ¹	41	52	(11)	(21)	41	52	(11)	(21)
Leverage exposure (in € bn) ¹	34	56	(22)	(39)	34	56	(22)	(39)

N/M – Not meaningful

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

¹ As of quarter-end

Information on the consolidated income statement

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

in € m.	Three months ended		Six months ended	
	Jun 30, 2023	Jun 30, 2022	Jun 30, 2023	Jun 30, 2022
Net interest income	3,610	3,372	7,035	6,248
Trading income ¹	1,366	603	2,848	1,722
Net gains (losses) on non-trading financial assets mandatory at fair value through profit or loss	7	(107)	123	37
Net gains (losses) on financial assets/liabilities designated at fair value through profit or loss	(38)	110	(15)	311
Total net gains (losses) on financial assets/liabilities at fair value through profit or loss	1,334	605	2,957	2,070
Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss²	4,944	3,977	9,991	8,318
Corporate Treasury Services	740	584	1,546	1,145
Institutional Client Services	244	117	466	234
Business Banking	315	154	593	307
Corporate Bank	1,299	856	2,604	1,686
FIC Sales & Trading	2,084	2,356	4,472	5,157
Remaining Products	(78)	(196)	(65)	(228)
Investment Bank	2,006	2,160	4,408	4,929
Private Bank Germany	1,089	1,309	2,108	2,255
International Private Bank	550	474	1,101	904
Private Bank	1,639	1,783	3,208	3,159
Asset Management	18	(69)	(2)	(137)
Corporate & Other	(18)	(753)	(227)	(1,318)
Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss	4,944	3,977	9,991	8,318

¹ Trading income includes gains and losses from derivatives not qualifying for hedge accounting

² Prior year segmental information has been aligned to presentation in the current year

Interest and similar income included negative interest expense of € 25 million for the three months ended June 30, 2023, and € 388 million for the three months ended June 30, 2022, and € 61 million for the six months ended June 30, 2023, and € 745 million for the six months ended June 30, 2022. The negative interest expense resulted from financial liabilities due to banks, client deposits and cash collateral payables on derivative instruments.

In addition, interest expense included negative interest income of € 15 million for the three months ended June 30, 2023, and € 192 million for the three months ended June 30, 2022, and € 37 million for the six months ended June 30, 2023, and € 376 million for the six months ended June 30, 2022. The negative interest income resulted from financial assets due to cash and balances at central banks, loans and advances to banks, and cash collateral receivables on derivative instruments.

Impact of ECB Targeted Longer-term Refinancing Operations (TLTRO III)

The Governing Council of the ECB decided on a number of modifications to the terms and conditions of its TLTRO III-refinancing program in order to support funding of credit to households and firms and the current economic disruption. 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 that date onward. As of June 30, 2023, the Group has borrowed € 22.4 billion (June 30, 2022: € 44.7 billion) under the TLTRO III-refinancing program. The resulting net interest income includes € (216) million for the three months ended June 30, 2023 (June 30, 2022: € 109 million) and € (385) million for the six months ended June 30, 2023 (June 30, 2022: € 223 million) under the TLTRO III program.

Commissions and fee income

Disaggregation of revenues by product type and business segment

in € m. (unless stated otherwise)	Three months ended Jun 30, 2023					
	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Major type of services:						
Commissions for administration	52	12	64	4	(1)	130
Commissions for assets under management	4	0	100	904	(0)	1,008
Commissions for other securities	122	(0)	9	0	0	132
Underwriting and advisory fees	7	247	4	0	3	260
Brokerage fees	5	69	234	10	0	318
Commissions for local payments	116	0	251	0	(0)	366
Commissions for foreign commercial business	116	3	6	0	(7)	118
Commissions for foreign currency/exchange business	2	0	1	0	(0)	3
Commissions for loan processing and guarantees	155	87	53	0	1	296
Intermediary fees	6	(0)	86	0	1	93
Fees for sundry other customer services	73	70	(4)	29	1	169
Total fee and commissions income	660	487	804	947	(3)	2,894
Gross expense						(573)
Net fees and commissions						2,321

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022					
	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Major type of services:						
Commissions for administration	57	7	67	4	(1)	135
Commissions for assets under management	5	0	90	914	0	1,009
Commissions for other securities	151	0	12	0	0	163
Underwriting and advisory fees	7	336	3	0	(6)	341
Brokerage fees	4	82	283	20	1	390
Commissions for local payments	119	0	242	0	1	362
Commissions for foreign commercial business	120	8	19	0	(1)	145
Commissions for foreign currency/exchange business	5	0	1	0	0	6
Commissions for loan processing and guarantees	157	72	83	0	2	315
Intermediary fees	1	1	142	0	2	145
Fees for sundry other customer services	69	90	0	29	0	188
Total fee and commissions income	696	596	941	967	(1)	3,200
Gross expense						(699)
Net fees and commissions						2,502

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

in € m. (unless stated otherwise)	Six months ended Jun 30, 2023					
	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Major type of services:						
Commissions for administration	102	25	122	7	(1)	255
Commissions for assets under management	9	0	187	1,759	(0)	1,955
Commissions for other securities	223	(0)	20	0	0	243
Underwriting and advisory fees	23	583	10	0	(3)	613
Brokerage fees	10	139	543	15	(9)	698
Commissions for local payments	237	1	494	0	0	732
Commissions for foreign commercial business	239	13	12	0	(13)	251
Commissions for foreign currency/exchange business	3	0	2	0	(0)	5
Commissions for loan processing and guarantees	309	159	115	0	0	584
Intermediary fees	12	(0)	164	0	5	181
Fees for sundry other customer services	148	122	6	57	2	335
Total fee and commissions income	1,316	1,042	1,674	1,838	(17)	5,853
Gross expense						(1,185)
Net fees and commissions						4,669

in € m. (unless stated otherwise)	Six months ended Jun 30, 2022					
	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Major type of services:						
Commissions for administration	112	13	132	9	(1)	265
Commissions for assets under management	10	0	193	1,829	0	2,032
Commissions for other securities	262	0	24	0	0	286
Underwriting and advisory fees	19	832	6	0	(22)	835
Brokerage fees	11	149	696	36	1	894
Commissions for local payments	236	2	485	0	7	730
Commissions for foreign commercial business	237	14	39	0	(2)	288
Commissions for foreign currency/exchange business	10	0	2	0	0	12
Commissions for loan processing and guarantees	299	130	162	0	3	595
Intermediary fees	6	1	330	0	6	344
Fees for sundry other customer services	139	173	3	62	2	379
Total fee and commissions income	1,341	1,315	2,072	1,937	(6)	6,658
Gross expense						(1,401)
Net fees and commissions						5,257

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

As of June 30, 2023 and June 30, 2022 the Group's balance of receivables from commission and fee income was € 928 million and € 865 million, respectively. As of June 30, 2023 and June 30, 2022 the Group's balance of contract liabilities associated to commission and fee income was € 93 million and € 79 million, respectively. Contract liabilities arise from the Group's obligation to provide future services to a customer for which the Group 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. 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.

Gains and losses on derecognition of financial assets measured at amortized cost

For the six months ended June 30, 2023, the Group sold financial assets measured at amortized cost of € 93 million (June 30, 2022: € 78 million).

The table below presents the gains and (losses) arising from derecognition of these assets.

in € m.	Three months ended		Six months ended	
	Jun 30, 2023	Jun 30, 2022	Jun 30, 2023	Jun 30, 2022
Gains	0	1	1	3
Losses	(2)	(5)	(4)	(7)
Net gains (losses) from derecognition of assets measured at amortized cost	(2)	(4)	(4)	(4)

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 business segment

in € m.	Three months ended		Six months ended	
	Jun 30, 2023	Jun 30, 2022	Jun 30, 2023	Jun 30, 2022
Corporate Bank	(0)	(2)	0	(2)
Investment Bank	(1)	2	(0)	3
Private Bank	135	(35)	135	(80)
Asset Management	(0)	0	0	0
Corporate & Other	0	(1)	(1)	(1)
Total Net Restructuring Charges	134	(36)	134	(80)

Net restructuring expense by type

in € m.	Three months ended		Six months ended	
	Jun 30, 2023	Jun 30, 2022	Jun 30, 2023	Jun 30, 2022
Restructuring – Staff related	134	(36)	134	(79)
Of which:				
Termination Payments	134	(42)	132	(85)
Retention Acceleration	(0)	5	1	6
Social Security	0	0	1	0
Restructuring – Non Staff related ¹	(0)	(0)	(0)	(1)
Total net restructuring Charges	134	(36)	134	(80)

¹ Contract costs, mainly related to real estate

Provisions for restructuring amounted to € 353 million and € 248 million as of June 30, 2023 and December 31, 2022, respectively. The majority of the current provisions for restructuring should be utilized by the end of 2024.

