Deutsche Bank

Interim Report as of June 30, 2022

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Financial summary

	Three months ended		Six months ended	
	Jun 30, 2022	Jun 30, 2021	Jun 30, 2022	Jun 30, 2021
Group financial targets				
Post-tax return on average tangible shareholders' equity[1]	7.9%	5.5%	8.0%	6.5%
Cost/income ratio[2]	73.2%	80.1%	73.3%	78.5%
Common Equity Tier 1 capital ratio	13.0%	13.2%	13.0%	13.2%
Leverage ratio[6,7]	4.3%	4.7%	4.3%	4.7%
Statement of income				
Total net revenues, in € bn.	6.6	6.2	14.0	13.5
Provision for credit losses, in € bn.	0.2	0.1	0.5	0.1
Total noninterest expenses, in € bn.	4.9	5.0	10.2	10.6
Adjusted costs ex-transformation charges, in € bn.[3]	4.7	4.6	10.1	9.9
Profit (loss) before tax, in € bn.	1.5	1.2	3.2	2.8
Profit (loss), in € bn.	1.2	0.8	2.4	1.9
Profit (loss) attributable to Deutsche Bank shareholders, in € bn.	1.0	0.7	2.1	1.6
Balance sheet[4]				
Total assets, in € bn.	1,387	1,320	1,387	1,320
Net assets (adjusted), in € bn.[5]	1,038	992	1,038	992
Average interest earning assets, in € bn.	970	924	972	919
Loans (gross of allowance for loan losses), in € bn.	493	445	493	445
Average loans (gross of allowance for loan losses), in € bn.	486	439	482	436
Deposits, in € bn.	613	581	613	581
Allowance for loan losses, in € bn.	4.8	4.8	4.8	4.8
Shareholders' equity, in € bn.	60	57	60	57
Resources[4]				
Risk-weighted assets, in € bn.	370	345	370	345
Thereof: Operational risk RWA, in € bn.	59	67	59	67
Leverage exposure, in € bn.[7]	1,280	1,111	1,280	1,111
Tangible shareholders' equity (Tangible book value), in € bn.[5]	53	50	53	50
High-quality liquid assets (HQLA), in € bn.	207	224	207	224
Liquidity reserves in € bn.	244	254	244	254
Employees (full-time equivalent)	82,915	83,797	82,915	83,797
Branches	1,598	1,845	1,598	1,845
Ratios				
Post-tax return on average shareholders' equity[1]	7.1%	4.9%	7.2%	5.8%
Provision for credit losses as bps of average loans	19	7	22	7
Loan-to-deposit ratio	80.5%	76.6%	80.5%	76.6%
Leverage ratio (reported/phase-in)[7]	4.3%	4.8%	4.3%	4.8%
Liquidity coverage ratio	133%	143%	133%	143%
Per share information				
Basic earnings per share	€ 0.34	€ 0.21	€ 0.90	€ 0.68
Diluted earnings per share	€ 0.33	€ 0.20	€ 0.89	€ 0.67
Book value per basic share outstanding[5]	€ 28.74	€ 26.97	€ 28.74	€ 26.97
Tangible book value per basic share outstanding[5]	€ 25.68	€ 24.06	€ 25.68	€ 24.06

[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] Total noninterest expenses as a percentage of net interest income before provision for credit losses, plus noninterest income
[3] The reconciliation of adjusted costs is provided in section “Additional Information: Non-GAAP Financial Measures; Adjusted costs” of this document
[4] At period end
[5] For further information please refer to “Additional Information: Non-GAAP Financial Measures” of this report
[6] Starting with first quarter of 2022, leverage numbers are presented as reported as the fully loaded definition has been eliminated as resulting only in an immaterial difference; comparative information for earlier periods is still based on Deutsche Bank's earlier fully loaded definition
[7] Leverage exposure and associated ratios (fully loaded and phase-in) have been updated for Jun 30, 2021 in order to reflect internal policy guidance regarding cash pooling structures

Due to rounding, numbers presented throughout this document may not sum precisely to the totals provided and percentages may not precisely reflect the absolute figures

Management report

Global economy

Economic growth (in %)[1]	Jun 30, 2022	Dec 31, 2021[4]	Main driver
Global Economy[2]	**3.0**	6.0	In the first half of 2022, the global economic recovery lost momentum, triggered by the war in Ukraine and mounting inflationary pressures. In contrast, the general improvement in the pandemic situation had a supporting effect. However, regional differences repeatedly tightened the restrictions on the supply side. Inflationary pressures prompted central banks to tighten monetary policy, but fiscal policy remained supportive in many cases.
Of which: Industrialized countries	2.3	5.2	In the industrialized countries, the impact of the war in Ukraine added to inflationary pressures. Supply bottlenecks as well as high commodity prices counteracted the recovery momentum that would otherwise have been possible. To counter inflation, several central banks began to tighten monetary policy.
Emerging markets	3.4	6.7	The recovery of the economy in the Emerging Markets was slowed down by several factors, including the stagflationary impact of the war in Ukraine due to increased commodity prices. Monetary tightening in the industrialized countries created headwinds. In addition, China's zero-COVID-19 policy had a negative impact.
Eurozone Economy[3]	**3.5**	5.3	In the Eurozone, the recovery momentum suffered from a sharp rise in energy and commodity prices. Inflation reduced the purchasing power of private households and consumer confidence suffered from the consequences of the war. Governments responded with various fiscal measures to alleviate the pressure on private households. The European Central Bank reacted cautiously to the inflationary dynamics.
Of which: Germany Economy	1.7	2.9	The German economy expanded only slightly in the first half of 2022. Supply bottlenecks and high commodity prices held back industrial production. The dependency on Russian energy supplies was reflected in the sharp price rise in fossil fuels. The German government took measures to shield consumers mainly by introducing subsidies and tax relief measures. As the COVID-19 situation improved, in particular the service sector recovered, leading to a significant decline in short-time work.
U.S. Economy[3]	**1.7**	5.7	In the first half of 2022, the U.S. economy continued to benefit somewhat from last year's fiscal stimulus and the reopening as the pandemic improved. Headwinds came from foreign trade, which noticeably slowed growth. The labor market showed strong positive momentum, but with inflation well above the central bank's target and the labor market historically tight, the Federal Reserve has embarked on an aggressive tightening cycle for the rest of the year.
Japanese Economy[3]	**0.6**	1.7	The renewed uptick in domestic COVID-19 cases, the government's response and the slowdown in overseas economies led to subdued growth in the first half of 2022.
Asia Economy[3,5]	**4.3**	7.1	At the beginning of 2022, Asia's economic development was dominated by China's struggle with the Omicron variant of COVID-19. By the end of the first half of the year, the economies have regained momentum. The slowdown among trading partners, especially overseas, continued to be a headwind.
Of which: Chinese Economy	0.4	8.1	The Chinese economy was slowed down by strict lockdown measures at the beginning of the year. During the course of the first half of the year, a recovery started as fiscal measures supported growth.

[1] Annual Real GDP Growth (% YoY). Sources: National Authorities unless stated otherwise.
[2] The Global Economy growth rates are only available at an annual basis, hence full year forecasts for 2022 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 2021 was revised by public statistics authorities. As a result, this data may differ from that previously published.
[5] Includes China, Hong Kong, India, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, South Korea, Taiwan, Thailand and Vietnam; excludes Japan.

Banking industry

Growth year-over-year (in %)	Corporate Lending	Retail Lending	Corporate Deposits	Retail Deposits	Main driver
					Jun 30, 2022
Eurozone[1]	5.1	4.7	7.1	3.7	Corporate loan growth accelerated further in the first half of 2022 due to rising costs and uncertainty resulting from Russia's war against Ukraine. Household loan growth remained robust, driven by expansion in mortgages. Corporate deposits continued to expand rapidly as firms stocked up on liquidity, while household deposits declined.
Of which: Germany	7.7	5.6	6.2	1.0	Corporate lending has sped up, for the same reasons as in the eurozone. Lending to households maintained strong momentum mainly driven by buoyant mortgage business, while consumer lending also turned slightly positive. Presumably because of surging inflation, retail deposit growth has slowed considerably to the lowest pace on record since 2004. Corporate deposits are still expanding at a healthy pace.
US	8.6	9.4	5.8[2]	5.8[2]	Economic recovery and the surge in inflation have drastically pushed up lending dynamics with both companies and households, for the latter to the highest level since 2007. By contrast, total deposit growth has slowed meaningfully to the pre-pandemic rate, probably as a result of rampant inflation, which is driving up household living costs and input costs for firms, in addition to unattractive and low-yielding deposits.
China	11.0	8.1	9.6	12.7	Although corporate lending has stabilized recently, retail lending has continued to slow substantially, to its lowest level on record since 2008. By contrast, deposit growth remains strong with households, while corporate deposit growth has slightly recovered in recent months.

[1] May 31, 2022.
[2] Total U.S. deposits as sector breakdown is not available.

The global Origination and Advisory fee pool has contracted sharply in the first half of 2022. Fees for the first half of 2022 are down 33% year-on-year, a function of heightened global geopolitical tension, equity market volatility, inflation and changes in interest rate policy. For Investment Grade Bonds and Leveraged Loans the decline in 2022 reflects normalization of unprecedented growth in 2020 and 2021, with activity in 2022 more aligned with pre-pandemic levels. However, Equity Origination had the lowest fee pool since 2003 and High Yield Bond Issuance had a materially lower fee pool, which was the lowest since 2008 and 2009. In comparison, Advisory activity remains strong, 13% down from record 2021 levels and 33% above 2016 – 2020 averages, driven by private equity appetite and corporate acquisitions in the absence of organic growth. Our assessment is that FIC revenue pools have increased year-on-year, with 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. This has driven activity across G10 FX – the most heavily traded forex currencies globally, Rates, Emerging Markets and Commodities Markets. In contrast, flow credit has been more challenged with a general trend of spread widening through the year to date. Financing products have maintained the momentum from a strong second half of 2021, with client demand still strong and capital market activity robust. However, activity has slowed in the second quarter of 2022 and the outlook for the second half 2022 is more uncertain.

Group results

Deutsche Bank's profit before tax was € 1.5 billion for the second quarter of 2022, up 33% year on year, while post-tax profit was up 46% to € 1.2 billion.

Post-tax return on average tangible shareholders' equity (RoTE) was 7.9%, up from 5.5% in the prior year quarter. Post-tax return on average shareholders' equity (RoE) was 7.1% in the quarter, up from 4.9% in the prior year quarter. The cost/income ratio improved to 73%, from 80% in the second quarter of 2021. The effective tax rate of 22% for the quarter benefited from a change in the geographical mix of income.

For the first six months, profit before tax was € 3.2 billion, up 16%, and post-tax profit was up 31% to € 2.4 billion. Profit attributable to Deutsche Bank shareholders was up 32% to € 2.1 billion. Post-tax RoTE was 8.0%, up from 6.5% in the first six months of 2021, and post-tax RoE was 7.2%, up from 5.8%. The cost/income ratio improved to 73%, from 78% in the prior year period. Results for the first six months of 2022 included bank levies of € 736 million, up € 189 million, or 34%, over the prior year period. The effective tax rate for the first six months was 24%.

2022 targets updated, 2025 targets reaffirmed

Deutsche Bank reaffirms 2022 revenue guidance of € 26-27 billion despite the deterioration in the macro-economic environment seen in the second quarter and expectations for a more challenging second half of the year.

The bank remains committed to continuing its cost reduction efforts and will continue to execute on its 2022 plan. However, the bank also recognizes increasing cost pressures from factors outside its control including higher-than-expected bank levies, inflation, unforeseen costs related to the war in Ukraine, and litigation matters. The bank also made the decision not to cap strategic investments in its control environment, staff, and technology to drive growth and efficiency, which are important for its long-term strategic direction as outlined in the Investor Deep Dive of March 10, 2022.

In the light of both revenue and cost developments, Deutsche Bank has updated its 2022 targets as follows:

- The bank continues to target a post-tax RoTE of 8% (Group) and above 9% (Core Bank) for the year 2022, while recognizing that the current operating environment makes delivery on these targets more challenging
- The bank's guidance is now for a cost/income ratio in the mid- to low-70s percent for 2022

Deutsche Bank confirms all other 2022 financial targets including a CET1 capital ratio of above 12.5% and a leverage ratio of around 4.5%.

The bank reaffirms the goals of its strategy of sustainable growth through 2025. For 2025, the bank targets compound annual revenue growth of 3.5-4.5%; post-tax RoTE of greater than 10%, and a cost/income ratio of below 62.5%. The bank also reaffirms its aim for cumulative capital distributions of around € 8 billion in respect of the years 2021-2025.

Core Bank: broad-based profit growth

The Core Bank, which excludes the Capital Release Unit, produced profit before tax of € 1.7 billion, up 21% year on year. Profit growth reflected 6% revenue growth to € 6.6 billion, combined with a 1% reduction in noninterest expenses to € 4.7 billion. Adjusted costs ex-transformation charges and bank levies were up 4% to € 4.6 billion and up 1% if adjusted for FX movements. Post-tax RoTE was 9.5%, consistent with the Core Bank's full year 2022 target of above 9% and up from 7.8% in the second quarter of 2021. Post-tax RoE was 8.4%, up from 6.9%. The Core Bank's cost/income ratio was 70%, down from 76% in the prior year quarter.

The core businesses contributed as follows to the Core Bank's profit growth:

- Corporate Bank: profit before tax of € 534 million, more than double year on year, with post-tax RoTE of 13.4% and cost/income ratio of 62%
- Investment Bank: profit before tax of € 1.1 billion, up 1%, with post-tax RoTE of 11.4% and a cost/income ratio of 57%
- Private Bank: profit before tax of € 463 million, versus a € 15 million loss before tax in the prior year quarter, post-tax RoTE of 9.9% and a cost/income ratio of 74%
- Asset Management: profit before tax of € 170 million, down 6% year on year, post-tax RoTE of 18.6% and cost/income ratio of 67%

For the first six months, Core Bank pre-tax profit was up 9% to € 3.7 billion, and post-tax RoTE was 10.1%, up from 9.3% in the first half of 2021. The cost/income ratio was 70%, down from 73% in the prior year period. The combined profit before tax of the Corporate Bank, Private Bank and Asset Management was € 2.1 billion, or 56% of the Core Bank's profit before tax in the first six months, compared to 32% for the first six months of 2021.

Capital Release Unit: further portfolio reduction and P&L improvement

The Capital Release Unit maintained its progress on portfolio reduction. Leverage exposure was reduced by a further € 6 billion to € 29 billion during the second quarter and risk weighted assets (RWAs) were stable at € 25 billion, including operational risk RWAs of € 19 billion. The Capital Release Unit remains ahead of its year-end 2022 targets for both leverage exposure and RWA reduction and has cut leverage exposure by € 220 billion, or 89%, and RWAs by € 40 billion, or 61%, since its creation in mid-2019.

The Capital Release Unit further reduced its loss before tax to € 181 million, down 30% year on year and the lowest quarterly loss since its creation in 2019. The improvement was driven primarily by a 26% year-on-year reduction in noninterest expenses, while net revenues were € 7 million positive, versus € 24 million negative in the prior year quarter, reflecting lower impacts from de-risking, risk management and funding.

Revenue growth across all core businesses in second quarter and first half year

Net revenues were € 6.6 billion, up 7% year on year and the highest second-quarter revenues since 2016, despite business exits related to transformation since 2019. In the core businesses, net revenues were as follows:

- **Corporate Bank net revenues** were € 1.6 billion, up 26% year on year, the highest since the formation of the Corporate Bank in 2019 and the third consecutive quarter of double-digit revenue growth. Growth was driven by a normalizing interest rate environment, growth in business volumes and higher fee income. Revenues in Corporate Treasury Services were up 30%, Institutional Client Services revenues rose 26% and Business Banking revenues were up 9%. Gross loans were up € 12 billion, or 11%, and deposits rose by € 19 billion, or 7%, over the prior year quarter. For the first six months, net revenues were up 18% to € 3.0 billion.
- **Investment Bank net revenues** were € 2.6 billion, up 11% year on year. Fixed Income & Currencies (FIC) revenues grew 32% to € 2.4 billion, the highest second-quarter FIC revenues for ten years. Net revenues in Rates, Foreign Exchange and Emerging Markets all more than doubled year on year, which more than offset a decline in Credit Trading compared with a strong prior year quarter. Origination & Advisory revenues declined by 63% year on year, reflecting markdowns on Leveraged Finance commitments which impacted debt origination revenues. Adjusted for these, Origination & Advisory revenues were down 38% year on year, against the backdrop of a 45% year-on-year decline in the industry fee pool (source: *Dealogic*). Advisory revenues were up 50%, reflecting market share gains. For the first six months, net revenues were up 9% to € 6.0 billion.
- **Private Bank net revenues** were € 2.2 billion, up 7% year on year, or 4% if adjusted for two effects: a significant reduction in forgone revenues from the ruling by the German Federal Court of Justice (BGH) in April 2021 regarding pricing changes on current accounts, partly offset by lower revenues from Sal. Oppenheim workout activities. Revenues in the Private Bank Germany were up 11%, or 3% if adjusted for the reduced impact of the BGH ruling, while the International Private Bank grew revenues by 2%, or 6% if adjusted for the effect on revenues of Sal. Oppenheim workout activities. Net new business volumes were € 11 billion in the quarter. This included net inflows of € 7 billion, including inflows into investment products of € 5 billion and new deposits of € 2 billion, and net new client loans of € 4 billion. For the first six months, net revenues were up 4% to € 4.4 billion and net new business volumes were € 24 billion.
- **Asset Management net revenues** rose 5% year on year to € 656 million. This development was predominantly driven by a 6% rise in management fees to € 619 million, partly reflecting inflows in previous quarters, while performance and transaction fees were up 69% to € 31 million. Net outflows were € 25 billion, driven almost entirely by outflows of low-margin cash products in a challenging macro-economic environment, of which the majority returned during July. Net outflows excluding cash products were essentially zero, as net inflows from active Equity, Multi-Asset and Alternatives offset outflows in Passive products. Assets under management were € 833 billion at quarter-end, down 3% versus the prior year quarter, reflecting the aforementioned net outflows together with market conditions, partly offset by FX movements. For the first six months, net revenues were up 6% to € 1.3 billion.

Revenue growth in Deutsche Bank's core businesses more than offset negative revenues in Corporate & Other which were negative € 370 million in the quarter, compared to negative € 6 million in the prior year quarter. This development primarily reflected valuation and timing differences on derivatives used to hedge the economic risk of the bank's balance sheet. These accounting impacts were driven by market volatility which persisted during the quarter and rising interest rates, partly offset by cross-currency basis effects. On aggregate, negative valuation effects are expected to reverse over time as the underlying instruments approach maturity.

For the first six months, net revenues were € 14.0 billion, up 4%, for both the Group and the Core Bank, and the highest half-year net revenues since 2016.

Expenses: reductions in the quarter and year to date, despite higher bank levies

Noninterest expenses were € 4.9 billion in the quarter, down 3% year on year. Adjusted costs ex-transformation charges and bank levies1 were up 2% to € 4.7 billion. This development primarily reflected FX movements which were a significant driver of higher compensation & benefits and information technology expenses. Excluding the impact of FX movements, adjusted costs ex-transformation charges and bank levies declined 2%.

For the first six months, noninterest expenses were down 3% to € 10.2 billion, despite several factors. These included higher bank levies; additional litigation provisions relating to, among other matters, regulatory investigations into employees' use of unapproved personal devices and the bank's record-keeping requirements, and costs arising from the war in Ukraine which included the relocation of technology personnel. Adjusted costs ex-transformation charges and bank levies were down 1% to € 9.3 billion, and down 3% if adjusted for FX movements.

The workforce was reduced by a further 85 full time equivalents (FTEs) to 82,915 internal FTEs during the quarter, a reduction of 882 FTEs since the end of the second quarter of 2021, despite strategic hiring and continued internalization of external staff.

Credit provisions: growth reflects a challenging environment

Provision for credit losses was € 233 million in the quarter, up from € 75 million in the second quarter of 2021. Stage 1 and 2 provisions were € 52 million, compared to net releases of € 36 million in the prior year quarter, reflecting less favorable macroeconomic variables which were partly offset by otherwise improved portfolio parameters. Provision for non-performing (stage 3) loans rose to € 181 million, up from € 111 million in the prior year quarter, mainly driven by the non-recurrence of larger stage 3 releases which favorably impacted the prior year quarter.

Consistent with earlier guidance, Deutsche Bank expects provision for credit losses to be in a range of approximately 25 basis points of average loans. This reflects the current operating environment, including management expectations for a further gradual deterioration of economic conditions.

Russia exposure further reduced

Deutsche Bank further reduced its Russian credit exposures during the second quarter. Additional contingent risk was reduced by 42% during the quarter to € 0.6 billion. This comprised undrawn commitments of € 0.4 billion, down 44% during the quarter, which are largely mitigated by Export Credit Agency coverage and contractual drawdown protection, while guarantees were reduced by 35% to € 0.1 billion. Gross loan exposure was largely unchanged at € 1.3 billion at the end of the quarter, while net loan exposure was € 0.5 billion. In 2022 to date, additional contingent risk is down 63% and net loan exposure down 19%.

Capital and liquidity in line with goals

The Common Equity Tier 1 (CET1) capital ratio was 13.0% at the end of the second quarter, up from 12.8% at the end of the first quarter, above the bank's target minimum of 12.5%. The quarter-on-quarter development largely reflected the positive impact on capital from strong second-quarter earnings, partly offset by accruals for dividends and Additional Tier 1 capital (AT1) coupons, together with negative other comprehensive income (OCI).

The Leverage ratio was 4.3% in the quarter, down from 4.6% in the first quarter, reflecting the discontinuation, from April 1, 2022, of the exclusion of certain central bank cash balances from the Leverage ratio. Including central bank cash balances in both periods, the Leverage ratio was essentially unchanged from the first quarter. The negative impact of higher leverage exposures, due to business activity and FX movements, was offset by the positive impact of strong earnings and the bank's AT1 issuance in March 2022 which was settled in early April.

Liquidity reserves were € 244 billion at the end of the second quarter, essentially unchanged from € 246 billion at the end of the first quarter, including High Quality Liquid Assets of € 207 billion. The Liquidity Coverage Ratio was 133%, above the regulatory requirement of 100% and a surplus of € 51 billion. The Net Stable Funding Ratio was 116%, within the bank's target range of 115-120%, with a surplus of € 83 billion above required levels.

Sustainable Finance: further progress toward accelerated targets

Environment, Social and Governance (ESG)-related financing and investment volumes were € 14 billion ex-DWS in the quarter, bringing the cumulative total since January 1, 2020 to € 191 billion. ESG financial and investment volumes were below recent quarters, reflecting several factors. These included lower overall capital market issuance activity, which also impacted sustainable financing volumes; more muted investment activity against a backdrop of lower asset valuations; and lower levels of sustainability activities as companies prioritized their responses to the war in Ukraine. However, Deutsche Bank remains well on track to reach its ESG cumulative volume target of at least € 200 billion by the end of 2022.

In the second quarter, Deutsche Bank's businesses contributed as follows:

- Corporate Bank: € 2 billion in sustainable financing, raising the Corporate Bank's cumulative total since January 1, 2020 to € 32 billion. Notable transactions during the quarter included the signing of a € 400 million supply chain financing linked to ESG ratings for Henkel AG & Co. KGaA, and advising BASF on an M&A and financing transaction for the construction of the world's largest offshore wind farm
- Investment Bank: € 9 billion in sustainable financing and capital market issuance, for a cumulative total of € 106 billion. This included the Austrian government's first green bond, a € 4 billion issuance due in 2049
- Private Bank: € 1 billion growth in ESG assets under management and a further € 1 billion in ESG new client lending, raising the Private Bank's cumulative total to € 52 billion

In addition to cumulative volumes since January 2020 of over € 200 billion by the end of 2022, Deutsche aims to achieve a further € 100 billion per year from 2023 to 2025, reaching a cumulative total of over € 500 billion by the end of 2025.

The bank reaffirmed its aim to publish 2050 net zero targets for its key carbon intensive portfolios, together with intermediate targets for 2030 at its second Sustainability Deep Dive later in 2022.

Deutsche Bank will strengthen its sustainability governance by creating the position of Chief Sustainability Officer with effect from September 1, 2022.

Group results at a glance

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Six months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues:								
Of which:								
Corporate Bank (CB)	1,551	1,230	321	26	3,012	2,543	468	18
Investment Bank (IB)	2,646	2,394	252	11	5,969	5,491	478	9
Private Bank (PB)	2,160	2,018	142	7	4,381	4,196	185	4
Asset Management (AM)	656	626	30	5	1,338	1,263	75	6
Capital Release Unit (CRU)	7	(24)	31	N/M	1	57	(56)	(99)
Corporate & Other (C&O)	(370)	(6)	(364)	N/M	(723)	(80)	(643)	N/M
Total net revenues	6,650	6,238	412	7	13,977	13,471	507	4
Provision for credit losses	233	75	158	N/M	525	144	381	N/M
Noninterest expenses:								
Compensation and benefits	2,690	2,551	138	5	5,346	5,183	164	3
General and administrative expenses	2,217	2,361	(144)	(6)	4,981	5,287	(307)	(6)
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(36)	86	(122)	N/M	(80)	102	(182)	N/M
Total noninterest expenses	4,870	4,998	(128)	(3)	10,247	10,572	(325)	(3)
Profit (loss) before tax	1,547	1,165	382	33	3,205	2,754	451	16
Income tax expense (benefit)	336	338	(2)	(0)	767	889	(122)	(14)
Profit (loss)	1,211	828	383	46	2,438	1,865	573	31
Profit (loss) attributable to noncontrolling interests	33	33	0	0	73	69	4	6
Profit (loss) attributable to Deutsche Bank shareholders and additional equity components	1,179	795	384	48	2,365	1,796	569	32
Profit (loss) attributable to additional equity components	133	102	30	30	259	196	63	32
Profit (loss) attributable to Deutsche Bank shareholders	1,046	692	354	51	2,106	1,600	506	32
Common Equity Tier 1 capital ratio	13.0%	13.2%	(0.2) ppt	N/M	13.0%	13.2%	(0.2) ppt	N/M
Leverage ratio (fully loaded)[1]	N/A	4.7%	N/M	N/M	N/A	4.7%	N/M	N/M
Leverage ratio (reported/phase-in)	4.3%	4.8%	(0.5) ppt	N/M	4.3%	4.8%	(0.5) ppt	N/M
Loans (gross of allowance for loan losses, in € bn)[2]	493	445	48	11	493	445	48	11
Deposits (in € bn)[2]	613	581	31	5	613	581	31	5
Assets under Management (in € bn)[2]	1,362	1,410	(48)	(3)	1,362	1,410	(48)	(3)
Employees (full-time equivalent)[2]	82,915	83,797	(882)	(1)	82,915	83,797	(882)	(1)

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year
[1] Starting with first quarter of 2022, leverage numbers are presented as reported as the fully loaded definition has been eliminated as resulting only in an immaterial difference; comparative information for earlier periods is based on Deutsche Bank's earlier fully loaded definition
[2] As of quarter-end

Core Bank results at a glance

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Six months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues:								
Corporate Bank (CB)	1,551	1,230	321	26	3,012	2,543	468	18
Investment Bank (IB)	2,646	2,394	252	11	5,969	5,491	478	9
Private Bank (PB)	2,160	2,018	142	7	4,381	4,196	185	4
Asset Management (AM)	656	626	30	5	1,338	1,263	75	6
Corporate & Other (C&O)	(370)	(6)	(364)	N/M	(723)	(80)	(643)	N/M
Total net revenues	**6,643**	6,262	381	6	**13,976**	13,413	563	4
Provision for credit losses	**236**	99	136	137	**532**	176	356	N/M
Noninterest expenses:								
Compensation and benefits	2,676	2,516	160	6	5,316	5,108	208	4
General and administrative expenses	2,037	2,138	(101)	(5)	4,483	4,607	(124)	(3)
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(35)	85	(120)	N/M	(78)	101	(180)	N/M
Total noninterest expenses	**4,678**	4,739	(61)	(1)	**9,720**	9,816	(96)	(1)
Noncontrolling interests	**0**	0	0	N/M	**0**	0	0	N/M
Profit (loss) before tax	**1,729**	1,423	306	21	**3,725**	3,422	303	9
Total assets (in € bn)[1]	1,307	1,153	154	13	1,307	1,153	154	13
Loans (gross of allowance for loan losses, in € bn)[1]	491	443	49	11	491	443	49	11
Employees (front office full-time equivalent)[1]	82,698	83,386	(688)	(1)	82,698	83,386	(688)	(1)

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year
[1] As of quarter-end.

Segment results in detail

Corporate Bank

Profit before tax was € 534 million in the quarter, more than double the prior year quarter and the highest quarterly profit since the formation of the Corporate Bank in 2019. Post-tax RoTE was 13.4%, up from 6.7% in the prior year quarter, and post-tax return on average shareholders' equity (RoE) was 12.4%, up from 6.2%. The cost/income ratio was 62%, down from 81% in the second quarter of 2021.

Net revenues were € 1.6 billion, 26% higher year on year, and the highest quarterly revenues since the formation of the Corporate Bank. This development reflected improvements in the interest rate environment, growth in business volumes and higher fee income. Loans were up € 12 billion, or 11%, and deposits up € 19 billion, or 7%, over the prior year quarter.

Corporate Treasury Services net revenues were € 962 million, up 30% year on year, driven by strong operating performance, an improving interest rate environment and higher loan and deposit volumes.

Institutional Client Services net revenues were € 394 million, 26% higher year on year, reflecting improvements in the interest rate environment and FX movements.

Business Banking net revenues were € 195 million, 9% higher year on year, driven by benefits of deposit charging and account repricing.

Accounts with deposits of € 101 billion were covered by charging agreements, stable compared to the year end 2021 and contributing € 131 million in net revenues in the quarter.

The strength of the Corporate Bank franchise was underlined by a number of accolades during the quarter. The Asset named Deutsche Bank 'Best Treasury and Cash Management Bank in Asia Pacific' and 'Best Transaction Bank in India', among 52 awards from this publication during the current awards season. Deutsche Bank was recognized for 'African Export Finance Deal of the Year' by TXF Perfect 10 and won Global Custodian's 'Advanced Performance Award for China Connectivity'.

Noninterest expenses were € 1.0 billion, 4% lower year-on-year, due to noncompensation initiatives and lower non-operating costs, partly offset by FX movements.

Provision for credit losses was € 56 million in the quarter, or 18 basis points of loans, compared to a net release of € 20 million in the prior year quarter. This development reflected a more challenging macro-economic outlook and the impacts of the war in Ukraine.

For the first six months of 2022, profit before tax was € 828 million, up 71% over the first half of 2021, reflecting 18% year-on-year revenue growth combined with a 6% reduction in noninterest expenses. Post-tax RoTE was 10.4%, up from 6.6% in the prior year period, while post-tax RoE was 9.7%, up from 6.1%. The cost/income ratio improved to 66%, down from 83%.

Corporate Bank results at a glance

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Six months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues:								
Corporate Treasury Services	962	737	224	30	1,878	1,545	334	22
Institutional Client Services	394	313	81	26	744	628	116	19
Business Banking	195	179	16	9	390	371	19	5
Total net revenues	1,551	1,230	321	26	3,012	2,543	468	18
Of which:								
Net interest income	825	543	281	52	1,604	1,250	355	28
Commissions and fee income	622	533	89	17	1,191	1,081	110	10
Remaining income	104	154	(49)	(32)	217	213	4	2
Provision for credit losses	56	(20)	76	N/M	204	(40)	244	N/M
Noninterest expenses:								
Compensation and benefits	356	355	1	0	708	714	(6)	(1)
General and administrative expenses	607	640	(34)	(5)	1,274	1,368	(93)	(7)
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(2)	5	(7)	N/M	(2)	17	(19)	N/M
Total noninterest expenses	960	1,000	(39)	(4)	1,980	2,099	(119)	(6)
Noncontrolling interests	0	0	0	N/M	0	0	0	N/M
Profit (loss) before tax	534	250	285	114	828	485	343	71
Total assets (in € bn)[1]	258	245	12	5	258	245	12	5
Loans (gross of allowance for loan losses, in € bn)[1]	129	116	12	11	129	116	12	11
Employees (front office full-time equivalent)[1]	13,305	13,487	(182)	(1)	13,305	13,487	(182)	(1)

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year
[1] As of quarter-end

Investment Bank

Profit before tax was € 1.1 billion in the quarter, up 1% over the prior year quarter. Revenue growth offset higher non-interest expenses and provision for credit losses. Post-tax RoTE was 11.4%, compared to 12.5% in the prior year quarter, while post-tax RoE was 10.9%, compared to 11.9% in the prior year period. The cost/income ratio was 57%, up from 56% in the prior year quarter.

Net revenues were € 2.6 billion, up 11% year on year. Strong performance in FIC Sales & Trading, driven by Emerging Markets, Rates and Foreign Exchange, more than offset significantly lower revenues in Origination and Advisory.

Sales & Trading FIC revenues were € 2.4 billion, up 32% versus the prior year quarter and the highest second-quarter revenues for ten years. Revenues across Emerging Markets, Rates and Foreign Exchange were all more than double the prior year, driven by increased client flows, market activity and disciplined risk management. Deutsche Bank topped the benchmark Euromoney FX client poll for the first time since 2013 by a substantial margin. Financing revenues were essentially flat year on year, while Credit Trading revenues were significantly lower compared to a strong prior year quarter.

Origination & Advisory revenues were € 232 million, down 63% year on year. Revenues in the quarter included markdowns on Leveraged Finance commitments which impacted Debt Origination revenues. Excluding this impact, Origination & Advisory revenues were down 38% year on year, against the backdrop of a decline in the industry fee pool of around 45% according to Dealogic. Advisory revenues were up 50%, reflecting market share gains.

Noninterest expenses were € 1.5 billion in the quarter, up 12% year on year. The increase was primarily driven by the impact of litigation provisions relating to, among other matters, regulatory investigations into employees' use of unapproved personal devices and the bank's record-keeping requirements, and FX movements.

Provision for credit losses was € 72 million in the quarter, or 30 basis points of average loans. The year-on-year increase was driven by a small number of impairment events while the prior year quarter benefited from a larger stage 3 release.