During the six months ended June 30, 2023, 97 full-time equivalent staff were reduced as part of our restructuring program. These reductions were identified within:

Organizational changes

Full-time equivalent staff	Three months ended	Six months ended
	Jun 30, 2023	Jun 30, 2023
Corporate Bank	3	12
Investment Bank	0	2
Private Bank	28	58
Asset Management	0	0
Infrastructure	4	25
Total full-time equivalent staff	35	97

Effective tax rate

2023 to 2022 three months comparison

Income tax expense in the current quarter was € 466 million (second quarter of 2022: € 336 million). The effective tax rate was 33% in the second quarter of 2023 due to litigation charges being partly non-tax deductible and compares to 22% in the second quarter of 2022 which had benefitted from a change in the geographical mix of income.

2023 to 2022 six months comparison

Income tax expense in the first six months of 2023 was € 996 million (first six months of 2022: € 767 million). The effective tax rate in the first six months of 2023 was 31% compared to 24% in the first six months of 2022.

Information on the consolidated balance sheet

Financial instruments carried at fair value

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 first half of 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 modeling 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 CDOs. ABS have specific characteristics as it has 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 incorporating available observable inputs. The industry standard external 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. debt valuation adjustments (DVA) for derivatives and 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, and OTC derivative liabilities which may not be quoted in an active market. 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 issued or bought back 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 market risk parameters are valued consistently to similar instruments held as assets, for example, any derivatives embedded within the structured notes are valued using the same methodology discussed in the “Over-The-Counter Derivative Financial Instruments” section above.

Where the financial liabilities designated at fair value through profit or loss under the fair value option and 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 and where the instrument observed in the market is representative of that being priced in the Group’s inventory.

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 inputs to that technique are observable.

These include: many OTC derivatives; many investment-grade listed credit bonds; some CDS; many collateralized debt obligations (CDO); and many less-liquid equities.

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 element which is unobservable and which has 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 carried at fair value¹

in € m.	Jun 30, 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	42,581	56,372	9,511	42,035	42,285	8,547
Trading securities	42,379	54,098	3,293	41,826	39,133	3,053
Other trading assets	203	2,275	6,218	209	3,152	5,494
Positive market values from derivative financial instruments	2,406	247,460	8,866	4,914	285,208	9,564
Non-trading financial assets mandatory at fair value through profit or loss	2,025	85,339	4,551	1,605	82,259	5,790
Financial assets designated at fair value through profit or loss	0	0	166	0	75	94
Financial assets at fair value through other comprehensive income	13,335	13,213	3,276	15,892	13,108	2,676
Other financial assets at fair value	1,490	(713) ²	6	1,706	(294) ²	5
Total financial assets held at fair value	61,837	401,672	26,376	66,153	422,640	26,675
Financial liabilities held at fair value:						
Trading liabilities	44,616	9,296	94	43,163	7,419	34
Trading securities	44,616	8,220	77	43,162	6,667	30
Other trading liabilities	0	1,076	17	2	752	3
Negative market values from derivative financial instruments	2,877	233,385	7,010	3,256	270,596	8,500
Financial liabilities designated at fair value through profit or loss	0	76,006	3,141	0	51,843	2,792
Investment contract liabilities	0	483	0	0	469	0
Other financial liabilities at fair value	277	1,475 ²	(240) ³	240	1,753 ²	(511) ³
Total financial liabilities held at fair value	47,770	320,644	10,005	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 "Significant Accounting Policies and Critical Accounting Estimates" of the Annual Report 2022

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 six months ended on June 30, 2023, transfers in trading securities from Level 1 to Level 2 amounted to € 3.6 billion and € 1.5 billion, whereas transfers from Level 2 to Level 1 amounted to € 4.1 billion and € 1.8 billion, under assets and liabilities, respectively. 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 instruments in Level 3 of the fair value hierarchy have identical or similar offsetting exposures to the unobservable input. However, according to IFRS the financial instruments are required to be presented as gross assets and liabilities.

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 as trading securities. The increase in the period is mainly due to purchases and 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, settlements and losses.

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 losses.

The decrease in liabilities during the period are driven by transfers between Level 2 and Level 3 due to changes in the observability of input parameters used to value these instruments, losses and settlements.

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. Level 3 loans comprise illiquid leveraged loans and illiquid residential and commercial mortgage loans. The increase in the period refers to purchases, issuances, 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.

Non trading financial assets mandatory at fair value through profit or loss classified in Level 3 of fair value hierarchy consist of financial instruments included in the other business model at origination, acquired principally for the purpose of selling or repurchasing in the near future and unlisted equity instruments where there is no close proxy and the market is very illiquid. Additionally, this classification includes any instrument for which the contractual cash flow characteristics are not solely payments of principal and interest. The decrease in the period is driven by settlements, sales, 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 issuances and purchases.

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 are 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 as level 3 in 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 increase in assets during the period is driven by 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 losses. The increase in liabilities during the period is driven by issuances, partially offset by settlements and losses.

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, issuances and 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, settlements and losses.

Reconciliation of financial instruments classified in Level 3

Reconciliation of financial instruments classified in Level 3

Jun 30, 2023

in € m.	Balance, beginning of year	Changes in the group of consolidated companies	Total gains/losses ¹	Purchases	Sales	Issuances ²	Settlements ³	Transfers into Level 3 ⁴	Transfers out of Level 3 ⁴	Balance, end of period
Financial assets held at fair value:										
Trading securities	3,053	0	(40)	955	(598)	0	(288)	576	(364)	3,293
Positive market values from derivative financial instruments	9,564	0	(323)	0	0	0	(75)	2,110	(2,410)	8,866
Other trading assets	5,494	0	19	460	(588)	1,107	(582)	582	(275)	6,218
Non-trading financial assets mandatory at fair value through profit or loss	5,790	(1)	(118)	198	(80)	77	(789)	120	(646)	4,551
Financial assets designated at fair value through profit or loss	94	0	(2)	0	0	0	0	75	0	166
Financial assets at fair value through other comprehensive income	2,676	0	(71) ⁵	249	(110)	723	(387)	355	(159)	3,276
Other financial assets at fair value	5	0	0	0	0	0	0	0	1	6
Total financial assets held at fair value	26,675	(1)	(535)^{6,7}	1,862	(1,377)	1,907	(2,121)	3,817	(3,852)	26,376
Financial liabilities held at fair value:										
Trading securities	30	0	0	0	0	0	46	0	(0)	77
Negative market values from derivative financial instruments	8,500	0	(673)	0	0	0	(205)	1,620	(2,232)	7,010
Other trading liabilities	3	0	0	0	0	0	14	0	0	17
Financial liabilities designated at fair value through profit or loss	2,792	0	(44)	0	0	1,030	(626)	24	(36)	3,141
Other financial liabilities at fair value	(511)	0	239	0	0	0	24	(8)	15	(240)
Total financial liabilities held at fair value	10,815	0	(477)^{6,7}	0	0	1,030	(746)	1,636	(2,253)	10,005

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 interim consolidated statement of income. The balance also includes net gains (losses) on financial assets at fair value through other comprehensive income reported in the interim 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 period 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 period 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 € 32 million recognized in other comprehensive income, net of tax

⁶ This amount includes the effect of exchange rate changes. For total financial assets held at fair value this effect is a loss of € 254 million and for total financial liabilities held at fair value this is a gain of € 39 million

⁷ For assets, positive balances represent gains, negative balances represent losses. For liabilities, positive balances represent losses, negative balances represent gains

Jun 30, 2022

in € m.	Balance, beginning of year	Changes in the group of consoli- dated com- panies	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 period
Financial assets										
held at fair value:										
Trading securities	3,614	0	(316)	1,646	(1,274)	80	(79)	1,174	(785)	4,060
Positive market values from derivative finan- cial instruments	9,042	0	(2,034)	0	0	0	13	6,976	(2,477)	11,519
Other trading assets	5,201	0	37	579	(1,063)	1,431	(660)	505	(567)	5,462
Non-trading financial assets mandatory at fair value through profit or loss	4,896	0	547	162	(61)	1,109	(535)	177	(912)	5,383
Financial assets designated at fair value through profit or loss	49	0	4	0	0	0	(45)	88	0	96
Financial assets at fair value through other comprehensive income	2,302	0	5 ⁵	62	(156)	313	(349)	566	(158)	2,585
Other financial assets at fair value	78	0	0	0	0	0	0	0	49	127
Total financial assets										
held at fair value	25,182	0	(1,757)^{6,7}	2,449	(2,553)	2,932	(1,655)	9,486	(4,851)	29,232
Financial liabilities										
held at fair value:										
Trading securities	33	0	(1)	0	0	0	0	0	0	33
Negative market values from derivative financial instruments	9,781	0	(2,182)	0	0	0	(254)	5,517	(1,904)	10,958
Other trading liabilities	49	0	(45)	0	0	0	0	0	0	4
Financial liabilities designated at fair value through profit or loss	1,740	0	125	0	0	1,163	(129)	80	(50)	2,928
Other financial liabilities at fair value	(179)	0	(485)	0	0	0	(7)	1	40	(630)
Total financial										
liabilities held at										
fair value	11,424	0	(2,588)^{6,7}	0	0	1,163	(390)	5,598	(1,914)	13,293

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 interim consolidated statement of income. The balance also includes net gains (losses) on financial assets at fair value through other comprehensive income reported in the interim 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 period 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 period 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 € 104 million recognized in other comprehensive income, net of tax

⁶ This amount includes the effect of exchange rate changes. For total financial assets held at fair value this effect is a gain of € 537 million and for total financial liabilities held at fair value this is a loss of € 73 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 a deduction from CET1 the amount of any additional value adjustments on all assets measured at fair value calculated in accordance with Article 105(14). This utilizes 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 June 30, 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 June 30, 2023 were a reduction in positive fair value movement of € 166 million, and a reduction in negative fair value movement of € 81 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 € 26.4 billion at June 30, 2023 and Group Level 3 liabilities reducing from € 10.8 billion at December 31, 2022 to € 10.0 billion at June 30, 2023. These moves represent a percentage reduction in gross Level 3 assets and liabilities of approximately (3)%.

The change in positive fair value movements from December 31, 2022 to June 30, 2023 represents a (9)% reduction and the change in negative fair value movements represents an (6)% reduction. These percentage reductions are larger than the reductions in underlying gross Level 3 because our sensitivity calculations are intrinsically linked to Prudent Valuation figures, and these have reduced in 2023 predominantly due to reductions in market price dispersion.

This disclosure is intended to illustrate the potential impact of the relative uncertainty in the fair value of financial instruments for which valuations are 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 in the table below, 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

	Jun 30, 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
in € m.				
Securities:				
Debt securities	244	209	239	274
Commercial mortgage-backed securities	27	32	15	20
Mortgage and other asset-backed securities	18	18	20	26
Corporate, sovereign and other debt securities	199	160	204	228
Equity securities	80	66	114	80
Derivatives:				
Credit	228	132	218	125
Equity	42	38	70	63
Interest related	557	296	605	217
Foreign exchange	40	23	37	30
Other	89	84	59	110
Loans:				
Loans	514	429	618	459
Other	0	0	0	0
Total	1,793	1,276	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 credit default rates will lead to a 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

Jun 30, 2023

in € m. (unless stated otherwise)	Fair value		Valuation technique(s) ¹	Significant unobservable input(s) (Level 3)	Range	
	Assets	Liabilities				
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	79	0	Price based Discounted cash flow	Price Credit spread (bps)	0%	100%
					216	1,750
Mortgage- and other asset-backed securities	130	0	Price based Discounted cash flow	Price Credit spread (bps) Recovery rate Constant default rate Constant prepayment rate	0% 120 13% 0% 2%	102% 1,473 85% 22% 31%
Total mortgage- and other asset-backed securities	209	0				
Debt securities and other debt obligations	4,171	3,031	Price based Discounted cash flow	Price Credit spread (bps)	0%	179%
Held for trading	2,963	77			63	1,333
Corporate, sovereign and other debt securities	2,963					
Non-trading financial assets mandatory at fair value through profit or loss	1,071					
Designated at fair value through profit or loss	0	2,954				
Financial assets at fair value through other comprehensive income	138					
Equity securities	763	0	Market approach	Price per net asset value Enterprise value/EBITDA (multiple) Weighted average cost capital	0%	100%
Held for trading	122	0			5	13
Non-trading financial assets mandatory at fair value through profit or loss	641		Discounted cash flow Price based		18% 0%	20% 119%
Loans	9,912	17	Price based Discounted cash flow	Price Credit spread (bps)	0%	114%
Held for trading	6,120	17			118	1,364
Non-trading financial assets mandatory at fair value through profit or loss	611					
Designated at fair value through profit or loss	166	0		Recovery rate	40%	75%
Financial assets at fair value through other comprehensive income	3,015					
Loan commitments	0	8	Discounted cash flow Loan pricing model Discounted cash flow	Credit spread (bps) Recovery rate Utilization	180 40% 0%	833 76% 100%
Other financial instruments	2,449 ²	179 ³		IRR Repo rate (bps.)	7% 2	13% 643
Total non-derivative financial instruments held at fair value	17,504	3,235				

¹ Valuation technique(s) and subsequently the significant unobservable input(s) relate to the respective total position

² Other financial assets include € 98 million of other trading assets, € 2.2 billion of other non-trading financial assets mandatory at fair value and € 123 million of other financial assets at fair value through other comprehensive income

³ Other financial liabilities include € 136 million of securities sold under repurchase agreements designated at fair value and € 43 million other financial liabilities designated at fair value.

Dec 31, 2022

in € m. (unless stated otherwise)	Fair value		Valuation technique(s) ¹	Significant unobservable input(s) (Level 3)	Range
	Assets	Liabilities			
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 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% 181%
Held for trading	2,741	30			62 1,369
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% 100%
Held for trading	161	0			5 13
Non-trading financial assets mandatory at fair value through profit or loss	626		Discounted cash flow Price based		8% 20%
Loans	8,819	3	Price based Discounted cash flow	Price Credit spread (bps)	0% 122%
Held for trading	5,298	3			133 1,520
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 Loan pricing model	Credit spread (bps) Recovery rate Utilization	94 35% 0% 925 76% 100%
Other financial instruments	2,629 ²	186 ³	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

Jun 30, 2023

in € m. (unless stated otherwise)	Fair value		Valuation technique(s)	Significant unobservable input(s) (Level 3)	Range	
	Assets	Liabilities				
Financial instruments held at fair value:						
Market values from derivative financial instruments:						
Interest rate derivatives	5,493	3,522	Discounted cash flow	Swap rate (bps) Inflation swap rate Constant default rate Constant prepayment rate	(1,795) 0% 0% 2%	3,550 18% 14% 22%
			Option pricing model	Inflation volatility Interest rate volatility IR - IR correlation Hybrid correlation	1% 0% (1)% (90)%	8% 43% 99% 90%
Credit derivatives	604	501	Discounted cash flow	Credit spread (bps) Recovery rate	1 0%	5,554 40%
			Correlation pricing model	Credit correlation	25%	69%
Equity derivatives	416	921	Option pricing model	Stock volatility Index volatility Index - index correlation Stock - stock correlation Stock Forwards Index Forwards	0% 6% 0% – 0% 0%	79% 21% 0% – 3% 6%
FX derivatives	1,628	1,642	Option pricing model	Volatility Quoted Vol	(14)% 0%	46% 0%
Other derivatives	731	185 ¹	Discounted cash flow Discounted cash flow Option pricing model	Swap rate (bps) Credit spread (bps) Index volatility Price Commodity correlation	(16) 519 0% 72% 0%	28 519 144% 83% 85%
Total market values from derivative financial instruments	8,872	6,770				

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		Valuation technique(s)	Significant unobservable input(s) (Level 3)	Range
	Assets	Liabilities			
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	(1,748) 14% 15% 19%
			Option pricing model	Inflation volatility Interest rate volatility IR - IR correlation Hybrid correlation	6% 43% 99% 90%
Credit derivatives	577	517	Discounted cash flow	Credit spread (bps) Recovery rate	4,885 40%
			Correlation pricing model	Credit correlation	69%
Equity derivatives	452	1,155	Option pricing model	Stock volatility Index volatility Index - index correlation Stock - stock correlation Stock Forwards Index Forwards	75% 30% 96% 0% 11% 6%
FX derivatives	1,646	1,976	Option pricing model	Volatility Quoted Vol	48% 0%
Other derivatives	534	(205) ¹	Discounted cash flow Discounted cash flow Option pricing model	Swap rate (bps) Credit spread (bps) Index volatility Price Commodity correlation	46 – 91% 0% 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 interim consolidated income statement.

in € m.	Six months ended	
	Jun 30, 2023	Jun 30, 2022
Financial assets held at fair value:		
Trading securities	(9)	(433)
Positive market values from derivative financial instruments	441	(1,257)
Other trading assets	55	(96)
Non-trading financial assets mandatory at fair value through profit or loss	(33)	453
Financial assets designated at fair value through profit or loss	0	1
Financial assets at fair value through other comprehensive income	(3)	0
Other financial assets at fair value	(4)	13
Total financial assets held at fair value	449	(1,318)
Financial liabilities held at fair value:		
Trading securities	(0)	1
Negative market values from derivative financial instruments	(104)	1,504
Other trading liabilities	(0)	45
Financial liabilities designated at fair value through profit or loss	40	(113)
Other financial liabilities at fair value	(187)	460
Total financial liabilities held at fair value	(251)	1,897
Total	199	579

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 six months ended movement 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.	Jun 30, 2023	Jun 30, 2022
Balance, beginning of year	550	462
New trades during the period	187	99
Amortization	(77)	(49)
Matured trades	(41)	(30)
Subsequent move to observability	(15)	(9)
Exchange rate changes	(1)	4
Balance, end of period	603	477

Fair value of financial instruments not carried at fair value

This section should be read in conjunction with Note 14 “Fair Value of Financial Instruments not carried at Fair Value” of the Group’s Annual Report 2022.

The valuation techniques used to establish fair value for the Group’s financial instruments which are not carried at fair value in the balance sheet are consistent with those outlined in Note 13 “Financial Instruments carried at Fair Value” of the Group’s Annual Report 2022.