For the first six months of 2022, profit before tax was € 2.6 billion, up 1% over a strong first half year of 2021. This reflected year-on-year revenue growth of 9%, offset by a rise in noninterest expenses of 11%. Post-tax RoTE was 14.1%, compared to 15.5% in the first half of 2021, while post-tax RoE was 13.5%, compared to 14.8% in the prior year period. The cost/income ratio was 55%, up slightly from 54% in the prior year period.

Investment Bank results at a glance

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Six months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues:								
Fixed Income, Currency (FIC) Sales & Trading	2,385	1,811	574	32	5,225	4,280	944	22
Debt Origination	21	399	(377)	(95)	328	784	(456)	(58)
Equity Origination	45	114	(69)	(60)	79	313	(234)	(75)
Advisory	166	110	55	50	299	182	118	65
Origination & Advisory	232	623	(391)	(63)	707	1,279	(572)	(45)
Other	28	(40)	69	N/M	38	(68)	106	N/M
Total net revenues	2,646	2,394	252	11	5,969	5,491	478	9
Provision for credit losses	72	2	70	N/M	108	3	105	N/M
Noninterest expenses:								
Compensation and benefits	588	532	56	11	1,199	1,065	134	13
General and administrative expenses	922	804	118	15	2,088	1,877	211	11
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	2	11	(9)	(81)	3	12	(9)	(73)
Total noninterest expenses	1,512	1,347	165	12	3,290	2,954	337	11
Noncontrolling interests	2	(2)	4	N/M	3	(1)	5	N/M
Profit (loss) before tax	1,059	1,046	13	1	2,567	2,535	32	1
Total assets (in € bn)[1]	706	586	121	21	706	586	121	21
Loans (gross of allowance for loan losses, in € bn)[1]	99	75	25	33	99	75	25	33
Employees (front office full-time equivalent)[1]	7,206	7,151	55	1	7,206	7,151	55	1

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year
[1] As of quarter-end

Private Bank

Profit before tax was € 463 million in the quarter. This compared to a loss before tax of € 15 million in the prior year quarter, which reflected higher transformation related costs and negative impacts related to the BGH ruling on pricing agreements. Post-tax RoTE rose to 9.9%, up from negative 1.2% in the prior year quarter, and post-tax RoE was 9.0%. The cost/income ratio was 74%, down from 95% in the prior year quarter.

Net revenues were € 2.2 billion, up 7% year on year. This development reflected the positive impact of significantly reduced forgone revenues from the BGH ruling, as the bank has largely completed the process of entering into new contracts with affected customers. This was partly offset by lower specific items related to Sal. Oppenheim workout activities. Adjusted for these impacts, net revenues were up 4% year on year, supported by exchange rate movements, valuation items and continued new business volumes, which were € 11 billion in the quarter. This included net inflows into Assets under management of € 7 billion, comprising net inflows into investment products of € 5 billion and deposits of € 2 billion, and net new client loans of € 4 billion.

The Private Bank Germany generated net revenues of € 1.3 billion, up 11% year on year, reflecting significantly reduced forgone revenues from the BGH ruling. Adjusted for this, revenues were up 3%, with valuation items and higher net interest income more than offsetting lower fee income in a more challenging market environment.

In the International Private Bank net revenues were € 834 million, up 2% year on year, and up 6% if adjusted for Sal. Oppenheim workout activities. This growth, achieved despite a challenging market environment, reflected continued loan growth and higher deposit revenues, supported by FX movements, while the latter were additionally supported by interest rate changes.

Assets under management declined by € 20 billion to € 528 billion in the quarter. Market depreciation impacts, which totaled € 33 billion during the quarter, were partly offset by the aforementioned net inflows of € 7 billion and by a € 7 billion beneficial impact from FX movements.

Noninterest expenses were € 1.6 billion, down 16% year on year. The improvement reflected a € 71 million release in litigation provisions related to the BGH ruling, compared to litigation charges of € 128 million in the prior year quarter, as well as lower restructuring expenses. Adjusted costs were down 1%, as incremental savings from transformation initiatives, including workforce reductions and branch closures, and lower internal service cost allocations more than offset negative impacts from exchange rate movements and higher compensation costs.

Provision for credit losses was € 96 million, 15 basis points of average loans, and down 17% year on year, reflecting releases of credit loss allowances following sales of non-performing loans, tight risk discipline and a high-quality loan book.

For the first six months of 2022, the Private Bank reported a profit before tax of € 881 million, up more than threefold from € 255 million in the prior year period. Profit growth was primarily driven by an 11% reduction in noninterest expenses to € 3.3 billion, which included the release of litigation provisions taken in the prior year period relating to the BGH ruling. The year-on-year expense reduction also reflected lower effects related to the execution of strategic objectives as well as continued cost savings. Net revenues grew 4% year on year to € 4.4 billion in the first six months. Post-tax RoTE in the first half of 2022 rose from 2.5% in the prior year period to 9.5%, and post-tax RoE rose from 2.2% to 8.6%. The cost/income ratio improved from 89% to 75%.

Business growth was € 24 billion for the first six months and included net inflows of € 17 billion into Assets under management and € 8 billion net new client loans.

Private Bank results at a glance

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Six months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues:								
Private Bank Germany	1,326	1,198	128	11	2,684	2,545	139	5
International Private Bank	834	820	14	2	1,696	1,651	45	3
Premium Banking	235	229	6	3	486	475	11	2
Wealth Management & Bank for Entrepreneurs	598	591	8	1	1,210	1,176	34	3
Total net revenues	2,160	2,018	142	7	4,381	4,196	185	4
Of which:								
Net interest income	1,274	1,147	127	11	2,457	2,319	138	6
Commissions and fee income	783	737	47	6	1,741	1,626	115	7
Remaining income	102	134	(32)	(24)	182	251	(69)	(27)
Provision for credit losses	96	117	(20)	(17)	197	215	(18)	(8)
Noninterest expenses:								
Compensation and benefits	702	683	19	3	1,387	1,402	(16)	(1)
General and administrative expenses	933	1,165	(232)	(20)	1,995	2,253	(257)	(11)
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(35)	69	(103)	N/M	(80)	71	(151)	N/M
Total noninterest expenses	1,601	1,916	(316)	(16)	3,302	3,726	(424)	(11)
Noncontrolling interests	(0)	0	(0)	N/M	(0)	0	(0)	N/M
Profit (loss) before tax	463	(15)	478	N/M	881	255	626	N/M
Total assets (in € bn)[1]	330	305	25	8	330	305	25	8
Loans (gross of allowance for loan losses, in € bn)[1]	264	247	17	7	264	247	17	7
Assets under Management (in € bn)[1]	528	537	(8)	(2)	528	537	(8)	(2)
Net flows (in € bn)	7	10	(3)	(29)	17	21	(4)	(19)
Employees (front office full-time equivalent)[1]	27,720	29,117	(1,397)	(5)	27,720	29,117	(1,397)	(5)

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year
[1] As of quarter-end

Asset Management

Profit before tax was € 170 million in the second quarter, down 6% compared with the prior year period. Adjusted for transformation charges and restructuring and severance expenses, profit before tax declined 2% to € 178 million.

Net revenues were € 656 million, up 5% year on year. This was mainly driven by higher management fees and supported by higher performance fees.

Noninterest expenses were € 440 million in the second quarter, up 11% year on year. Adjusted costs were € 420 million, up 7%. This increase was in line with DWS' growth strategy and driven by higher professional fees and regulatory costs as well as compensation and benefits costs. The cost/income ratio increased year on year by 4 percentage points to 67%, mainly driven by investments into infrastructure platform transformation and non-recurring expenses.

Net outflows were € 25 billion in the second quarter. Outflows were driven almost exclusively by low-margin cash products, reflecting high inflation rates and rising interest rate expectations during the quarter, of which the majority returned during July. Net outflows excluding cash products were effectively zero, as inflows in higher-margin active Equity, Multi-Asset and Alternatives products, which saw sustained demand from clients, offset outflows of lower-margin Passive products. The management fee margin improved to 28.4 basis points in the quarter, reflecting outflows of cash and lower-margin products and inflows into higher-margin products.

Assets under Management decreased by € 69 billion during the quarter to € 833 billion. This was mainly driven by the negative market developments and the aforementioned net outflows in the quarter, partly offset by favorable FX movements. Since the end of the prior year quarter, assets under management were down € 26 billion or 3%.

For the first six months of 2022, Asset Management reported a profit before tax of € 376 million, up 3% over the first six months in 2021, as revenue growth of 6% was partly offset by higher noninterest expenses. Adjusted profit before tax grew by 4% to € 385 million. Post-tax RoTE was 21.7% and post-tax RoE was 9.7%. The cost/income ratio was 64%. Year-to-date net outflows were € 26 billion, predominantly low-margin Cash products, while net outflows excluding cash products were € 5 billion.

Asset Management results at a glance

	Three months ended				Six months ended			
in € m. (unless stated otherwise)	Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues:								
Management Fees	619	584	34	6	1,239	1,131	108	10
Performance and transaction fees	31	19	13	69	58	58	(1)	(1)
Other	6	23	(17)	(75)	41	73	(32)	(44)
Total net revenues	**656**	626	30	5	**1,338**	1,263	75	6
Provision for credit losses	**(0)**	1	(2)	N/M	**(0)**	1	(1)	N/M
Noninterest expenses:								
Compensation and benefits	224	202	21	11	453	418	35	8
General and administrative expenses	216	192	24	13	407	380	27	7
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	0	1	(1)	(94)	0	2	(1)	(76)
Total noninterest expenses	**440**	395	45	11	**861**	800	61	8
Noncontrolling interests	**46**	49	(3)	(5)	**101**	98	3	3
Profit (loss) before tax	**170**	180	(10)	(6)	**376**	364	12	3
Total assets (in € bn)[1]	11	10	0	3	11	10	0	3
Assets under Management (in € bn)[1]	833	859	(26)	(3)	833	859	(26)	(3)
Net flows (in € bn)	(25)	20	(45)	N/M	(26)	21	(47)	N/M
Employees (front office full-time equivalent)[1]	4,233	3,953	280	7	4,233	3,953	280	7

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year
[1] As of quarter-end

Capital Release Unit

The Capital Release Unit reported a loss before tax of € 181 million in the second quarter, a reduction of 30% versus the second quarter of 2021 and the lowest quarterly loss since the creation of the Capital Release Unit in July 2019.

Net revenues for the quarter were € 7 million, compared to negative € 24 million in the prior year quarter. Income from the loan portfolio, positive impacts from reserve releases and funding valuation adjustments more than offset risk management, funding and de-risking impacts.

Noninterest expenses declined by 26% year on year to € 192 million, primarily driven by a 35% reduction in adjusted costs ex-transformation charges to € 154 million. This reflected lower internal service charges and lower compensation costs.

Leverage exposure was reduced by € 6 billion to € 29 billion during the second quarter, down by 89% from € 249 billion at the creation of the Capital Release Unit in 2019.

Risk weighted assets (RWAs) were broadly flat in the quarter at € 25 billion, below the Capital Release Unit's year end 2022 target of € 32 billion. Reductions from operational risk and other impacts were offset by market risk RWA increases as financial markets became significantly more volatile.

For the first six months, the Capital Release Unit reported a loss before tax of € 520 million, down 22% year on year. This improvement primarily reflected a 29% reduction in adjusted costs ex-transformation charges to € 467 million.

The Capital Release Unit reaffirmed its full-year target, confirmed at the Deutsche Bank Investor Deep Dive in March 2022, for adjusted costs ex-transformation charges of € 800 million in 2022.

Capital Release Unit results at a glance

	Three months ended				Six months ended			
in € m. (unless stated otherwise)	Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues	**7**	(24)	31	N/M	**1**	57	(56)	(99)
Provision for credit losses	**(3)**	(25)	22	(87)	**(7)**	(32)	25	(79)
Noninterest expenses:								
Compensation and benefits	14	35	(22)	(61)	31	75	(44)	(59)
General and administrative expenses	180	223	(43)	(19)	498	681	(183)	(27)
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(1)	1	(2)	N/M	(1)	1	(2)	N/M
Total noninterest expenses	**192**	258	(67)	(26)	**527**	756	(229)	(30)
Noncontrolling interests	**0**	0	0	N/M	**0**	0	0	N/M
Profit (loss) before tax	**(181)**	(257)	76	(30)	**(520)**	(667)	147	(22)
Total assets (in € bn)[1]	80	167	(88)	(52)	80	167	(88)	(52)
Employees (front office full-time equivalent)[1]	217	411	(194)	(47)	217	411	(194)	(47)

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year
[1] As of quarter-end

Corporate & Other

Corporate & Other reported a loss before tax of € 498 million in the quarter, compared with a loss before tax of € 39 million in the prior year quarter. The higher loss was driven by negative revenues and higher noninterest expenses.

Net revenues were negative € 370 million in the quarter, compared to negative € 6 million in the prior year quarter. This development was principally driven by negative € 185 million in valuation and timing differences, compared to a positive € 82 million in the prior year quarter. Valuation and timing differences reflect the temporary accounting asymmetries on derivatives used to hedge the economic risk of Group's balance sheet, which are not covered by hedge accounting. The accounting impacts were driven by market volatility that has persisted since the first quarter and rising interest rates, partly offset by cross-currency basis effects. On aggregate, valuation losses are expected to reverse over time, as the underlying instruments approach maturity. In addition, net revenues from funding and liquidity impacts were negative € 112 million, versus negative € 55 million in the prior year quarter. These include certain transitional costs relating to the bank's internal funds transfer pricing framework as well as costs linked to legacy activities relating to the merger of the DB Privat- und Firmenkundenbank AG into Deutsche Bank AG as disclosed previously.

Noninterest expenses were € 165 million in the quarter, compared to € 81 million in the prior year quarter. The increase was primarily driven by a negative impact from higher-than-planned infrastructure expenses where the difference is retained in Corporate & Other. These were € 148 million in the quarter, compared to a positive contribution from lower-than planned infrastructure expenses of € 8 million in the prior year quarter. Expenses associated with shareholder activities as defined in the OECD Transfer Pricing guidelines not allocated to the business divisions were € 120 million, broadly flat to prior year period.

Noncontrolling interests are reversed in Corporate & Other after deduction from the divisional profit before taxes. These amounted to € 49 million in the second quarter of 2022, compared to € 47 million in the prior year period, mainly related to DWS.

For the first six months, Corporate & Other reported a loss before tax of € 927 million, up from € 217 million year on year, predominantly driven by net revenues of negative € 723 million, up from negative € 80 million in the prior year period.

Corporate & Other results at a glance

	Three months ended				Six months ended			
in € m. (unless stated otherwise)	Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues	**(370)**	(6)	(364)	N/M	**(723)**	(80)	(643)	N/M
Provision for credit losses	**12**	(1)	13	N/M	**22**	(2)	25	N/M
Noninterest expenses:								
Compensation and benefits	805	744	62	8	1,568	1,507	61	4
General and administrative expenses	(640)	(662)	22	(3)	(1,282)	(1,270)	(12)	1
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	N/M
Total noninterest expenses	**165**	81	84	103	**286**	237	49	21
Noncontrolling interests	**(49)**	(47)	(2)	3	**(104)**	(97)	(8)	8
Profit (loss) before tax	**(498)**	(39)	(459)	N/M	**(927)**	(217)	(710)	N/M
Employees (full-time equivalent)[1]	30,234	29,678	556	2	30,234	29,678	556	2

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year
[1] As of quarter-end

Financial position

Assets

in € m. (unless stated otherwise)	Jun 30, 2022	Dec 31, 2021	Absolute Change	Change in %
Cash, central bank and interbank balances	184,971	199,363	(14,392)	(7)
Central bank funds sold, securities purchased under resale agreements and securities borrowed	9,285	8,432	853	10
Financial assets at fair value through profit or loss	515,750	491,233	24,517	5
Of which: Trading assets	103,953	102,396	1,557	2
Of which: Positive market values from derivative financial instruments	322,978	299,732	23,246	8
Of which: Non-trading financial assets mandatory at fair value through profit and loss	88,723	88,965	(242)	(0)
Financial assets at fair value through other comprehensive income	31,515	28,979	2,536	9
Loans at amortized cost	488,430	471,319	17,111	4
Remaining assets	156,709	124,667	32,042	26
Of which: Brokerage and securities related receivables	88,559	71,495	17,064	24
Total assets	**1,386,660**	1,323,993	62,667	5

Liabilities and equity

in € m. (unless stated otherwise)	Jun 30, 2022	Dec 31, 2021	Absolute Change	Change in %
Deposits	612,583	603,750	8,833	1
Central bank funds purchased, securities sold under repurchase agreements and securities loaned	1,220	772	448	58
Financial liabilities at fair value through profit or loss	423,040	400,857	22,183	6
Of which: Trading liabilities	58,970	54,718	4,252	8
Of which: Negative market values from derivative financial instruments	303,475	287,108	16,367	6
Of which: Financial liabilities designated at fair value through profit or loss	60,101	58,468	1,633	3
Other short-term borrowings	5,189	4,034	1,155	29
Long-term debt	143,924	144,485	(561)	(0)
Remaining liabilities	131,819	102,064	29,755	29
Of which: Brokerage and securities related payables	92,289	70,165	22,124	32
Total liabilities	**1,317,775**	1,255,962	61,813	5
Total equity	**68,885**	68,030	855	1
Total liabilities and equity	**1,386,660**	1,323,993	62,667	5

Movements in assets and liabilities

As of June 30, 2022, the total balance sheet of € 1.3 trillion increased by € 62.7 billion (or 4.7%) compared to year-end 2021. The overall movement of the balance sheet included an increase of € 35.1 billion due to foreign exchange rate movements, mainly driven by a strengthening of the U.S. dollar against the euro. The effects of foreign exchange rate movements are embedded in the movement of the balance sheet line items discussed in this section.

Key drivers for balance sheet growth were increases in positive and negative market values of derivative financial instruments of € 23.2 billion and € 16.4 billion, respectively, mainly due to moves in foreign exchange products in the Investment Bank, which was partly offset by a decrease in interest rates products in the Capital Release Unit as a result of changes in prevailing interest rates.

Brokerage and securities related payables and receivables increased by € 22.1 billion and € 17.1 billion, respectively, mainly attributable to increases in cash margin payables/receivables resulting from higher derivative positions and unsettled regular way trades in line with the normal rise from the year-end low point. The increase in remaining assets also included a € 11.9 billion growth in debt securities classified as hold to collect due to the bank's strategic initiative to optimize return on excess liquidity.

Loans at amortized cost increased by € 17.1 billion, driven by significant impact from foreign exchange movements, further loan growth in Fixed Income and Currencies and in Corporate Treasury Services as well as continued strong growth in collateralized lending and mortgages in the Private Bank.

Deposits increased by € 8.8 billion, owing primarily to growth in the Corporate and Institutional Cash Management business in the Corporate Bank, higher inflows in the Private Bank Germany and Global Emerging Markets in the Investment Bank.

These increases were partly offset by decreases in cash, central bank and interbank balances of € 14.4 billion, primarily due to an increase in assets classified as hold to collect as discussed above.

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 € 207.2 billion as of June 30, 2022 as against € 207.3 billion as of December 31, 2021. 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 € 37.0 billion as at the end of June 30, 2022, such that the Group's total Liquidity Reserves were € 244.3 billion. The Liquidity Coverage Ratio was 133% in the second quarter of 2022, a surplus to regulatory requirements of € 51 billion.

Equity

Total equity as of June 30, 2022 increased by € 855 million compared to December 31, 2021. This change was driven by a number of factors including the profit reported for the period of € 2.4 billion, a positive impact from foreign currency translation of € 1.3 billion, net of tax, mainly resulting from the strengthening of the U.S. dollar against the Euro and remeasurement gains related to defined benefit plans of € 360 million, net of tax. These were largely offset by net changes in additional equity component of € 977 million, unrealized net losses on accumulated other comprehensive income, mainly attributable to financial assets at fair value through other comprehensive income of € 605 million, net of tax, coupons paid on additional equity components of € 479 million, net of tax, as well as cash dividends paid to Deutsche Bank shareholders of € 406 million and net purchases of treasury shares of € 396 million. Further contributing factors include derivatives hedging cash flows of € 245 million, net of tax, as well as a net change in share awards for the period of € 175 million.

Strategy

The following section provides an update on the progress of Deutsche Bank's strategy implementation in the second quarter of 2022 and should be read in conjunction with the Strategy section in the Combined Management Report provided in the Annual Report 2021.

Progress on strategy implementation

In July 2019, the Group embarked on a fundamental transformation of Deutsche Bank and has made substantial progress on its key commitments. The bank set multi-year strategic targets to be met by year end 2022 and aims to substantially complete its transformation by then. This fundamental transformation has led to a strong foundation for the Group to continue its journey and evolution of its successful "Compete to Win" strategy. In March 2022, the Group outlined its strategic financial road map through 2025 and communicated its 2025 financial targets and key performance indicators.

In the second quarter of 2022, the Group continued to make progress on its strategic transformation. The trends seen in the first quarter continued with revenue growth across all four core businesses, driven by a mix of business momentum, market share gains and investments that is expected to support sustainable growth in 2022 and beyond. This resulted in the highest second quarter and half year profit reported since 2011. The progress made was also acknowledged by the German rating agency Scope which upgraded Deutsche Bank's issuer rating in the second quarter of 2022. In addition, DBRS Morningstar confirmed the ratings and raised the outlook on all ratings from stable to positive.

Sustainability is one of the key pillars of Deutsche Bank's corporate strategy and the bank continues to focus on sustainable financing. To reinforce its commitment to positive climate action, the Group has signed up to the World Green Building Council's (WGBC) Net Zero Carbon Buildings Commitment, pledging to reduce and compensate operational emissions associated with energy used to light, heat, cool and power buildings, for assets over which it has direct control. Deutsche Bank has become a member of RE100, a global initiative led by the Climate Group, that brings together influential businesses committed to using 100% renewable electricity across their operations. The bank has set a target to source 100% renewable electricity to cover its own operations by 2025. Currently, 91% of Deutsche Bank's electricity worldwide is from renewable sources.

Deutsche Bank's financial results in the second quarter of 2022

Sustaining revenue growth in the Core Bank

Deutsche Bank's strategic transformation was designed to refocus its Core Bank around its market leading businesses, which operate in growing markets with attractive return potential. The Group's Core Bank comprises its four core operating divisions, namely the Corporate Bank, the Investment Bank, the Private Bank, and Asset Management, together with the segment Corporate & Other.

Revenues at Group level and in the Core Bank amounted to € 6.6 billion in the second quarter of 2022, a year on year increase of 6.6% and 6.1%, respectively. Revenues at Group level and in the Core Bank in the first half of 2022 amounted to € 14.0 billion, year on year increase of 3.8% and 4.2%, respectively.

Continuing to deliver on efficiency measures

Noninterest expenses were € 4.9 billion in the second quarter of 2022, a year on year decrease of € 0.1 billion or 2.6%, driven by lower restructuring and severance and lower transformation charges. Adjusted costs excluding transformation charges increased by € 0.1 billion to € 4.7 billion year on year mainly due to higher compensation related expenses offset by lower headcount. On an FX-neutral basis, expenses were reduced by € 0.1 billion year on year, reflecting the bank's ongoing cost management efforts, partly offset by its investments in information technology and controls.

Continued portfolio and cost reduction in the Capital Release Unit

In the second quarter of 2022, net revenues for the quarter were € 7 million, as income from the Capital Release Unit's loan portfolio, reserve releases and funding valuation adjustments were more than offset risk management, funding and de-risking impacts.

The division made further progress in reducing costs with sequential reductions, on a quarterly basis, in noncompensation costs, internal service charges and compensation cost.

Since the fourth quarter of 2021, the division has reduced leverage exposure by € 10 billion through deleveraging and natural roll-offs, and reduced Risk Weighted Assets by € 3 billion, including a € 1 billion reduction in Operational Risk RWA.

Conservative balance sheet management

The Group remains committed to managing its balance sheet conservatively as it executes on its strategic transformation and navigates through the challenges posed by the war in Ukraine, inflation and response by central banks and remnants of the COVID-19 pandemic. At the end of the second quarter of 2022, the Group's CET 1 ratio was 13.0%, 27 basis points lower compared to year-end 2021 and 253 basis points above regulatory CET 1 requirements. For 2022, Deutsche Bank remains committed to maintaining its CET 1 ratio above 12.5%.

The Leverage ratio was 4.3% in the second quarter, down from 4.6% in the first quarter, reflecting the regulatory required discontinuation, from April 1, 2022, of the exclusion of certain central bank cash balances from the leverage ratio. Including central bank cash balances in both periods, the Leverage ratio was unchanged from the first quarter of 2022.

Average Value-at-Risk (VaR) amounted to € 47 million at the end of the second quarter of 2022 confirming Deutsche Bank's conservative risk levels. As of June 30, 2022, the Group's loan exposure to Russia amounted to € 1.3 billion on a gross basis, which represents approximately 0.3% of the total loan book. On a net basis, after risk mitigants, the loan exposure amounted to € 0.5 billion. The majority of this loan exposure relates to large Russian companies with material operations and cash-flow outside of Russia.

Provisions for credit losses were € 233 million for the second quarter of 2022, significantly higher compared to the second quarter of 2021. For the full year 2022, we expect provisions for credit losses to be around 25 basis points as a percentage of the Group's anticipated average loans. The increase compared to the previous year is driven by impacts of the war in Ukraine as well as the result of the slowdown in macro-economic growth in 2022 from its exceptionally strong levels in 2021. The Group remains committed to its stringent underwriting standards and its tight risk management framework. Further details on the calculation of Expected Credit Losses (ECLs) is provided in the section 'Risk information' in this report.

Deutsche Bank's sustainability strategy

Since 2019, sustainability has been a central component of Deutsche Bank's corporate strategy, "Compete to win" and an important management priority of the bank. The Group's sustainability strategy focuses on four dimensions: Sustainable Finance, Policies and Commitments, People and Operations as well as Thought Leadership and Stakeholder Engagement.

In the second quarter 2022, the Group continued to make progress in implementing its € 200 billion target for sustainable finance. The Group ended the second quarter 2022 with € 191 billion in sustainable financing and investments, demonstrating its aim to continuously increase Environmental, Social and Governance (ESG) lending and financing, as well as capital markets issuances. For example, for the first time it converted an existing supply chain finance program in Europe to a sustainability linked program, creating an incentive for suppliers to be more sustainable. Deutsche Bank also advised BASF on a complex M&A and project financing transaction for the acquisition and construction of the world's largest offshore wind farm, Hollandse Kust Zuid.

Deutsche Bank also made progress in other areas of its sustainability strategy. The Group signed up to the World Green Building Council's (WGBC) Net Zero Carbon Buildings Commitment and became a member of RE100, a global initiative led by the Climate Group. Following the disclosure of its financed greenhouse gas emissions in March 2022, the Group successfully completed the execution of ECB's Climate Risk Stress test in May. At its Sustainability Deep Dive in the fourth quarter of 2022, Deutsche Bank intends publish net zero aligned targets for four key carbon intensive sectors: Oil and Gas, Power Generation, Automotive and Steel.

Deutsche Bank's Financial Targets

A high degree of uncertainty continues to weigh on the global economy and it is now clear that the macro environment has changed considerably in the last few months. Against this backdrop Deutsche Bank has updated its 2022 targets. The bank continues to target a post-tax RoTE of 8% for the Group and above 9% for the Core Bank for the year 2022, while recognizing that the current operating environment makes meeting these targets more challenging. The bank's guidance for the cost/income ratio is now in the mid- to low-70s percent for 2022. The bank remains committed to continuing its cost reduction efforts and to executing on its 2022 strategic ambitions. However, the bank also recognizes increasing cost pressures from factors outside its control including higher-than-expected bank levies, inflation, unforeseen costs related to the war in Ukraine, and litigation matters. The bank also made the decision not to cap strategic investments in its control environment, staff, and technology, to drive growth and efficiency. Deutsche Bank confirms all other 2022 financial targets including a CET1 ratio of above 12.5% and a leverage ratio of around 4.5%.

The bank reaffirms the goals of its strategy of sustainable growth through 2025. For 2025, the bank aims to achieve a compounded annual growth rate of revenues from 2021 to 2025 of 3.5 to 4.5%, post-tax RoTE of greater than 10%, and a cost/income ratio of below 62.5%. The bank also reaffirms its aim for cumulative capital distributions of around € 8 billion in respect of the years 2021-2025.

Deutsche Bank's key financial targets are:

Financial Targets for 2022

- Post-tax Return on Average Tangible Equity of 8% for the Group
- Post-tax Return on Average Tangible Equity of more than 9% for the Core Bank
- Common Equity Tier 1 capital ratio of above 12.5%
- Leverage ratio of ~4.5%

Financial Targets and key performance indicators for 2025

Targets:
- Post-tax Return on Average Tangible Equity of above 10% for the Group
- Compounded annual growth rate of revenues from 2021 to 2025 of 3.5 to 4.5%
- Cost/income ratio of less than 62.5%

Key performance indicators:
- Common Equity Tier 1 capital ratio ~ 13%
- Leverage ratio of above 4.5%

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

Deutsche Bank Businesses

This section should be read in conjunction with the section Deutsche Bank: Our Organization in the Operating and Financial Review in the Annual Report 2021.

Corporate Bank

In the second quarter of 2022, the Corporate Bank continued to make progress on its strategic objectives. The Corporate Bank (CB) continued to expand its lending proposition with corporate clients across all regions with loans growing to € 129 billion, up by € 11 billion compared to prior year. It generated € 131 million of revenues from deposit charging across Corporate Treasury Services, Institutional Client Services and Business Banking, with the total amount of deposits under charging agreements at € 101 billion. Parts of corporate banking, especially payments, are experiencing a high degree of innovation and disruption driven by high-paced technology developments and the emergence of new competitors. Accordingly, in 2022, the CB expects to benefit from its targeted investments in new growth areas including Merchant Solutions and Asset as a Service. Finally, it also aims to further advance its provision of sustainable financing solutions for its clients, including developing scalable ESG solutions for its Business Banking clients that the CB expects to introduce in 2022.

Investment Bank

In the second quarter of 2022, the Investment Bank (IB) continued to execute against its strategic priorities to deliver strong business performance and tangible results. Within Fixed Income and Currencies (FIC), revenues were significantly higher year on year. Similar to the first quarter of 2022, market volatility was at elevated levels and the macro trading businesses demonstrated disciplined internal risk management, whilst meeting external client requirements. Client activity increased versus the same period in the prior year across both institutional and corporates. The ongoing successful transformation of its FIC franchise was recognized during the quarter, with its FX business voted by clients as the Overall FX Market Leader by market share in the 2022 Euromoney FX Survey. The development of its Rates and Global Emerging Markets businesses delivered significant growth in revenues. IB’s Financing business continues to focus on targeted and disciplined balance sheet deployment. It has successfully re-built its loan book post COVID-19 driven reductions, which is now driving materially higher net interest income versus the prior year quarter. Origination and Advisory (O&A) revenue decreased materially year-on-year, as the second quarter global fee pool declined approximately 45% year on year. In the IB’s core focus area, M&A, it has seen significantly higher revenues and regained market share. During the quarter, it also continued to make further strategic hires in its coverage teams as it looked to support and build out revenue generation. IB’s FIC re-engineering program continues to drive efficiency across the organization, focusing upon the automation of front-to-back processes including the continued development of its E-Trading capabilities. ESG continues to be a strategic focus area for the IB, exemplified by Deutsche Bank successfully advising BASF on a complex M&A and project financing transaction for the acquisition and construction of the world’s largest offshore wind farm, Hollandse Kust Zuid (HKZ).

Private Bank

Private Bank (PB), operating through the two distinct business units of Private Bank Germany (PB GY) and the International Private Bank (IPB), covers private, wealth and commercial clients across more than 60 countries.

Private Bank Germany (PB GY) saw a positive second quarter with solid operating performance despite ongoing headwinds. Its performance was substantiated by continued progress in the execution of its key strategic initiatives. PB GY made progress with the transformation of its go-to-market model: While closing 39 additional branch locations in the second quarter, it launched a new branch model by opening four private banking centers purely focusing on advisory without self-service machines. In the German head office, it continues to execute the restructuring and related headcount reduction.

PB GY also made significant progress with the migration of Postbank clients to the Deutsche Bank IT platform, an IT project touching multiple central and divisional areas of the bank. In April 2022, it successfully migrated the first wave of four million Postbank clients with savings products. Following the BGH ruling in April 2021, PB GY deployed resources working on the IT migration to ensure compliance with the ruling. PB GY constantly evaluated implications to the migration timeline with the ambition to stick to the originally disclosed timetable. Focusing on operational stability, it has now been decided to extend the timeline of migration activities by one quarter. The migration is now likely to be concluded in the first quarter of 2023, with an incremental funding requirement of approximately € 150 million in the year. The total anticipated financial benefits remain unchanged. PB GY reaffirm its ambition of annual savings of approximately € 300 million for the financial year 2025.

The International Private Bank (IPB) continued to deliver strong revenue growth and improved profitability despite a challenging macroeconomic environment. IPB attracted significant client inflows with now 10 consecutive quarters of positive net inflows as well as 9 consecutive quarters of net new client loans. IPB's flagship Strategic Asset Allocation solution achieved inflows of around € 0.5 billion in the second quarter of 2022 and it launched an innovative ESG midcap fund. Besides its significant business growth, IPB also made progress against its strategic objectives. IPB continued to invest in digital capabilities and its branch network transformation, streamlining and focusing its Premium Bank service model. At the same time, IPB expanded its Wealth Management coverage teams in key regions.

In ESG, the Private Bank is focusing on the rollout of a new ESG advisory proposition to support clients on their ESG transition while remaining committed to launch new products and build strategic partnerships on ESG. In PB GY, the rollout of our green branches is well on track. PB GY has already transformed 200 of its 400 Deutsche Bank branches into green branches and are currently piloting the same concept at Postbank. Within IPB, it is establishing an ESG-focused advisory approach and a new product platform.

Asset Management

The asset management industry is evolving, with increased competition, continued margin pressure, and technological disruption amid heightened geopolitical tensions and higher market volatility. However, Asset Management (AM) believes its diverse range of high-quality products and investment solutions provides it with a strong basis for growing assets and profitability.