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 the fair values. Differences in carrying value versus fair value as of June 30, 2023 is consistent with rising 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 retail lending portfolios with a large number of homogenous loans (e.g. residential mortgages), the fair value is calculated for each product type by discounting the portfolio’s contractual cash flows using the Group’s new loan rates for lending to issuers of similar credit quality. 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 considered to also be at fair value.

The fair value of the corporate lending portfolio is estimated predominantly by discounting the loan until its maturity based on 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.

Estimated fair value of financial instruments not carried at fair value on the balance sheet¹

in € m.	Jun 30, 2023		Dec 31, 2022	
	Carrying value	Fair value	Carrying value	Fair value
Financial assets:				
Cash and central bank balances	164,586	164,586	178,896	178,896
Interbank balances (w/o central banks)	6,567	6,567	7,195	7,195
Central bank funds sold and securities purchased under resale agreements	11,547	11,584	11,478	11,505
Securities borrowed	104	104	0	0
Loans	477,380	453,504	483,700	461,070
Other financial assets	119,892	118,015	110,066	107,878
Financial liabilities:				
Deposits	593,223	600,996	621,456	629,629
Central bank funds purchased and securities sold under repurchase agreements	2,331	2,331	573	572
Securities loaned	10	10	13	13
Other short-term borrowings	7,081	7,080	5,122	5,121
Other financial liabilities	107,928	107,928	93,135	93,135
Long-term debt	122,323	118,209	131,525	127,743
Trust preferred securities	513	407	500	426

¹ Amounts 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 “Significant Accounting Policies and Critical Accounting Estimates” of the Group’s Annual Report 2022

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. Partly offsetting the loan carrying amount were macro hedge accounting adjustments under the EU carve-out version of IAS 39, which were € 6.4 billion as of June 30, 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 € 7.0 billion and € 7.7 billion as of June 30, 2023 and December 31, 2022, respectively. For long-term debt and trust preferred securities, the difference between the fair value and the carrying value is due to the changes 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.

Allowance for credit losses

Development of allowance for credit losses for financial assets at amortized cost

in € m.	Six months ended Jun 30, 2023				
	Allowance for credit losses ⁵				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
Balance, beginning of year	533	626	3,656	180	4,995
Movements in financial assets including new business	(106)	176	757	6	833
Transfers due to changes in creditworthiness ¹	90	(113)	23	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 ²	0	0	(442)	(40)	(482)
Recovery of written off amounts	0	0	36	0	36
Foreign exchange and other changes	2	(10)	(139)	0	(147)
Balance, end of reporting period	519	679	3,890	146	5,235
Provision for credit losses excluding country risk ^{3,4}	(16)	63	780	6	833

¹ Transfers due to changes in creditworthiness" shows the credit loss allowance movements due to stage transfer prior to expected credit loss remeasurement

² This position includes charge offs of allowance for credit losses

³ 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

⁴ Credit loss provision does include € (44) million reimbursement gain as of June 30, 2023

⁵ Allowance for credit losses does not include allowance for country risk amounting to € 10 million as of June 30, 2023

in € m.	Six months ended Jun 30, 2022				
	Allowance for credit losses ⁵				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
Balance, beginning of year	440	532	3,740	182	4,895
Movements in financial assets including new business	15	177	295	1	488
Transfers due to changes in creditworthiness ¹	79	(85)	6	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 ²	0	0	(439)	0	(439)
Recovery of written off amounts	0	0	32	3	35
Foreign exchange and other changes	7	11	24	4	46
Balance, end of reporting period	541	634	3,658	190	5,024
Provision for credit losses excluding country risk ^{3,4}	94	92	301	1	488

¹ Transfers due to changes in creditworthiness" shows the credit loss allowance movements due to stage transfer prior to expected credit loss remeasurement

² This position includes charge offs of allowance for credit losses

³ 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

⁴ Credit loss provision does include € 29 million reimbursement gain as of June 30, 2022

⁵ Allowance for credit losses does not include allowance for country risk amounting to € 12 million as of June 30, 2022

Development of allowance for credit losses for off-balance sheet positions

in € m.	Six months ended Jun 30, 2023				
	Allowance for credit losses ³				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
Balance, beginning of year	144	97	310	0	551
Movements including new business	(17)	12	(53)	0	(58)
Transfers due to changes in creditworthiness ¹	7	(8)	1	N/M	0
Changes in models	0	0	0	0	0
Foreign exchange and other changes	(0)	(2)	1	0	(1)
Balance, end of reporting period	134	98	260	0	492
of which: Financial guarantees	91	54	188	0	333
Provision for credit losses excluding country risk ²	(10)	3	(52)	0	(58)

¹ Transfers due to changes in creditworthiness¹ shows the credit loss allowance movements due to stage transfer prior to expected credit loss remeasurement

² 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

³ Allowance for credit losses does not include allowance for country risk amounting to € 7 million as of June 30, 2023

in € m.	Six months ended Jun 30, 2022				
	Allowance for credit losses ³				
	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
Balance, beginning of year	108	111	225	0	443
Movements including new business	25	1	(25)	0	1
Transfers due to changes in creditworthiness ¹	9	(10)	2	N/M	0
Changes in models	0	0	0	0	0
Foreign exchange and other changes	7	4	9	0	19
Balance, end of reporting period	147	105	211	0	464
of which: Financial guarantees	110	59	132	0	300
Provision for credit losses excluding country risk ²	33	(9)	(23)	0	1

¹ Transfers due to changes in creditworthiness¹ shows the credit loss allowance movements due to stage transfer prior to expected credit loss remeasurement

² 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

³ Allowance for credit losses does not include allowance for country risk amounting to € 9 million as of June 30, 2022

IFRS 9 Impairment

Model overview

During the first half of 2023, Deutsche Bank continued to apply the same IFRS 9 impairment model and methodologies, key assumptions and risk management activities as disclosed in the Annual Report 2022.

In July 2023, the Group completed the migration of Postbank clients into the IT systems of Deutsche Bank through its project Unity, which will impact Deutsche Bank's application of the IFRS 9 impairment model and methodologies thereafter. As outlined in the Annual Report 2022, the Group leverages existing models used for the determination of capital demand under the Basel Internal Ratings Based Approach and internal risk management practices to calculate ECL. Deutsche Bank has applied specific models for Postbank clients, which will be partially decommissioned after the migration and the Deutsche Bank infrastructure will be used going forward. In the first half of 2023, two migrations waves were successfully executed and resulted in an immaterial impact on the Group's credit loss allowances. The last wave of the migration in July 2023 will include the German mortgages and consumer finance portfolios. See details on potential migration related risks in section Risks and Opportunities of this report.

The section below focuses on the latest developments and uncertainties in the first half of 2023 and their consideration in the bank's expected credit loss (ECL) calculation, along with the bank's ongoing credit risk management activities and governance framework. 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, and regular model validations. The Group also considers each reporting period if there are any potential model imprecision or uncertainties not included in the model that require an overlay. Lastly, the Group presents a sensitivity analysis for one of the key inputs into the IFRS 9 model (i.e., forward looking macroeconomic variables).

Forward-looking information

The tables below contain the macroeconomic variables (MEV's) included in the application of forward-looking information in the IFRS 9 model as of June 30, 2023 and as of December 31, 2022. At each reporting date, the consensus data included the latest macroeconomic developments and no overlays were required.

Macroeconomic variables applied

	as of June 2023 ^{1 2}	
	Year 1 (4 quarter avg)	Year 2 (4 quarter avg)
Commodity - Gold	1,948.85	1,972.20
Commodity - WTI	77.82	82.31
Credit - CDX Emerging Markets	247.55	222.05
Credit - CDX High Yield	486.44	464.74
Credit - CDX IG	78.74	76.23
Credit - High Yield Index	4.71%	4.38%
Credit - ITX Europe 125	85.68	82.17
Equity - MSCI Asia	1,279	1,290
Equity - Nikkei	30,573	31,183
Equity - S&P500	4,178	4,215
GDP - Developing Asia	5.07%	4.70%
GDP - Emerging Markets	4.20%	4.05%
GDP - Eurozone	0.44%	0.99%
GDP - Germany	0.14%	1.27%
GDP - Italy	0.73%	0.95%
GDP - USA	1.02%	1.13%
Real Estate Prices - US CRE Index	350.73	342.32
Unemployment - Eurozone	6.77%	6.72%
Unemployment - Germany	3.15%	3.28%
Unemployment - Italy	8.09%	8.15%
Unemployment - Japan	2.58%	2.47%
Unemployment - Spain	12.85%	12.46%
Unemployment - USA	4.05%	4.51%

¹ MEV as of 27 June 2023

² Year 1 equals second quarter of 2023 to first quarter of 2024, Year 2 equals second quarter of 2024 to first quarter of 2025

	as of December 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 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 second quarter of 2023

Commercial Real Estate

Commercial Real Estate (CRE) markets continue to face headwinds due to the impacts of rising interest rates, decreasing market liquidity combined with tightened lending conditions which have an additional negative impact in particular to the US office market. The combination of risk factors leads to higher refinancing risk for maturing loans as some transactions may have to be adjusted to qualify for an extension to ensure appropriate debt service coverage and loan-to-value (LTV) ratios.

The CRE portfolio across the Group consists of financing/lending arrangements that are recourse and non-recourse financing, across various parts of the Group and client segments. While the exact definition of what constitutes a CRE exposure is subjective, the Group's CRE portfolio includes exposures reported under the Main Credit Exposure Categories by Industry Sectors for Real Estate Activities NACE was € 49.8 billion and € 48.0 billion as of June 30, 2023 and December 31, 2022, respectively. Please refer to "Risk Report" in the Combined Management Report in the Annual Report 2022.

Exposures reported under Real Estate Activities NACE which are recourse CRE financing have an inherently lower risk profile as they typically benefit from recourse to creditworthy entities or individuals, in addition to mortgage collateral, with internal ratings based on the financial strength of the guaranteeing entities / individuals. Exposures range from secured recourse lending to property companies, secured recourse lending to Wealth Management clients, as well as private and corporate clients for business or commercial properties.

Non-recourse financings are subject to increased risk since sources of repayment are typically limited to the cash flows generated by the financed property and the ability to refinance may be constrained by the underlying property value and income stream generated by such property at the time of refinancing. Non-recourse exposures reported under Real Estate Activities (NACE) was € 25.8 billion and € 24.8 billion as of June 30, 2023, and December 31, 2022, respectively.

Based on Deutsche Bank's definition of non-recourse CRE loans, the total non-recourse portfolio as of June 30, 2023 and December 31, 2022, respectively, amounted to € 40.1 billion and € 38.9 billion, respectively, which included exposures not reported under the Real Estate Activities (NACE). These non-recourse portfolios are primarily in the core CRE business units of the Investment Bank and Corporate Bank, with additional smaller portfolios added across other business units.

Amidst interest rate hikes commencing in 2022 and real estate market stresses increasing, the Group has been proactively working with borrowers to address upcoming maturities in the non-recourse portfolio. One of the key mitigants to refinancing risks remains that Deutsche Bank is primarily lending to strong institutional sponsors with significant equity invested in the financed properties.

For the three and six months ended June 30, 2023 and June 30, 2022, the total provision for credit losses for the total non-recourse CRE financing portfolio was € 109 million (2022: € 20 million) and € 143 million (2022: € 31 million), respectively. As of June 30, 2023, 17% and 5% of the exposure were in Stage 2 and Stage 3, and 14% and 4% as of December 31, 2022, respectively.

To obtain a more comprehensive understanding of potential downside risks, Deutsche Bank has run a severe stress test on a subset of the non-recourse financing portfolio deemed higher risk, which includes all non-recourse loans except for sub-portfolios subject to different risk drivers such as data centers and municipal social housing. As of June 30, 2023, the stress-tested non-recourse portfolio amounted to € 32.9 billion of the € 40.1 billion non-recourse portfolio, based on Deutsche Bank's definition.

This portfolio is diversified by property type, with the largest concentration of 41% in Office space, while Hospitality and Retail account for 11% and 9%, respectively as of June 30, 2023, and 41%, 11% and 9% as of December 31, 2022. Weighted average loan-to-value (LTV) is around 63% in the Investment Bank, 52% in the Corporate Bank, and 58% in other business units as of June 30, 2023, and 62%, 53% and 56% as of December 31, 2022. From a regional perspective, 55% of the portfolio is in the US, 37% in Europe, and 8% in the APAC region as of June 30, 2023, and 55%, 39% and 7% as of December 31, 2022, respectively, with loan originations primarily focused on larger, institutional quality assets in more liquid primary markets.

As of June 30, 2023, the Group considered the impact of its severe stress scenario on higher-risk non-recourse CRE loans focused on property values. The stress scenario applied additional haircuts ranging from 10-25% on top of the observed market index decline for each property type assuming a liquidation scenario. Based on these assumptions, such a severe stress could result in approximately € 800 million of additional credit losses spread over multiple years, which would equate to 16 bps of the total loan book. The likelihood and magnitude of occurrence will depend on the developments of the CRE markets, particularly in the US, and depend on the exposure specific fundamentals which allow a borrower to refinance. It is important to emphasize that this is stress scenario only an estimation and does not assume additional sponsor support, which could significantly reduce the actual expected credit losses.

Residential Real Estate

The Group's Residential Real Estate portfolio consists of mainly private client mortgage loans which are regularly repaid and fully recourse. The majority of these loans are in Germany where mortgage loans have a long-fixed period. Current unemployment rates in Germany, Italy and Spain are stable so there is no major increase in risk related to private clients.

In instances where Deutsche Bank has identified counterparties where credit quality has or is expected to deteriorate to the point where they present a heightened risk of default / loss, the respective counterparty is placed on the watchlist, and the counterparty is generally transferred to Stage 2. Deutsche Bank aims to identify those counterparties well in advance of payment issues materializing and continues to refine its early warning capabilities to support the identification of vulnerable clients or portfolios.

Overall Assessment of ECL's

To ensure that Deutsche Bank's ECL model accounted for the uncertainties in the macroeconomic environment throughout the second quarter and first half of 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 June 30, 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.

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. As of June 30, 2023, the Group did not identify any additional downside risks not reflected in the IFRS 9 ECL model or other material model imprecisions that would require an additional overlay other than the existing € 92 million overlay related to the new definition of default as disclosed in the Annual Report 2022.

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 on forward looking macroeconomic variables, if these key assumptions applied in the ECL model were to deviate from the bank's base case expectations. The sensitivity of 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 have not materially changed versus amounts disclosed in the Annual Report 2022.

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 June 30, 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 slightly lower as of June 30, 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

	Jun 30, 2023			
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in € m.	Downward shift	ECL impact in € m.
GDP growth rates	1pp	(80.7)	(1)pp	98.7
Unemployment rates	(0.5)pp	(41.7)	0.5pp	56.0
Real estate prices	5%	(5.9)	(5)%	6.2
Equities	10%	(13.1)	(10)%	17.5
Credit spreads	(40)%	(33.5)	40%	39.6
Commodities ¹	10%	(12.7)	(10)%	13.6

¹ The sign of the shift applies to oil prices changes. Gold price changes have the opposite sign

	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 ¹	10%	(14.8)	(10)%	15.6

¹ The sign of the shift applies to oil prices changes. Gold price changes have the opposite sign

IFRS 9 Expected Credit Losses

In the first six months of 2023, provision for credit losses was € 773 million, which is higher than the € 525 million recorded for the same period in 2022 and was mainly driven by the Private Bank which recorded credit loss provisions of € 414 million. This includes two larger Stage 3 events in the International Private Bank of € 118 million in total which occurred in the first quarter of 2023.

For the second quarter the Group reported credit loss provisions of € 401 million significantly higher than the € 233 million in the second quarter of 2022. The quarter over quarter increase was mainly driven by increased provisioning levels across all businesses in a less favorable macroeconomic environment with Commercial Real Estate as one of the main drivers in the Investment Bank and German MidCaps in the Corporate Bank, while Private Bank returned to rather normalized provisioning levels.

Stage 1 and Stage 2 provisions increased in the second quarter of 2023 by € 63 million compared to € 52 million increase recorded in the same period in 2022, which was driven by portfolio and rating changes especially in the Investment Bank, most notably in CRE.

Stage 3 provisions increased in the second quarter of 2023 to € 338 million compared to € 181 million recorded for the same period in 2022. This was primarily driven by an increased number of impairment events across all businesses with Commercial Real Estate as main driver in the Investment Bank, while Corporate Bank was mainly affected by higher provisions in German MidCaps, across various sectors.

In regard to the business segments, Corporate Bank recorded credit loss provisions of € 117 million in the second quarter of 2023 versus € 56 million in the second quarter of 2022. The Investment Bank recorded € 141 million credit loss provisions in the second quarter of 2023 versus € 72 million in the second quarter of 2022. Private Bank recorded credit loss provisions of € 147 million in the second quarter of 2023 versus € 96 million reported in the second quarter of 2022 which was benefitting from portfolio sales.

Exposure to Russia

As disclosed in the Annual Report 2022, 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 € 0.7 billion as of June 30, 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 June 30, 2023 and December 31, 2022.

Breakdown of total exposure and allowance for credit losses by stages

in € m.	Jun 30, 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	105	0	59	209	0	59
Stage 2	1,032	6	435	1,182	10	375
Stage 3	277	46	106	336	68	152
Total	1,414	53	599	1,726	79	586

¹ Allowance for credit losses do not include allowance for country risk amounting to € 3 million as of June 30, 2023 and € 11 million as of December 31, 2022

Total exposure of € 1.4 billion consists of € 0.7 billion loan exposure to Russia, € 37 million of undrawn commitments and € 0.7 billion of unsecured overnight deposits in Rubles with the Central Bank of Russia (which continues to be reflected in Stage 2 as of June 30, 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.

Impact on goodwill and other intangible assets from geopolitical events

Goodwill, indefinite and definite life intangible assets are tested for impairment annually in the fourth quarter or more frequently if there are indications that the carrying value may be impaired. Goodwill is tested for impairment purposes on the cash-generating unit (CGU) level. Definite life intangible assets are generally tested on CGU level as they do not generate cash inflows that are largely independent of those from other assets. Indefinite life intangible assets are tested at the individual asset level.