Asset Management intends to focus on its transform, grow and lead strategy, so that it can achieve the overall ambition to become a leading European asset manager with global reach. As part of Asset Management's transformation ambition, it aims to adapt the way it works to meet industry challenges by recalibrating its core platform, by investing in new technology, and through its policy framework so that these are more specifically tailored to Asset Management's fiduciary business and its clients. Asset Management's ambition to grow concentrates on delivering focused product strategies in targeted growth markets, expanding its range of sustainable investment solutions and leveraging existing partnerships to capture new client opportunities. In addition, Asset Management continues to monitor the market for selective bolt-on opportunities to grow in priority areas as well as transformational opportunities to participate in the continued consolidation expected in the asset management industry. Asset Management aims to keep focus on the delivery of holistic solutions to meet its clients evolving needs and by becoming the go-to expert in sustainable investing, passive and high margin investments.

Reflecting on Asset Management's aim of playing a key role as an asset manager in the green industrialization, climate action is a key theme and is considered across all strategic priorities of its global sustainability strategy.

Cost control continues to be fundamental to executing Asset Management's business strategy and achieving its medium-term financial targets. In the first half of 2022, Asset Management continued to maintain a strict cost discipline with targeted efficiency initiatives. Its multi-year core platform transformation program has now entered the execution phase, and Asset Management is aiming to complete several of the IT build activities this year. Asset Management continued to increase its focus on the targeted asset classes of passive, active multi-asset and alternatives. As part of its regional strategy, Asset Management continues to focus on developing and nurturing strategic partnerships. Asset Management is committed to focus on new digital opportunities and continues to grow its internal capabilities while investing in its data strategy. In March DWS launched its new brand identity to further improve the visibility of DWS and build a well-known and leading asset manager brand in key markets across the globe.

Asoka Woehrmann resigned as CEO of DWS at the end of the DWS Annual General Meeting in June 2022. He has been succeeded by Stefan Hoops who will continue to implement DWS's strategic agenda.

Outlook

The following section provides an overview of updates to the outlook for the Group and its business divisions for the financial year 2022 and should be read in conjunction with the Outlook section in the Combined Management Report provided in the Annual Report 2021.

Global Economy

Economic growth (in %)[1]	2022[3]	2021[2]	Main driver
Global Economy			Inflation is expected to remain elevated in the second half of 2022, as the war in Ukraine has put further pressure on key commodity markets and supply chains. Continued central bank tightening is expected to slow down growth across the key economies.
GDP	**3.0**	6.0	
Inflation	**8.2**	4.1	
Of which:			
Industrialized countries			The industrialized countries are likely to continue facing high energy and raw material prices in the second half of the year. Consumers are expected to have lower purchasing power despite being partly shielded by fiscal measures. Central banks are expected to raise interest rates further to combat inflation. Those countries that are particularly dependent on Russian energy supplies could face supply shortages, subsequently slowing growth in industrialized countries.
GDP	2.3	5.2	
Inflation	7.1	3.2	
Emerging markets			Emerging market economies are expected to face a number of headwinds in the second half of 2022, including the stagflationary impact from higher commodity prices, aggressive tightening by central banks of industrialized countries, and the downside risk of slower growth in China. However, greater differentiation is expected between the emerging market economies.
GDP	3.4	6.7	
Inflation	9.0	4.7	
Eurozone Economy			The economic consequences of the war in Ukraine and the general real income shock are expected to further slow the Eurozone economy in the second half of 2022. The European Central Bank announced its intention to counter the high inflation momentum with more data driven decisions which could thus create additional headwinds.
GDP	**2.6**	5.3	
Inflation	**8.0**	2.6	
Of which: German economy			The German economy is expected to contract in the second half of 2022. Inflation-induced losses in purchasing power are likely to slow private consumption. The government is seeking to shield households with fiscal measures. Foreign trade is being held back by weak industrial production. Supply bottlenecks are easing only slowly, and high energy and commodity prices are providing additional headwinds. The dependence on Russian natural gas could lead to supply shortages in the winter.
GDP	1.2	2.9	
Inflation	7.0	3.2	
US Economy			The U.S. economy is likely to lose momentum in the second half of the year compared to 2021 as high inflation, waning fiscal stimulus and tighter financial conditions are expected to slow down growth. To combat inflation, the Federal Reserve is expected to continue raising the policy interest rates in significant steps. Tight labor market conditions are expected to normalize in the second half of 2022.
GDP	**1.9**	5.7	
Inflation	**8.3**	4.7	
Japanese Economy			The Japanese economy is expected to expand moderately in the second half of 2022. The domestic economy continues to recover, but foreign trade will face headwinds as growth among trading partners slows. The government is expected to mitigate the inflationary impact on households with the Bank of Japan maintaining its accommodating monetary policy.
GDP	**1.1**	1.7	
Inflation	**2.0**	(0.2)	
Asian Economy[4]			Asian economies should continue to benefit from China's recovery. However, the sharp rise in goods and food prices pose a challenge for several countries. Central banks are likely to tighten their monetary policy further. Dispersed exchange rate developments could lead to regionally varying interest rate hikes.
GDP	**4.4**	7.1	
Inflation	**3.9**	2.1	
Of which: Chinese Economy			The Chinese economy is expected to continue to gain momentum, provided there are no renewed major COVID-19 outbreaks. Private consumption is expected to recover slowly, investment (e.g. real estate, green technologies) is receiving fiscal support, and subdued wage growth is helping to keep consumer inflation under control.
GDP	3.3	8.1	
Inflation	2.2	0.9	

The outlook for the global economy and banking industry in the following chapter reflects our general expectations regarding future economic and industry developments. Economic assumptions used in our models are laid out separately in the respective sections.

[1] Annual Real GDP Growth (% YoY). Sources: National Authorities unless stated otherwise.
[2] Some economic data for 2021 was revised by public statistics authorities due to the economic effects of the pandemic. As a result, this data may differ from that previously published.
[3] Source: Deutsche Bank Research.
[4] Includes China, India, Indonesia, Hong Kong, South Korea, Malaysia, Philippines, Singapore, Sri Lanka, Taiwan, Thailand and Vietnam; excludes Japan.

The global economic outlook is impacted by a number of risks. Inflation has continued to build at a surprising pace globally, necessitating a more aggressive tightening of policy by central banks. A sustained rise in inflation expectations could provoke an even more aggressive response from central banks. In addition, a strengthening U.S. Dollar could also lead to a disruption of the recovery cycle in the emerging market economies. Downside risks could also result from further geopolitical or other supply shocks, sending commodity prices higher still. The war in Ukraine has pushed energy and food prices significantly higher and disrupted other key commodity markets and supply chains. There is a risk of a stronger aggression by Russia beyond the Donbass, including the risk of potential gas shortages or closed gas pipelines, which would affect Germany disproportionately.

Banking Industry

The outlook for the global banking industry for the remainder of the year has worsened in recent months. On a positive note, banks are set to benefit from more rapid rises in interest rates and margins than envisaged at the start of the year. Likewise, elevated uncertainty and volatility drive higher trading and hedging activity in capital markets. On the other hand, these same factors and the end of major central banks' asset purchase programs have reduced momentum in the Merger and Acquisition (M&A) and the equity and debt issuance businesses which are particularly sensitive to investor risk appetite and dependent on a receptive market environment. Even more importantly, with recession risk rising, inflation surging and higher rates reducing future loan demand, banks may face headwinds in the form of higher loan losses and weaker lending. The net effect on banks' revenues and profitability will not least depend on the further course of the war in Ukraine, but also on central banks' success in reducing inflation and on the gradual easing of global supply chain bottlenecks.

In Europe, and particularly in Germany, the downside risks are more pronounced than in other regions of the world. The impact of the war in Ukraine and the energy dependence on Russia are greater than other regions and the risk of the Eurozone fragmentation might limit a speedy, decisive turnaround in monetary policy by the ECB. Higher exposure to Eastern Europe has already led to an increase in risk-weighted assets and reduced capital ratios across the sector. Nevertheless, the European banking sector remains well capitalized and is expected to remain solidly profitable driven by rising net interest income despite higher loan loss provisions.

In the U.S., the banks are set to continue to benefit from strong demand for credit as well as rising interest rates. However, banks will suffer if the economy suddenly grinds to a halt because much higher financing costs will hit consumption and investment.

As China continues to struggle with pandemic lockdowns, its banks are not expected to out-perform their international peers, especially with no major change in monetary policy in sight. In other parts of Asia, the outlook for the banking industry is less clouded given likely stronger economic growth and climbing interest rates.

Since the United Kingdom (UK) left the European Union (EU), the immediate future of their economic relationship is governed by a trade agreement, which does not cover cross-border financial services. Such services will be governed by either local regulatory requirements or ad-hoc agreements between regulatory bodies in the two jurisdictions. The Bank of England and the UK Financial Conduct Authority (FCA) have signed a Memorandum of Understanding (MOU) with the European Securities and Markets Authority (ESMA) concerning the supervision of market infrastructure entities. A MOU establishing a structured framework for regulatory cooperation and the process for adoption, suspension and withdrawal of equivalence decisions between the UK and the EU has been agreed in principle but is yet to be ratified by the European Parliament and Council. To date, only two time-limited equivalence decisions have been made by the EU. The first, which addressed UK central securities depositories, expired on June 30, 2021, and the second addressing UK central counterparties, was to expire on June 30, 2022, but was extended by the European Commission to June 30, 2025.

In relation to the European Commission legislative proposal from October 27, 2021, European policymakers are still discussing changes to prudential and resolution regulation aimed at implementing the Final Basel III package, with particular focus on risk models. The negotiation for the final package is expected to take several years.

Deutsche Bank Outlook

In July 2019, the Deutsche Bank announced a strategic transformation to re-focus on delivering sustainable profitability and improved returns for our shareholders. In March 2022, the Group further outlined its strategic and financial road map and communicated its financial targets through 2025. The statements included in this section cover management's view on the expected performance against the Group's key performance indicators for the financial year 2022 including the updates of the Group's 2022 targets as outlined in the section 'Strategy' in this report.

Deutsche Bank's key performance indicators including its financial targets are shown in the table below:

Key performance indicators	Jun 30, 2022	Target 2022	KPI 2025
Group post-tax return on average tangible equity[1]	8.0 %	8.0 %	Above 10.0 %
Core Bank post-tax return on average tangible equity[2]	10.1 %	Above 9.0 %	N/A
Compound annual growth rate of revenues from 2021 to 2025[3]	N/A	N/A	3.5 to 4.5 %
Cost/income ratio[4]	73.3 %	N/A	Less than 62.5 %
Common Equity Tier 1 capital ratio[5]	13.0 %	Above 12.5 %	~13.0 %
Leverage ratio	4.3 %	~4.5 %	Above 4.5 %

[1] Based on Net Income attributable to Deutsche Bank shareholders. For further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report.
[2] Based on Core Bank Net Income attributable to Deutsche Bank shareholders. For further information, please refer to "Supplementary Information (Unaudited): Non-GAAP Financial Measures" of this report.
[3] Based on net revenues
[4] Noninterest expenses as a percentage of total net revenues, which are defined as net interest income before provision for credit losses plus noninterest income.
[5] Further detail on the calculation of this ratio is provided in the Risk Report.

Deutsche Bank reaffirms its 2022 revenue guidance of € 26 to 27 billion for the Group despite the deterioration in the macro-economic environment seen in the second quarter of 2022 and expectations for a more challenging second half of the year and continues to target a post-tax return on average tangible equity of 8% for the Group and above 9% for the Core Bank for the year 2022.

The Group expects Corporate Bank revenues to be higher in 2022 compared to the prior year, supported by interest rate tailwinds and its growth initiatives. The Group expects Corporate Treasury Services revenues to be higher supported by improvements in the interest rate environment, strong momentum in Corporate Cash Management and the extension of lending. For Institutional Client Services, revenues are also expected to be higher supported by favorable interest rate outlook and business growth. Business Banking revenues are expected to be higher compared to the prior year, primarily reflecting expected improvements in the interest rate environment and repricing actions.

Deutsche Bank expects Investment Bank revenues to be essentially flat in 2022 compared to the prior year, with strong performance in its Sales and Trading (FIC) business offset by reduced revenues in Origination & Advisory. Sales and Trading (FIC) revenues are expected to be significantly higher than 2021, driven by the performance of its FX, Rates, Emerging Markets and Financing businesses in the year to date. In the second half of the year, the Group expects some normalization in the elevated levels of market activity. For the remainder of the year, in Rates plan to strengthen certain business areas and maintain the focus on developing the overall client franchise. Foreign Exchange intends to build on the momentum the business saw in the first half, including being ranked overall FX Market leader by market share in the 2022 Euromoney FX Survey. The Global Emerging Markets business intends to develop its onshore capability and client workflow solutions further. The Financing business plans to continue to take a disciplined and selective approach to the deployment of resources. In Credit Trading, conditions have been challenging for the flow business and this may well continue in the second half of the year. Additionally, it is not expected that the distressed business will repeat the very strong performance seen in 2021. Origination & Advisory revenues are expected to be significantly lower in 2022 compared to 2021, driven by the decline in the industry fee pool, which was approximately 33% lower year-on-year for the first six months of the year and 45% lower in the second quarter. In Debt Origination, Leveraged Debt Capital Markets are expected to be challenged in the short-term following a material decline in issuance levels in 2022, combined with the net impact of commitment markdowns and hedges. Equity Origination remain impacted by the reduced issuance levels, which are approximately 70% lower year-on-year. In Advisory, it is planned to build on the momentum of the first half of the year and further invest in targeted coverage areas where growth potential is seen.

Private Bank, net revenues are expected to be higher in 2022 compared to 2021. Revenue growth is expected to be supported by a gain from the closing of the sale of the financial advisors' network in Italy. Excluding this impact, Private Bank anticipates revenues to be slightly higher compared to 2021 driven by continued business growth and net positive impacts from the rising interest rate environment. Private Bank observed significantly lower adverse impacts from the April 2021 ruling of the German Federal Court of Justice (BGH) on pricing agreements as it has largely completed the process of entering into new contracts with customers affected by the ruling. Revenues in Private Bank Germany are expected to be slightly higher compared to 2021 supported by substantially lower negative revenue impacts from the BGH ruling and by valuation impacts. Excluding these impacts, the Group expects revenues in the Private Bank Germany to remain essentially flat year on year. In the current market environment, we expect higher net interest income as well as a slowdown in the growth dynamics of our fee income. In the International Private Bank (IPB) revenues are expected to be higher year on year supported by the anticipated gain from the sale of the Italian financial advisors' network. Excluding this impact, revenues should be higher compared to 2021 as continued growth in investment, deposit and loan products will only be partially offset by reduced benefits from ECB's TLTRO program. Private Bank expects Assets under Management (AuM) volumes to be slightly lower compared to 2021 reflecting the disposal impact after the closing of the financial advisor transaction in Italy as well as market depreciation impacts, which amounted to € 51 billion in the first half of 2022. Recovery will depend on a stabilization of the current market situation. Nevertheless, Private Bank expects continued net inflows.

In Asset Management, heightened levels of market volatility have featured in the first half of 2022 and are expected to continue near term; assuming geopolitical uncertainty and economic conditions normalize then revenues are expected to be essentially flat compared to 2021. Management fees are assumed to be flat year-on-year. Performance and transaction fees are expected to be significantly lower compared to 2021, due to an exceptional Multi Asset performance fee included in the prior year. Other revenues excluding specific items are expected to be significantly lower compared to the prior year. In the medium term we target annual net inflows of above 4% on average to 2024; drivers will remain our targeted growth areas of passive and alternative investments, further enhanced by strategic alliances and product innovations, including further ESG offerings.

For 2022, the Group expects Corporate and Other (C&O) to generate a pre-tax loss. Results in C&O will continue to be impacted by valuation and timing differences on positions that are economically hedged but do not meet the accounting requirements for hedge accounting. C&O is expected to be impacted by certain transitional costs relating to our internal funds transfer pricing framework as well as costs linked to legacy activities relating to the merger of the DB Privat- und Firmenkundenbank AG into Deutsche Bank AG which are expected to be around € 300 million for the full year, as previously guided. Shareholder expenses are expected to be around € 450 million for the full year, an increase to previous estimates primarily from the incremental classification of costs as shareholder activities and certain incremental regulatory expenses.

For the remainder of 2022, the Group expects the Capital Release Unit to focus on three key areas. Firstly, further reducing our costs including internal service allocations. In line with its previous communication, the Capital Release Unit targets an adjusted cost base excluding transformation charges of € 0.8 billion for the full year. Secondly, continuing to risk manage the portfolio whilst de-risking opportunistically. In aggregate, it expects to report negative revenues for the year 2022 driven by funding costs, hedging costs, mark-to-market impacts and losses from portfolio exits, which will be partially offset by income from loan portfolios. Thirdly, simplifying the division's infrastructure through decommissioning of applications, closing trading books and exiting locations and legal entities. The Group continues to carefully monitor the legal and regulatory environment as it relates to Capital Release Unit, including with respect to our foreign currency denominated mortgage portfolio in Poland. Judicial or regulatory developments with respect to FX mortgage loans in Poland may impact the financial risk assessment for our portfolio.

Deutsche Bank remains committed to continuing its cost reduction efforts and expects to continue to execute on its 2022 strategic ambitions. However, the bank also recognizes increasing cost pressures from factors outside its control including higher-than-expected bank levies, inflation, unforeseen costs related to the war in Ukraine, and litigation matters. The bank also made the decision not to cap strategic investments in its control environment, staff, and technology to drive growth and efficiency, which are important for its long-term strategic direction. In the light of both revenue and cost developments, Deutsche Bank has updated its 2022 cost/income target. The bank's guidance for the cost/income ratio is now in the mid- to low-70s percent for 2022. Noninterest expenses in 2022 are expected to be lower than in 2021, largely driven by significantly lower transformation related effects. Adjusted costs excluding transformation charges are expected to be essentially flat in 2022, driven by benefits from IT efficiencies resulting from the execution of IT strategies, run-rate benefits of headcount reductions in the previous year and front-to-back alignment as well as savings in Infrastructure functions from process optimization and automation. These effects are expected to be largely offset by continued investments in controls, the anticipated impact of foreign exchange rate changes and higher bank levies. In addition, higher compensation costs from retaining and attracting talent as well as higher-than-anticipated control function and financial crime remediation costs continue to put upward pressure on expenses.

Amid the slowdown of macro-economic growth mainly driven by the war in Ukraine, elevated inflationary trends globally and recent geopolitical developments in 2022 from the strong levels in the previous year, the Group expect provisions for credit losses to be significantly higher in 2022 compared to the previous year. Provisions for credit losses for the full year 2022 should be around 25 basis points as a percentage of our anticipated average loans as the impact of the war in Ukraine is expected to add to our previous guidance of around 20 basis points. Our credit portfolio quality remains strong, and the bank is well positioned to manage emerging risks including geopolitical uncertainties, supply chain disruptions and expected policy tightening. Further detail on the calculation of expected credit losses (ECL) is provided in the section 'Risk information' in this report.

The Group expects its Common Equity Tier 1 ratio (CET 1 ratio) to remain essentially flat and to remain above 12.5% in 2022. It expects higher RWA from growth in the Core Bank as well as supervisory decisions offset by continued reductions in the CRU and lower Operational Risk RWA. For 2022, the Group expects to end the year with a CET 1 ratio of approximately 13%, reflecting organic capital generation offsetting the impact of RWA increases and distributions.

Deutsche Bank expects its Leverage exposure in 2022 to be higher than at year-end 2021. Leverage exposure is expected to increase as a result of the removal of the ECB's temporary exclusion of certain central bank balances by the second quarter of 2022, with a further increase expected from loan growth in the Core Bank. Consequently, it expects its leverage ratio to be lower at year end 2022. Based on this, Deutsche Bank confirms its targets for the CET1 ratio of above 12.5% and leverage ratio of around 4.5% for 2022.

By the nature of our business, we are involved in litigation, arbitration and regulatory proceedings and investigations in Germany and in a number of jurisdictions outside Germany, especially in the U.S. Such matters are subject to many uncertainties. While we have resolved a number of important legal matters and made progress on others, we expect the litigation and enforcement environment to remain challenging. For 2022, and with a caveat that forecasting litigation charges is subject to many uncertainties, we expect litigation charges, net, to be lower than the levels experienced in the previous year.

The bank reaffirms the goals of its strategy of sustainable growth through 2025. For 2025, the bank aims to achieve a compounded annual growth rate of revenues from 2021 to 2025 of 3.5 to 4.5%, post-tax RoTE of greater than 10%, and a cost/income ratio of below 62.5%. The bank also reaffirms its aim for cumulative capital distributions of around € 8 billion in respect of the years 2021-2025.

Adjusted costs, Adjusted costs excluding transformation charges, Post-tax Return on Average Tangible Equity as well as Leverage ratio are non-GAAP financial measures. Please refer to "Additional information: 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 developments in the six months ended June 30, 2022 did not materially alter its assessment of the risks and opportunities that its businesses are exposed to, as presented in its Annual Report 2021.

Key downside risks stem from the war in Ukraine, which has led to a further deterioration in the economic outlook and strongly rising inflationary pressures. This has led major central banks to take a more hawkish policy stance and has driven market interest rates significantly higher during the first six months of 2022. More recently, focus has shifted to Europe as concerns increased over a more pronounced economic downturn as a result of the declining Russian gas flows to Europe. These trends are driving high levels of uncertainty and potential fluctuations in the results of the Group’s operations, strategic plans and financial targets.

Risks

Macroeconomic and market conditions

The war in Ukraine and the related further increase in global inflationary pressures due to higher energy and commodity prices as well as ongoing supply chain disruptions have led to a significant downward revision in global growth forecasts in 2022 and 2023. Major central banks are responding by tightening monetary policy and market interest rates increased significantly during the quarter amid periods of very high market volatility. The risk of a pronounced economic downturn or even recession increased substantially by the end of the second quarter as the effects of higher interest rates and tighter financial conditions increasingly weighed on economic activity, especially on the US economy as the Federal Reserve leads the global tightening cycle. Bond yields started to reverse and market participants pared back expectations of the expected terminal policy interest rates by the Fed and the ECB. This could potentially drive increased losses, including higher provisions for credit losses, and may substantially and adversely affect Deutsche Bank’s planned results of operations, financial targets and costs.

A key downside risk for European corporates and households is a further rise in energy prices or physical shortages, in particular, natural gas if supplies are disrupted or subject to sanctions. Prior to the war, Russia accounted for around 40% of the EU’s supply of natural gas, with reliance higher in Germany and selected other countries. Following the recent decline in Russian gas flows via the Nord Stream 1 (NS1) pipeline, the German government has already declared the second stage (out of three) of its emergency plan for gas supply. Should energy rationing become necessary this would further increase the risk of recession. Industries which could be directly affected by energy rationing, in combination with existing supply chain constraints and high commodity prices, include but are not limited to manufacturing, automotive, construction, chemicals and steel, metals and mining as well as critical infrastructure such as utilities, transportation or agriculture.

While the Group’s baseline expectation is for Russian gas exports to remain tight but not to be turned off completely, under more severe downside scenarios, without assuming any mitigation from government support for critical industries, potential second order impacts could lead to a significant deterioration in the Group’s portfolio quality and higher than expected credit losses. Such impacts are predominantly expected to play out in early 2023 as we enter the peak energy demand season but could be accelerated. This may lead to accelerated rating declines among clients, further increasing loan losses as well as increased numbers of clients drawing down on credit facilities which would lead to an additional increase in capital requirements and liquidity demands.

Higher volatility in financial markets could lead to increased margin calls both inbound and outbound as well as impact market risk RWA via e.g. higher Prudential Valuation reserves and VaR backtesting outliers. The Group would also expect to see a higher risk of idiosyncratic defaults in the near-term as increased energy supply concerns compound existing risks related to interest rates, inflation, tighter financial conditions and supply chains. The aforementioned developments can also impact its revenue generating capabilities and costs, while market declines and volatility could also negatively impact the value of financial instruments, result in impairments of non-financial assets, and cause the Group to incur losses.

Recent market and rates developments impacted its ability to distribute and derisk leveraged finance commitments, make pricing, hedging and distribution of high yield transactions more challenging. Whilst the Group actively manages systemic risks, it has experienced delays in derisking individual commitments as well as taken mark-to-market losses in the second quarter of 2022, majorly driven by gradual widening in credit spreads and investor preference for floating rate loan format vs. bonds. As it expects the third quarter to remain challenging, the Group could see additional losses in the third quarter of 2022. However, downside risk to revenues and capital are considered manageable and the Group continues to deploy hedging strategies to manage the business within its risk appetite.

The COVID-19 pandemic continues to present downside risk to its business. The potential emergence of new variants of concern may require renewed social distancing measures or even lockdowns and the effects of these are not fully predictable as they will vary depending on the nature of the variant, country-specific pandemic conditions and policy preferences.

Political risks

The war in Ukraine has led countries to impose broad-based sanctions on Russia, including but not limited to major Russian banks, the Russian Central Bank, key corporates, Russian parliament members and members of the Russian elite (oligarchs, diplomats) and their families. The sanctions have also banned primary and / or secondary trading of sovereign debt and other selected securities as well as disconnection of certain Russian banks from SWIFT (Society for Worldwide Interbank Financial Telecommunication). The U.S. has imposed sanctions on imports of Russian-origin oil, gas and coal (including related products) and also banned new investments by U.S. persons into Russia. Trading in Russian securities has been also limited by the EU sanctions against the Russian National Securities Depositary. The EU also announced a ban on Russian oil, coal and other solid fuel imports, restricting access to EU ports for Russia registered vessels and further export and import bans. The sanctions' environment remains uncertain, subject to rapid change and it is possible that new direct or indirect secondary sanctions could be imposed at short notice as a result of ongoing developments.

The unprecedented scale of sanctions announced to date, not all of which are fully aligned across jurisdictions, has significantly increased operational complexity, including the risk of making errors in managing day-to-day business activities within the rapidly evolving sanctions environment. New sanctions, as well as countermeasures by the Russian government, could also result in differences between the local application and / or implementation of relevant requirements by its subsidiary OOO Deutsche Bank, Moscow, and the Deutsche Bank Group (as OOO Deutsche Bank would have to adhere to local law). Subsequently, this may create conflict of law situations and certain exemptions would have to be applied.

Sanctions are likely to lead to situations where counterparties' ability to fulfil payment obligations is prevented due to the inability to transfer funds in the required currency or make payments altogether. The Russian government already failed to make coupon payments on two Eurobonds after the grace period expired in the last week of June 2022. Sanctions may also complicate the wind-down of transactions and / or relationships that the Bank may wish to exit as a result of the war in Ukraine within the timeframe provided by licenses or authorizations.

Deutsche Bank utilizes in-house technology resources in Russia which contribute to the development of a number of the Bank's applications. The Group is subject to the risk that its ability to utilize these technology resources could be impaired or lost, for instance due to sanctions from the West, Russian state-initiated actions or management actions. Also, the provision of corporate banking services to local subsidiaries of international companies could be impacted if its operating subsidiary in Russia is impacted. Adverse regulatory actions could result in a loss of control over locally booked assets.

Deutsche Bank continues to utilize dedicated governance structures, including Global and Regional Crisis Management, to manage its response to the war in Ukraine. The impact of the ongoing situation, from both a financial and non-financial risk perspective, is highly uncertain and while its direct financial exposures to Russia and Ukraine are contained, higher order effects may in a downside, impact the Group's ability to meet its stated targets.

Deutsche Bank regularly assesses potential impacts of these and other risk events and trends via stress testing and bottom-up portfolio reviews. The results of these assessments indicate that the currently available capital and liquidity reserves, in combination with available mitigation measures, are sufficient to absorb potential impacts of further downside risks if they were to materialize.

The broader geopolitical implications of the war in Ukraine remain uncertain. The U.S. has warned that countries which help Russia to evade sanctions, backfill them or provide military aid may be targets of secondary sanctions. Over the medium to long term, the IMF among others has highlighted the potential impact of deglobalization on living standards and growth. Against this backdrop, tensions between the U.S. and China remain elevated across a wide range of areas, including trade and technology-related issues, Hong Kong, Taiwan, human rights, and cybersecurity. The U.S. has imposed selected sanctions as well as export and investment restrictions on Chinese companies and officials, and China has imposed sanctions on certain U.S. companies and officials and introduced a framework for blocking regulations aimed at the extraterritorial application of sanctions against China. Likewise, the EU has imposed sanctions on China in relation to human rights issues, which were reciprocated by China. Such measures raise potential regulatory compliance and conflicts of law challenges and the impacts could be material and adverse.

Strategy

The Group has communicated various targets including an update for the 2022 cost/income ratio target in the “Strategy” section, which are in line with those set out in its Investor Deep Dive on March 10, 2022. While the Group continuously plans and adapts to changing situations, it runs the risk that a significant deterioration in the global operating environment could lead it to missing its publicly communicated targets, incur unexpected losses including further impairments and provisions, experience lower than planned profitability or an erosion of its capital base and broader financial condition, leading to a material adverse effect on Deutsche Bank’s results of operations and share price. This also includes the risk that Deutsche Bank will not be able to make desired distributions of profits to its shareholders which are subject to Deutsche Bank AG’s capacity under standalone financial statements in accordance with German accounting rules (HGB). Where such targets reflect commitments to regulators, missing them may also trigger action from such regulators or rating agencies. In these situations, the Group would need to take action to ensure it meet its minimum capital objectives. These actions or measures may result in adverse effects on the Group’s business, results of operations or strategic plans and targets.

The war in Ukraine and its continuing impact on the global economy as well as other macroeconomic developments, including uncertainty around the inflation outlook and policy rates may affect the Group’s ability to meet its financial and non-financial targets. The COVID-19 pandemic temporarily reduced the rate of regular employee attrition versus historical levels, creating a more challenging context to the Group’s cost targets and increasing the cost of involuntary severance arrangements. This also limited the opportunity to redeploy talented employees within the bank whose roles were made redundant. Labor market conditions have now significantly tightened and attrition rates in the first half of 2022 were above pre-COVID levels. Deutsche Bank continues to observe extremely competitive markets, particularly in the U.S. and India, and expects attrition rates to remain above pre-COVID levels for the second half of 2022. These effects, coupled with requests from regulators to demonstrate moderation in the levels of compensation that the Group can offer, may put the Group at a disadvantage in attracting and retaining talented employees.

Liquidity and funding risks

After credit ratings upgrades in 2021, Deutsche Bank’s current long-term credit ratings have improved at S&P, at Moody’s and at Fitch. Additionally, the rating agency DBRS Morningstar confirmed Deutsche Bank’s long-term rating and raised its outlook to Positive. Despite strong credit ratings, the current situation had an adverse impact on Deutsche Bank’s credit spread levels and adversely affect its funding costs.

Regulatory supervisory reforms, assessments and proceedings

Although regulatory reforms have been selectively delayed in order to support banks’ efforts to more easily manage the impacts from COVID-19 and provide financing to the real economy, the regulatory reforms enacted and proposed in response to weaknesses identified during the last financial crisis together with increased regulatory scrutiny and discretion will impose material costs on Deutsche Bank, create significant uncertainty and may adversely affect its business plans as well as its ability to execute its strategic plans in the medium-term. Those changes that require the Group to maintain increased capital may significantly affect its business model, financial condition, and result of operations as well as the competitive environment more generally.

Several future changes will impact the Group's business. One is the implementation of Final Basel III reforms (through CRR III and Capital Requirements Directive VI). Implementation of these changes are, however. still heavily debated in all key jurisdictions by policymakers. In particular, the EU has initiated the legislative process, based on a legislative proposal by the European Commission in October 2021. The Group currently expects its capital requirements to increase in 2025 from the implementation of the Final Basel III framework in the EU, in particular from higher risk weights for its exposure in most risk areas. Deutsche Bank expects a further increase in risk-weights for its exposures from 2028/2029 from the introduction of the new output floor included in Final Basel III. Regulatory reforms in respect of resolvability or resolution measures may also impact its business operations. In addition, regulatory changes may impact how key entities are funded which could affect how businesses operate and negatively impact results. Regulatory actions may also require the Group to change its business model or result in some business activities becoming unviable.

Changes to Deutsche Bank's capital requirements may also come from the review of the EU macroprudential regime, which the European Commission has announced for the second half of 2023. These changes could result in an increase of its level of capital requirements, specifically capital buffers.

Supervisors can also impose capital surcharges or regulatory adjustments, for example, as a result of the regular Supervisory Review and Evaluation Process (SREP). Such adjustments may reflect additional risks posed by deficiencies in the Group's control environment, or come as a result of supervisory inspections concerning the treatment of specific products or transactions. One of the areas of focus of the European Central Bank (ECB) with regards to risk taking is leveraged lending, for which the ECB has announced its intent to clarify their expectations for all banks under the Single Supervisory Mechanism and to consider quantitative measures in future SREP decisions for institutions which the ECB assesses as non-compliant with these expectations. Such potential quantitative measures may result in a significant negative impact. More broadly, this also includes conclusions the ECB draws from regulatory stress tests conducted by the EBA or the ECB. The ECB evaluates each bank's performance from a qualitative angle to inform the decision on the level of Pillar 2 Requirement and a quantitative outcome which is one aspect when assessing the level of Pillar 2 guidance. The ECB has already used these powers in its SREP decisions in the past and it may continue to do so to address findings from onsite inspections. In extreme cases, they can even suspend certain activities or the Group's permission to operate within their jurisdictions and impose monetary fines for failures to comply with rules applicable to it.

Supervisors can also impose other capital surcharges, such as the increase of macroprudential capital buffers including the Countercyclical Conservation Buffer and the Systemic Risk Buffer. Germany's Federal Financial Supervisory Authority (BaFin) has already announced increases to take place in February 2023.

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

Furthermore, implementing enhanced controls may result in higher regulatory compliance costs that could offset or exceed efficiency gains. Regulators may disagree with the Group's interpretation of specific regulatory requirements when interpretative matters are discussed as part of its ongoing regulatory dialogue or in the context of supervisory exams. An example of unanticipated increase of control could be the risk that local regulators require a major Deutsche Bank legal entity to ring-fence liquidity held locally and, in turn, limit the redeployment of liquidity to other affiliates. Changes in rule interpretations can have a material impact on the treatment of positions for Pillar 1 regulatory purposes. Similarly, the evolving interpretations of the European Banking Authority (EBA) on the Capital Requirements Regulation (CRR) can also negatively impact the Group's regulatory capital, leverage or liquidity ratios.