As of June 30, 2023, an analysis was performed to evaluate if an impairment loss needed to be recognized for the Group's goodwill allocated to the Asset Management CGU or the indefinite life intangible asset related to Asset Management's retail investment management agreements (shown under unamortized intangible assets). As part of the analysis, the assumptions and their sensitivities of the annual goodwill impairment test and the main input parameters for the retail investment management agreement intangible asset were reviewed and neither asset had any indication of impairment.

Non-current assets and disposal groups held for sale

Within the balance sheet, non-current assets and disposal groups held for sale are reported in Other assets and Other liabilities. This note provides further explanation on the nature and the financial impact of the non-current assets and disposal groups held for sale as of June 30, 2023.

Non-current assets and disposal groups held for sale at the reporting date

Total assets held for sale amounted to € 13 million as of June 30, 2023 (December 31, 2022: € 40 million) and the disposal groups included liabilities of € 220 million as of June 30, 2023 (December 31, 2022: € 208 million). As of June 30, 2023 for the three and six months ended, there were no unrealized net gains or losses (December 31, 2022: € 0 million) relating to non-current assets and disposal groups classified as held for sale recognized directly in accumulated other comprehensive income (loss).

Provisions

As of June 30, 2023, the Group recognized € 2.8 billion (December 31, 2022: € 2.4 billion) in provisions on its balance sheet. The provisions relate to operational risk, civil litigation, regulatory enforcement, restructuring, allowances for credit related off-balance sheet positions and other matters, including bank levies. The provisions as of June 30, 2023 are described below for civil litigation and regulatory matters and included in the Restructuring and Allowance for credit losses disclosures in this Interim Report. Details on the bank's provisions as of December 31, 2022, are disclosed in Deutsche Bank's Annual Report 2022 in Note 10 "Restructuring", Note 19 "Allowance for credit losses", and Note 27 "Provisions".

Civil litigation and regulatory enforcement matters

As of June 30, 2023, the Group recognized provisions relating to civil litigation of € 0.9 billion (December 31, 2022: € 0.6 billion) and provisions relating to regulatory enforcement matters of € 0.6 billion (December 31, 2022: € 0.6 billion). For some matters, for which the Group believes an outflow of funds is probable, but the Group could not reliably estimate the amount of the potential outflow, no provisions were recognized.

General and administrative expenses included expenses for civil litigation and regulatory enforcement matters of € 395 million for the three months ended June 30, 2023 (€ 116 million for the three months ended June 30, 2022) and € 461 million for the six months ended June 30, 2023 (€ 142 million for the six months ended June 30, 2022).

The increase in provisions during the first half of 2023 mainly related to a number of longstanding litigation matters settled in the second quarter. These matters include a settlement in a class action lawsuit brought by victims of Jeffrey Epstein for U.S. \$ 75 million and a settlement in relation to a lawsuit filed in state court in California arising from bank's role as an arranger of a second lien loan to SunEdison, Inc. for a confidential amount.

In addition, as described in Note 27 "Provisions" in the Annual Report 2022, starting in 2016 certain clients of Deutsche Bank Polska S.A. alleged 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 € 487 million with almost 3,900 civil claims having been commenced in Polish courts. In the second quarter of 2023, there was a deterioration in the risk profile with respect to the Polish FX mortgage portfolio, especially following an adverse decision from the European Court of Justice on June 15, 2023, which has affected the broader Polish banking sector. As a result, the provision for that matter increased by € 101 million and € 114 million in the three months ended and six months ended June 30, of 2023, respectively, to a total provision of € 391 million.

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 relating to a real estate development project in Florida. The action was brought by the liquidators appointed for these customer entities. The matter proceeded to trial in April 2023 and resulted in an adverse jury trial verdict of U.S. \$ 95 million. The bank has since filed a motion for judgment as a matter of law and a motion for a new trial. These motions are pending. The Group has not disclosed whether it has established a provision or contingent liability with respect to this case as such disclosure can be expected to seriously prejudice the outcome of the matter.

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 dated November 4, 2015, and May 26, 2017, respectively. 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 the 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.

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 June 30, 2023, these contingent liabilities are approximately € 2.0 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.

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 on other significant civil litigation and regulatory enforcement matters, the Group has neither recognized a provision nor included the matters in the contingent liability estimates.

For additional details on civil litigation and regulatory enforcement matters or groups of similar matters (some of which consist of a number of proceedings or claims) 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, see Note 27 "Provisions" in Deutsche Bank's Annual Report 2022 in the section captioned "Current Individual Proceedings". The disclosed matters include matters for which the possibility of a loss is more than remote, but for which the Group cannot reliably estimate the possible loss.

Credit related commitments and contingent liabilities

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.

in € m.	Jun 30, 2023	Dec 31, 2022
Irrevocable lending commitments	204,363	202,595
Revocable lending commitments	50,319	48,425
Contingent liabilities	62,824	67,214
Total	317,505	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 € 75.2 million as of June 30, 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.

Irrevocable payment commitments with regard to levies

Irrevocable payment commitments related to bank levy according to Bank Recovery and Resolution Directive (BRRD), the Single Resolution Fund (SRF) and to the German deposit protection schemes amounted to € 1.4 billion as of June 30, 2023 and to € 1.3 billion as of December 31, 2022.

Long-term debt

in € m.	Jun 30, 2023	Dec 31, 2022
Senior debt:		
Bonds and notes		
Fixed rate	73,541	63,986
Floating rate	7,441	14,571
Other	30,069	41,588
Subordinated debt:		
Bonds and notes		
Fixed rate	11,082	9,644
Floating rate	0	1,491
Other	189	245
Total long-term debt	122,323	131,525

Other financial information

Shares issued and outstanding

in million	Jun 30, 2023	Dec 31, 2022
Shares issued	2,040.2	2,066.8
Shares in treasury	4.6	28.9
Of which:		
Buyback	4.6	28.9
Other	0.0	0.0
Shares outstanding	2,035.6	2,037.8

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, and
- 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 Group, directly or indirectly. The Group considers the members of the Management Board as currently mandated and the Supervisory Board of the parent company to constitute key management personnel for purposes of IAS 24. Among the Group's transactions with key management personnel as of June 30, 2023, were loans and commitments of € 5 million and deposits of € 15 million. As of December 31, 2022, there were loans and commitments of € 5 million and deposits of € 8 million among the Group's transactions with key management personnel. In addition, the Group provides banking services, such as payment and account services as well as investment advice, to key management personnel and their close family members.

Transactions with subsidiaries, associates and joint ventures

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 issued and guarantees granted

in € m.	Jun 30, 2023	Dec 31, 2022
Loans outstanding, beginning of period	119	153
Net movement in loans during the period	(72)	(34)
Changes in the group of consolidated companies	0	0
Exchange rate changes/other	22	0
Loans outstanding, end of period¹	70	119
Other credit risk related transactions:		
Allowance for loan losses	1	0
Provision for loan losses	0	0
Guarantees and commitments	3	5

¹ Loans past due were € 0 million as of June 30, 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 June 30, 2023, and December 31, 2022, respectively

Deposits received

in € m.	Jun 30, 2023	Dec 31, 2022
Deposits, beginning of period	31	63
Net movement in deposits during the period	(3)	(32)
Changes in the group of consolidated companies	0	0
Exchange rate changes/other	0	0
Deposits, end of period	28	31

Other transactions

Trading assets and positive market values from derivative financial transactions with associated companies amounted to € 12 million as of June 30, 2023, and € 3 million as of December 31, 2022. Trading liabilities and negative market values from derivative financial transactions with associated companies were € 0 million as of June 30, 2023, and € 0 million as of December 31, 2022.

Other assets related to transactions with associated companies amounted to € 2 million as of June 30, 2023, and € 33 million as of December 31, 2022. Other liabilities related to transactions with associated companies were € 4 million as of June 30, 2023, and € 3 million as of December 31, 2022.

Transactions with pension plans

The Group has business relationships with a number of pension plans pursuant to which it provides financial services, including investment management. Pension funds may hold or trade Deutsche Bank AG shares or securities. As of June 30, 2023, transactions with these plans were not material for the Group.

Interest rate benchmark reform

As of June 30, 2023, Deutsche Bank materially completed the transition of its remaining transactions linked to USD LIBOR rates. All the positions previously referencing GBP LIBOR, CHF LIBOR, JPY LIBOR, EUR LIBOR, EONIA and those USD LIBOR tenors that ceased in early 2022 have been transitioned to an alternative reference rate.

The bank panel to determine the USD LIBOR permanently ceased as of June 30, 2023. However, certain short-term US dollar LIBOR settings will continue to be published using a synthetic methodology until September 2024. Where the maturity is after June 30, 2023, Deutsche Bank's financial instruments exposure linked to synthetic USD LIBOR settings is € 28 billion as of June 30, 2023, mainly related to loans and off-balance sheet exposure. Remaining USD LIBOR exposure post June 2023 cessation relate to positions temporarily utilizing the last available LIBOR fixing or synthetic LIBOR to complete transition. These positions are closely monitored and are on track to transition.