The potential financial stability risk for the EU due to central clearing arrangements outside of the EU continues to feature in 2022. On February 8, 2022, the European Commission published an extension to the temporary equivalence decision for UK Central Counterparties (CCPs) to June 30, 2025. The Commission is expected to publish its central clearing strategy in Q4 this year, which will contain measures to channel clearing services in EUR-denominated products to EU CCPs by making them more competitive and cost efficient and by strengthening EU-level supervision. Furthermore, the existing transition period for third country CCPs which allows them to be classified as qualifying CCPs for capital allocation purposes without a formal equivalence decision by the European Commission and recognition by the European Securities and Markets Authority, the European securities regulator, expired on June 28, 2022. The Commission has since adopted several equivalence decisions for third country jurisdictions such as China, Chile, Malaysia, Indonesia, and Israel and the EC has confirmed that a three month grace period applies until September 28, 2022 for third-country CCPs which have not been recognized.

Recent events suggest that political pressure may rise across European member states regarding the possibility of introducing additional levies or taxes as a means to finance potential transfers to households, to ease the impact of rising prices. Certain countries have introduced such levies or publicized initial proposals. If effectuated, such taxes or levies could negatively impact the profitability and organic capital generation of the bank.

While Deutsche Bank continues to develop and implement its approach to climate and environmental risk assessment and management and promote the integration of climate-related factors across its entire platform, both rapidly changing regulatory as well as stakeholder demands may materially affect its business, results of operations or strategic plans if the Group fails to adopt or implement measures to transition to a low-carbon economy.

Technology and innovation

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

Environmental, social and governance risk

Deutsche Bank participated in the inaugural ECB Climate risk Stress Test (CST22) from January to May 2022. The CST22 was a joint learning exercise with some pioneering characteristics and forms a part of the broader assessment of Banks' climate risk management capabilities. It was an extremely valuable exercise and acted as a catalyst for Deutsche Bank and the wider European banking industry to further develop the Group's climate risk modelling capabilities. Lessons learnt will be integrated into the development of the bank's internal stress testing capabilities over the next 12 months.

The ECB also conducted a thematic review of Banks' climate and other environmental risk management capabilities in the first half of 2022 with a view to further integrating Climate and Environmental risks in the SREP methodology. Combined with the observations from the climate stress test, the results of the thematic review will be qualitatively integrated into SREP scores which may have an indirect impact on minimum capital requirements.

More broadly, Deutsche Bank continued to develop and implement its approach to climate and environmental risk assessment and management. This includes the ability to identify, monitor and manage risks and to conduct regular scenario analysis and stress testing. Both rapidly changing regulatory as well as stakeholder demands, combined with significant focus by stakeholders, may materially affect the Group's businesses if they fail to adopt such demands or appropriately implement its strategic plans.

Opportunities

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

By focusing on and investing in Deutsche Bank's areas of core strengths, the implementation of its strategy may create further opportunities if implemented to a greater extent or under more favorable conditions than anticipated. This includes the potential to gain additional market share across key products. If businesses and processes improve beyond their planned assumptions and cost efficiencies can be realized sooner or to a greater extent than forecasted, this could also positively impact the Group's results of operations. The progress could be further stimulated if markets react favorably to its ongoing transformation efforts, its rating upgrades and sustained revenue performance. This could in turn reduce funding costs and further amplify the Bank's profitability.

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 first six months of 2022. 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.

European Regulation (EU) 2019/876 and Directive (EU) 2019/878 introduced amendments to the CRR/CRD with various changes to the regulatory framework that became applicable on June 30, 2021: A new standardized approach for counterparty credit risk (SA-CCR) was introduced that replaces the mark-to-market method to determine the exposure value for derivatives that are not in scope of the internal model method. In addition, a new framework to determine the risk weight for banking book investments in collective investment undertakings and default fund contributions to central counterparties was introduced. Moreover, a minimum regulatory leverage ratio of 3% is determined as the ratio of Tier 1 capital and the regulatory leverage exposure. In addition, a minimum Net Stable Funding Ratio (NSFR) of 100% was introduced that requires banks to maintain a stable funding profile in relation to its on and off balance sheet exposures.

In the third quarter of 2021, the Group introduced the new definition of default, which consists of two EBA guidelines. One guideline comprises an EBA technical standard regarding the materiality threshold for credit obligations past due (implemented with ECB regulation (EU) 2018/1845) and the second guideline covers the application of the definition of default. Both of these new requirements are jointly referred to below as the new Definition of Default (nDoD), after the ECB's approval was received in August 2021. The nDoD replaced the default definition under Basel II and is applied to all key risk metrics throughout the Earnings Report including as a trigger of Stage 3.

Since June 30, 2020, the Group applies the transitional arrangements in relation to IFRS 9 as provided in the current CRR/CRD for all CET1 measures. 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 2021 under the chapter "Risk report".

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

Common Equity Tier 1 ratio		**Total risk-weighted assets**	
30.6.2022	13.0%	30.6.2022	€ 370.0 bn
31.12.2021	13.2%	31.12.2021	€ 351.6 bn
Economic capital adequacy ratio		**Total economic capital**	
30.6.2022	209%	30.6.2022	€ 23.4 bn
31.12.2021	206%	31.12.2021	€ 23.5 bn
Leverage ratio		**Leverage exposure**	
30.6.2022	4.3%[1, 3]	30.6.2022	€ 1,280 bn[3]
31.12.2021 (fully loaded)	4.9%[2]	31.12.2021	€ 1,125 bn
Total loss absorbing capacity (TLAC)		**Minimum requirement for own funds and eligible liabilities (MREL)**	
30.6.2022 (Risk Weighted Asset based)	31.00%	30.6.2022	33.58%
30.6.2022 (Leverage Exposure based)	8.96%	31.12.2021	32.66%
31.12.2021 (Risk Weighted Asset based)	31.03%		
31.12.2021 (Leverage Exposure based)	9.70%		
Liquidity coverage ratio (LCR)		**Stressed net liquidity position (sNLP)**	
30.6.2022	133%	30.6.2022	€ 38.1 bn
31.12.2021	133%	31.12.2021	€ 43.3 bn[4]
		Net Stable Funding Ratio (NSFR)	
		30.6.2022	116%
		31.12.2021	121%

[1] Starting with first quarter of 2022 leverage numbers are presented as reported as the fully loaded definition has been eliminated as resulting only in an immaterial difference.
[2] Comparative information for earlier periods is based on Deutsche Bank's earlier fully loaded definition.
[3] Since April 1, 2022 Deutsche Bank no longer excludes certain central bank exposures (amounting to € 99 billion as of December 31, 2021), based on Article 429a (1) (n) CRR and the ECB Decision 2021/1074 as this temporary exemption during the COVID-19 pandemic ended on March 31, 2022. Not applying the temporary exclusion of certain central bank exposures the leverage exposure was € 1,223 billion as of December 31, 2021, corresponding to a leverage ratio of 4.5%.
[4] December 31, 2021 sNLP has been updated from € 47.6 billion to € 42.3 billion.

Risk-weighted assets

Risk-weighted assets by risk type and business division

							Jun 30, 2022
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total
Credit risk	66,265	97,765	81,068	9,812	3,641	19,014	277,564
Settlement risk	0	129	0	0	0	26	156
Credit valuation adjustment (CVA)	63	4,050	43	1	634	17	4,808
Market risk	401	17,875	52	33	1,894	7,813	28,068
Operational risk	5,328	24,407	7,296	3,397	18,946	0	59,373
Total	72,057	144,227	88,459	13,243	25,116	26,869	369,970

							Dec 31, 2021
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total
Credit risk	59,588	93,125	77,632	11,017	5,426	16,964	263,752
Settlement risk	0	1	0	0	10	49	60
Credit valuation adjustment (CVA)	120	4,879	167	9	1,098	55	6,327
Market risk	128	17,565	40	33	1,293	715	19,773
Operational risk	5,571	25,031	7,527	3,357	20,232	0	61,718
Total	65,406	140,600	85,366	14,415	28,059	17,783	351,629

The RWA of Deutsche Bank were € 370.0 billion as of June 30, 2022, compared to € 351.6 billion at the end of 2021. The increase of € 18.3 billion was driven by credit risk RWA and market risk RWA, which was partially offset by operational risk RWA and RWA for Credit Valuation Adjustments (CVA). The increase in credit risk RWA by € 13.8 billion was primarily driven by € 8.8 billion from foreign-exchange movements, ECB mandated model adjustments, impacts on the back of market uncertainties and business growth within the Investment Bank and Private Bank. This was partially offset by RWA decreases within the Capital Release Unit and Asset Management. Higher market risk RWA by € 8.3 billion was primarily driven by increase in VaR and SVaR components through a combination of a higher Capital Multiplier, following Backtesting outliers, higher VaR due to more volatile data in last 1 year window, and higher SVaR due to change in SVaR window from COVID period to Lehman period. The operational risk RWA reduction of € 2.3 billion was mainly driven by a more favorable development of Deutsche Bank´s internal loss profile feeding into the capital model. CVA RWA reduced by € 1.5 billion mainly driven by model refinements.

CET 1 capital reconciliation to shareholders equity

in € m.	Jun 30, 2022	Dec 31, 2021
Total shareholders’ equity per accounting balance sheet	**59,788**	58,027
Deconsolidation/Consolidation of entities	265	265
Of which:		
Additional paid-in capital	0	0
Retained earnings	265	265
Accumulated other comprehensive income (loss), net of tax	0	0
Total shareholders’ equity per regulatory balance sheet	**60,053**	58,292
Minority Interests (amount allowed in consolidated CET 1)	1,010	910
AT1 coupon and shareholder dividend deduction[1]	(527)	(987)
Reversal of deconsolidation/consolidation of the position accumulated other comprehensive income (loss), net of tax, during transitional period	0	0
Common Equity Tier 1 (CET 1) capital before regulatory adjustments	**60,536**	58,215
Prudential filters	(1,948)	(1,825)
Of which:		
Additional value adjustments	(2,212)	(1,812)
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	263	(14)
Regulatory adjustments relating to unrealized gains and losses pursuant to Art. 467 and 468 CRR	0	0
Regulatory adjustments	(10,655)	(9,884)
Of which:		
Goodwill and other intangible assets (net of related tax liabilities) (negative amount)	(5,015)	(4,897)
Deferred tax assets that rely on future profitability	(1,885)	(1,617)
Negative amounts resulting from the calculation of expected loss amounts	(450)	(573)
Defined benefit pension fund assets (net of related tax liabilities) (negative amount)	(1,341)	(991)
Direct, indirect and synthetic holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities	0	0
Securitization positions not included in risk-weighted assets	0	0
Other[2]	(1,964)	(1,805)
Common Equity Tier 1 capital	**47,932**	46,506

[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 € 1.1 billion (Dec 2021: € 1.1 billion) based on ECB guidance on irrevocable payment commitments related to the Single Resolution Fund and the Deposit Guarantee Scheme, € 0.8 billion (Dec 2021: € 0.7 billion) based on ECB’s supervisory recommendation for a prudential provisioning of non-performing exposures, € 5 million (Dec 2021: € 17 million) resulting from minimum value commitments as per Article 36 (1)(n) of the CRR and CET 1 increase of € 23 million (Dec 2021: € 39 million) from IFRS 9 transitional provision as per Article 473a of the CRR.

As of June 30, 2022, Deutsche Bank´s CET 1 capital ratio decreased to 12.96% compared to 13.23% as of December 31, 2021. The decrease of 27 basis points is primarily due to the aforementioned increases in RWA with 30 basis points of the decrease relating to the ECB mandated model adjustments for credit risk RWA and the higher regulatory VaR and SVaR multiplier for market risk RWA. Partly offsetting were € 1.4 billion increase in Deutsche Bank´s CET 1 capital compared to year end 2021 which was mainly the result of the positive net profit of € 2.4 billion for the first half of 2022 which was 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 CET 1 capital in accordance with the Article 26(2) of Regulation (EU) No 575/2013 (ECB/2015/4). In addition, CET 1 capital increased as a result of positive effects from Currency Translation Adjustments of € 1.3 billion net of foreign exchange counter-effects of capital deduction items of € 0.2 billion.

These positive impacts were partly offset by deductions from Equity compensation of € 0.3 billion, share buyback of € 0.3 billion, unrealized losses from financial instruments at fair value through other comprehensive income of € 0.6 billion driven mainly by rising EUR & USD interest rates and increased regulatory adjustments from prudential filters of € 0.4 billion (additional value adjustments) predominantly from market price dispersions and risk profile changes.

Economic capital adequacy ratio and economic capital

The economic capital adequacy ratio was 209% as of June 30, 2022, compared to 206% as of December 31, 2021. The increase was due to higher capital supply and lower capital demand.

The total economic capital demand amounted to € 23.4 billion as of June 30, 2022, compared to € 23.5 billion as of December 31, 2021. The decrease of € 0.1 billion was driven by lower economic capital demand for market risk, strategic risk and operational risk, which was partially offset by higher capital demand for credit risk and lower diversification benefit. The economic capital demand for market risk decreased by € 1.7 billion primarily driven by reduction in market risk exposures in equity compensation and pension plans as well as increased diversification across the portfolio. The economic capital demand for strategic risk decreased by € 0.4 billion due to lower tax re-determination risk and deferred tax assets on temporary differences. The economic capital demand for operational risk reduced by € 0.2 billion mainly driven by a more favorable development of Deutsche Bank´s internal loss profile feeding into the capital model. The economic capital demand for credit risk increased by € 1.9 billion primarily driven by higher exposures in Deutsche Bank's government bond portfolio, increased FX derivative transactions against hedge funds and impacts on the back of market uncertainties. The inter-risk diversification benefit decreased by € 0.3 billion.

The economic capital supply amounted to € 49.0 billion as of June 30, 2022, compared to € 48.5 billion as of December 31, 2021. The increase of € 0.6 billion was primarily driven by positive net income of € 2.4 billion, partly offset by higher capital deductions of € 1.8 billion from deferred tax assets, equity compensation, intangible assets and prudential filters (additional value adjustments), and other offsetting effects.

Leverage ratio and leverage exposure

Since April 1, 2022 Deutsche Bank no longer excludes certain central bank exposures from its leverage exposure. This temporary exemption during the COVID-19 pandemic, which was based on Article 429a (1) (n) CRR and the ECB Decision 2021/1074, ended on March 31, 2022. As a consequence, also the applicable minimum leverage ratio no longer has to be increased and is therefore at 3.0%.

As of June 30, 2022, the leverage ratio was 4.3% compared to 4.9% as of December 31, 2021. This takes into account a Tier 1 capital of € 55.2 billion over an applicable exposure measure of € 1,280 billion as of June 30, 2022 (€ 54.8 billion and € 1,125 billion as of December 31, 2021, respectively). Not applying the temporary exclusion of certain central bank exposures amounting to € 99 billion the leverage exposure was € 1,223 billion as of December 31, 2021, corresponding to a leverage ratio of 4.5%.

Not considering the temporary exclusion of certain central bank balance for December 31, 2021, in the first half of 2022 the leverage exposure increased by € 57 billion to € 1,280 billion, largely driven by the leverage exposure for the asset items not related to derivatives and SFTs which increased by € 33 billion. This reflects the development of the balance sheet (for additional information please refer to section "Movements in assets and liabilities" in this report): loans grew by € 23 billion and non-derivative trading assets increased by € 4 billion. Pending settlements were unchanged on a net basis - despite being € 8 billion higher on a gross basis from seasonally low year-end levels. The remaining asset items increased by € 20 billion, largely related to Held-to-collect debt securities. These increases were partly offset by cash and central bank/interbank balances which decreased by € 14 billion. Off-balance sheet leverage exposures increased by € 11 billion corresponding to higher notional amounts for irrevocable lending commitments. In addition, the leverage exposure related to derivatives increased by € 10 billion. Furthermore, SFT-related items (securities purchased under resale agreements, securities borrowed and receivables from prime brokerage) increased by € 3 billion, in line with the development on the balance sheet.

The increase in leverage exposure in the first half 2022 included a foreign exchange impact of € 37 billion, mainly due to the strengthening 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, 2022	Dec 31, 2021
Regulatory capital elements of TLAC/MREL		
Common Equity Tier 1 capital (CET 1)	47,932	46,506
Additional Tier 1 (AT1) capital instruments eligible under TLAC/MREL	7,268	8,868
Tier 2 (T2) capital instruments eligible under TLAC/MREL		
Tier 2 (T2) capital instruments before TLAC/MREL adjustments	10,045	7,358
Tier 2 (T2) capital instruments adjustments for TLAC/MREL	1,580	1,208
Tier 2 (T2) capital instruments eligible under TLAC/MREL	11,625	8,566
Total regulatory capital elements of TLAC/MREL	**66,826**	63,941
Other elements of TLAC/MREL		
Senior non-preferred plain vanilla	47,864	45,153
Holdings of eligible liabilities instruments of other G-SIIs (TLAC only)	0	–
Total Loss Absorbing Capacity (TLAC)	**114,690**	109,094
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)	114,690	109,094
Senior preferred plain vanilla	6,643	5,759
Senior preferred structured products	2,909	0
Available Minimum Own Funds and Eligible Liabilities (MREL)	**124,242**	114,853
Risk Weighted Assets (RWA)	369,970	351,629
Leverage Ratio Exposure (LRE)	1,279,798	1,124,670
TLAC ratio		
TLAC ratio (as percentage of RWA)	31.00	31.03
TLAC requirement (as percentage of RWA)	22.52	20.53
TLAC ratio (as percentage of Leverage Exposure)	8.96	9.70
TLAC requirement (as percentage of Leverage Exposure)	6.75	6.00
TLAC surplus over RWA requirement	31,358	36,919
TLAC surplus over LRE requirement	28,304	41,614
MREL subordination		
MREL subordination ratio[1]	31.00	31.03
MREL subordination requirement[1]	24.80	24.79
Surplus over MREL subordination requirement	22,923	21,909
MREL ratio		
MREL ratio[1]	33.58	32.66
MREL requirement[1]	29.41	28.58
MREL surplus over requirement	15,419	14,372

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

MREL ratio development

As of June 30, 2022, available MREL were € 124.2 billion, corresponding to a ratio of 33.58% of RWA. This means that Deutsche Bank has a comfortable MREL surplus of € 15.4 billion above our MREL requirement of € 108.8 billion (i.e. 29.41% of RWA including combined buffer requirement). € 114.7 billion of our available MREL were own funds and subordinated liabilities, corresponding to a MREL subordination ratio of 31.00% of RWA, a buffer of € 22.9 billion over our subordination requirement of € 91.8 billion (i.e. 24.80% of RWA including combined buffer requirements). Compared to December 31, 2021 higher MREL and subordinated MREL was not fully offset by the impact from higher RWA and higher requirements which has led to higher MREL and subordinated MREL surpluses. For MREL, the first time inclusion of certain MREL eligible structured notes also contributed to the increase.

TLAC ratio development

As of June 30, 2022, TLAC was € 114.7 billion and the corresponding TLAC ratios were 31.00% of RWA and 8.96% of LRE. This means that Deutsche Bank has a comfortable TLAC surplus of € 28.3 billion over its TLAC requirement of € 86.4 billion (6.75% of LRE). Higher requirements applicable starting 1 January 2022 have led to a lower surplus compared to December 31, 2021.

Liquidity coverage ratio

The Group's Liquidity Coverage Ratio (LCR) was 133% as of June 30, 2022, or € 51 billion of excess over the regulatory minimum of 100%. This compares to 133%, or € 52 billion of excess liquidity at December 31, 2021. The marginal change in surplus was primarily driven by net new capital market issuances and retail deposit inflows offset by loan growth and higher outflows from commitments.

Stressed net liquidity position

The Group's internal eight week stressed Net Liquidity Position (sNLP) decreased marginally to € 38.1 billion as of June 30, 2022 from € 43.3 billion as of December 31, 2021, which was updated from € 47.6 billion as previously reported. This was primarily driven by modelled outflows partially offset by business portfolio movements.

Net Stable Funding Ratio

The Net Stable Funding Ratio (NSFR) requires banks to maintain a stable funding profile in relation to their on- and off-balance sheet activities. The ratio is defined as the amount of Available Stable Funding (the portion of capital and liabilities expected to be a stable source of funding), relative to the amount of Required Stable Funding (a function of the liquidity characteristics of various assets held). The NSFR as of June 30 2022 was 116% or a surplus over requirements of € 83 billion.

IFRS 9 Impairment

Model overview

During the six months ended June 30, 2022, the Group continued to apply the same IFRS 9 Impairment model as disclosed in Deutsche Bank's Annual Report 2021. On an ongoing basis and as part of the Group's overall control and governance framework, the Group assesses at each reporting period whether any overlays to its IFRS 9 model are required. This model monitoring framework considers whether there are risks not captured in the model, such as a sudden change in the macroeconomic environment, and identifies any model limitations or routine model enhancements that have not yet been fully reflected. Overall, the model monitoring framework ensures that the Group reports management's best estimate of its expected credit losses at each reporting date.

Forward-looking information

The tables below contain the macroeconomic variables (MEV) included in the application of forward-looking information its IFRS 9 model as of June 30, 2022 and as of December 31, 2021.

Macroeconomic variables applied

	as of June 2022[1] [2]	
	Year 1 (4 quarter avg)	Year 2 (4 quarter avg)
Commodity - Gold	1,906.33	1,803.69
Commodity - WTI	101.54	90.41
Credit - CDX Emerging Markets	316.16	309.44
Credit - CDX High Yield	501.57	487.05
Credit - CDX IG	84.69	80.86
Credit - High Yield Index	4.78	4.56
Credit - ITX Europe 125	97.61	97.24
Equity - MSCI Asia	1,352	1,399
Equity - Nikkei	27,574	29,077
Equity - S&P500	4,216	4,471
GDP - Developing Asia	4.54%	5.11%
GDP - Emerging Markets	3.62%	4.35%
GDP - Eurozone	2.87%	1.87%
GDP - Germany	1.36%	2.32%
GDP - Italy	1.70%	1.48%
GDP - USA	2.20%	1.70%
Real Estate Prices - US CRE Index	367.45	381.42
Unemployment - Eurozone	6.91%	6.82%
Unemployment - Germany	2.93%	2.72%
Unemployment - Italy	8.62%	8.58%
Unemployment - Japan	2.62%	2.48%
Unemployment - Spain	13.48%	13.00%
Unemployment - USA	3.60%	3.81%

[1] MEV as of 21 June 2022
[2] Year 1 equals second quarter of 2022 to first quarter of 2023, Year 2 equals second quarter of 2023 to first quarter of 2024

	as of December 2021[1] [2]	
	Year 1 (4 quarter avg)	Year 2 (4 quarter avg)
Commodity - Gold	1,764.58	1,696.51
Commodity - WTI	73.19	68.21
Credit - CDX Emerging Markets	231.80	268.64
Credit - CDX High Yield	353.42	399.62
Credit - CDX IG	59.53	63.98
Credit - High Yield Index	3.95	4.46
Credit - ITX Europe 125	61.37	69.93
Equity - MSCI Asia	1,543	1,514
Equity - Nikkei	29,673	30,764
Equity - S&P500	4,777	5,033
GDP - Developing Asia	3.78%	6.26%
GDP - Emerging Markets	3.72%	5.38%
GDP - Eurozone	4.67%	2.91%
GDP - Germany	3.35%	2.86%
GDP - Italy	5.17%	2.33%
GDP - USA	4.46%	2.79%
Real Estate Prices - US CRE Index	348.86	377.26
Unemployment - Eurozone	7.41%	7.07%
Unemployment - Germany	3.13%	2.83%
Unemployment - Italy	9.18%	8.92%
Unemployment - Japan	2.73%	2.53%
Unemployment - Spain	14.26%	13.66%
Unemployment - USA	4.05%	3.68%

[1] MEV as of 31 December 2021; MEV outside the calibrated range were adjusted either in the model or via a management overlay as discussed further below
[2] Year 1 equals fourth quarter of 2021 to third quarter of 2022, Year 2 equals fourth quarter of 2022 to third quarter of 2023

Overlays applied to the IFRS 9 model output

Development of overlays from December 31, 2021 to June 30, 2022

in € m. (unless stated otherwise)		Overlays as of Dec 31, 2021	Changes in the first quarter 2022	Changes in the second quarter 2022	Overlays as of Jun 30, 2022
Overlay description	Impact on				
Construction Risk following increased prices for building materials	Mortgage portfolios in the Private Bank in Stage 1 and 2	15	(15)	0	0
Model calibration (MEV outside calibrated range of the FLI model)	Financial assets in Stage 1 and 2	56	(16)	(40)	0
Recalibrations required due to the new Definition of Default	Financial assets primarily in the Private Bank in Stage 3	(57)	(35)	0	(92)
Uncertainty related to Russia/Ukraine in the first quarter 2022	All financial assets in Stage 1 and 2	0	44	(44)	0
Uncertainty related to Russia/Ukraine in the second quarter 2022	All financial assets in Stage 1 and 2	0	0	83	83
Model calibration (WTI oil price Index disabled for one portfolio)	Financial assets in Stage 1 and 2 in the Investment Bank	0	42	(3)	39
Total		14	**20**	**(4)**	**30**

The Group applied the following overlays to its IFRS 9 model output as of December 31, 2021 until June 30, 2022.

Construction Risk following increased prices for building materials

The Group decided to release the € 15 million overlay, which addressed the risk of budget overruns and delays due to unavailable or significantly more expensive building materials and resulted in an increase in the Group's allowance for credit losses at the end of 2021. This overlay, which was released in the first quarter 2022, was recorded against approved, but not yet fully funded mortgage loans that related to constructing or remodeling properties in Germany. At the end of the first quarter 2022, most impacted borrowers were able to finish the construction of their homes in line with the amounts approved for funding and therefore the IFRS 9 model is now adequately reflecting the credit risk on the funded mortgages. For new mortgages, the construction risk is already included as part of the lending criteria and therefore no further overlay is required.

Model calibration (MEV outside the calibrated range)

The Group applied a management overlay to address the model uncertainty associated with extreme year on year MEV projections from the economic forecast, in particular GDPs, which are identified as being outside the calibrated range of the FLI model. Since the model was not calibrated based on such extreme MEV movements, it was management's view that the model underestimated expected credit losses in such situations. As of December 31, 2021, the overlay was € 56 million and as the MEV's moved into the calibrated range by the end of second quarter 2022, € 16 million of the overlay was released in first quarter 2022 and the remaining € 40 million was fully released in second quarter 2022. The releases resulted in a decrease of the Group's allowance for credit losses.

Recalibrations required due to the new Definition of Default

In the third quarter of 2021, the Group implemented the new Definition of Default which is the trigger for Stage 3 in the Group's IFRS 9 framework. The implementation of the new Definition of Default mainly affected the Private Bank, where the Stage 3 population in the homogeneous portfolios increased. As an adjustment in the Definition of Default is not expected to materially change the total loss expectation related to this portfolio, management is of the view that this change resulted in an overstatement of Stage 3 provisions and did not reflect management's loss expectations for the impacted portfolios as the Loss Given Default (LGD) parameter had not yet been updated in the model. The LGD settings are reviewed on an annual basis with independent validation performed by the Model Risk Management function, and the next recalibration is only expected to occur in the second half of 2022 once empirical data is available for a statistical recalibration, and consequently an overlay continues to be recorded to address the expected LGD recalibration effects. The estimate of the recalibration effect has been refined in the first quarter 2022 and was increased to € 92 million and has not changed since then. The € 92 million overlay results in a decrease in the Group's allowance for credit losses but is an offset to the overstatement of Stage 3 provisions calculated due to the new Definition of Default.

Uncertainty related to Russia/Ukraine
In the first quarter 2022, the Group introduced a management overlay amounting to € 44 million which was specific to the overall uncertainty associated with the economic outlook because of the war in Ukraine. During the second quarter 2022, the MEVs deteriorated as they reflected the impact of the war in Ukraine which in turn resulted in an increased level of allowance for credit losses being recorded. Since the uncertainty that existed at the end of the first quarter was appropriately considered in the model via the MEVs forecasts available as of June 21, 2022, the overlay was released.

Towards the end of June 2022, the macro-economic outlook weakened further. The main reason was the growing concerns over the gas supply from Russia to Europe (Germany in particular), as well as market expectation of significantly more aggressive monetary tightening in the U.S. and other markets to combat persistent inflation. Both developments accelerated in late June and resulted in € 135 million increase in allowance for credit losses related to forward looking information in the second quarter as per June 21, 2022. As there was still uncertainty whether the MEV forecasts available at this date fully reflected the concerns over gas supplies to Europe and inflation, management decided to record an additional overlay of € 83 million and increase the Group's allowance for credit losses.

The overlay was computed by applying a downward shift in the MEVs feeding into the IFRS 9 model. The downward shift across all MEVs is 50% of the sigma shocks reported in the sensitivity analysis below. Management reviewed and assessed multiple scenarios associated with various degrees of supply disruptions of Russian gas to Europe based on external studies and internal analysis, which pointed to a wide range of potential macro-economic implications depending on the circumstances and the assumed economic sensitivity. Due to the large degree of uncertainty regarding occurrence and impact, management did not assign specific probabilities to these scenarios. Although some of the contributing economists see economic activity in Europe and specifically Germany to contract in the near future, the majority of economists continues to see a small economic expansion which drives the "baseline" of the consensus data and reflects an unbiased view of forward looking MEV's. Hence it is management's view that the aforementioned adjusted consensus forecast is the best estimate of expected development at this time.

Model calibration (WTI oil price Index)
The Group introduced a management overlay to address methodological considerations related to the incorporation of forward-looking information for oil prices in the ECL calculation. In the past, increases in oil prices were typically demand driven and reflective of a positive economic environment, which is why the IFRS 9 model was designed to release ECL provisions in this scenario. However, the increase in oil prices in first quarter 2022 was driven by expected supply risks and associated geopolitical developments because of the war in Ukraine and a worsening economic environment. Although higher oil prices tend to always have a positive effect on industries such as oil and gas producers, higher oil prices driven by supply issues generally have a negative impact on many other industries and portfolios. Therefore, an overlay was recorded in the amount of € 42 million for the period ended March 31, 2022 to reflect the worsening economic conditions and reverse the release of provisions based on the increase in the WTI Oil price Index. The overlay was slightly reduced to € 39 million for the period ended June 30, 2022. Both amounts increased the Group's allowance for credit losses.

Considering the existing and newly recorded overlays, the IFRS 9 provision reflects management's best estimate of its expected credit losses at the end of the second quarter 2022.

Model sensitivity

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, 2022 and December 31, 2021. 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

The sensitivity analysis below 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). Due to the economic uncertainty from the effects of the war in Ukraine, potential gas supply issues from Russia to Europe, and tightening monetary policy by central banks, the MEV's have deteriorated as of June 30, 2022 compared to December 31, 2021.

ECL for Stage 3 is not affected and not reflected in the following tables as its calculation is independent of the macroeconomic scenarios.

Model sensitivity

				Jun 30, 2022
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in €	Downward shift	ECL impact in €
GDP growth rates	1pp	(66.7)	(1)pp	73.3
Unemployment rates	(0.5)pp	(30.6)	0.5pp	35.8
Real estate prices	5%	(5.3)	(5)%	6.0
Equities	10%	(11.6)	(10)%	14.7
Credit spreads	(40)%	(38.3)	40%	44.3
Commodities[1]	10%	(20.0)	(10)%	20.1

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

ECL impacts for Stages 1 and 2 are determined from one sigma downward and upward shift. 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

				December 31, 2021
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in €	Downward shift	ECL impact in €
GDP growth rates	1pp	(49.4)	(1)pp	55.5
Unemployment rates	(0.5)pp	(23.8)	0.5pp	25.4
Real estate prices	5%	(3.9)	(5)%	4.2
Equities	10%	(7.2)	(10)%	9.4
Credit spreads	(40)%	(20.9)	40%	23.5
Commodities[1]	10%	(15.0)	(10)%	16.2

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

In the event Russia completely stops gas deliveries to Europe, a macro-economic shock would be highly probable. The timing, extent and severity of such a shock is difficult to predict due to numerous variables that could influence scenario outcomes and severity. The potential for and magnitude of government support, the amount and availability of alternative energy supplies, the timing of when gas supplies stop, the level of cash and liquidity available to borrowers to overcome the critical shortage period are all examples of such variability.

The Group has considered a variety of scenarios to assess a downside scenario if the Russian gas supply to Europe is completely shut off, including information from the ECB's published downside scenario. The Group's estimated downside forecast assumes the negative impact to begin in 2022, if an immediate gas supply shutdown occurs, with further impacts to materialize in subsequent periods. Based on such factors, the Group estimates that if such an event occurs it will potentially result in additional allowances for credit losses of up to approximately 20 bps. The impact would be expected to be recorded over an eighteen month period as forward-looking indicators reflect the deteriorating environment in the scenario, credit rating downgrades are applied and ultimately stage three impairment events take place. It is important to emphasize this is only an estimate and is dependent upon the above uncertainties and does not explicitly include any factors such as government support, which could significantly impact the actual expected credit losses if such an event were to occur.

IFRS 9 Model results

In the first six months of 2022, the provision for credit losses was € 525 million, which is significantly higher than the € 144 million recorded for the same period in 2021 and mirrors the deterioration of macroeconomic environment due to the war in Ukraine and a few impairment events predominantly on names related to Russia. For the second quarter the Group reported credit loss provisions of € 233 million moderately lower than the € 292 million in the first quarter of 2022. The quarter over quarter decrease was mainly driven by a lower level of new provisions on the Russia portfolio.

In regard to the Business Divisions, the Corporate Bank recorded loan loss provisions of € 56 million in the second quarter 2022 versus a € 20 million release in the second quarter 2021. The year-over-year increase was unchanged primarily driven by the impact from the war in Ukraine and a very benign development of provisions in the previous year's period. The Investment Bank recorded € 72 million credit loss provisions in the second quarter 2022 versus € 2 million in the second quarter 2021. The increase was mainly driven by a small number of new impairments, whilst the prior year's quarter benefitted from a large release which did not re-occur. The Private Bank recorded credit loss provisions of € 96 million in the second quarter 2022 versus € 117 million reported in the second quarter 2021. The reduction was mainly driven by releases after non-performing loan sales.

Exposure to Russia

One of management's key focus areas in the first half of 2022 was the identification and assessment of direct and indirect impacts from the war in Ukraine. Since 2014, the Group has significantly reduced its footprint in Russia due to the heightened risk of sanctions and potential countermeasures. The Bank has continued to reduce its risk positions through the first half of 2022 as a result of active exposure management, client repayments and roll-offs from guarantees.

As of June 30, 2022, the Group's loan exposure to Russia amounted to € 1.3 billion on a gross basis (€ 1.4 billion as of December 31, 2021), which represents approximately 0.3% of the total loan book (0.3% as of December 31, 2021). On a net basis, after risk mitigants such as Export Credit Agency ("ECA") insurance and Private Risk Insurance ("PRI"), the loan exposure amounted to € 0.5 billion€ (€ 0.6 billion as of December 31, 2021). Additional undrawn commitments amounted to € 0.4 billion (€ 1.0 billion as of December 31, 2021) and are subject to ECA coverage and contractual drawdown protection. The majority of loan exposure relates to large Russian companies with material operations and cash-flow outside of Russia. Loans may be provided onshore by DB Moscow, or offshore by other Group entities outside of Russia. In addition, the wealth management business has offshore loans to counterparties with a Russian nexus, collateralized in line with the Group's policies.

As of June 30, 2022, the Group had € 0.1 billion contingent exposure to Russia via written financial and trade guarantees (€ 0.5 billion as of December 31, 2021). Residual derivative exposures to Russia are small as all major positions have been unwound with the Group being a net payer on a mark-to-market basis.

The Bank's overall net loan exposure to Ukraine is € 0.1 billion as of June 30, 2022 (less than € 0.1 billion as of December 31, 2021).

The broader geopolitical implications of the war in Ukraine remain uncertain, which has led to a further deterioration in the economic outlook and strongly rising inflationary pressures. The Group has assessed the impacts of the conflict on inputs to Deutsche Bank's IFRS 9 model and recorded two new overlays in the first half of 2022 to address the increased uncertainty. These overlays are described in more detail in the section "Overlays applied to IFRS 9 model output".

In addition to the overlays, some of the aforementioned factors have resulted in immediate portfolio impacts in the first half of 2022, including negative rating migration on Russian names, resulting in higher credit risk weighted assets, as well as moderate increases in provisions for credit losses and higher impacts from prudential valuation. More broadly, in instances where there is a concern that counterparty credit quality has deteriorated or appears likely to deteriorate, the respective exposure has been placed on the "watchlist" and included in Stage 2. The objective of this early warning system is to address potential problems while adequate options for action are still available. As of June 30, 2022, beyond Russian names which have been added to the watchlist, the Group has not observed any material structural credit deterioration across other portfolios or industries.

The following table provides an overview of total Russian exposures, including overnight deposits with the Central Bank of Russia in the amount of € 0.6 billion as of June 30, 2022 (€ 0.5 billion as of December 31, 2021) and other receivables, which are subject to IFRS 9 impairment, and correspondent allowance for credit losses by Stages as of June 30, 2022 and December 31, 2021.

Breakdown of total exposure and allowance for credit losses by stages

	Jun 30, 2022			Dec 31, 2021		
in € m.	Total Exposure	Allowance for Credit Losses[1]	Total collateral and guarantees	Total Exposure	Allowance for Credit Losses[1]	Total collateral and guarantees
Stage 1	732	0	237	3,198	1	648
Stage 2	1,560	25	614	332	2	263
Stage 3	291	59	125	3	0	2
Total	**2,583**	**84**	**977**	3,534	3	913

[1] Allowance for credit losses do not include allowance for country risk amounting to € 9 million as of June 30, 2022 and € 0 million as of December 31, 2021

Total Exposure of € 2.6 billion consists of above mentioned € 1.3 billion loan exposure to Russia, € 0.4 billion of undrawn commitments and € 0.6 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, 2022); the residual unsecured exposure, excluding the unsecured overnight deposits in Rubles with the Central Bank of Russia, is mainly driven by undrawn commitments which are subject to ECA coverage and contractual drawdown protection.

Market Risk

The Group has managed its market risk to Russia by performing regular risk assessments of its risk profile. To mitigate a broader contagion risk, action was taken to reduce direct exposure prior to and immediately after events unfolded. This was achieved by entering into additional hedges and selective de-risking. The Group continues to closely monitor the situation by performing further contagion stress testing on different scenarios. On June 1, 2022 the Credit Committee agreed a Russian credit event had occurred on the non-payment of interest. As of June 30, 2022, we have overall low levels of direct market risk exposure to Russia.

Russian operations

The Group has an operating subsidiary in Russia, OOO "Deutsche Bank" (DB Moscow), which provides corporate banking services to local subsidiaries of international companies. As of June 30, 2022, the Group's total capital position in Russia was € 0.4 billion (€ 0.2 billion as of December 31, 2021), with the foreign currency risk being actively managed and approximately 45% hedged as of June 30, 2022 (approximately 80% as of December 31, 2021). Total assets of DB Moscow amounted to € 1.6 billion (€ 1.5 billion as of December 31, 2021), of which approximately € 0.6 billion (Russian Ruble equivalent, € 0.5 billion as of December 31, 2021) was deposited with the Central Bank in Russia. DB Moscow does not require cross-border funding and local operations are fully self-funded.

The Group also operates a technology service centre in Russia, OOO Deutsche Bank TechCentre (DBTC), which is one of several technology centers around the world. DBTC is focused on delivering "change-the-bank" activities for the Investment Bank and Corporate Bank. The Group continues to de-risk its operations in DBTC by reassigning tasks to other technology centers around the world. We have stress-tested the ability of the bank's other technology centers around the world, including in Asia, to cover the Russian service center's development capabilities. There is no data or code in the Russian TechCentre.

The Group has announced that it will establish its next Technology Centre in Berlin, Germany. The center will primarily support the ambitions of the Investment Bank and Corporate Bank through application development and the integration of new technologies. While the Group will continue to grow the Berlin Technology Centre, there has also been transfer of resources from its Tech centre in Russia to Berlin as it consolidates the hub for Artificial Intelligence and Machine Learning expertise, which represents a key opportunity for the Group to create significant value for its clients and further enhance the efficient running of its operations.

The Group has accrued for the committed relocation costs of certain resources from DBTC.

Compliance and Anti Financial Crime risks

We continue to rapidly adapt to the sanctions landscape that has and continues to evolve after the invasion of Ukraine. After the implementation of sanctions, the Bank reacts with several actions including but not limited to prompt updates of the Bank's relevant lists for Name List Screening and Transaction Filtering, the formulation and dissemination of guidance to the businesses, engagement with governmental bodies on interpretive issues and the seeking of special licenses to allow for orderly wind-downs of open positions. The AFC function, and specifically its Sanctions & Embargoes department, plays a crucial role in the current situation given the rapidly changing regulatory environment and provides, where needed, up-to-date guidance to the businesses.

Measures in context of COVID-19 pandemic

Legislative and non-legislative moratoria and public guarantee schemes in light of COVID-19 pandemic

In 2020, the European Banking Association (EBA) issued a “Statement on the application of the prudential framework regarding Default, Forbearance and IFRS 9 in light of COVID-19 measures”, along with guidance on legislative and non-legislative moratoria. For additional details on the Statement and guidelines issued by EBA, see Deutsche Bank’s “IFRS 9 – Application of EBA guidance regarding Default, Forbearance and legislative and non-legislative moratoria and public guarantee schemes in light of COVID-19 Pandemic” in Deutsche Bank’s Annual Report 2021.

The following table provides an overview of expired loans and advances subject to EBA-compliant moratoria, loans and advances subject to COVID-19 related forbearance measures and newly originated loans and advances subject to a public guarantee scheme in the context of the COVID-19 pandemic as of June 30, 2022 and December 31, 2021.

Breakdown of COVID-19 related measures by stages

	Jun 30, 2022					
	Legislative and non-legislative Moratoria		COVID-19 related forbearance measures		Public guarantee schemes	
in € m.	Gross Carrying Amount	Expected Credit Losses	Gross Carrying Amount	Expected Credit Losses	Gross Carrying Amount	Expected Credit Losses
Stage 1	4,779	(7)	2,674	(5)	2,919	(3)
Stage 2	1,233	(25)	2,091	(23)	963	(9)
Stage 3	669	(167)	698	(69)	129	(24)
Total	**6,681**	**(199)**	**5,463**	**(98)**	**4,011**	**(36)**

	Dec 31, 2021					
	Legislative and non-legislative Moratoria		COVID-19 related forbearance measures		Public guarantee schemes	
in € m.	Gross Carrying Amount	Expected Credit Losses	Gross Carrying Amount	Expected Credit Losses	Gross Carrying Amount	Expected Credit Losses
Stage 1	5,381	(10)	3,330	(6)	3,079	(2)
Stage 2	1,288	(30)	2,602	(31)	770	(9)
Stage 3	698	(162)	965	(122)	103	(14)
Total	**7,368**	**(202)**	**6,897**	**(158)**	**3,952**	**(25)**

COVID-19 related forbearance measures: As of June 30, 2022, the remaining balance of COVID-19 related forbearance measures was € 5.5 billion and over 87% of clients continue to perform on their obligations. Although most clients continue to make regular payments, all forborne loans and advances are required to be classified as forborne until a 24-months’ probation period has been reached.

EBA-compliant moratoria: As of June 30, 2022, more than 95% of these clients who took advantage of moratoria continue to make regular payments.

Newly originated loans and advances subject to a public guarantee scheme: The Group has € 4.3 billion of loans outstanding under the public guarantee scheme as of June 30, 2022, with a maturity mainly between two and five years, of which; € 0.30 billion were derecognized as the terms of the loan and guarantee met the criteria for derecognition under IFRS 9. Approximately € 1.6 billion of loans were granted in Germany via programs sponsored by KfW, and € 1.9 billion were originated in Spain and € 0.5 billion in Luxembourg. € 2.1 billion were granted in Corporate Bank and € 1.8 billion in Private Bank sector. As of June 30, 2022, 97% of the loans that were granted public guarantees continue to make regular repayments.

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 instruments broken down into stages as per IFRS 9 requirements.

Overview of financial instruments subject to impairment

					Jun 30, 2022					Dec 31, 2021
in € m.	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
Amortized cost[1]										
Gross carrying amount	731,227	46,483	11,049	1,158	789,917	710,271	40,653	11,326	1,297	763,548
of which: Loans	437,613	44,135	10,372	1,136	493,257	425,342	38,809	10,653	1,272	476,077
Allowance for credit losses[2]	541	634	3,658	190	5,024	440	532	3,740	182	4,895
of which: Loans	494	627	3,509	184	4,814	421	530	3,627	177	4,754
Fair value through OCI										
Fair value	30,867	535	94	19	31,515	28,609	326	44	0	28,979
Allowance for credit losses	20	12	32	0	63	15	10	16	0	41
Off-balance sheet positions										
Notional amount	286,506	18,407	2,551	25	307,489	268,857	14,498	2,582	11	285,948
Allowance for credit losses[3]	147	105	211	0	464	108	111	225	0	443

[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 € 12 million as of June 30, 2022 and € 4 million as of December 31, 2021.
[3] Allowance for credit losses do not include allowance for country risk amounting to € 9 million as of June 30, 2022 and € 6 million as of December 31, 2021.

Additional information

Management and Supervisory Board

Management Board

James von Moltke was appointed as President on March 25, 2022, in addition to his role as Chief Financial Officer.

Stuart Lewis left the Management Board at the end of the Annual General Meeting on May 19, 2022. Olivier Vigneron was appointed as his successor by resolution of the Supervisory Board on December 4, 2021. He began his position as Chief Risk Officer on May 20, 2022.

Supervisory Board

On April 7, 2022, Manja Eifert was appointed by the court as employee representative to the Supervisory Board of Deutsche Bank AG. She succeeds Henriette Mark, who resigned from her position as of March 31, 2022.

At the conclusion of the Annual General Meeting on May 19, 2022, Dr. Paul Achleitner's and Dr. Gerhard Eschelbeck's periods of office as members of the Supervisory Board ended as scheduled.

The Annual General Meeting on May 19, 2022 elected Alexander Wynaendts and Yngve Slyngstad as members of the Supervisory Board of Deutsche Bank AG.

At its subsequent meeting, the Supervisory Board elected Alexander Wynaendts as its Chairman and successor for Dr. Paul Achleitner.

Consolidated statement of income

Income statement

	Three months ended		Six months ended	
in € m.	Jun 30, 2022	Jun 30, 2021	Jun 30, 2022	Jun 30, 2021
Interest and similar income[1]	5,245	3,950	9,670	8,184
Interest expense	1,874	1,292	3,422	2,725
Net interest income	**3,372**	2,658	**6,248**	5,459
Provision for credit losses	233	75	525	144
Net interest income after provision for credit losses	**3,139**	2,584	**5,724**	5,315
Commissions and fee income	2,501	2,574	5,257	5,313
Net gains (losses) on financial assets/liabilities at fair value through profit or loss	605	995	2,070	2,320
Net gains (losses) on derecognition of financial assets measured at amortized cost	(4)	6	(4)	4
Net gains (losses) on financial assets at fair value through other comprehensive income	(39)	22	(34)	130
Net income (loss) from equity method investments	67	40	95	64
Other income (loss)	148	(57)	345	180
Total noninterest income	**3,278**	3,580	**7,729**	8,011
Compensation and benefits	2,690	2,551	5,346	5,183
General and administrative expenses	2,217	2,361	4,981	5,287
Impairment of goodwill and other intangible assets	0	0	0	0
Restructuring activities	(36)	86	(80)	102
Total noninterest expenses	**4,870**	4,998	**10,247**	10,572
Profit (loss) before tax	**1,547**	1,165	**3,205**	2,754
Income tax expense (benefit)	336	338	767	889
Profit (loss)	**1,211**	828	**2,438**	1,865
Profit (loss) attributable to noncontrolling interests	33	33	73	69
Profit (loss) attributable to Deutsche Bank shareholders and additional equity components	1,179	795	2,365	1,796

[1] Interest and similar income include €4.2 billion for the three months ended June 30, 2022 and €3.2 billion for the three months ended June 30, 2021, €7.7 billion for the six months ended June 30, 2022 and €6.5 billion for the six months ended June 30, 2021, were calculated based on the effective interest method.

Earnings per common share

	Three months ended		Six months ended	
	Jun 30, 2022	Jun 30, 2021	Jun 30, 2022	Jun 30, 2021
Earnings per common share:[1]				
Basic	€0.34	€0.21	€0.90	€0.68
Diluted	€0.33	€0.20	€0.89	€0.67
Number of shares in million:				
Denominator for basic earnings per share – weighted-average shares outstanding	2,080.7	2,096.4	2,086.5	2,096.3
Denominator for diluted earnings per share – adjusted weighted-average shares after assumed conversions	2,115.2	2,141.8	2,128.4	2,137.9

[1] Earnings were adjusted by €479 million and €363 million before tax for the coupons paid on Additional Tier 1 Notes in April 2022 and April 2021, 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

	Three months ended		Six months ended	
in € m.	Jun 30, 2022	Jun 30, 2021	Jun 30, 2022	Jun 30, 2021
Profit (loss) recognized in the income statement	**1,211**	828	**2,438**	1,865
Other comprehensive income				
Items that will not be reclassified to profit or loss				
Remeasurement gains (losses) related to defined benefit plans, before tax	797	287	946	499
Net fair value gains (losses) attributable to credit risk related to financial liabilities designated as at fair value through profit or loss, before tax	55	(17)	54	(12)
Total of income tax related to items that will not be reclassified to profit or loss	(513)	(38)	(597)	(138)
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	(507)	(49)	(884)	(300)
Realized net (gains) losses arising during the period (reclassified to profit or loss), before tax	39	(22)	34	(130)
Derivatives hedging variability of cash flows				
Unrealized net gains (losses) arising during the period, before tax	(80)	(4)	(317)	23
Realized net (gains) losses arising during the period (reclassified to profit or loss), before tax	(2)	(13)	(13)	(20)
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	905	(205)	1,289	465
Realized net (gains) losses arising during the period (reclassified to profit or loss), before tax	0	(10)	0	(12)
Equity Method Investments				
Net gains (losses) arising during the period	23	(6)	25	(6)
Total of income tax related to items that are or may be reclassified to profit or loss	228	53	421	178
Other comprehensive income (loss), net of tax	**947**	(24)	**959**	546
Total comprehensive income (loss), net of tax	**2,159**	804	**3,398**	2,412
Attributable to:				
Noncontrolling interests	91	27	150	96
Deutsche Bank shareholders and additional equity components	2,068	777	3,247	2,316

Consolidated balance sheet

Assets

in € m.	Jun 30, 2022	Dec 31, 2021
Cash and central bank balances	177,070	192,021
Interbank balances (without central banks)	7,902	7,342
Central bank funds sold and securities purchased under resale agreements	9,121	8,368
Securities borrowed	164	63
Financial assets at fair value through profit or loss		
Trading assets	103,953	102,396
Positive market values from derivative financial instruments	322,978	299,732
Non-trading financial assets mandatory at fair value through profit and loss	88,723	88,965
Financial assets designated at fair value through profit or loss	96	140
Total financial assets at fair value through profit or loss	515,750	491,233
Financial assets at fair value through other comprehensive income	31,515	28,979
Equity method investments	1,185	1,091
Loans at amortized cost	488,430	471,319
Property and equipment	5,595	5,536
Goodwill and other intangible assets	7,155	6,824
Other assets[1]	135,110	103,785
Assets for current tax	1,326	1,214
Deferred tax assets	6,338	6,218
Total assets	**1,386,660**	1,323,993

Liabilities and equity

in € m.	Jun 30, 2022	Dec 31, 2021
Deposits	612,583	603,750
Central bank funds purchased and securities sold under repurchase agreements	1,213	747
Securities loaned	8	24
Financial liabilities at fair value through profit or loss		
Trading liabilities	58,970	54,718
Negative market values from derivative financial instruments	303,475	287,108
Financial liabilities designated at fair value through profit or loss	60,101	58,468
Investment contract liabilities	494	562
Total financial liabilities at fair value through profit or loss	423,040	400,857
Other short-term borrowings	5,189	4,034
Other liabilities[1]	127,185	97,796
Provisions	2,539	2,641
Liabilities for current tax	690	600
Deferred tax liabilities	882	501
Long-term debt	143,924	144,485
Trust preferred securities	521	528
Total liabilities	**1,317,775**	1,255,962
Common shares, no par value, nominal value of € 2.56	5,291	5,291
Additional paid-in capital	40,367	40,580
Retained earnings	14,448	12,607
Common shares in treasury, at cost	(396)	(6)
Accumulated other comprehensive income (loss), net of tax	78	(444)
Total shareholders' equity	**59,788**	58,027
Additional equity components	7,328	8,305
Noncontrolling interests	1,769	1,698
Total equity	**68,885**	68,030
Total liabilities and equity	**1,386,660**	1,323,993

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

Consolidated statement of changes in equity

in € m.	Common shares (no par value)	Additional paid-in capital	Retained earnings	Common shares in treasury, at cost	Unrealized net gains (losses): On financial assets at fair value through other comprehensive income, net of tax[2]	Unrealized net gains (losses): Attributable to change in own credit risk of financial liabilities designated as at fair value through profit and loss, net of tax[2]	Unrealized net gains (losses): On derivatives hedging variability of cash flows, net of tax[2]	Unrealized net gains (losses): 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]	Total shareholders' equity	Additional equity components[3]	Noncontrolling interests	Total equity
Balance as of December 31, 2020	5,291	40,606	10,014	(7)	278	7	7	0	(1,411)	(1)	(1,118)	54,786	5,824	1,587	62,196
Total comprehensive income (loss), net of tax[1]	0	0	1,796	0	(297)	(8)	1	0	475	(6)	164	1,961	0	94	2,054
Gains (losses) attributable to equity instruments designated as at fair value through other comprehensive income, net of tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gains (losses) upon early extinguishment attributable to change in own credit risk of financial liabilities designated as at fair value through profit and loss, net of tax	0	0	(2)	0	0	0	0	0	0	0	0	(2)	0	0	(2)
Cash dividends paid	0	0	0	0	0	0	0	0	0	0	0	0	0	(79)	(79)
Coupon on additional equity components, before tax	0	0	(363)	0	0	0	0	0	0	0	0	(363)	0	0	(363)
Remeasurement gains (losses) related to defined benefit plans, net of tax	0	0	355	0	0	0	0	0	0	0	0	355	0	3	357
Net change in share awards in the reporting period	0	(218)	0	0	0	0	0	0	0	0	0	(218)	0	(2)	(219)
Treasury shares distributed under share-based compensation plans	0	0	0	248	0	0	0	0	0	0	0	248	0	0	248
Tax benefits related to share-based compensation plans	0	15	0	0	0	0	0	0	0	0	0	15	0	0	15
Option premiums and other effects from options on common shares	0	(50)	0	0	0	0	0	0	0	0	0	(50)	0	0	(50)
Purchases of treasury shares	0	0	0	(289)	0	0	0	0	0	0	0	(289)	0	0	(289)
Sale of treasury shares	0	0	0	20	0	0	0	0	0	0	0	20	0	0	20
Net gains (losses) on treasury shares sold	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	107	0	0	0	0	0	0	0	0	0	107	1,243[4]	(11)	1,340
Balance as of June 30, 2021	5,291	40,460	11,800	(28)	(19)	(1)	8	0	(935)	(7)	(954)	56,569	7,068	1,591	65,228
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
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

[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.

Consolidated statement of cash flows

in € m.	Six months ended Jun 30, 2022	Jun 30, 2021
Profit (loss)	**2,438**	1,865
Cash flows from operating activities:		
Adjustments to reconcile profit (loss) to net cash provided by (used in) operating activities:		
Provision for credit losses	525	144
Restructuring activities	(80)	102
Gain on sale of financial assets at fair value through other comprehensive income, equity method investments and other	14	(160)
Deferred income taxes, net	230	233
Impairment, depreciation and other amortization, and accretion	2,085	1,777
Share of net income (loss) from equity method investments	(94)	(109)
Profit (loss) adjusted for noncash charges, credits and other items	**5,118**	3,853
Adjustments for net change in operating assets and liabilities:		
Interest-earning time deposits with central banks and banks	(2,286)	1,599
Central bank funds sold, securities purchased under resale agreements, securities borrowed	(853)	(18)
Non-Trading financial assets mandatory at fair value through profit and loss	1,403	(5,821)
Financial assets designated at fair value through profit or loss	42	352
Loans at amortized cost	(13,434)	(12,157)
Other assets	(18,087)	(30,090)
Deposits	5,590	12,292
Financial liabilities designated at fair value through profit or loss and investment contract liabilities[1]	462	5,936
Central bank funds purchased, securities sold under repurchase agreements and securities loaned	448	248
Other short-term borrowings	1,143	(126)
Other liabilities	26,819	24,829
Senior long-term debt[2]	(4,121)	(980)
Trading assets and liabilities, positive and negative market values from derivative financial instruments, net	(3,341)	14,062
Other, net	(2,483)	(273)
Net cash provided by (used in) operating activities	**(3,581)**	13,705
Cash flows from investing activities:		
Proceeds from:		
Sale of financial assets at fair value through other comprehensive income	11,458	35,066
Maturities of financial assets at fair value through other comprehensive income	7,550	11,862
Sale of debt securities held to collect at amortized cost	0	42
Maturities of debt securities held to collect at amortized cost	2,284	3,124
Sale of equity method investments	2	17
Sale of property and equipment	14	103
Purchase of:		
Financial assets at fair value through other comprehensive income	(22,653)	(28,991)
Debt Securities held to collect at amortized cost	(13,436)	(3,089)
Equity method investments	(121)	(84)
Property and equipment	(183)	(249)
Net cash received in (paid for) business combinations/divestitures	34	0
Other, net	(506)	(503)
Net cash provided by (used in) investing activities	**(15,559)**	17,299
Cash flows from financing activities:		
Issuances of subordinated long-term debt	2,681[3]	1,070
Repayments and extinguishments of subordinated long-term debt	(52)[3]	(25)
Issuances of trust preferred securities	0[4]	0
Repayments and extinguishments of trust preferred securities	0[4]	(4)
Principal portion of lease payments	(320)	(353)
Common shares issued	0	0
Purchases of treasury shares	(695)	(289)
Sale of treasury shares	0	20
Additional Equity Components (AT1) issued	750	1,250
Additional Equity Components (AT1) repaid	(1,750)	0
Purchases of Additional Equity Components (AT1)	(1,648)	(2,446)
Sale of Additional Equity Components (AT1)	1,641	2,450
Coupon on additional equity components, pre tax	(479)	(363)
Dividends paid to noncontrolling interests	(82)	(79)
Net change in noncontrolling interests	4	(11)
Cash dividends paid to Deutsche Bank shareholders	(406)	0
Other, net	0	0
Net cash provided by (used in) financing activities	**(357)**	1,221
Net effect of exchange rate changes on cash and cash equivalents	**2,234**	442
Net increase (decrease) in cash and cash equivalents	(17,263)	32,667
Cash and cash equivalents at beginning of period	179,946	156,328
Cash and cash equivalents at end of period	162,683[5]	188,996

in € m.	Six months ended Jun 30, 2022	Jun 30, 2021
Net cash provided by (used in) operating activities including		
Income taxes paid (received), net	515	386
Interest paid	3,173	2,712
Interest received	8,759	7,542
Dividends received	50	173
Cash and cash equivalents comprise		
Cash and central bank balances[6]	156,533	182,195
Interbank balances (w/o central banks)[7]	6,150	6,801
Total	**162,683**	188,996

[1] Included are senior long-term debt issuances of € 1.6 billion and € 285 million and repayments and extinguishments of € 505 million and € 612 million through June 30, 2022 and June 30, 2021, respectively.
[2] Included are issuances of € 21.1 billion and € 18.4 billion and repayments and extinguishments of € 21.7 billion and € 19.4 billion through June 30, 2022 and June 30, 2021, respectively.
[3] Non-cash changes for Subordinated Long-Term Debt are € 134 million in total and mainly driven by Fair Value changes of € (314) million and Foreign Exchange movements of € 447 million.
[4] Non-cash changes for Trust Preferred Securities are € (7) million in total and mainly driven by Fair Value changes of € (9) million.
[5] Cash and central bank balances include time and demand deposits at the Russian Central Bank of € 554 million as of June 30, 2022. These are subject to foreign exchange restrictions. Thereof, demand deposits of € 27 million qualify as Cash and cash equivalents.
[6] Not included: Interest-earning time deposits with central banks of € 20.5 billion as of June 30, 2022 and € 16.1 billion as of June 30, 2021.
[7] Not included: Interest-earning time deposits with banks of € 1.8 billion as of June 30, 2022 and € 1.6 billion as of June 30, 2021.

Basis of preparation/impact of changes in accounting principles

The consolidated interim financial statements of Deutsche Bank Aktiengesellschaft, Frankfurt am Main and its subsidiaries (collectively the "Group", "Deutsche Bank" or "DB") for the six-month period ended June 30, 2022 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, 2022, the related consolidated statements of income, comprehensive income, changes in equity and cash flows for the six-month period ended June 30, 2022 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, 2021, 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 and 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 negative impact of € 1.0 billion on profit before tax and of € 823 million on profit after tax for the three-month period ended June 30, 2022, compared to a negative impact of € 5 million on profit before taxes and of € 9 million on profit post taxes for the three-month period ended June 30, 2021. The application of the EU carve out version of IAS 39 had a negative impact of € 910 million on profit before tax and of € 717 million on profit after tax for the six-month period ended June 30, 2022, compared to a negative impact of € 321 million on profit before taxes and of € 216 million on profit post taxes for the six-month period ended June 30, 2021. 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, 2022, application of the EU carve-out had a negative impact on the CET1 capital ratio of about 19 basis points and a negative impact of about 6 basis points for the six-month period ended June 30, 2021.

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 the COVID-19 pandemic and potential impacts from 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.

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 the financial statements can be found in the financial statement sections: "Financial Instruments Carried at Fair Value", "IFRS 9 impairment" and "Exposure to Russia."

In the second quarter 2022, a recalibration of the discount curve for defined benefit plans was applied to the Eurozone curve in order to better align to market data which resulted in a change in accounting estimates. This recalibration resulted in a decrease of the defined benefit obligation by € 310 million, that was recognized through Other Comprehensive Income. The recalibration and significant widening of credit spreads in the Eurozone experienced during the second quarter 2022 contributed to the recognition of a remeasurement gain amounting to € 797 million before tax, presented in the Consolidated statement of comprehensive income.

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 2022.

IAS 37 “Provisions, Contingent Liabilities and Contingent Assets”

On January 1, 2022, the Group adopted amendments to IAS 37, “Provisions, Contingent Liabilities and Contingent Assets” which clarified what costs an entity considers in assessing whether a contract is onerous. The amendments specified that the ‘cost of fulfilling’ a contract comprises the ‘costs that relate directly to the contract’. Costs that relate directly to a contract can either be incremental costs of fulfilling that contract or an allocation of other costs that relate directly to fulfilling contracts. The amendments did not have a material impact on the Group’s consolidated financial statements.

Improvements to IFRS 2018-2020 Cycles

On January 1, 2022, the Group adopted amendments to multiple IFRS standards, which resulted from the IASB’s annual improvement project for the 2018-2020 cycles. This comprised amendments that resulted in accounting changes for presentation, recognition or measurement purposes as well as terminology or editorial amendments related to IFRS 1 “First-time Adoption of International Financial Reporting Standards”, IFRS 9 “Financial Instruments”, IFRS 16 “Leases” and IAS 41 “Agriculture”. The amendments to IFRS 9 clarified which fees an entity includes when assessing whether to derecognize a financial liability. The amendments did not have a material impact on the Group’s consolidated financial statements.

New accounting pronouncements

The following accounting pronouncements were not effective as of June 30, 2022 and therefore have not been applied in the first six months of 2022.

IFRS 17 “Insurance Contracts”

In May 2017, the IASB issued 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 replaces 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. IFRS 17 is effective for annual periods beginning on or after January 1, 2023. Based on the Group’s current business activities it is expected that IFRS 17 will not have a material impact on the Group’s consolidated financial statements.

In June 2020, the IASB issued amendments to IFRS 17 “Insurance Contracts” that address concerns and implementation challenges that were identified after IFRS 17 was published in 2017. The amendments are effective for annual periods beginning on or after January 1, 2023 with early adoption permitted.

In December 2021, the IASB issued amendments to IFRS 17 “Insurance Contracts” that is a narrow-scope amendment to the transition requirements of IFRS 17 for entities that first apply IFRS 17 and IFRS 9 at the same time. The amendments (if elected) will be applicable when IFRS 17 is first applied. These narrow-scope amendments have yet to be endorsed by the EU.

IAS 12 “Income Taxes”

In May 2021, the IASB issued amendments to IAS 12 “Income Taxes”. They change 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. The amendments will be effective for annual periods beginning on or after January 1, 2023 with early adoption permitted. The amendment will not 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". They 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 expected to be effective for annual periods beginning on or after January 1, 2024 with early adoption permitted. The amendment will not have a material impact on the Group's consolidated financial statements. These amendments have yet to be endorsed by the EU.

Business Segments

Commencing from the second quarter 2022 reporting, the breakdown of revenues within the International Private Bank (IPB) was refined to further align the reporting structure to the client coverage model. IPB revenues are now categorized into the client segments "Wealth Management & Bank for Entrepreneurs" and "Premium Banking". "Wealth Management & Bank for Entrepreneurs" combines the coverage of private banking, high-net-worth and ultra-high-net-worth clients, as well as business clients that are covered as part of the Bank for Entrepreneurs (BfE) proposition. "IPB Premium Banking" includes retail and affluent customers as well as commercial banking clients (i.e. all small business clients and small sized corporate clients that are not covered as part of the BfE). Prior year comparatives are presented in the current structure.

Strategic Liquidity Reserve Profit and Loss allocation

Commencing from the first quarter of 2022, the methodology for divisional intra-year allocations of profit or loss earned on the Strategic Liquidity Reserves has been refined. As part of the introduction of the new methodology, the intra-year profit and loss volatility is held centrally in Corporate & Other in order to better reflect the underlying performance of the business divisions. The implementation of the new methodology does not impact the overall group revenues or the annual business allocations. Prior year's comparatives have not been aligned to presentation in the current year. If the new methodology had been in place during the second quarter of 2021, revenues of the Corporate Bank, Investment Bank, Private Bank and Capital Release Unit would have been higher by € 38 million, € 27 million, € 15 million, € 3 million respectively, with a corresponding offset in Corporate and Other, which would have been lower by € 83 million. For the first half of 2021, revenues of the Corporate Bank and Investment Bank would have been higher by € 2.4 million, € 2.1 million and Private Bank and Capital Release Unit would have been lower by € 2.8 million, and € 0.6 million respectively, with a corresponding offset in Corporate and Other, which would have been lower by € 1.1 million.

Impact of Deutsche Bank's transformation

The Group achieved 97% of its transformation related effects as of December 31, 2021 and 98% of its planned effects as of June 30, 2022. Transformation charges amounted to € 39 million in the second quarter of 2022, € 99 million in the second quarter of 2021, € 78 million in the first six months of 2022 and € 215 million in the first six months of 2021.