IBOR reform

	Dec 31, 2022
in € m.	USD LIBOR
Non-Derivative Financial assets	33,862
Loans	31,416
Other	2,445
Derivative Financial assets	3,062,368
Total financial assets	3,096,230
Non-Derivative Financial liabilities	8,666
Bonds	7,731
Deposits	728
Other	207
Derivative Financial liabilities	2,835,216
Total financial liabilities	2,843,883
Off-balance sheet	34,914

Events after the reporting period

On July 12, 2023, Private Bank introduced a new setup of its organization and the composition of its Executive Committee. The implementation of the new structure is expected to result in modifications to the presentation of segmental results in 2024.

Review report

To Deutsche Bank Aktiengesellschaft, Frankfurt am Main

We have reviewed the interim consolidated financial statements of Deutsche Bank Aktiengesellschaft, Frankfurt am Main, which comprise the consolidated statement of income, consolidated statement of comprehensive income, consolidated balance sheet, consolidated statement of changes in equity, consolidated statement of cash flows and selected explanatory notes, and the interim group management report for the period from 1 January to 30 June 2023, which are part of the half-year financial report pursuant to Sec. 115 WpHG ["Wertpapierhandelsgesetz": German Securities Trading Act]. The executive directors are responsible for the preparation of the interim consolidated financial statements in accordance with IFRSs on interim financial reporting as adopted by the EU and of the interim group management report in accordance with the requirements of the WpHG applicable to interim group management reports. Our responsibility is to issue a report on the interim consolidated financial statements and the interim group management report based on our review.

We conducted our review of the interim consolidated financial statements and of the interim group management report in compliance with German Generally Accepted Standards for the Review of Financial Statements promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW) and in supplementary compliance with the International Standard on Review Engagements "Review of Interim Financial Information Performed by the Independent Auditor of the Entity" (ISRE 2410). Those standards require that we plan and perform the review to obtain a certain level of assurance in our critical appraisal to preclude that the interim consolidated financial statements are not prepared, in all material respects, in accordance with IFRSs on interim financial reporting as adopted by the EU and that the interim group management report is not prepared, in all material respects, in accordance with the requirements of the WpHG applicable to interim group management reports. A review is limited primarily to making inquiries of the Company's employees and analytical assessments and therefore does not provide the assurance obtainable from an audit of financial statements. Since, in accordance with our engagement, we have not performed an audit of financial statements, we cannot issue an auditor's report.

Based on our review, nothing has come to our attention that causes us to believe that the interim consolidated financial statements are not prepared, in all material respects, in accordance with IFRSs on interim financial reporting as adopted by the EU or that the interim group management report is not prepared, in all material respects, in accordance with the provisions of the WpHG applicable to interim group management reports.

Eschborn/Frankfurt am Main, 26 July 2023

Ernst & Young GmbH

Wirtschaftsprüfungsgesellschaft

Lösken

Wirtschaftsprüfer

[German Public Auditor]

Mai

Wirtschaftsprüfer

[German Public Auditor]

Responsibility statement by the Management Board

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

Frankfurt am Main, July 24, 2023



Christian Sewing



James von Moltke



Karl von Rohr



Fabrizio Campelli



Bernd Leukert



Alexander von zur Mühlen



Claudio de Sanctis



Rebecca Short



Stefan Simon



Olivier Vigneron

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 Additional Tier 1 coupon as a percentage of average shareholders' equity and average tangible shareholders' equity, respectively.

Profit (loss) attributable to Deutsche Bank shareholders after Additional Tier 1 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 Additional Tier 1 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 33% for the second quarter of 2023 and 22% for the prior year's comparative period. The tax rate was 31% for the six months ended June 30, 2023, and 24% for the prior year's comparative period. For the segments, the applied tax rate was 28% for 2023 and all quarters in 2022.

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:

in € m. (unless stated otherwise)	Three months ended Jun 30, 2023					
	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Profit (loss) before tax	670	576	171	103	(115)	1,405
Profit (loss)	482	415	123	74	(155)	940
Profit (loss) attributable to noncontrolling interests	0	0	0	0	39	39
Profit (loss) attributable to DB shareholders and additional equity components	482	415	123	74	(194)	900
Profit (loss) attributable to additional equity components	30	65	32	5	6	138
Profit (loss) attributable to Deutsche Bank shareholders	452	350	91	69	(200)	763
Average allocated shareholders' equity	13,262	27,805	14,294	5,170	2,313	62,845
Deduct: Average allocated goodwill and other intangible assets ¹	1,043	1,212	1,100	2,969	44	6,367
Average allocated tangible shareholders' equity	12,219	26,594	13,194	2,201	2,270	56,477
Post-tax return on average shareholders' equity	13.6%	5.0%	2.6%	5.3%	N/M	4.9%
Post-tax return on average tangible shareholders' equity	14.8%	5.3%	2.8%	12.5%	N/M	5.4%

N/M – Not meaningful

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

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022					
	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Profit (loss) before tax	441	1,038	412	157	(500)	1,547
Profit (loss)	318	747	296	113	(263)	1,211
Profit (loss) attributable to noncontrolling interests	0	0	0	0	33	33
Profit (loss) attributable to DB shareholders and additional equity components	318	747	296	113	(296)	1,179
Profit (loss) attributable to additional equity components	27	62	31	6	7	133
Profit (loss) attributable to Deutsche Bank shareholders	291	686	266	107	(303)	1,046
Average allocated shareholders' equity	11,701	25,773	13,437	5,321	2,951	59,183
Deduct: Average allocated goodwill and other intangible assets ¹	938	1,138	1,116	3,014	64	6,270
Average allocated tangible shareholders' equity	10,762	24,635	12,321	2,307	2,888	52,914
Post-tax return on average shareholders' equity	9.9%	10.6%	7.9%	8.1%	N/M	7.1%
Post-tax return on average tangible shareholders' equity	10.8%	11.1%	8.6%	18.6%	N/M	7.9%

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

in € m. (unless stated otherwise)	Six months ended Jun 30, 2023					
	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Profit (loss) before tax	1,492	1,437	452	218	(341)	3,258
Profit (loss)	1,074	1,035	325	157	(330)	2,261
Profit (loss) attributable to noncontrolling interests	0	0	0	0	64	64
Profit (loss) attributable to DB shareholders and additional equity components	1,074	1,035	325	157	(394)	2,197
Profit (loss) attributable to additional equity components	60	129	64	11	12	276
Profit (loss) attributable to Deutsche Bank shareholders	1,014	906	261	146	(406)	1,921
Average allocated shareholders' equity	13,259	27,515	14,150	5,226	2,435	62,585
Deduct: Average allocated goodwill and other intangible assets	1,030	1,187	1,097	2,993	45	6,352
Average allocated tangible shareholders' equity	12,229	26,328	13,053	2,233	2,390	56,234
Post-tax return on average shareholders' equity	15.3%	6.6%	3.7%	5.6%	N/M	6.1%
Post-tax return on average tangible shareholders' equity	16.6%	6.9%	4.0%	13.0%	N/M	6.8%

N/M – Not meaningful

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

in € m. (unless stated otherwise)	Six months ended Jun 30, 2022					
	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Profit (loss) before tax	687	2,528	805	362	(1,178)	3,205
Profit (loss)	495	1,820	580	261	(718)	2,438
Profit (loss) attributable to noncontrolling interests	0	0	0	0	73	73
Profit (loss) attributable to DB shareholders and additional equity components	495	1,820	580	261	(790)	2,365
Profit (loss) attributable to additional equity components	52	121	60	11	16	259
Profit (loss) attributable to Deutsche Bank shareholders	443	1,699	520	250	(806)	2,106
Average allocated shareholders' equity	11,480	25,653	13,317	5,247	3,174	58,870
Deduct: Average allocated goodwill and other intangible assets	920	1,116	1,114	2,980	67	6,197
Average allocated tangible shareholders' equity	10,560	24,537	12,203	2,267	3,106	52,673
Post-tax return on average shareholders' equity	7.7%	13.2%	7.8%	9.5%	N/M	7.2%
Post-tax return on average tangible shareholders' equity	8.4%	13.9%	8.5%	22.0%	N/M	8.0%

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

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)	Three months ended Jun 30, 2023	Three months ended Jun 30, 2022	Six months ended Jun 30, 2023	Six months ended Jun 30, 2022
Profit (loss) before tax	1,405	1,547	3,258	3,205
Nonoperating costs	655	102	744	95
Profit (loss) before tax excluding nonoperating costs	2,060	1,649	4,001	3,300

The following table provides a reconciliation of Profit (loss) before tax excluding nonoperating costs for the Private Bank:

in € m. (unless stated otherwise)	Three months ended Jun 30, 2023	Three months ended Jun 30, 2022	Six months ended Jun 30, 2023	Six months ended Jun 30, 2022
Profit (loss) before tax	171	412	452	805
Nonoperating costs	254	(96)	286	(136)
Profit (loss) before tax excluding nonoperating costs	425	316	738	669

Post-tax return on average tangible shareholders' equity based on pro rata bank levies and excluding nonoperating costs

Post-tax return on average tangible shareholders' equity based on pro rata bank levies and 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 based on pro rata bank levies and excluding nonoperating costs is based on the assumption of an equal distribution of the (expected) annual bank levies across the four quarters of the financial year and 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 based on pro rata bank levies and excluding nonoperating costs provides a more meaningful depiction of the costs associated with its operating businesses and of its financial performance in the quarters given the majority of the bank levies are charged in the first quarter of the year.