Segment results

in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Three months ended Jun 30, 2022
Net revenues	1,551	2,646	2,160	656	7	(370)	6,650
Provision for credit losses	56	72	96	(0)	(3)	12	233
Noninterest expenses:							
Compensation and benefits	356	588	702	224	14	805	2,690
General and administrative expenses	607	922	933	216	180	(640)	2,217
Impairment of goodwill and other intangible assets	0	0	0	0	0	0	0
Restructuring activities	(2)	2	(35)	0	(1)	0	(36)
Total noninterest expenses	960	1,512	1,601	440	192	165	4,870
Noncontrolling interests	0	2	(0)	46	0	(49)	0
Profit (loss) before tax	534	1,059	463	170	(181)	(498)	1,547

N/M – Not meaningful

in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Three months ended Jun 30, 2021
Net revenues	1,230	2,394	2,018	626	(24)	(6)	6,238
Provision for credit losses	(20)	2	117	1	(25)	(1)	75
Noninterest expenses:							
Compensation and benefits	355	532	683	202	35	744	2,551
General and administrative expenses	640	804	1,165	192	223	(662)	2,361
Impairment of goodwill and other intangible assets	0	0	0	0	0	0	0
Restructuring activities	5	11	69	1	1	(0)	86
Total noninterest expenses	1,000	1,347	1,916	395	258	81	4,998
Noncontrolling interests	0	(2)	0	49	0	(47)	0
Profit (loss) before tax	250	1,046	(15)	180	(257)	(39)	1,165

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year

in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Six months ended Jun 30, 2022
Net revenues	3,012	5,969	4,381	1,338	1	(723)	13,977
Provision for credit losses	204	108	197	(0)	(7)	22	525
Noninterest expenses:							
Compensation and benefits	708	1,199	1,387	453	31	1,568	5,346
General and administrative expenses	1,274	2,088	1,995	407	498	(1,282)	4,981
Impairment of goodwill and other intangible assets	0	0	0	0	0	0	0
Restructuring activities	(2)	3	(80)	0	(1)	0	(80)
Total noninterest expenses	1,980	3,290	3,302	861	527	286	10,247
Noncontrolling interests	0	3	(0)	101	0	(104)	0
Profit (loss) before tax	828	2,567	881	376	(520)	(927)	3,205

N/M – Not meaningful

in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Six months ended Jun 30, 2021
Net revenues	2,543	5,491	4,196	1,263	57	(80)	13,471
Provision for credit losses	(40)	3	215	1	(32)	(2)	144
Noninterest expenses:							
Compensation and benefits	714	1,065	1,402	418	75	1,507	5,183
General and administrative expenses	1,368	1,877	2,253	380	681	(1,270)	5,287
Impairment of goodwill and other intangible assets	0	0	0	0	0	0	0
Restructuring activities	17	12	71	2	1	(0)	102
Total noninterest expenses	2,099	2,954	3,726	800	756	237	10,572
Noncontrolling interests	0	(1)	0	98	0	(97)	0
Profit (loss) before tax	485	2,535	255	364	(667)	(217)	2,754

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year

Corporate Bank (CB)

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Six months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues:								
Corporate Treasury Services	962	737	224	30	1,878	1,545	334	22
Institutional Client Services	394	313	81	26	744	628	116	19
Business Banking	195	179	16	9	390	371	19	5
Total net revenues	1,551	1,230	321	26	3,012	2,543	468	18
Of which:								
Net interest income	825	543	281	52	1,604	1,250	355	28
Commissions and fee income	622	533	89	17	1,191	1,081	110	10
Remaining income	104	154	(49)	(32)	217	213	4	2
Provision for credit losses	56	(20)	76	N/M	204	(40)	244	N/M
Noninterest expenses:								
Compensation and benefits	356	355	1	0	708	714	(6)	(1)
General and administrative expenses	607	640	(34)	(5)	1,274	1,368	(93)	(7)
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(2)	5	(7)	N/M	(2)	17	(19)	N/M
Total noninterest expenses	960	1,000	(39)	(4)	1,980	2,099	(119)	(6)
Noncontrolling interests	0	0	0	N/M	0	0	0	N/M
Profit (loss) before tax	534	250	285	114	828	485	343	71
Total assets (in € bn)[1]	258	245	12	5	258	245	12	5
Loans (gross of allowance for loan losses, in € bn)[1]	129	116	12	11	129	116	12	11
Employees (front office full-time equivalent)[1]	13,305	13,487	(182)	(1)	13,305	13,487	(182)	(1)

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year
[1] As of quarter-end

Investment Bank (IB)

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Six months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues:								
Fixed Income, Currency (FIC) Sales & Trading	2,385	1,811	574	32	5,225	4,280	944	22
Debt Origination	21	399	(377)	(95)	328	784	(456)	(58)
Equity Origination	45	114	(69)	(60)	79	313	(234)	(75)
Advisory	166	110	55	50	299	182	118	65
Origination & Advisory	232	623	(391)	(63)	707	1,279	(572)	(45)
Other	28	(40)	69	N/M	38	(68)	106	N/M
Total net revenues	2,646	2,394	252	11	5,969	5,491	478	9
Provision for credit losses	72	2	70	N/M	108	3	105	N/M
Noninterest expenses:								
Compensation and benefits	588	532	56	11	1,199	1,065	134	13
General and administrative expenses	922	804	118	15	2,088	1,877	211	11
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	2	11	(9)	(81)	3	12	(9)	(73)
Total noninterest expenses	1,512	1,347	165	12	3,290	2,954	337	11
Noncontrolling interests	2	(2)	4	N/M	3	(1)	5	N/M
Profit (loss) before tax	1,059	1,046	13	1	2,567	2,535	32	1
Total assets (in € bn)[1]	706	586	121	21	706	586	121	21
Loans (gross of allowance for loan losses, in € bn)[1]	99	75	25	33	99	75	25	33
Employees (front office full-time equivalent)[1]	7,206	7,151	55	1	7,206	7,151	55	1

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year
[1] As of quarter-end

Private Bank (PB)

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Six months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues:								
Private Bank Germany	1,326	1,198	128	11	2,684	2,545	139	5
International Private Bank	834	820	14	2	1,696	1,651	45	3
Premium Banking	235	229	6	3	486	475	11	2
Wealth Management & Bank for Entrepreneurs	598	591	8	1	1,210	1,176	34	3
Total net revenues	2,160	2,018	142	7	4,381	4,196	185	4
Of which:								
Net interest income	1,274	1,147	127	11	2,457	2,319	138	6
Commissions and fee income	783	737	47	6	1,741	1,626	115	7
Remaining income	102	134	(32)	(24)	182	251	(69)	(27)
Provision for credit losses	96	117	(20)	(17)	197	215	(18)	(8)
Noninterest expenses:								
Compensation and benefits	702	683	19	3	1,387	1,402	(16)	(1)
General and administrative expenses	933	1,165	(232)	(20)	1,995	2,253	(257)	(11)
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(35)	69	(103)	N/M	(80)	71	(151)	N/M
Total noninterest expenses	1,601	1,916	(316)	(16)	3,302	3,726	(424)	(11)
Noncontrolling interests	(0)	0	(0)	N/M	(0)	0	(0)	N/M
Profit (loss) before tax	463	(15)	478	N/M	881	255	626	N/M
Total assets (in € bn)[1]	330	305	25	8	330	305	25	8
Loans (gross of allowance for loan losses, in € bn)[1]	264	247	17	7	264	247	17	7
Assets under Management (in € bn)[1]	528	537	(8)	(2)	528	537	(8)	(2)
Net flows (in € bn)	7	10	(3)	(29)	17	21	(4)	(19)
Employees (front office full-time equivalent)[1]	27,720	29,117	(1,397)	(5)	27,720	29,117	(1,397)	(5)

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year
[1] As of quarter-end.

Asset Management (AM)

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Six months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues:								
Management Fees	619	584	34	6	1,239	1,131	108	10
Performance and transaction fees	31	19	13	69	58	58	(1)	(1)
Other	6	23	(17)	(75)	41	73	(32)	(44)
Total net revenues	656	626	30	5	1,338	1,263	75	6
Provision for credit losses	(0)	1	(2)	N/M	(0)	1	(1)	N/M
Noninterest expenses:								
Compensation and benefits	224	202	21	11	453	418	35	8
General and administrative expenses	216	192	24	13	407	380	27	7
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	0	1	(1)	(94)	0	2	(1)	(76)
Total noninterest expenses	440	395	45	11	861	800	61	8
Noncontrolling interests	46	49	(3)	(5)	101	98	3	3
Profit (loss) before tax	170	180	(10)	(6)	376	364	12	3
Total assets (in € bn)[1]	11	10	0	3	11	10	0	3
Assets under Management (in € bn)[1]	833	859	(26)	(3)	833	859	(26)	(3)
Net flows (in € bn)	(25)	20	(45)	N/M	(26)	21	(47)	N/M
Employees (front office full-time equivalent)[1]	4,233	3,953	280	7	4,233	3,953	280	7

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year
[1] As of quarter-end

Capital Release Unit (CRU)

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Six months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues	**7**	(24)	31	N/M	**1**	57	(56)	(99)
Provision for credit losses	**(3)**	(25)	22	(87)	**(7)**	(32)	25	(79)
Noninterest expenses:								
Compensation and benefits	14	35	(22)	(61)	31	75	(44)	(59)
General and administrative expenses	180	223	(43)	(19)	498	681	(183)	(27)
Impairment of goodwill and other intangible assets	0	0	0	N/M	0	0	0	N/M
Restructuring activities	(1)	1	(2)	N/M	(1)	1	(2)	N/M
Total noninterest expenses	**192**	258	(67)	(26)	**527**	756	(229)	(30)
Noncontrolling interests	**0**	0	0	N/M	**0**	0	0	N/M
Profit (loss) before tax	**(181)**	(257)	76	(30)	**(520)**	(667)	147	(22)
Total assets (in € bn)[1]	80	167	(88)	(52)	80	167	(88)	(52)
Employees (front office full-time equivalent)[1]	217	411	(194)	(47)	217	411	(194)	(47)

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year
[1] As of quarter-end

Corporate & Other (C&O)

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %	Six months ended Jun 30, 2022	Jun 30, 2021	Absolute Change	Change in %
Net revenues	**(370)**	(6)	(364)	N/M	**(723)**	(80)	(643)	N/M
Provision for credit losses	**12**	(1)	13	N/M	**22**	(2)	25	N/M
Noninterest expenses:								
Compensation and benefits	805	744	62	8	1,568	1,507	61	4
General and administrative expenses	(640)	(662)	22	(3)	(1,282)	(1,270)	(12)	1
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	N/M
Total noninterest expenses	**165**	81	84	103	**286**	237	49	21
Noncontrolling interests	**(49)**	(47)	(2)	3	**(104)**	(97)	(8)	8
Profit (loss) before tax	**(498)**	(39)	(459)	N/M	**(927)**	(217)	(710)	N/M
Employees (full-time equivalent)[1]	30,234	29,678	556	2	30,234	29,678	556	2

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

	Three months ended		Six months ended	
in € m.	Jun 30, 2022	Jun 30, 2021	Jun 30, 2022	Jun 30, 2021
Net interest income	3,372	2,658	6,248	5,459
Trading income[1]	603	833	1,722	2,017
Net gains (losses) on non-trading financial assets mandatory at fair value through profit or loss	(107)	175	37	202
Net gains (losses) on financial assets/liabilities designated at fair value through profit or loss	110	(12)	311	101
Total net gains (losses) on financial assets/liabilities at fair value through profit or loss	605	995	2,070	2,320
Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss[2]	3,977	3,654	8,318	7,779
Corporate Treasury Services	597	371	1,171	870
Institutional Client Services	117	73	234	155
Business Banking	141	131	281	272
Corporate Bank	856	575	1,686	1,297
FIC Sales & Trading	2,356	1,775	5,156	4,153
Remaining Products	(196)	(7)	(227)	(39)
Investment Bank	2,160	1,768	4,929	4,114
Private Bank Germany	1,309	776	2,255	1,628
International Private Bank	474	432	904	859
Private Bank	1,783	1,208	3,159	2,487
Asset Management	(69)	56	(137)	135
Capital Release Unit	(10)	(18)	(29)	51
Corporate & Other	(742)	64	(1,289)	(304)
Total net interest income and net gains (losses) on financial assets/liabilities at fair value through profit or loss	3,977	3,654	8,318	7,779

[1] Trading income includes gains and losses from derivatives not qualifying for hedge accounting.
[2] Prior year's comparatives aligned to presentation in the current year.

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 Targeted Longer-term Refinancing Operations III ("TLTRO III")-refinancing program in order to support further the provision of credit to households and firms in the face of the current economic disruption and heightened uncertainty caused by the COVID-19 pandemic.

The base interest rate under the TLTRO III is the average of the main refinancing operations rate with the exception of the period from June 24, 2020 to June 23, 2022, when a discount of 50 basis points applies ("base rate discount"). The applicable interest rate under TLTRO III can further reduce by "new lending discounts" that apply if certain net lending thresholds are met. Accordingly, banks whose eligible net lending exceeds 0% between March 1, 2020 and March 31, 2021 pay a rate 0.5% lower than the average deposit facility rate for borrowings between June 24, 2020 and June 23, 2021. The interest rate outside of the period from June 24, 2020 to June 23, 2021 will be the average interest rate on the deposit facility with exception of the period from June 24, 2021 to June 23, 2022 when banks pay a rate 0.5% lower than the average deposit facility rate for borrowings provided their eligible net lending exceeds 0% between October 1, 2020 and December 31, 2021. As of June 30, 2022, the Group has borrowed € 44.7 billion (June 30, 2021: € 40.8 billion) under the TLTRO III-refinancing program.

The Group considers the benefits that arise from borrowing under TLTRO III as government grant from a below-market loan under IAS 20. The income from the government grant is recognized in interest income in the period in which the grant is intended to compensate the Group for the related borrowing costs. The Group previously accounted for all TLTRO III related benefits as government grant in the scope of IAS 20. In March 2022 the IASB approved the IFRS Interpretations Committee (IFRS IC) final agenda decision on accounting for TLTRO which clarified the accounting for below-market loans in the scope of IAS 20. The agenda decision stated that the component that is subject to IAS 20 is limited to the difference between the initial carrying amount of the financial liability that arises from borrowing under TLTRO III and the proceeds received. The initial carrying amount of the TLTRO III related financial liability differs from the proceeds received where at the time of initial recognition the Group has established reasonable assurance about the future receipt of the related benefits. Any residual benefits are accounted for in line with IFRS 9 under the financial liability's effective interest rate. Implementation of the IFRS IC agenda decision resulted in an adjustment in the Group's accounting treatment such that the benefits that arise from the base rate discount continue to be accounted for as government grant under IAS 20, while the benefits that arise from meeting the new lending discounts described above are accounted for under IFRS 9. This is because the Group was unable to establish reasonable assurance of meeting the net lending thresholds under the new lending discounts at the time of initial borrowing.

The clarification did not have a material impact to the Group. As a result, for the three months ended June 30, 2022 the Group applied an all-in rate of (1) % which resulted in interest income recognition of € 109 million (June 30, 2021: € 103 million) and € 223 million for the six month ended June 30, 2022 (June 30, 2021: € 282 million). This consisted of the 50 basis point base rate discount accounted for as government grant under IAS 20 and the application of the deposit facility rate in the TLTRO III financial liability's effective interest for the interest period June 24, 2021 to June 23, 2022.

Interest and similar income included negative interest expense of € 388 million for the three months ended June 30, 2022 and € 255 million for the three months ended June 30, 2021 and € 745 million for the six months ended June 30, 2022 and € 605 million for the six months ended June 30, 2021. 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 € 192 million for the three months ended June 30, 2022 and € 171 million for the three months ended June 30, 2021 and € 376 million for the six months ended June 30, 2022 and € 402 million for the six months ended June 30, 2021. 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.

Commissions and fee income

Disaggregation of revenues by product type and business segment

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

							Three months ended Jun 30, 2021
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
Major type of services:							
Commissions for administration	60	10	65	6	1	(1)	141
Commissions for assets under management	4	0	88	844	(0)	0	936
Commissions for other securities	106	0	10	0	0	0	117
Underwriting and advisory fees	9	566	3	0	0	(15)	564
Brokerage fees	5	66	318	22	25	1	437
Commissions for local payments	112	1	151	0	0	3	267
Commissions for foreign commercial business	111	6	25	0	0	(1)	142
Commissions for foreign currency/exchange business	2	0	1	0	0	(0)	3
Commissions for loan processing and guarantees	135	79	74	0	2	0	290
Intermediary fees	2	(1)	154	0	0	2	157
Fees for sundry other customer services	62	128	12	27	(0)	1	230
Total fee and commissions income	609	855	903	899	27	(8)	3,284
Gross expense							(711)
Net fees and commissions							2,574

Prior years' comparatives aligned to presentation in the current year

in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Six months ended Jun 30, 2022
Major type of services:							
Commissions for administration	112	13	132	9	0	(1)	265
Commissions for assets under management	10	0	193	1,829	(0)	0	2,032
Commissions for other securities	262	(0)	24	0	0	0	286
Underwriting and advisory fees	19	832	6	0	0	(22)	835
Brokerage fees	11	149	696	36	1	(0)	894
Commissions for local payments	236	2	485	0	0	7	730
Commissions for foreign commercial business	237	14	39	0	0	(2)	288
Commissions for foreign currency/exchange business	10	0	2	0	0	(0)	12
Commissions for loan processing and guarantees	299	130	162	0	1	2	595
Intermediary fees	6	1	330	0	0	6	344
Fees for sundry other customer services	139	173	3	62	1	1	379
Total fee and commissions income	1,341	1,315	2,072	1,937	4	(9)	6,658
Gross expense							(1,401)
Net fees and commissions							5,257

in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Six months ended Jun 30, 2021
Major type of services:							
Commissions for administration	120	23	128	11	2	(2)	283
Commissions for assets under management	8	0	176	1,660	(0)	0	1,844
Commissions for other securities	201	(0)	21	1	0	0	222
Underwriting and advisory fees	21	1,151	9	0	(0)	(30)	1,151
Brokerage fees	12	129	715	40	58	(0)	954
Commissions for local payments	221	2	385	0	0	5	612
Commissions for foreign commercial business	221	11	50	0	0	(1)	280
Commissions for foreign currency/exchange business	4	0	3	0	0	(0)	6
Commissions for loan processing and guarantees	275	130	151	0	3	2	560
Intermediary fees	7	1	306	0	0	6	321
Fees for sundry other customer services	134	242	23	59	2	2	461
Total fee and commissions income	1,223	1,689	1,965	1,771	65	(18)	6,695
Gross expense							(1,382)
Net fees and commissions							5,313

Prior years' comparatives aligned to presentation in the current year

As of June 30, 2022 and June 30, 2021 the Group's balance of receivables from commission and fee income was € 865 million and € 914 million, respectively. As of June 30, 2022 and June 30, 2021 the Group's balance of contract liabilities associated to commission and fee income was € 79 million and € 65 million, respectively. Contract liabilities arise from the Group's obligation to provide future services to a customer for which it has received consideration from the customer prior to completion of the services. The balances of receivables and contract liabilities do not vary significantly from period to period reflecting the fact that they predominately relate to recurring service contracts with service periods of less than one year such as monthly current account services and quarterly asset management services. 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, 2022, the Group sold financial assets measured at amortized cost of € 78 million (June 30, 2021: € 216 million).

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

	Three months ended		Six months ended	
in € m.	Jun 30, 2022	Jun 30, 2021[1]	Jun 30, 2022	Jun 30, 2021[1]
Gains	1	9	3	11
Losses	(5)	(3)	(7)	(6)
Net gains (losses) from derecognition of securities measured at amortized cost	(4)	6	(4)	4

[1] Prior years' comparatives aligned to presentation in the current year.

Restructuring

Restructuring is primarily driven by the implementation of the Group's strategic changes as announced in the third quarter 2019. The Group has defined and is in the process of implementing measures that aim to strengthen the bank, position it for growth and simplify its organizational set-up. The measures also aim to reduce adjusted costs through higher efficiency, by optimizing and streamlining processes, and by exploiting synergies.

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.

In the first quarter of 2022, the Group decided to cancel certain measures related to a portion of a restructuring plan in the Private Bank. Hence, the related provision was partly reversed, and the Group recognized a credit of € 43 million in the Consolidated Statement of Income.

In the second quarter of 2022, the underlying assumptions for the restructuring provisions were reviewed resulting in a partial release, and the Group recognized a credit of € 36 million in the Consolidated Statement of Income.

Net restructuring expense by division

	Three months ended		Six months ended	
in € m.	Jun 30, 2022	Jun 30, 2021	Jun 30, 2022	Jun 30, 2021
Corporate Bank	(2)	5	(2)	17
Investment Bank	2	11	3	12
Private Bank	(35)	69	(80)	71
Asset Management	0	1	0	2
Capital Release Unit	(1)	1	(1)	1
Corporate & Other	0	(0)	0	(0)
Total Net Restructuring Charges	**(36)**	86	**(80)**	102

Net restructuring expense by type

	Three months ended		Six months ended	
in € m.	Jun 30, 2022	Jun 30, 2021	Jun 30, 2022	Jun 30, 2021
Restructuring – Staff related	(36)	65	(79)	83
Of which:				
Termination Payments	(42)	63	(85)	81
Retention Acceleration	5	2	6	2
Social Security	0	(0)	0	(0)
Restructuring – Non Staff related[1]	(0)	20	(1)	19
Total net restructuring Charges	**(36)**	86	**(80)**	102

[1] Contract costs, mainly related to real estate.

Provisions for restructuring amounted to € 387 million and € 582 million as of June 30, 2022 and December 31, 2021, respectively. The majority of the current provisions for restructuring should be utilized in the next two years.

During the six months ended June 30, 2022, 331 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 Jun 30, 2022	Six months ended Jun 30, 2022
Corporate Bank	34	53
Investment Bank	13	24
Private Bank	116	197
Asset Management	0	0
Capital Release Unit	0	0
Infrastructure	34	57
Total full-time equivalent staff	197	331

Effective tax rate

2022 to 2021 three months comparison

Income tax expense in the current quarter was € 336 million (second quarter of 2021: € 338 million). The effective tax rate of 22% in the second quarter 2022 benefitted from a change in the geographic mix of income and compares to an effective tax rate of 29% in the prior year’s quarter.

2022 to 2021 six months comparison

Income tax expense in the first six months of 2022 was € 767 million (first six months of 2021: € 889 million). The effective tax rate of 24% in the first half of 2022 benefitted from the geographic mix of income. The effective tax rate in the first half of 2021 was 32%.

Information on the consolidated balance sheet

Financial instruments carried at fair value

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); monoline exposures; some private equity placements; many commercial real estate (CRE) loans; illiquid loans; and some municipal bonds.

Carrying value of the financial instruments held at fair value[1]

in € m.	Jun 30, 2022 Quoted prices in active market (Level 1)	Jun 30, 2022 Valuation technique observable parameters (Level 2)	Jun 30, 2022 Valuation technique unobservable parameters (Level 3)	Dec 31, 2021 Quoted prices in active market (Level 1)	Dec 31, 2021 Valuation technique observable parameters (Level 2)	Dec 31, 2021 Valuation technique unobservable parameters (Level 3)
Financial assets held at fair value:						
Trading assets	40,227	54,204	9,523	51,020	42,561	8,815
Trading securities	40,063	48,922	4,060	50,814	38,108	3,614
Other trading assets	163	5,281	5,462	206	4,453	5,201
Positive market values from derivative financial instruments	3,964	307,495	11,519	4,347	286,343	9,042
Non-trading financial assets mandatory at fair value through profit or loss	2,532	80,808	5,383	2,764	81,304	4,896
Financial assets designated at fair value through profit or loss	0	0	96	0	91	49
Financial assets at fair value through other comprehensive income	13,142	15,789	2,585	13,375	13,302	2,302
Other financial assets at fair value	1,298	(936)[2]	127	105	922[2]	78
Total financial assets held at fair value	**61,162**	**457,359**	**29,232**	71,611	424,524	25,182
Financial liabilities held at fair value:						
Trading liabilities	46,057	12,877	37	48,364	6,272	83
Trading securities	46,056	11,857	33	48,363	5,838	33
Other trading liabilities	1	1,020	4	0	434	49
Negative market values from derivative financial instruments	4,868	287,650	10,958	5,208	272,120	9,781
Financial liabilities designated at fair value through profit or loss	0	57,172	2,928	0	56,728	1,740
Investment contract liabilities	0	494	0	0	562	0
Other financial liabilities at fair value	19	6 3,84[2]	(630)[3]	5	6 3,02[2]	(179)[3]
Total financial liabilities held at fair value	**50,943**	**362,039**	**13,293**	53,576	338,707	11,424

[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 2021.
[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.

Until June 30, 2022 there were transfers from Level 2 to Level 1 on trading securities (€ 1.5 billion of assets). The assessment of level 1 versus level 2 is based on liquidity testing procedures.

During the first half of 2022, increased pricing dispersions due the war in Ukraine resulted in an increase of Level 3 of "Positive market values from derivative financial instruments" and "Negative market values from derivative financial instruments" by approximately € 1.2 billion and € 1.0 billion respectively.

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 war in Ukraine required additional focus and review in certain areas, including assessment of bid-offer spreads to ensure they were 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. The financial liabilities include structured note issuances, structured deposits, and other structured securities issued by consolidated vehicles, 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. 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 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).

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 they 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 here. The increase in the period is mainly due to 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, losses and settlements.

Positive and negative market values from derivative instruments categorized in this level of the fair value hierarchy are valued based on one or more significant unobservable parameters. The unobservable parameters may include certain correlations, certain longer-term volatilities, certain prepayment rates, credit spreads and other transaction-specific parameters.

Level 3 derivatives include certain options where the volatility is unobservable; certain basket options in which the correlations between the referenced underlying assets are unobservable; longer-term interest rate option derivatives; multi-currency foreign exchange derivatives; and certain credit default swaps for which the credit spread is not observable. The increase in assets 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, partially offset by losses.

The increase 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 and losses, partially offset by settlements and gains.

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, gains 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 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 other business model originated, acquired principally for the purpose of selling or repurchasing them in 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 SPPI. The increase in the period is driven by gains, issuances and purchases, partially offset by settlements, sales and transfers between Level 2 and Level 3 due to changes in the observability of input parameters used to value these instruments.

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 in the third level of the hierarchy because the utilization in the event of the default parameter is significant and unobservable.

In addition, certain hybrid debt issuances designated at fair value through profit or loss containing embedded derivatives are valued based on significant unobservable parameters. These unobservable parameters include single stock volatility correlations. The 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 settlements. The increase in liabilities during the period is driven by issuances, losses 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 settlements.

Financial assets at fair value through other comprehensive income include non-performing loan portfolios where there is no trading intent and the market is very illiquid. The increase in the period is driven by purchases, issuances, gains 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 and settlements.

Reconciliation of financial instruments classified in Level 3

										Jun 30, 2022
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	3,614	0	(316)	1,646	(1,274)	80	(79)	1,174	(785)	4,060
Positive market values from derivative financial 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.

										Jun 30, 2021
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	3,066	0	394	1,709	(1,476)	0	(80)	663	(611)	3,666
Positive market values from derivative financial instruments	8,725	0	(275)	0	0	0	(465)	2,951	(2,418)	8,518
Other trading assets	5,117	0	114	497	(1,439)	390	(592)	542	(477)	4,152
Non-trading financial assets mandatory at fair value through profit or loss	4,618	0	229	218	(184)	132	(207)	47	(506)	4,347
Financial assets designated at fair value through profit or loss	0	0	0	0	0	5	0	0	0	6
Financial assets at fair value through other comprehensive income	2,037	0	37[5]	43	(22)	338	(236)	274	(220)	2,252
Other financial assets at fair value	20	0	(2)	0	0	0	0	3	(17)	4
Total financial assets held at fair value	23,583	0	496[6,7]	2,468	(3,120)	865	(1,580)	4,479	(4,248)	22,943
Financial liabilities held at fair value:										
Trading securities	2	0	0	0	0	0	(2)	18	(0)	18
Negative market values from derivative financial instruments	8,200	0	(656)	0	0	0	(166)	3,016	(1,464)	8,930
Other trading liabilities	0	0	(6)	0	0	0	0	64	0	58
Financial liabilities designated at fair value through profit or loss	960	0	(12)	0	0	45	(202)	180	(93)	878
Other financial liabilities at fair value	(294)	0	95	0	0	0	(8)	2	37	(168)
Total financial liabilities held at fair value	8,867	0	(579)[6,7]	0	0	45	(378)	3,281	(1,520)	9,717

[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 gain of € 7 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 € 168 million and for total financial liabilities held at fair value this is a loss of € 16 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. Were the Group to have marked the financial instruments concerned using parameter values drawn from the extremes of the ranges of reasonably possible alternatives, as of June 30, 2022 it could have increased fair value by as much as € 2.0 billion or decreased fair value

by as much as €1.5 billion. As of December 31, 2021 it could have increased fair value by as much as €1.7 billion or decreased fair value by as much as €1.2 billion.

The changes in sensitive amounts from December 31, 2021 to June 30, 2022 were an increase in positive fair value movement of €222 million, and an increase in negative fair value movement of €272 million.

The increase in positive and negative fair value movements are largely in line with the increase in Group Level 3 in the period, with Level 3 assets increasing from €25.2 billion at December 31, 2021 to €29.2 billion at June 30, 2022 and Group Level 3 liabilities increasing from €11.4 billion at December 31, 2021 to €13.3 billion at June 30, 2022. These moves represent a percentage increase in gross Level 3 assets and liabilities of approximately 16%.

The change in positive fair value movements from December 31, 2021 to June 30, 2022 represents a 13% increase and the change in negative fair value movements represents an 22% increase. The downside increase is proportionally larger than the 16% increase in Group Level 3, with a key driver of this attributed to Russia / Ukraine developments due to the resulting significant market moves, volatility and increased uncertainty on Russia related assets.

Our 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 CET 1 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.

This disclosure is intended to illustrate the potential impact of the relative uncertainty in the fair value of financial instruments for which valuation is dependent on unobservable input parameters. However, it is unlikely in practice that all unobservable parameters would be simultaneously at the extremes of their ranges of reasonably possible alternatives.

For many of the financial instruments considered here, in particular derivatives, unobservable input parameters represent only a subset of the parameters required to price the financial instrument, the remainder being observable. Hence for these instruments the overall impact of moving the unobservable input parameters to the extremes of their ranges might be relatively small compared with the total fair value of the financial instrument. For other instruments, fair value is determined based on the price of the entire instrument, for example, by adjusting the fair value of a reasonable proxy instrument. In addition, all financial instruments are already carried at fair values which are inclusive of valuation adjustments for the cost to close out that instrument and hence already factor in uncertainty as it reflects itself in market pricing. Any negative impact of uncertainty calculated within this disclosure, then, will be over and above that already included in the fair value contained in the financial statements.

Breakdown of the sensitivity analysis by type of instrument[1]

		Jun 30, 2022		Dec 31, 2021
in € m.	Positive fair value movement from using reasonable possible alternatives	Negative fair value movement from using reasonable possible alternatives	Positive fair value movement from using reasonable possible alternatives	Negative fair value movement from using reasonable possible alternatives
Securities:				
Debt securities	384	398	267	256
Commercial mortgage-backed securities	20	16	18	15
Mortgage and other asset-backed securities	10	18	13	9
Corporate, sovereign and other debt securities	353	364	236	233
Equity securities	118	94	94	65
Derivatives:				
Credit	217	135	163	109
Equity	86	79	105	100
Interest related	267	230	409	232
Foreign exchange	56	47	34	31
Other	273	69	98	82
Loans:				
Loans	560	434	570	340
Other	0	0	0	0
Total	**1,961**	**1,487**	1,739	1,215

[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. There follows 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 (CDR) and Constant Prepayment Rate (CPR) 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 CDR will lead to lower valuation of a given loan or mortgage as the lender will ultimately receive less cash.

Interest rates, credit spreads, inflation rates, foreign exchange rates and equity prices are referenced in some option instruments, or other complex derivatives, where the payoff a holder of the derivative will receive is dependent upon the behavior of these underlying references through time. Volatility parameters describe key attributes of option behavior by enabling the variability of returns of the underlying instrument to be assessed. This volatility is a measure of probability, with higher volatilities denoting higher probabilities of a particular outcome occurring. The underlying references (interest rates, credit spreads etc.) have an effect on the valuation of options, by describing the size of the return that can be expected from the option. Therefore the value of a given option is dependent upon the value of the underlying instrument, and the volatility of that instrument, representing the size of the payoff, and the probability of that payoff occurring. Where volatilities are high, the option holder will see a higher option value as there is greater probability of positive returns. A higher option value will also occur where the payoff described by the option is significant.

Correlations are used to describe influential relationships between underlying references where a derivative or other instrument has more than one underlying reference. Behind some of these relationships, for example commodity correlation and interest rate-foreign exchange correlations, typically lie macroeconomic factors such as the impact of global demand on groups of commodities, or the pricing parity effect of interest rates on foreign exchange rates. More specific relationships can exist between credit references or equity stocks in the case of credit derivatives and equity basket derivatives, for example. Credit correlations are used to estimate the relationship between the credit performance of a range of credit names, and stock correlations are used to estimate the relationship between the returns of a range of equities. A derivative with a correlation exposure will be either long- or short-correlation. A high correlation suggests a strong relationship between the underlying references is in force, and this will lead to an increase in value of a long-correlation derivative. Negative correlations suggest that the relationship between underlying references is opposing, i.e., an increase in price of one underlying reference will lead to a reduction in the price of the other.

An EBITDA (‘earnings before interest, tax, depreciation and amortization’) multiple approach can be used in the valuation of less liquid securities. Under this approach the enterprise value (‘EV’) of an entity can be estimated via identifying the ratio of the EV to EBITDA of a comparable observable entity and applying this ratio to the EBITDA of the entity for which a valuation is being estimated. Under this approach a liquidity adjustment is often applied due to the difference in liquidity between the generally listed comparable used and the company under valuation. A higher EV/EBITDA multiple will result in a higher fair value.

Financial instruments classified in Level 3 and quantitative information about unobservable inputs

						Jun 30, 2022
	Fair value					
in € m. (unless stated otherwise)	Assets	Liabilities	Valuation technique(s)[1]	Significant unobservable input(s) (Level 3)		Range
Financial instruments held at fair value – Non-Derivative financial instruments held at fair value						
Mortgage- and other asset-backed securities held for trading:						
Commercial mortgage-backed securities	74	0	Price based	Price	0%	102%
			Discounted cash flow	Credit spread (bps)	183	1,520
Mortgage- and other asset-backed securities	76	0	Price based	Price	0%	100%
			Discounted cash flow	Credit spread (bps)	54	1,500
				Recovery rate	0%	90%
				Constant default rate	0%	12%
				Constant prepayment rate	0%	81%
Total mortgage- and other asset-backed securities	151	0				
Debt securities and other debt obligations	5,138	2,809	Price based	Price	0%	595%
Held for trading	3,729	33	Discounted cash flow	Credit spread (bps)	87	601
Corporate, sovereign and other debt securities	3,729					
Non-trading financial assets mandatory at fair value through profit or loss	1,286					
Designated at fair value through profit or loss	0	2,777				
Financial assets at fair value through other comprehensive income	123					
Equity securities	836	0	Market approach	Price per net asset value	0%	108%
Held for trading	181	0		Enterprise value/EBITDA (multiple)	5	16
Non-trading financial assets mandatory at fair value through profit or loss	655		Discounted cash flow	Weighted average cost capital	9%	20%
			Price based	Price	0%	270%
Loans	8,426	4	Price based	Price	0%	220%
Held for trading	5,131	4	Discounted cash flow	Credit spread (bps)	149	2,100
Non-trading financial assets mandatory at fair value through profit or loss	755					
Designated at fair value through profit or loss	96	0		Recovery rate	40%	75%
Financial assets at fair value through other comprehensive income	2,444					
Loan commitments	0	21	Discounted cash flow	Credit spread (bps)	105	775
				Recovery rate	60%	76%
			Loan pricing model	Utilization	0%	100%
Other financial instruments	3,036[2]	130[3]	Discounted cash flow	IRR	7%	13%
				Repo rate (bps.)	(18)	330
Total non-derivative financial instruments held at fair value	17,587	2,965				

[1] Valuation technique(s) and subsequently the significant unobservable input(s) relate to the respective total position.
[2] Other financial assets include € 331 million of other trading assets, € 2.7 billion of other non-trading financial assets mandatory at fair value and € 17 million of other financial assets at fair value through other comprehensive income
[3] Other financial liabilities include € 130 million of securities sold under repurchase agreements designated at fair value

						Dec 31, 2021
	Fair value					
in € m. (unless stated otherwise)	Assets	Liabilities	Valuation technique(s)[1]	Significant unobservable input(s) (Level 3)		Range
Financial instruments held at fair value – Non-Derivative financial instruments held at fair value						
Mortgage- and other asset-backed securities held for trading:						
Commercial mortgage-backed securities	47	0	Price based	Price	0%	114%
			Discounted cash flow	Credit spread (bps)	81	1,235
Mortgage- and other asset-backed securities	81	0	Price based	Price	0%	112%
			Discounted cash flow	Credit spread (bps)	85	1,495
				Recovery rate	0%	85%
				Constant default rate	0%	2%
				Constant prepayment rate	0%	27%
Total mortgage- and other asset-backed securities	128	0				
Debt securities and other debt obligations	5,074	1,654	Price based	Price	0%	212%
Held for trading	3,383	33	Discounted cash flow	Credit spread (bps)	12	571
Corporate, sovereign and other debt securities	3,383					
Non-trading financial assets mandatory at fair value through profit or loss	1,568					
Designated at fair value through profit or loss	0	1,621				
Financial assets at fair value through other comprehensive income	123					
Equity securities	660	0	Market approach	Price per net asset value	0%	101%
Held for trading	103	0		Enterprise value/EBITDA (multiple)	5	17
Non-trading financial assets mandatory at fair value through profit or loss	557		Discounted cash flow	Weighted average cost capital	6%	20%
			Price based	Price	0%	139%
Loans	8,184	49	Price based	Price	0%	275%
Held for trading	5,188	49	Discounted cash flow	Credit spread (bps)	34	2,117
Non-trading financial assets mandatory at fair value through profit or loss	769					
Designated at fair value through profit or loss	48	0		Recovery rate	40%	85%
Financial assets at fair value through other comprehensive income	2,179					
Loan commitments	0	7	Discounted cash flow	Credit spread (bps)	128	906
				Recovery rate	40%	75%
			Loan pricing model	Utilization	0%	100%
Other financial instruments	2,016[2]	112[3]	Discounted cash flow	IRR	7%	16%
				Repo rate (bps.)	(27)	400
Total non-derivative financial instruments held at fair value	16,062	1,823				

[1] Valuation technique(s) and subsequently the significant unobservable input(s) relate to the respective total position.
[2] Other financial assets include € 13 million of other trading assets and € 2.0 billion of other non-trading financial assets mandatory at fair value.
[3] Other financial liabilities include € 112 million of securities sold under repurchase agreements designated at fair value

	Fair value				Jun 30, 2022	
in € m. (unless stated otherwise)	Assets	Liabilities	Valuation technique(s)	Significant unobservable input(s) (Level 3)		Range
Financial instruments held at fair value:						
Market values from derivative financial instruments:						
Interest rate derivatives	6,599	5,261	Discounted cash flow	Swap rate (bps)	(16,516)	1,287
				Inflation swap rate	(4) %	7%
				Constant default rate	0%	20%
				Constant prepayment rate	4%	21%
			Option pricing model	Inflation volatility	0%	9%
				Interest rate volatility	0%	43%
				IR - IR correlation	(1) %	99%
				Hybrid correlation	(90) %	100%
Credit derivatives	2,078	1,667	Discounted cash flow	Credit spread (bps)	3	28,286
				Recovery rate	0%	40%
			Correlation pricing model	Credit correlation	30%	80%
Equity derivatives	606	1,380	Option pricing model	Stock volatility	4%	90%
				Index volatility	16%	42%
				Index - index correlation	88%	96%
				Stock - stock correlation	–	–
				Stock Forwards	0%	7%
				Index Forwards	0%	6%
FX derivatives	1,686	2,213	Option pricing model	Volatility	(16) %	64%
				Quoted Vol	0%	0%
Other derivatives	676	(193)[1]	Discounted cash flow	Credit spread (bps)	–	–
			Option pricing model	Index volatility	1%	99%
				Commodity correlation	0%	85%
Total market values from derivative financial instruments	11,646	10,328				

[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.

	Fair value				Dec 31, 2021	
in € m. (unless stated otherwise)	Assets	Liabilities	Valuation technique(s)	Significant unobservable input(s) (Level 3)	Range	
Financial instruments held at fair value:						
Market values from derivative financial instruments:						
Interest rate derivatives	4,725	4,724	Discounted cash flow	Swap rate (bps)	(80)	817
				Inflation swap rate	1%	5%
				Constant default rate	0%	20%
				Constant prepayment rate	4%	24%
			Option pricing model	Inflation volatility	0%	9%
				Interest rate volatility	0%	31%
				IR - IR correlation	(1) %	99%
				Hybrid correlation	(70) %	100%
Credit derivatives	686	827	Discounted cash flow	Credit spread (bps)	2	6,630
				Recovery rate	0%	40%
			Correlation pricing model	Credit correlation	30%	63%
Equity derivatives	766	1,749	Option pricing model	Stock volatility	25%	68%
				Index volatility	11%	80%
				Index - index correlation	88%	91%
				Stock - stock correlation	0%	0%
				Stock Forwards	0%	9%
				Index Forwards	0%	5%
FX derivatives	1,816	1,913	Option pricing model	Volatility	(33) %	59%
				Quoted Vol	0%	0%
Other derivatives	1,127	388[1]	Discounted cash flow	Credit spread (bps)	–	–
			Option pricing model	Index volatility	0%	131%
				Commodity correlation	15%	86%
Total market values from derivative financial instruments	9,120	9,601				

[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 due solely 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.

		Six months ended
in € m.	Jun 30, 2022	Jun 30, 2021
Financial assets held at fair value:		
Trading securities	(433)	298
Positive market values from derivative financial instruments	(1,257)	184
Other trading assets	(96)	64
Non-trading financial assets mandatory at fair value through profit or loss	453	156
Financial assets designated at fair value through profit or loss	1	1
Financial assets at fair value through other comprehensive income	0	3
Other financial assets at fair value	13	(3)
Total financial assets held at fair value	**(1,318)**	702
Financial liabilities held at fair value:		
Trading securities	1	0
Negative market values from derivative financial instruments	1,504	159
Other trading liabilities	45	6
Financial liabilities designated at fair value through profit or loss	(113)	14
Other financial liabilities at fair value	460	(95)
Total financial liabilities held at fair value	**1,897**	84
Total	**579**	785

Recognition of trade date profit

If there are significant unobservable inputs used in a valuation technique, the financial instrument is recognized at the transaction price and any trade date profit is deferred. The table below presents the year-to-year 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, 2022	Jun 30, 2021
Balance, beginning of year	**462**	454
New trades during the period	99	55
Amortization	(49)	(77)
Matured trades	(30)	(47)
Subsequent move to observability	(9)	(0)
Exchange rate changes	4	1
Balance, end of period	**477**	386

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 2021.

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 2021.

Financial instruments not carried at fair value are not managed on a fair value basis, for example, retail loans and deposits and credit facilities extended to corporate clients. For these instruments fair values are calculated for disclosure purposes only and do not impact the balance sheet or income statement. Additionally, since the instruments generally do not trade there is significant management judgment required to determine these fair values. Differences in carrying value versus fair value increased as of June 30, 2022 compared to December 31, 2021 due to increases in interest rates.

Estimated fair value of financial instruments not carried at fair value on the balance sheet[1]

	Jun 30, 2022		Dec 31, 2021	
in € m.	Carrying value	Fair value	Carrying value	Fair value
Financial assets:				
Cash and central bank balances	177,070	177,070	192,021	192,021
Interbank balances (w/o central banks)	7,902	7,902	7,342	7,342
Central bank funds sold and securities purchased under resale agreements	9,121	9,200	8,368	8,429
Securities borrowed	164	164	63	63
Loans[2]	488,430	476,381	471,319	476,674
Other financial assets	123,999	122,606	94,588	94,732
Financial liabilities:				
Deposits[2]	612,583	617,352	603,750	604,645
Central bank funds purchased and securities sold under repurchase agreements	1,213	1,211	747	745
Securities loaned	8	8	24	24
Other short-term borrowings	5,189	5,187	4,034	4,035
Other financial liabilities	104,746	104,746	81,047	81,047
Long-term debt	143,924	139,669	144,485	146,871
Trust preferred securities	521	481	528	587

[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 2021.
[2] The carrying value includes a hedge adjustment from fair value macro hedges.

Shares issued and outstanding

in million	Jun 30, 2022	Dec 31, 2021
Shares issued	2,066.8	2,066.8
Shares in treasury	33.8	0.7
Of which:		
Buyback	33.8	0.7
Other	0.0	0.0
Shares outstanding	**2,033.0**	2,066.1

Allowance for credit losses

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

	Six months ended Jun 30, 2022				
	Allowance for credit losses[5]				
in € m.	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		0
Changes due to modifications that did not result in derecognition					
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 CLA Movements due to stage transfer prior to ECL 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 € 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.

	Six months ended Jun 30, 2021				
	Allowance for credit losses[5]				
in € m.	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
Balance, beginning of year	544	648	3,614	139	4,946
Movements in financial assets including new business	(201)	101	237	17	154
Transfers due to changes in creditworthiness[1]	98	(113)	15		0
Changes due to modifications that did not result in derecognition					
Changes in models	0	0	0	0	0
Financial assets that have been derecognized during the period[2]	0	0	(226)	0	(226)
Recovery of written off amounts	0	0	26	8	33
Foreign exchange and other changes	8	(3)	(28)	2	(21)
Balance, end of reporting period	448	634	3,638	166	4,886
Provision for credit losses excluding country risk[3,4]	(104)	(12)	252	17	154

[1] Transfers due to changes in creditworthiness" shows the CLA Movements due to stage transfer prior to ECL 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 € 5 million reimbursement gain as of June 30, 2021.
[5] Allowance for credit losses does not include allowance for country risk amounting to € 4 million as of June 30, 2021.

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

	Six months ended Jun 30, 2022				
	Allowance for credit losses[3]				
in € m.	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		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 creditworthiness" shows the CLA Movements due to stage transfer prior to ECL 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.

	Six months ended Jun 30, 2021				
	Allowance for credit losses[3]				
in € m.	Stage 1	Stage 2	Stage 3	Stage 3 POCI	Total
Balance, beginning of year	144	74	200	0	419
Movements including new business	(41)	21	(3)	0	(23)
Transfers due to changes in creditworthiness[1]	(5)	1	4		0
Changes in models	0	0	0	0	0
Foreign exchange and other changes	2	5	(2)	0	4
Balance, end of reporting period	100	101	199	0	400
of which: Financial guarantees	64	61	143	0	268
Provision for credit losses excluding country risk[2]	(46)	22	1	0	(23)

[1] Transfers due to changes in creditworthiness" shows the CLA Movements due to stage transfer prior to ECL 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 € 5 million as of June 30, 2021.

IFRS 9 Impairment

Model overview

During the six months ended June 30, 2022, the Group continued to apply the same IFRS 9 Impairment model as disclosed in Deutsche Bank's Annual Report 2021. On an ongoing basis and as part of the Group's overall control and governance framework, the Group assesses at each reporting period whether any overlays to its IFRS 9 model are required. This model monitoring framework considers whether there are risks not captured in the model, such as a sudden change in the macroeconomic environment, and identifies any model limitations or routine model enhancements that have not yet been fully reflected. Overall, the model monitoring framework ensures that the Group reports management's best estimate of its expected credit losses at each reporting date.

Forward-looking information

The tables below contain the macroeconomic variables (MEV) included in the application of forward-looking information its IFRS 9 model as of June 30, 2022 and as of December 31, 2021.

Macroeconomic variables applied

	as of June 2022[1] [2]	
	Year 1 (4 quarter avg)	Year 2 (4 quarter avg)
Commodity - Gold	1,906.33	1,803.69
Commodity - WTI	101.54	90.41
Credit - CDX Emerging Markets	316.16	309.44
Credit - CDX High Yield	501.57	487.05
Credit - CDX IG	84.69	80.86
Credit - High Yield Index	4.78	4.56
Credit - ITX Europe 125	97.61	97.24
Equity - MSCI Asia	1,352	1,399
Equity - Nikkei	27,574	29,077
Equity - S&P500	4,216	4,471
GDP - Developing Asia	4.54%	5.11%
GDP - Emerging Markets	3.62%	4.35%
GDP - Eurozone	2.87%	1.87%
GDP - Germany	1.36%	2.32%
GDP - Italy	1.70%	1.48%
GDP - USA	2.20%	1.70%
Real Estate Prices - US CRE Index	367.45	381.42
Unemployment - Eurozone	6.91%	6.82%
Unemployment - Germany	2.93%	2.72%
Unemployment - Italy	8.62%	8.58%
Unemployment - Japan	2.62%	2.48%
Unemployment - Spain	13.48%	13.00%
Unemployment - USA	3.60%	3.81%

[1] MEV as of 21 June 2022
[2] Year 1 equals second quarter of 2022 to first quarter of 2023, Year 2 equals second quarter of 2023 to first quarter of 2024

	as of December 2021[1] [2]	
	Year 1 (4 quarter avg)	Year 2 (4 quarter avg)
Commodity - Gold	1,764.58	1,696.51
Commodity - WTI	73.19	68.21
Credit - CDX Emerging Markets	231.80	268.64
Credit - CDX High Yield	353.42	399.62
Credit - CDX IG	59.53	63.98
Credit - High Yield Index	3.95	4.46
Credit - ITX Europe 125	61.37	69.93
Equity - MSCI Asia	1,543	1,514
Equity - Nikkei	29,673	30,764
Equity - S&P500	4,777	5,033
GDP - Developing Asia	3.78%	6.26%
GDP - Emerging Markets	3.72%	5.38%
GDP - Eurozone	4.67%	2.91%
GDP - Germany	3.35%	2.86%
GDP - Italy	5.17%	2.33%
GDP - USA	4.46%	2.79%
Real Estate Prices - US CRE Index	348.86	377.26
Unemployment - Eurozone	7.41%	7.07%
Unemployment - Germany	3.13%	2.83%
Unemployment - Italy	9.18%	8.92%
Unemployment - Japan	2.73%	2.53%
Unemployment - Spain	14.26%	13.66%
Unemployment - USA	4.05%	3.68%

[1] MEV as of 31 December 2021; MEV outside the calibrated range were adjusted either in the model or via a management overlay as discussed further below
[2] Year 1 equals fourth quarter of 2021 to third quarter of 2022, Year 2 equals fourth quarter of 2022 to third quarter of 2023

Overlays applied to the IFRS 9 model output

Development of overlays from December 31, 2021 to June 30, 2022

in € m. (unless stated otherwise)		Overlays as of Dec 31, 2021	Changes in the first quarter 2022	Changes in the second quarter 2022	Overlays as of Jun 30, 2022
Overlay description	Impact on				
Construction Risk following increased prices for building materials	Mortgage portfolios in the Private Bank in Stage 1 and 2	15	(15)	0	0
Model calibration (MEV outside calibrated range of the FLI model)	Financial assets in Stage 1 and 2	56	(16)	(40)	0
Recalibrations required due to the new Definition of Default	Financial assets primarily in the Private Bank in Stage 3	(57)	(35)	0	(92)
Uncertainty related to Russia/Ukraine in the first quarter 2022	All financial assets in Stage 1 and 2	0	44	(44)	0
Uncertainty related to Russia/Ukraine in the second quarter 2022	All financial assets in Stage 1 and 2	0	0	83	83
Model calibration (WTI oil price Index disabled for one portfolio)	Financial assets in Stage 1 and 2 in the Investment Bank	0	42	(3)	39
Total		14	**20**	**(4)**	**30**

The Group applied the following overlays to its IFRS 9 model output as of December 31, 2021 until June 30, 2022.

Construction Risk following increased prices for building materials

The Group decided to release the € 15 million overlay, which addressed the risk of budget overruns and delays due to unavailable or significantly more expensive building materials and resulted in an increase in the Group’s allowance for credit losses at the end of 2021. This overlay, which was released in the first quarter 2022, was recorded against approved, but not yet fully funded mortgage loans that related to constructing or remodeling properties in Germany. At the end of the first quarter 2022, most impacted borrowers were able to finish the construction of their homes in line with the amounts approved for funding and therefore the IFRS 9 model is now adequately reflecting the credit risk on the funded mortgages. For new mortgages, the construction risk is already included as part of the lending criteria and therefore no further overlay is required.

Model calibration (MEV outside the calibrated range)
The Group applied a management overlay to address the model uncertainty associated with extreme year on year MEV projections from the economic forecast, in particular GDPs, which are identified as being outside the calibrated range of the FLI model. Since the model was not calibrated based on such extreme MEV movements, it was management's view that the model underestimated expected credit losses in such situations. As of December 31, 2021, the overlay was € 56 million and as the MEV's moved into the calibrated range by the end of second quarter 2022, € 16 million of the overlay was released in first quarter 2022 and the remaining € 40 million was fully released in second quarter 2022. The releases resulted in a decrease of the Group's allowance for credit losses.

Recalibrations required due to the new Definition of Default
In the third quarter of 2021, the Group implemented the new Definition of Default which is the trigger for Stage 3 in the Group's IFRS 9 framework. The implementation of the new Definition of Default mainly affected the Private Bank, where the Stage 3 population in the homogeneous portfolios increased. As an adjustment in the Definition of Default is not expected to materially change the total loss expectation related to this portfolio, management is of the view that this change resulted in an overstatement of Stage 3 provisions and did not reflect management's loss expectations for the impacted portfolios as the Loss Given Default (LGD) parameter had not yet been updated in the model. The LGD settings are reviewed on an annual basis with independent validation performed by the Model Risk Management function, and the next recalibration is only expected to occur in the second half of 2022 once empirical data is available for a statistical recalibration, and consequently an overlay continues to be recorded to address the expected LGD recalibration effects. The estimate of the recalibration effect has been refined in the first quarter 2022 and was increased to € 92 million and has not changed since then. The € 92 million overlay results in a decrease in the Group's allowance for credit losses but is an offset to the overstatement of Stage 3 provisions calculated due to the new Definition of Default.

Uncertainty related to Russia/Ukraine
In the first quarter 2022, the Group introduced a management overlay amounting to € 44 million which was specific to the overall uncertainty associated with the economic outlook because of the war in Ukraine. During the second quarter 2022, the MEVs deteriorated as they reflected the impact of the war in Ukraine which in turn resulted in an increased level of allowance for credit losses being recorded. Since the uncertainty that existed at the end of the first quarter was appropriately considered in the model via the MEVs forecasts available as of June 21, 2022, the overlay was released.

Towards the end of June 2022, the macro-economic outlook weakened further. The main reason was the growing concerns over the gas supply from Russia to Europe (Germany in particular), as well as market expectation of significantly more aggressive monetary tightening in the U.S. and other markets to combat persistent inflation. Both developments accelerated in late June and resulted in € 135 million increase in allowance for credit losses related to forward looking information in the second quarter as per June 21, 2022. As there was still uncertainty whether the MEV forecasts available at this date fully reflected the concerns over gas supplies to Europe and inflation, management decided to record an additional overlay of € 83 million and increase the Group's allowance for credit losses.

The overlay was computed by applying a downward shift in the MEVs feeding into the IFRS 9 model. The downward shift across all MEVs is 50% of the sigma shocks reported in the sensitivity analysis below. Management reviewed and assessed multiple scenarios associated with various degrees of supply disruptions of Russian gas to Europe based on external studies and internal analysis, which pointed to a wide range of potential macro-economic implications depending on the circumstances and the assumed economic sensitivity. Due to the large degree of uncertainty regarding occurrence and impact, management did not assign specific probabilities to these scenarios. Although some of the contributing economists see economic activity in Europe and specifically Germany to contract in the near future, the majority of economists continues to see a small economic expansion which drives the "baseline" of the consensus data and reflects an unbiased view of forward looking MEV's. Hence it is management's view that the aforementioned adjusted consensus forecast is the best estimate of expected development at this time.

Model calibration (WTI oil price Index)
The Group introduced a management overlay to address methodological considerations related to the incorporation of forward-looking information for oil prices in the ECL calculation. In the past, increases in oil prices were typically demand driven and reflective of a positive economic environment, which is why the IFRS 9 model was designed to release ECL provisions in this scenario. However, the increase in oil prices in first quarter 2022 was driven by expected supply risks and associated geopolitical developments because of the war in Ukraine and a worsening economic environment. Although higher oil prices tend to always have a positive effect on industries such as oil and gas producers, higher oil prices driven by supply issues generally have a negative impact on many other industries and portfolios. Therefore, an overlay was recorded in the amount of € 42 million for the period ended March 31, 2022 to reflect the worsening economic conditions and reverse the release of provisions based on the increase in the WTI Oil price Index. The overlay was slightly reduced to € 39 million for the period ended June 30, 2022. Both amounts increased the Group's allowance for credit losses.

Considering the existing and newly recorded overlays, the IFRS 9 provision reflects management's best estimate of its expected credit losses at the end of the second quarter 2022.

Model sensitivity

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, 2022 and December 31, 2021. 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

The sensitivity analysis below 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). Due to the economic uncertainty from the effects of the war in Ukraine, potential gas supply issues from Russia to Europe, and tightening monetary policy by central banks, the MEV's have deteriorated as of June 30, 2022 compared to December 31, 2021.

ECL for Stage 3 is not affected and not reflected in the following tables as its calculation is independent of the macroeconomic scenarios.

Model sensitivity

				Jun 30, 2022
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in €	Downward shift	ECL impact in €
GDP growth rates	1pp	(66.7)	(1)pp	73.3
Unemployment rates	(0.5)pp	(30.6)	0.5pp	35.8
Real estate prices	5%	(5.3)	(5)%	6.0
Equities	10%	(11.6)	(10)%	14.7
Credit spreads	(40)%	(38.3)	40%	44.3
Commodities[1]	10%	(20.0)	(10)%	20.1

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

ECL impacts for Stages 1 and 2 are determined from one sigma downward and upward shift. 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

				December 31, 2021
	Upward sensitivity		Downward sensitivity	
	Upward shift	ECL impact in €	Downward shift	ECL impact in €
GDP growth rates	1pp	(49.4)	(1)pp	55.5
Unemployment rates	(0.5)pp	(23.8)	0.5pp	25.4
Real estate prices	5%	(3.9)	(5)%	4.2
Equities	10%	(7.2)	(10)%	9.4
Credit spreads	(40)%	(20.9)	40%	23.5
Commodities[1]	10%	(15.0)	(10)%	16.2

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

In the event Russia completely stops gas deliveries to Europe, a macro-economic shock would be highly probable. The timing, extent and severity of such a shock is difficult to predict due to numerous variables that could influence scenario outcomes and severity. The potential for and magnitude of government support, the amount and availability of alternative energy supplies, the timing of when gas supplies stop, the level of cash and liquidity available to borrowers to overcome the critical shortage period are all examples of such variability.

The Group has considered a variety of scenarios to assess a downside scenario if the Russian gas supply to Europe is completely shut off, including information from the ECB's published downside scenario. The Group's estimated downside forecast assumes the negative impact to begin in 2022, if an immediate gas supply shutdown occurs, with further impacts to materialize in subsequent periods. Based on such factors, the Group estimates that if such an event occurs it will potentially result in additional allowances for credit losses of up to approximately 20 bps. The impact would be expected to be recorded over an eighteen month period as forward-looking indicators reflect the deteriorating environment in the scenario, credit rating downgrades are applied and ultimately stage three impairment events take place. It is important to emphasize this is only an estimate and is dependent upon the above uncertainties and does not explicitly include any factors such as government support, which could significantly impact the actual expected credit losses if such an event were to occur.

IFRS 9 Model results

In the first six months of 2022, the provision for credit losses was € 525 million, which is significantly higher than the € 144 million recorded for the same period in 2021 and mirrors the deterioration of macroeconomic environment due to the war in Ukraine and a few impairment events predominantly on names related to Russia. For the second quarter the Group reported credit loss provisions of € 233 million moderately lower than the € 292 million in the first quarter of 2022. The quarter over quarter decrease was mainly driven by a lower level of new provisions on the Russia portfolio.

In regard to the Business Divisions, the Corporate Bank recorded loan loss provisions of € 56 million in the second quarter 2022 versus a € 20 million release in the second quarter 2021. The year-over-year increase was unchanged primarily driven by the impact from the war in Ukraine and a very benign development of provisions in the previous year's period. The Investment Bank recorded € 72 million credit loss provisions in the second quarter 2022 versus € 2 million in the second quarter 2021. The increase was mainly driven by a small number of new impairments, whilst the prior year's quarter benefitted from a large release which did not re-occur. The Private Bank recorded credit loss provisions of € 96 million in the second quarter 2022 versus € 117 million reported in the second quarter 2021. The reduction was mainly driven by releases after non-performing loan sales.

Exposure to Russia

One of management's key focus areas in the first half of 2022 was the identification and assessment of direct and indirect impacts from the war in Ukraine. Since 2014, the Group has significantly reduced its footprint in Russia due to the heightened risk of sanctions and potential countermeasures. The Bank has continued to reduce its risk positions through the first half of 2022 as a result of active exposure management, client repayments and roll-offs from guarantees.

As of June 30, 2022, the Group's loan exposure to Russia amounted to € 1.3 billion on a gross basis (€ 1.4 billion as of December 31, 2021), which represents approximately 0.3% of the total loan book (0.3% as of December 31, 2021). On a net basis, after risk mitigants such as Export Credit Agency ("ECA") insurance and Private Risk Insurance ("PRI"), the loan exposure amounted to € 0.5 billion€ (€ 0.6 billion as of December 31, 2021). Additional undrawn commitments amounted to € 0.4 billion (€ 1.0 billion as of December 31, 2021) and are subject to ECA coverage and contractual drawdown protection. The majority of loan exposure relates to large Russian companies with material operations and cash-flow outside of Russia. Loans may be provided onshore by DB Moscow, or offshore by other Group entities outside of Russia. In addition, the wealth management business has offshore loans to counterparties with a Russian nexus, collateralized in line with the Group's policies.

As of June 30, 2022, the Group had € 0.1 billion contingent exposure to Russia via written financial and trade guarantees (€ 0.5 billion as of December 31, 2021). Residual derivative exposures to Russia are small as all major positions have been unwound with the Group being a net payer on a mark-to-market basis.

The Bank's overall net loan exposure to Ukraine is € 0.1 billion as of June 30, 2022 (less than € 0.1 billion as of December 31, 2021).

The broader geopolitical implications of the war in Ukraine remain uncertain, which has led to a further deterioration in the economic outlook and strongly rising inflationary pressures. The Group has assessed the impacts of the conflict on inputs to Deutsche Bank's IFRS 9 model and recorded two new overlays in the first half of 2022 to address the increased uncertainty. These overlays are described in more detail in the section "Overlays applied to IFRS 9 model output".

In addition to the overlays, some of the aforementioned factors have resulted in immediate portfolio impacts in the first half of 2022, including negative rating migration on Russian names, resulting in higher credit risk weighted assets, as well as moderate increases in provisions for credit losses and higher impacts from prudential valuation. More broadly, in instances where there is a concern that counterparty credit quality has deteriorated or appears likely to deteriorate, the respective exposure has been placed on the "watchlist" and included in Stage 2. The objective of this early warning system is to address potential problems while adequate options for action are still available. As of June 30, 2022, beyond Russian names which have been added to the watchlist, the Group has not observed any material structural credit deterioration across other portfolios or industries.

The following table provides an overview of total Russian exposures, including overnight deposits with the Central Bank of Russia in the amount of € 0.6 billion as of June 30, 2022 (€ 0.5 billion as of December 31, 2021) and other receivables, which are subject to IFRS 9 impairment, and correspondent allowance for credit losses by Stages as of June 30, 2022 and December 31, 2021.

Breakdown of total exposure and allowance for credit losses by stages

			Jun 30, 2022			Dec 31, 2021
in € m.	Total Exposure	Allowance for Credit Losses[1]	Total collateral and guarantees	Total Exposure	Allowance for Credit Losses[1]	Total collateral and guarantees
Stage 1	732	0	237	3,198	1	648
Stage 2	1,560	25	614	332	2	263
Stage 3	291	59	125	3	0	2
Total	**2,583**	**84**	**977**	3,534	3	913

[1] Allowance for credit losses do not include allowance for country risk amounting to € 9 million as of June 30, 2022 and € 0 million as of December 31, 2021

Total Exposure of € 2.6 billion consists of above mentioned € 1.3 billion loan exposure to Russia, € 0.4 billion of undrawn commitments and € 0.6 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, 2022); the residual unsecured exposure, excluding the unsecured overnight deposits in Rubles with the Central Bank of Russia, is mainly driven by undrawn commitments which are subject to ECA coverage and contractual drawdown protection.

Market Risk

The Group has managed its market risk to Russia by performing regular risk assessments of its risk profile. To mitigate a broader contagion risk, action was taken to reduce direct exposure prior to and immediately after events unfolded. This was achieved by entering into additional hedges and selective de-risking. The Group continues to closely monitor the situation by performing further contagion stress testing on different scenarios. On June 1, 2022 the Credit Committee agreed a Russian credit event had occurred on the non-payment of interest. As of June 30, 2022, we have overall low levels of direct market risk exposure to Russia.

Russian operations

The Group has an operating subsidiary in Russia, OOO "Deutsche Bank" (DB Moscow), which provides corporate banking services to local subsidiaries of international companies. As of June 30, 2022, the Group's total capital position in Russia was € 0.4 billion (€ 0.2 billion as of December 31, 2021), with the foreign currency risk being actively managed and approximately 45% hedged as of June 30, 2022 (approximately 80% as of December 31, 2021). Total assets of DB Moscow amounted to € 1.6 billion (€ 1.5 billion as of December 31, 2021), of which approximately € 0.6 billion (Russian Ruble equivalent, € 0.5 billion as of December 31, 2021) was deposited with the Central Bank in Russia. DB Moscow does not require cross-border funding and local operations are fully self-funded.

The Group also operates a technology service centre in Russia, OOO Deutsche Bank TechCentre (DBTC), which is one of several technology centers around the world. DBTC is focused on delivering "change-the-bank" activities for the Investment Bank and Corporate Bank. The Group continues to de-risk its operations in DBTC by reassigning tasks to other technology centers around the world. We have stress-tested the ability of the bank's other technology centers around the world, including in Asia, to cover the Russian service center's development capabilities. There is no data or code in the Russian TechCentre.

The Group has announced that it will establish its next Technology Centre in Berlin, Germany. The center will primarily support the ambitions of the Investment Bank and Corporate Bank through application development and the integration of new technologies. While the Group will continue to grow the Berlin Technology Centre, there has also been transfer of resources from its Tech centre in Russia to Berlin as it consolidates the hub for Artificial Intelligence and Machine Learning expertise, which represents a key opportunity for the Group to create significant value for its clients and further enhance the efficient running of its operations.

The Group has accrued for the committed relocation costs of certain resources from DBTC.

Compliance and Anti Financial Crime risks

We continue to rapidly adapt to the sanctions landscape that has and continues to evolve after the invasion of Ukraine. After the implementation of sanctions, the Bank reacts with several actions including but not limited to prompt updates of the Bank's relevant lists for Name List Screening and Transaction Filtering, the formulation and dissemination of guidance to the businesses, engagement with governmental bodies on interpretive issues and the seeking of special licenses to allow for orderly wind-downs of open positions. The AFC function, and specifically its Sanctions & Embargoes department, plays a crucial role in the current situation given the rapidly changing regulatory environment and provides, where needed, up-to-date guidance to the businesses.

Measures in context of COVID-19 pandemic

Legislative and non-legislative moratoria and public guarantee schemes in light of COVID-19 pandemic

In 2020, the European Banking Association (EBA) issued a “Statement on the application of the prudential framework regarding Default, Forbearance and IFRS 9 in light of COVID-19 measures”, along with guidance on legislative and non-legislative moratoria. For additional details on the Statement and guidelines issued by EBA, see Deutsche Bank’s “IFRS 9 – Application of EBA guidance regarding Default, Forbearance and legislative and non-legislative moratoria and public guarantee schemes in light of COVID-19 Pandemic” in Deutsche Bank’s Annual Report 2021.

The following table provides an overview of expired loans and advances subject to EBA-compliant moratoria, loans and advances subject to COVID-19 related forbearance measures and newly originated loans and advances subject to a public guarantee scheme in the context of the COVID-19 pandemic as of June 30, 2022 and December 31, 2021.

Breakdown of COVID-19 related measures by stages

						Jun 30, 2022
	Legislative and non-legislative Moratoria		COVID-19 related forbearance measures		Public guarantee schemes	
in € m.	Gross Carrying Amount	Expected Credit Losses	Gross Carrying Amount	Expected Credit Losses	Gross Carrying Amount	Expected Credit Losses
Stage 1	4,779	(7)	2,674	(5)	2,919	(3)
Stage 2	1,233	(25)	2,091	(23)	963	(9)
Stage 3	669	(167)	698	(69)	129	(24)
Total	6,681	(199)	5,463	(98)	4,011	(36)

						Dec 31, 2021
	Legislative and non-legislative Moratoria		COVID-19 related forbearance measures		Public guarantee schemes	
in € m.	Gross Carrying Amount	Expected Credit Losses	Gross Carrying Amount	Expected Credit Losses	Gross Carrying Amount	Expected Credit Losses
Stage 1	5,381	(10)	3,330	(6)	3,079	(2)
Stage 2	1,288	(30)	2,602	(31)	770	(9)
Stage 3	698	(162)	965	(122)	103	(14)
Total	7,368	(202)	6,897	(158)	3,952	(25)

COVID-19 related forbearance measures: As of June 30, 2022, the remaining balance of COVID-19 related forbearance measures was € 5.5 billion and over 87% of clients continue to perform on their obligations. Although most clients continue to make regular payments, all forborne loans and advances are required to be classified as forborne until a 24-months’ probation period has been reached.

EBA-compliant moratoria: As of June 30, 2022, more than 95% of these clients who took advantage of moratoria continue to make regular payments.