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”.

Noninterest expenses in the first quarter of 2023 included charges for bank levies of € 473 million. For the full year 2023, charges for bank levies of € 502 million are expected, compared to € 762 million recorded for the full year 2022.

in € m. (unless stated otherwise)	Three months ended Jun 30, 2023	Three months ended Jun 30, 2022	Six months ended Jun 30, 2023	Six months ended Jun 30, 2022
Profit (loss) attributable to DB shareholders	763	1,046	1,921	2,106
Adjustment for bank levies	(124)	(185)	224	355
Adjustment for nonoperating costs	655	102	744	95
Income tax effect from the adjustment for bank levies ¹	35	52	(63)	(99)
Income tax effect from the adjustment for nonoperating costs ¹	(183)	(29)	(208)	(27)
Profit (loss) attributable to DB shareholders based on pro rata bank levies	674	913	2,082	2,362
Profit (loss) attributable to DB shareholders based on pro rata bank levies and excluding nonoperating costs	1,145	987	2,617	2,430
Average allocated shareholders' equity	62,845	59,183	62,585	58,870
Average tangible shareholders' equity	56,477	52,914	56,234	52,673
Post-tax return on average shareholders' equity based on pro rata bank levies	4.3%	6.2%	6.7%	8.0%
Post-tax return on average tangible shareholders' equity based on pro rata bank levies	4.8%	6.9%	7.4%	9.0%
Post-tax return on average shareholders' equity based on pro rata bank levies and excluding nonoperating costs	7.3%	6.7%	8.4%	8.3%
Post-tax return on average tangible shareholders' equity based on pro rata bank levies and excluding nonoperating costs	8.1%	7.5%	9.3%	9.2%

¹ Adjusted at a tax rate for the Group of 28% for all reporting periods

Cost/income ratio based on pro rata bank levies and excluding nonoperating costs

Cost/income ratio based on pro rata bank levies and 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 based on pro rata bank levies and excluding nonoperating costs is based on the assumption of an equal distribution of the (expected) annual bank levies across the four quarters of the financial year and is calculated by deducting nonoperating costs from noninterest expenses. The Group believes that a presentation of Cost/income ratio based on pro rata bank levies and excluding nonoperating costs provides a more meaningful depiction of the costs associated with its operating businesses and of its financial performance in the quarters given the majority of the bank levies are charged in the first quarter of the year.

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”.

Noninterest expenses in the first quarter of 2023 included charges for bank levies of € 473 million. For the full year 2023, charges for bank levies of € 502 million are expected, compared to € 762 million recorded for the full year 2022.

in € m. (unless stated otherwise)	Three months ended Jun 30, 2023	Three months ended Jun 30, 2022	Six months ended Jun 30, 2023	Six months ended Jun 30, 2022
Net revenues	7,409	6,650	15,089	13,977
Noninterest expenses	5,602	4,870	11,059	10,247
Cost/Income ratio	75.6%	73.2%	73.3%	73.3%
Adjustment for bank levies	(124)	(185)	224	355
Adjustment for nonoperating costs	655	102	744	95
Noninterest expenses based on pro rata bank levies	5,726	5,055	10,835	9,892
Noninterest expenses based on pro rata bank levies and excluding nonoperating costs	5,071	4,952	10,091	9,797
Cost/Income ratio based on pro rata bank levies	77.3%	76.0%	71.8%	70.8%
Cost/Income ratio based on pro rata bank levies and excluding nonoperating costs	68.4%	74.5%	66.9%	70.1%

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 its operating businesses.

	Three months ended Jun 30, 2023					
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Noninterest expenses	1,156	1,636	2,082	474	255	5,602
Nonoperating costs:						
Impairment of goodwill and other intangible assets	0	0	0	0	0	0
Litigation charges, net	91	65	71	20	147	395
Restructuring and severance	15	36	183	8	19	260
Total Nonoperating costs	106	101	254	28	166	655
Adjusted costs	1,050	1,534	1,828	446	89	4,947

	Three months ended Jun 30, 2022					
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Noninterest expenses	1,054	1,533	1,652	453	178	4,870
Nonoperating costs:						
Impairment of goodwill and other intangible assets	0	0	0	0	0	0
Litigation charges, net	5	115	(68)	12	52	116
Restructuring and severance	1	7	(28)	8	(2)	(14)
Total Nonoperating costs	6	122	(96)	20	51	102
Adjusted costs	1,048	1,411	1,748	433	127	4,768

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

	Six months ended Jun 30, 2023					
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Noninterest expenses	2,242	3,427	3,973	910	507	11,059
Nonoperating costs:						
Impairment of goodwill and other intangible assets	0	0	0	0	0	0
Litigation charges, net	90	91	99	23	157	461
Restructuring and severance	19	43	187	15	19	283
Total Nonoperating costs	109	134	286	38	176	744
Adjusted costs	2,133	3,294	3,686	871	331	10,315

	Six months ended Jun 30, 2022					
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Noninterest expenses	2,122	3,330	3,377	875	544	10,247
Nonoperating costs:						
Impairment of goodwill and other intangible assets	0	0	0	0	0	0
Litigation charges, net	5	117	(65)	12	74	142
Restructuring and severance	4	11	(71)	9	0	(47)
Total Nonoperating costs	9	127	(136)	21	74	95
Adjusted costs	2,113	3,202	3,513	854	470	10,152

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 segmental 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 businesses.

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.

in € m.	Three months ended Jun 30, 2023					
	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Net revenues	1,943	2,361	2,400	620	85	7,409
DVA	0	(71)	0	0	0	(71)
Revenues excluding specific items	1,943	2,432	2,400	620	85	7,480

...

in € m.	Three months ended Jun 30, 2022					
	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Net revenues	1,551	2,646	2,160	656	(363)	6,650
DVA	0	11	0	0	(3)	9
Sal. Oppenheim workout						
- International Private Bank (IPB)	0	0	2	0	0	2
Revenues excluding specific items	1,551	2,634	2,158	656	(360)	6,639

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

in € m.	Six months ended Jun 30, 2023					
	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Net Revenues	3,916	5,052	4,838	1,209	75	15,089
DVA	0	(24)	0	0	2	(22)
Sal. Oppenheim workout						
- International Private Bank (IPB)	0	0	0	0	0	0
Revenues excluding specific items	3,916	5,077	4,838	1,209	73	15,111

in € m.	Six months ended Jun 30, 2022					
	Corporate Bank	Investment Bank	Private Bank	Asset Management	Corporate & Other	Total Consolidated
Net Revenues	3,013	5,969	4,380	1,338	(722)	13,977
DVA	0	4	0	0	(5)	(1)
Sal. Oppenheim workout						
- International Private Bank (IPB)	0	0	10	0	0	10
Revenues excluding specific items	3,013	5,965	4,370	1,338	(718)	13,969

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.

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) provides a better comparison to the Group's competitors.

in € b. (unless stated otherwise)	Jun 30, 2023	Dec 31, 2022
Total assets	1,300	1,337
Deduct: Derivatives (incl. hedging derivatives & derivatives reclassified into held for sale) credit line netting	196	228
Deduct: Derivatives cash collateral received / paid	60	70
Deduct: Securities Financing Transactions credit line netting	3	2
Deduct: Pending settlements netting	35	17
Net assets (adjusted)	1,007	1,019

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.	Jun 30, 2023	Dec 31, 2022
Total shareholders' equity (Book value)	62,440	61,959
Goodwill and other intangible assets ¹	(6,388)	(6,327)
Tangible shareholders' equity (Tangible book value)	56,052	55,632

¹ Excludes Goodwill and other intangible assets attributable to partial sale of DWS

Basic shares outstanding

in million (unless stated otherwise)	Jun 30, 2023	Dec 31, 2022
Number of shares issued	2,040.2	2,066.8
Treasury shares	(4.6)	(28.9)
Vested share awards	44.0	45.6
Basic shares outstanding	2,079.6	2,083.4
Book value per basic share outstanding in €	30.02	29.74
Tangible book value per basic share outstanding in €	26.95	26.70

Imprint

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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 we derive a substantial portion of our revenues and in which we hold a substantial portion of our assets, the development of asset prices and market volatility, potential defaults of borrowers or trading counterparties, the implementation of our strategic initiatives, the reliability of our risk management policies, procedures and methods, and other risks referenced in our filings with the U.S. Securities and Exchange Commission. Such factors are described in detail in our SEC Form 20-F of March 17, 2023, under the heading "Risk Factors".

2023

Financial Calendar

October 25, 2023

Earnings Report as of September 30, 2023

2024

Financial Calendar

February 1, 2024

Preliminary results for the 2023 financial year

March 14, 2024

Annual Report 2023 and Form 20-F

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