Newly originated loans and advances subject to a public guarantee scheme: The Group has € 4.3 billion of loans outstanding under the public guarantee scheme as of June 30, 2022, with a maturity mainly between two and five years, of which; € 0.30 billion were derecognized as the terms of the loan and guarantee met the criteria for derecognition under IFRS 9. Approximately € 1.6 billion of loans were granted in Germany via programs sponsored by KfW, and € 1.9 billion were originated in Spain and € 0.5 billion in Luxembourg. € 2.1 billion were granted in Corporate Bank and € 1.8 billion in Private Bank sector. As of June 30, 2022, 97% of the loans that were granted public guarantees continue to make regular repayments.

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 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, 2022, an analysis was performed to evaluate if an impairment loss had to be recognized for the Group's goodwill or the indefinite life intangible asset related to retail investment management agreements (shown under unamortized intangible assets) allocated to the Asset Management CGU. That analysis did not result in an impairment.

As part of the analysis, the assumptions and their sensitivities of the annual goodwill impairment test were reviewed and did not indicate an impairment. In addition, the analysis included review of the main input parameters for the retail investment management agreement intangible valuation and did not indicate an impairment either.

Provisions

As of June 30, 2022, the Group recognized € 2.5 billion (December 31, 2021: € 2.6 billion) in provisions on its balance sheet. These relate to operational risk, civil litigation, regulatory enforcement, restructuring, allowances for credit related off-balance sheet positions and other matters, including bank levies. The consolidated financial statements contained in our Annual Report 2021 describe our provisions as of December 31, 2021, in Note 19 "Allowance for credit losses", and Note 27 "Provisions".

Civil litigation and regulatory enforcement matters

Within provisions as of June 30, 2022, the Group recognized provisions relating to civil litigation of € 0.6 billion (December 31, 2021: € 0.6 billion) and provisions relating to regulatory enforcement matters of € 0.6 billion (December 31, 2021: € 0.5 billion). Civil litigation provisions decreased by € 57 million, primarily because of the release of € 71 million in respect of the BGH customer consents matter. Regulatory enforcement provisions increased by € 165 million, including additional provisions relating to regulatory investigations by the U.S. SEC and CFTC regarding employees' use of unapproved devices and the firm's recording-keeping requirements. For some matters for which the Group believes an outflow of funds is probable, no provisions were recognized, as the Group could not reliably estimate the amount of the potential outflow.

For the matters for which a reliable estimate can be made, the Group currently estimates that, as of June 30, 2022, the aggregate future loss of which the possibility is more than remote but less than probable is approximately € 1.8 billion for civil litigation matters (December 31, 2021: € 1.7 billion) and € 0.1 billion for regulatory enforcement matters (December 31, 2021: € 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, 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, and accordingly such matters are not included in the contingent liability estimates. For still other significant civil litigation and regulatory enforcement matters, the Group believes the possibility of an outflow of funds is remote and therefore has neither recognized a provision nor included them in the contingent liability estimates.

Note 27 "Provisions" to the consolidated financial statements contained in our Annual Report 2021 sets forth, in the section thereof captioned "Current Individual Proceedings", descriptions as of the date of such consolidated financial statements of civil litigation and regulatory enforcement matters or groups of matters for which the Group has taken material provisions, or for which there are material contingent liabilities that are more than remote, or for which there is the possibility of material business or reputational risk; similar matters are grouped together and some matters consist of a number of proceedings or claims. 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.

Long-term debt

in € m.	Jun 30, 2022	Dec 31, 2021
Senior debt:		
Bonds and notes		
Fixed rate	62,926	63,446
Floating rate	15,657	18,182
Other	53,682	53,960
Subordinated debt:		
Bonds and notes		
Fixed rate	9,839	7,191
Floating rate	1,526	1,412
Other	293	293
Total long-term debt	**143,924**	144,485

Other financial information

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, 2022	Dec 31, 2021
Irrevocable lending commitments	195,566	177,334
Revocable lending commitments	47,977	49,798
Contingent liabilities	64,899	59,394
Total	**308,442**	286,525

Other commitments and other contingent liabilities

The following table shows the Group's other irrevocable commitments and other 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, 2022	Dec 31, 2021
Other commitments	125	163
Other contingent liabilities	75	77
Total	**200**	240

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 € 1,198.2 million as of June 30, 2022 and to € 1,078.8 million as of December 31, 2021.

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, 2022, were loans and commitments of € 5 million and deposits of € 13 million. As of December 31, 2021, there were loans and commitments of € 8 million and deposits of € 13 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, 2022	Dec 31, 2021
Loans outstanding, beginning of period	153	214
Net movement in loans during the period	(50)	159
Changes in the group of consolidated companies	0	0
Exchange rate changes/other[1]	2	(221)
Loans outstanding, end of period[1,2]	105	153
Other credit risk related transactions:		
Allowance for loan losses	0	0
Provision for loan losses	0	0
Guarantees and commitments	91	28

1 Prior years' comparatives aligned to presentation in the current year.
2 There were no past due loans as of June 30, 2022 and December 31, 2021. For the above loans, the Group held collateral of € 0 million and € 0 million as of June 30, 2022 and December 31, 2021, respectively.

Deposits received

in € m.	Jun 30, 2022	Dec 31, 2021
Deposits, beginning of period	63	49
Net movement in deposits during the period	(23)	14
Changes in the group of consolidated companies	0	0
Exchange rate changes/other	0	0
Deposits, end of period	41	63

Other transactions

Trading assets and positive market values from derivative financial transactions with associated companies amounted to € 18 million as of June 30, 2022, and € 2 million as of December 31, 2021. Trading liabilities and negative market values from derivative financial transactions with associated companies were € 0 million as of June 30, 2022, and € 0 million as of December 31, 2021.

Other assets related to transactions with associated companies amounted to € 38 million as of June 30, 2022, and € 42 million as of December 31, 2021. Other liabilities related to transactions with associated companies were € 5 million as of June 30, 2022, and € 1 million as of December 31, 2021.

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, 2022, transactions with these plans were not material for the Group.

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, 2022.

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

Total assets held for sale amounted to € 908 million as of June 30, 2022 (December 31, 2021: € 398 million) and the disposal groups included liabilities of € 2.1 billion as of June 30, 2022 (December 31, 2021: € 252 million). As of June 30, 2022, there were no unrealized net gains or losses (December 31, 2021: € 0 million) relating to non-current assets and disposal groups classified as held for sale recognized directly in accumulated other comprehensive income (loss).

As of June 30, 2022, the assets and liabilities held for sale still included the disposal group formed back in the third quarter 2021 to transfer DWS' digital investment platform into a joint venture with BlackFin, maintaining a stake of 30%. Closing of the transaction is still expected for the second half of 2022.

In August 2021, Deutsche Bank SpA had signed an agreement to sell its financial advisors network in Italy (Deutsche Bank Financial Advisors) to Zurich Insurance Group Italy. Following the receipt of outstanding substantive approvals, the transaction was considered as a disposal group held for sale within the interim financial statements of the second quarter 2022. Accordingly, as of June 30, 2022 the related balance sheet was reclassified to the assets and liabilities held for sale included in the Private Bank business segment. Closing of the transaction is expected for the second half of 2022.

Interest rate benchmark reform

The following table shows the notional values of financial instruments, external to the Group, which reference IBORs where it is expected that there will no longer be a requirement to quote IBOR rates. The table includes those financial instruments with a maturity date that extends past the date when the requirement to submit quotes is expected to end. 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 either been transitioned to an alternative reference rate or utilize GBP and JPY synthetic IBOR until the transition arrangements are finalized. Contracts utilizing GBP and JPY synthetic LIBOR as of June 30, 2022 had an immaterial impact to the notional values of the group (December 31, 2021: approximately € 1.15 billion). As a result, the amounts disclosed as of June 30, 2022 only includes USD LIBOR financial instruments, where the maturity date of the financial instruments is after June 30, 2023.

	Jun 30,2022
in € m.	USD IBOR
Non-Derivative Financial assets	44,392
Loans	41,563
Other	2,830
Derivative Financial assets[1]	3,128,387
Total financial assets	3,172,780
Non-Derivative Financial liabilities	28,081
Bonds	8,284
Deposits	19,637
Other	159
Derivative Financial liabilities[1]	3,028,939
Total financial liabilities	3,057,020
Off-balance sheet	59,460

[1] The Group also has exposure to interest rate benchmark reform in respect of its cash collateral balances across some of its Credit Support Annex agreements. This exposure is not presented in the table due to its short term nature.

							Dec 31, 2021
in € m.	USD IBOR	GBP IBOR	CHF IBOR	JPY IBOR	EONIA	Other IBORs	Multiple basis[2]
Non-Derivative Financial assets	64,584	5,605	182	66	536	469	-
Loans	62,403	5,478	182	59	363	469	-
Other	2,181	127	-	7	173	-	-
Derivative Financial assets[1]	2,829,421	351,302	47,065	523,527	9,042	40,503	167,050
Total financial assets	2,894,005	356,907	47,247	523,593	9,578	40,971	167,050
Non-Derivative Financial liabilities	17,403	41	-	-	689	-	-
Bonds	6,561	-	-	-	-	-	-
Deposits	10,809	-	-	-	664	-	-
Other	32	41	-	-	25	-	-
Derivative Financial liabilities[1]	2,669,363	321,430	45,442	502,571	7,151	38,650	144,217
Total financial liabilities	2,686,766	321,471	45,442	502,571	7,840	38,650	144,217
Off-balance sheet	73,166	498	40	95	1,963	33	-

[1] The Group also has exposure to interest rate benchmark reform in respect of its cash collateral balances across some of its Credit Support Annex agreements. This exposure is not presented in the table due to its short term nature.
[2] Multiple basis relates to underlying contracts utilizing multiple benchmarks subject to reforms, (e.g. floating- floating interest rate swaps which have cash flows in GBP IBOR and USD IBOR).

Capital expenditures and divestitures

During the first six months of 2022, the Group did not make any significant capital expenditures or divestitures.

Events after the reporting period

After the reporting date no material events occurred which had a significant impact on our results of operations, financial position and net assets.

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 2022, 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, 27 July 2022

Ernst & Young GmbH

Wirtschaftsprüfungsgesellschaft

Lösken	Mai
Wirtschaftsprüfer	Wirtschaftsprüfer
[German Public Auditor]	[German Public Auditor]

Responsibility statement by the Management Board

To the best of our knowledge, and in accordance with the applicable reporting principles 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 25, 2022

Christian Sewing

James von Moltke

Karl von Rohr

Fabrizio Campelli

Bernd Leukert

Alexander von zur Mühlen

Christiana Riley

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 AT1 coupon as a percentage of average shareholders' equity and average tangible shareholders' equity, respectively.

Profit (loss) attributable to Deutsche Bank shareholders after AT1 coupon for the segments is a non-GAAP financial measure and is defined as profit (loss) excluding post-tax profit (loss) attributable to noncontrolling interests and after AT1 coupon, which are allocated to segments based on their allocated average tangible shareholders' equity. For the Group, it reflects the reported effective tax rate which was 22% for the second quarter of 2022 and 29% for the prior year's comparative period. The tax rate was 24% for the six months ended June 30, 2022 and 32% for the prior year's comparative period. For the segments, the applied tax rate was 28% for 2022 and all quarters in 2021.

At the Group level, tangible shareholders' equity is shareholders' equity as reported in the Consolidated Balance Sheet excluding goodwill and other intangible assets. Tangible shareholders' equity for the segments is calculated by deducting goodwill and other intangible assets from shareholders' equity as allocated to the segments. Shareholders' equity and tangible shareholders' equity are presented on an average basis.

The Group believes that a presentation of average tangible shareholders' equity makes comparisons to its competitors easier, and refers to this measure in the return on equity ratios presented by the Group. However, average tangible shareholders' equity is not a measure provided for in IFRS, and the Group's ratios based on this measure should not be compared to other companies' ratios without considering differences in the calculations.

The reconciliation of the aforementioned ratios is set forth in the table below:

							Three months ended Jun 30, 2022
in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
Profit (loss) before tax	534	1,059	463	170	(181)	(498)	1,547
Profit (loss)	385	763	333	122	(131)	(261)	1,211
Profit (loss) attributable to noncontrolling interests	0	0	0	0	0	33	33
Profit (loss) attributable to DB shareholders and additional equity components	**385**	**763**	**333**	**122**	**(131)**	**(294)**	**1,179**
Profit (loss) attributable to additional equity components	27	62	31	6	7	0	133
Profit (loss) attributable to Deutsche Bank shareholders	358	701	303	116	(138)	(294)	1,046
Average allocated shareholders' equity	11,548	25,681	13,500	5,512	2,940	0	59,181
Deduct: Average allocated goodwill and other intangible assets	828	1,137	1,226	3,014	63	0	6,268
Average allocated tangible shareholders' equity	**10,720**	**24,544**	**12,274**	**2,498**	**2,877**	**0**	**52,914**
Post-tax return on average shareholders' equity	12.4%	10.9%	9.0%	8.4%	(18.8%)	N/M	7.1%
Post-tax return on average tangible shareholders' equity	13.4%	11.4%	9.9%	18.6%	(19.2%)	N/M	7.9%

N/M – Not meaningful

in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Three months ended Jun 30, 2021
Profit (loss) before tax	250	1,046	(15)	180	(257)	(39)	1,165
Profit (loss)	180	753	(11)	130	(185)	(39)	828
Profit (loss) attributable to noncontrolling interests	0	0	0	0	0	33	33
Profit (loss) attributable to DB shareholders and additional equity components	180	753	(11)	130	(185)	(72)	795
Profit (loss) attributable to additional equity components	20	46	23	3	9	0	102
Profit (loss) attributable to Deutsche Bank shareholders	160	707	(34)	126	(195)	(72)	692
Average allocated shareholders' equity	10,340	23,786	12,648	4,554	4,671	0	55,998
Deduct: Average allocated goodwill and other intangible assets	722	1,094	1,270	2,878	103	(0)	6,066
Average allocated tangible shareholders' equity	9,618	22,692	11,378	1,676	4,568	0	49,932
Post-tax return on average shareholders' equity	6.2%	11.9%	(1.1%)	11.1%	(16.7%)	N/M	4.9%
Post-tax return on average tangible shareholders' equity	6.7%	12.5%	(1.2%)	30.1%	(17.1%)	N/M	5.5%

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year

in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Six months ended Jun 30, 2022
Profit (loss) before tax	828	2,567	881	376	(520)	(927)	3,205
Profit (loss)	596	1,848	634	271	(374)	(537)	2,438
Profit (loss) attributable to noncontrolling interests	0	0	0	0	0	73	73
Profit (loss) attributable to DB shareholders and additional equity components	596	1,848	634	271	(374)	(610)	2,365
Profit (loss) attributable to additional equity components	51	121	59	12	16	0	259
Profit (loss) attributable to Deutsche Bank shareholders	545	1,728	575	259	(390)	(610)	2,106
Average allocated shareholders' equity	11,270	25,645	13,365	5,365	3,224	0	58,869
Deduct: Average allocated goodwill and other intangible assets	795	1,117	1,236	2,980	68	0	6,196
Average allocated tangible shareholders' equity	10,475	24,528	12,129	2,385	3,156	0	52,673
Post-tax return on average shareholders' equity	9.7%	13.5%	8.6%	9.7%	(24.2%)	N/M	7.2%
Post-tax return on average tangible shareholders' equity	10.4%	14.1%	9.5%	21.7%	(24.7%)	N/M	8.0%

N/M – Not meaningful

in € m. (unless stated otherwise)	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Six months ended Jun 30, 2021
Profit (loss) before tax	485	2,535	255	364	(667)	(217)	2,754
Profit (loss)	349	1,825	183	262	(480)	(274)	1,865
Profit (loss) attributable to noncontrolling interests	0	0	0	0	0	69	69
Profit (loss) attributable to DB shareholders and additional equity components	349	1,825	183	262	(480)	(343)	1,796
Profit (loss) attributable to additional equity components	38	88	45	7	18	0	196
Profit (loss) attributable to Deutsche Bank shareholders	312	1,737	139	255	(499)	(343)	1,600
Average allocated shareholders' equity	10,211	23,505	12,566	4,577	4,738	0	55,597
Deduct: Average allocated goodwill and other intangible assets	707	1,084	1,266	2,874	105	0	6,035
Average allocated tangible shareholders' equity	9,505	22,421	11,300	1,703	4,633	0	49,563
Post-tax return on average shareholders' equity	6.1%	14.8%	2.2%	11.1%	(21.1%)	N/M	5.8%
Post-tax return on average tangible shareholders' equity	6.6%	15.5%	2.5%	30.0%	(21.5%)	N/M	6.5%

N/M – Not meaningful
Prior year's comparatives aligned to presentation in the current year

Core Bank

The Core Bank represents the Group excluding the Capital Release Unit (CRU).

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Three months ended Jun 30, 2021	Six months ended Jun 30, 2022	Six months ended Jun 30, 2021
Profit (loss) before tax - Group	1,547	1,165	3,205	2,754
Profit (loss) before tax - CRU	(181)	(257)	(520)	(667)
Profit (loss) before tax - Core Bank	1,729	1,423	3,725	3,422

The following table presents the results of the Core Bank.

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Three months ended Jun 30, 2021	Six months ended Jun 30, 2022	Six months ended Jun 30, 2021
Profit (loss) before tax	1,729	1,423	3,725	3,422
Profit (loss)	1,342	1,013	2,812	2,346
Profit (loss) attributable to noncontrolling interests	33	33	73	69
Profit (loss) attributable to Deutsche Bank shareholders and additional equity components	1,309	980	2,739	2,277
Profit (loss) attributable to additional equity components	125	93	243	177
Profit (loss) attributable to Deutsche Bank shareholders	1,184	887	2,496	2,099
Average allocated shareholders' equity	56,242	51,327	55,645	50,859
Deduct: Average allocated goodwill and other intangible assets	6,205	5,963	6,129	5,930
Average allocated tangible shareholders' equity	50,036	45,364	49,517	44,929
Post-tax return on average shareholders' equity	8.4%	6.9%	9.0%	8.3%
Post-tax return on average tangible shareholders' equity	9.5%	7.8%	10.1%	9.3%

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

The following table presents a reconciliation of Adjusted profit (loss) before tax of the Core Bank.

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Three months ended Jun 30, 2021	Six months ended Jun 30, 2022	Six months ended Jun 30, 2021
Profit (loss) before tax	1,729	1,423	3,725	3,422
Specific revenue items	(14)	(25)	(13)	(35)
Transformation charges	39	86	78	191
Impairment of goodwill / other intangibles	0	0	0	0
Restructuring & severance	(11)	116	(45)	173
Adjusted profit (loss) before tax	1,743	1,599	3,744	3,750

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

The following table presents a reconciliation of Adjusted costs excluding transformation charges to Adjusted costs excluding transformation charges and bank levies for the Core Bank.

in € (unless stated otherwise)	Six months ended Jun 30, 2022	Six months ended Jun 30, 2021
Adjusted costs ex. transformation charges	9,607	9,292
Bank levies	589	392
Adjusted costs ex. transformation charges and bank levies	**9,018**	8,900

Transformation charges

Transformation charges are costs, included in adjusted costs, that are directly related to Deutsche Bank's transformation as a result of the strategy announced on July 7, 2019 and certain costs related to incremental or accelerated decisions driven by the changes in the expected operations due to the COVID-19 pandemic. Such charges include the transformation related impairment of software and real estate, the accelerated software amortization and other transformation charges like onerous contract provisions or legal and consulting fees related to the strategy execution. The table represents the transformation charges by the respective cost category.

in € m.	Three months ended Jun 30, 2022	Three months ended Jun 30, 2021	Six months ended Jun 30, 2022	Six months ended Jun 30, 2021
Compensation and benefits	0	2	0	4
Information Technology	32	47	63	91
Professional services	5	10	11	17
Occupancy	0	40	0	102
Communication, data services, marketing	0	1	1	2
Other	1	0	2	0
Transformation charges	**39**	99	**78**	215

Adjusted costs

Adjusted costs is one of the Group's key performance indicators and is a non-GAAP financial measure for which the most directly comparable IFRS financial measure is noninterest expenses. Adjusted costs is calculated by deducting (i) impairment of goodwill and other intangible assets, (ii) net litigation charges and (iii) restructuring and severance (in total referred to as nonoperating costs) from noninterest expenses under IFRS. The Group believes that a presentation of noninterest expenses excluding the impact of these items provides a more meaningful depiction of the costs associated with the operating businesses. To show the development of the cost initiatives excluding costs that are directly related to Deutsche Bank's transformation as a result of the strategy announced on July 7, 2019, the Group also presents Adjusted costs excluding transformation charges, in which the transformation charges described above are deducted from Adjusted costs.

							Three months ended Jun 30,2022
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
Noninterest expenses	960	1,512	1,601	440	192	165	4,870
Impairment of goodwill and other intangible assets	0	0	0	0	0	0	0
Litigation charges, net	5	115	(68)	12	39	13	116
Restructuring and severance	1	8	(28)	8	(2)	0	(13)
Adjusted costs	955	1,389	1,697	420	154	152	4,767
Transformation charges	4	0	35	0	0	0	39
Adjusted costs ex. transformation charges	950	1,389	1,662	420	154	152	4,727

							Three months ended Jun 30,2021
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
Noninterest expenses	1,000	1,347	1,916	395	258	81	4,998
Impairment of goodwill and other intangible assets	0	0	0	0	0	0	0
Litigation charges, net	2	5	128	1	2	11	148
Restructuring and severance	18	24	76	1	8	(2)	123
Adjusted costs	980	1,319	1,713	394	249	73	4,727
Transformation charges	11	12	57	0	13	6	99
Adjusted costs ex. transformation charges	969	1,307	1,656	393	236	67	4,628

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

in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Six months ended Jun 30, 2022
Noninterest expenses	1,980	3,290	3,302	861	527	286	10,247
Impairment of goodwill and other intangible assets	0	0	0	0	0	0	0
Litigation charges, net	5	117	(65)	12	61	13	142
Restructuring and severance	4	11	(70)	9	(1)	1	(46)
Adjusted costs	1,971	3,163	3,438	840	467	272	10,151
Transformation charges	9	0	69	0	0	0	78
Adjusted costs ex. transformation charges	1,963	3,163	3,369	840	467	272	10,074

in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Six months ended Jun 30, 2021
Noninterest expenses	2,099	2,954	3,726	800	756	237	10,572
Impairment of goodwill and other intangible assets	0	0	0	0	0	0	0
Litigation charges, net	2	17	129	1	66	11	226
Restructuring and severance	43	31	87	6	8	7	181
Adjusted costs	2,054	2,906	3,510	793	682	219	10,165
Transformation charges	22	25	93	1	25	49	215
Adjusted costs ex. transformation charges	2,032	2,881	3,417	792	658	170	9,950

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

The following table presents a reconciliation of Adjusted costs excluding transformation charges to Adjusted costs excluding transformation charges and bank levies for the Group.

in € m. (unless stated otherwise)	Six months ended Jun 30, 2022	Six months ended Jun 30, 2021
Adjusted costs ex. transformation charges	10,074	9,950
Bank levies	736	547
Adjusted costs ex. transformation charges and bank levies	**9,338**	9,403

Revenues excluding specific items

Revenues excluding specific items is a performance indicator that is a non-GAAP financial measure most directly comparable to the IFRS financial measure net revenues. Revenues excluding specific items is calculated by adjusting net revenues under IFRS for specific revenue items which generally fall outside the usual nature or scope of the business and are likely to distort an accurate assessment of the divisional operating performance. Excluded items are Debt Valuation Adjustment (DVA) and material transactions or events that are either one-off in nature or belong to a portfolio of connected transactions or events where the P&L impact is limited to a specific period of time. The Group believes that a presentation of net revenues excluding the impact of these items provides a more meaningful depiction of the revenues associated with the businesses.

in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Three months ended Jun 30, 2022
Net revenues	1,551	2,646	2,160	656	7	(370)	6,650
DVA	0	11	0	0	(3)	0	9
Sal. Oppenheim workout - International Private Bank (IPB)	0	0	2	0	0	0	2
Revenues excluding specific items	1,551	2,634	2,158	656	10	(370)	6,639

…

in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Three months ended Jun 30, 2021
Net revenues	1,230	2,394	2,018	626	(24)	(6)	6,238
DVA	0	(9)	0	0	(1)	0	(11)
Sal. Oppenheim workout - International Private Bank (IPB)	0	0	35	0	0	0	35
Revenues excluding specific items	1,230	2,403	1,984	626	(23)	(6)	6,214

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

in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Six months ended Jun 30, 2022
Net Revenues	3,012	5,969	4,381	1,338	1	(723)	13,977
DVA	0	4	0	0	(5)	0	(1)
Sal. Oppenheim workout - International Private Bank (IPB)	0	0	10	0	0	0	10
Revenues excluding specific items	3,012	5,965	4,371	1,338	5	(723)	13,969

in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total Consolidated
							Six months ended Jun 30, 2021
Net Revenues	2,543	5,491	4,196	1,263	57	(80)	13,471
DVA	0	(24)	0	0	0	0	(24)
Sal. Oppenheim workout - International Private Bank (IPB)	0	0	59	0	0	0	59
Revenues excluding specific items	2,543	5,515	4,137	1,263	57	(80)	13,435

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

Revenues on a currency adjusted basis

Revenues on a currency-adjusted basis is calculated by translating prior-period revenues that were generated 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.

Adjusted profit (loss) before tax

Adjusted profit (loss) before tax is calculated by adjusting the profit (loss) before tax under IFRS for specific revenue items, transformation charges, impairments of goodwill and other intangibles, as well as restructuring and severance expenses. The Group believes that a presentation of profit (losses) before tax excluding the impact of the foregoing items provides a more meaningful depiction of the profitability of the operating business.

in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total consolidated
							Three months ended Jun 30, 2022
Profit (loss) before tax	534	1,059	463	170	(181)	(498)	1,547
Specific revenue items	0	(11)	(2)	0	3	0	(11)
Transformation charges	4	0	35	0	0	0	39
Impairment of goodwill / other intangibles	0	0	0	0	0	0	0
Restructuring & severance	1	8	(28)	8	(2)	0	(13)
Adjusted profit (loss) before tax	540	1,056	468	178	(180)	(498)	1,563

in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total consolidated
							Three months ended Jun 30, 2021
Profit (loss) before tax	250	1,046	(15)	180	(257)	(39)	1,165
Specific revenue items	0	9	(35)	0	1	0	(24)
Transformation charges	11	12	57	0	13	6	99
Impairment of goodwill / other intangibles	0	0	0	0	0	0	0
Restructuring & severance	18	24	76	1	8	(2)	123
Adjusted profit (loss) before tax	278	1,091	83	181	(236)	(35)	1,364

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

in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total consolidated
							Six months ended Jun 30, 2022
Profit (loss) before tax	828	2,567	881	376	(520)	(927)	3,205
Specific revenue items	0	(4)	(10)	0	5	0	(9)
Transformation charges	9	0	69	0	0	0	78
Impairment of goodwill / other intangibles	0	0	0	0	0	0	0
Restructuring & severance	4	11	(70)	9	(1)	1	(46)
Adjusted profit (loss) before tax	840	2,575	870	385	(515)	(926)	3,229

							Six months ended Jun 30, 2021
in € m.	Corporate Bank	Investment Bank	Private Bank	Asset Management	Capital Release Unit	Corporate & Other	Total consolidated
Profit (loss) before tax	485	2,535	255	364	(667)	(217)	2,754
Specific revenue items	0	24	(59)	0	(0)	0	(35)
Transformation charges	22	25	93	1	25	49	215
Impairment of goodwill / other intangibles	0	0	0	0	0	0	0
Restructuring & severance	43	31	87	6	8	7	181
Adjusted profit (loss) before tax	550	2,616	376	371	(635)	(161)	3,115

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

Adjustments regarding BGH ruling on pricing agreements for Private Bank

In the second quarter of 2021, we introduced a pro-forma disclosure, which is a non-GAAP financial measure, that excludes impacts related to a BGH ruling on pricing agreements from PB's revenues, profit before tax and post-tax return on average tangible shareholder's equity. We introduced this disclosure to improve comparability of PB's operational trends compared to the prior quarters.

in € m. (unless stated otherwise)	Three months ended Jun 30, 2022	Three months ended Jun 30, 2021	Six months ended Jun 30, 2022	Six months ended Jun 30, 2021
Net Revenues	**2,160**	2,018	**4,381**	4,196
BGH ruling on pricing agreements - impact of forgone revenues	8	94	15	94
of which: Private Bank Germany - BGH ruling on pricing agreements - impact of forgone revenues	8	93	16	93
Net revenues ex BGH ruling on pricing agreements	**2,168**	2,112	**4,396**	4,290
of which: Private Bank Germany net revenues ex BGH ruling on pricing agreements	1,334	1,292	2,701	2,638
Revenue specific items	(2)	(35)	(10)	(59)
Net revenues ex specific items ex BGH ruling on pricing agreements	**2,166**	2,077	**4,386**	4,231
therein: Private Bank Germany – revenues ex specific items ex BGH ruling on pricing agreements	1,334	1,292	2,701	2,638
Adjusted profit (loss) before tax	**468**	83	**870**	376
BGH ruling - total impact	(62)	222	(54)	222
of which: impact of forgone revenues	8	94	15	94
of which: impact of additional adjusted costs	1	0	2	0
of which: impact of litigation charges	(71)	128	(71)	128
Adjusted profit (loss) before tax ex BGH ruling on pricing agreements	**406**	305	**817**	597
Adjusted profit (loss) ex BGH ruling on pricing agreements	**292**	220	**588**	430
Profit (loss) attributable to noncontrolling interests	–	0	–	0
Profit (loss) attributable to additional equity components	31	23	59	45
Adjusted Profit (loss) attributable to Deutsche Bank shareholders ex BGH ruling on pricing agreements	**262**	196	**528**	385
Average allocated tangible shareholders' equity	**12,274**	11,378	**12,129**	11,300
Adjusted post-tax RoTE ex BGH ruling on pricing agreements (in %)	**8.5 %**	6.9 %	**8.7 %**	6.8 %
Reported post-tax RoTE (in %)	**9.9 %**	(1.2) %	**9.5 %**	2.5 %

Net assets (adjusted)

Net assets (adjusted) are defined as IFRS Total assets adjusted to reflect the recognition of legal netting agreements, offsetting of cash collateral received and paid and offsetting pending settlements balances. The Group believes that a presentation of net assets (adjusted) makes comparisons to its competitors easier.

in € b. (unless stated otherwise)	Jun 30, 2022	Dec 31, 2021
Total assets	**1,387**	1,324
Deduct: Derivatives (incl. hedging derivatives & derivatives reclassified into held for sale) credit line netting	247	239
Deduct: Derivatives cash collateral received / paid	72	65
Deduct: Securities Financing Transactions credit line netting	4	2
Deduct: Pending settlements netting	25	15
Net assets (adjusted)	**1,038**	1,002

Book value and tangible book value per basic share outstanding

Book value per basic share outstanding and tangible book value per basic share outstanding are non-GAAP financial measures that are used and relied upon by investors and industry analysts as capital adequacy metrics. Book value per basic share outstanding represents the Bank's total shareholders' equity divided by the number of basic shares outstanding at period-end. Tangible book value represents the Bank's total shareholders' equity less goodwill and other intangible assets. Tangible book value per basic share outstanding is computed by dividing tangible book value by period-end basic shares outstanding.

Tangible book value

in € m.	Jun 30, 2022	Dec 31, 2021
Total shareholders' equity (Book value)	**59,788**	58,027
Goodwill and other intangible assets[1]	(6,364)	(6,079)
Tangible shareholders' equity (Tangible book value)	**53,425**	51,949

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

Basic shares outstanding

in million (unless stated otherwise)	Jun 30, 2022	Dec 31, 2021
Number of shares issued	**2,066.8**	2,066.8
Treasury shares	(33.8)	(0.7)
Vested share awards	47.2	34.5
Basic shares outstanding	**2,080.2**	2,100.6
Book value per basic share outstanding in €	**28.74**	27.62
Tangible book value per basic share outstanding in €	**25.68**	24.73

CRR/CRD regulatory measures

Deutsche Bank´s regulatory assets, exposures, risk-weighted assets, capital and ratios thereof are calculated for regulatory purposes and are set forth throughout this document under the CRR/CRD as currently applicable.

For the comparative periods in this report certain figures based on the CRR definition of own fund instruments (applicable for Additional Tier 1 (AT1) capital and Tier 2 (T2) capital and figures based thereon, including Tier 1, Total Capital and Leverage Ratio) are presented on a "fully loaded" basis. Such "fully loaded" figures are calculated excluding the transitional arrangements for own fund instruments as provided in the currently applicable CRR/CRD. For those comparatives periods the CET 1 and RWA figures include the transitional impacts from the IFRS 9 add-back also in the "fully-loaded" figures given it is an immaterial difference.

Transitional arrangements are applicable for AT1 and T2 instruments. Capital instruments issued on or prior to December 31, 2011, that no longer qualify as AT1 or T2 capital under the fully loaded CRR/CRD as currently applicable are subject to grandfathering rules during the transitional period and are being phased out from 2013 to 2022 with their recognition capped at 20% in 2020 and 10% in 2021 (in relation to the portfolio eligible for grandfathering which was still in issue on December 31, 2012) and grandfathering having phased out completely from January 1, 2022.

The current CRR as applicable since June 27, 2019 provides further grandfathering rules for AT1 and T2 instruments issued prior to June 27, 2019. Thereunder, AT1 and T2 instruments issued through special purpose entities are grandfathered until December 31, 2021. Beyond 2021, transitional arrangements only exist for AT1 and T2 instruments which continue to qualify until June 26, 2025 even if they do not meet certain new requirements that apply since June 27, 2019. Deutsche Bank had immaterial amounts of such instruments outstanding at year-end 2021, which practically removes the difference between "fully loaded" and "transitional" AT1 and T2 instruments starting from January 1, 2022.

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 11, 2022 under the heading “Risk Factors”.

2022

Financial Calendar

October 26, 2022
Earnings Report as of September 30, 2022

2023

Financial Calendar

February 2, 2023
Preliminary results for the 2022 financial year

March 17, 2023
Annual Report 2022 and Form 20-F

April 27, 2023
Earnings Report as of March 31, 2023

May 17, 2023
Annual General Meeting

July 26, 2023
Interim Report as of June 30, 2023

October 25, 2023
Earnings Report as of September 30, 2023