Deutsche Bank

Q4/FY 2022 Fixed Income Investor Conference Call

February 3, 2023

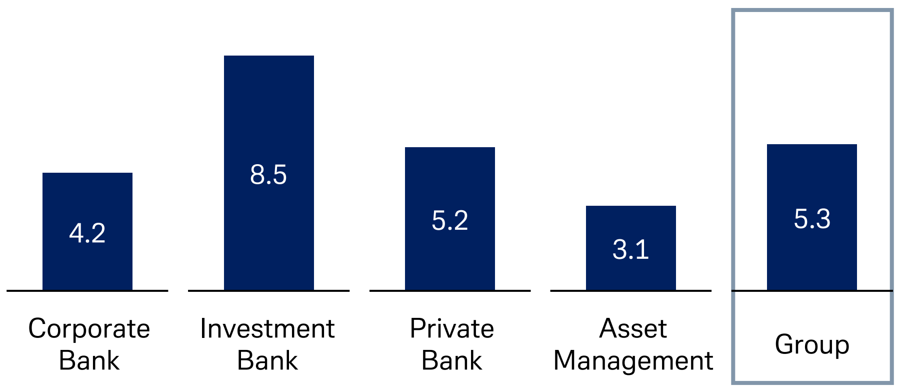
Five decisive actions executed since July 2019 have transformed the Group

Create four client-centric divisions	Exit businesses	Cut costs	Invest in technology and growth	Manage and liberate capital
〉Focus on four core businesses with strong competitive positioning and attractive market opportunities	〉Simplified setup driven by exit of Equities trading, refocused Rates and non-strategic asset wind-down	〉Generated more than € 3bn in savings, reducing cost/income ratio (CIR) by 18ppt compared to 2018	〉€ 15bn of IT spend, including start of Cloud migration, tech simplification and German platform migration	〉Maintained stable and robust CET1 ratio, absorbing around 270bps of regulatory and transformation impacts since 2018
〉Balanced and complementary portfolio across and within divisions creating resilient profile	〉€ 227bn reduction of leverage exposure from CRU de-risking	〉Incurred significant transformation charges to accelerate change and reposition the bank	〉€ 4bn in internal controls spend with significantly improved staffing and capabilities	〉Started on capital return path towards commitments

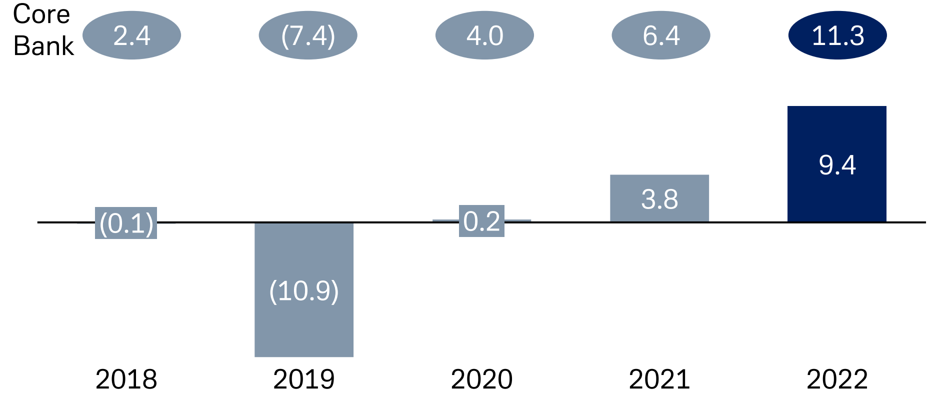
Note: Throughout this presentation totals may not sum due to rounding differences and percentages may not precisely reflect the absolute figures

Delivering our transformation plan

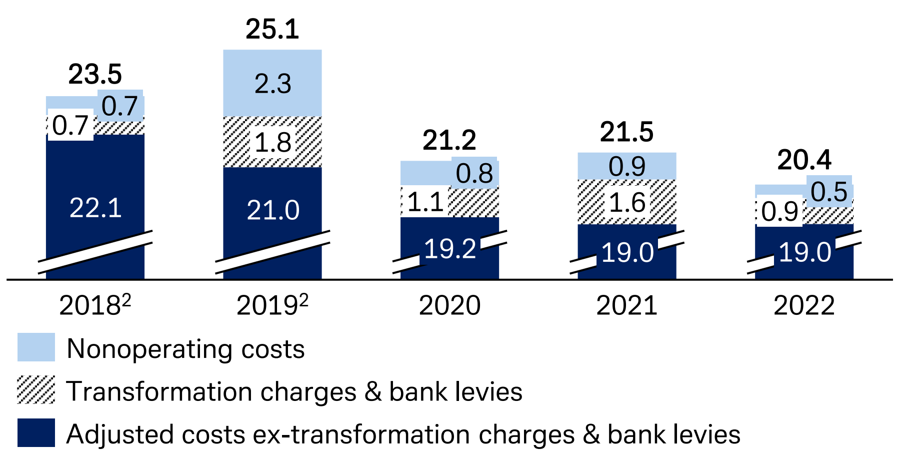
2018 to 2022 annual operating leverage[1], in %



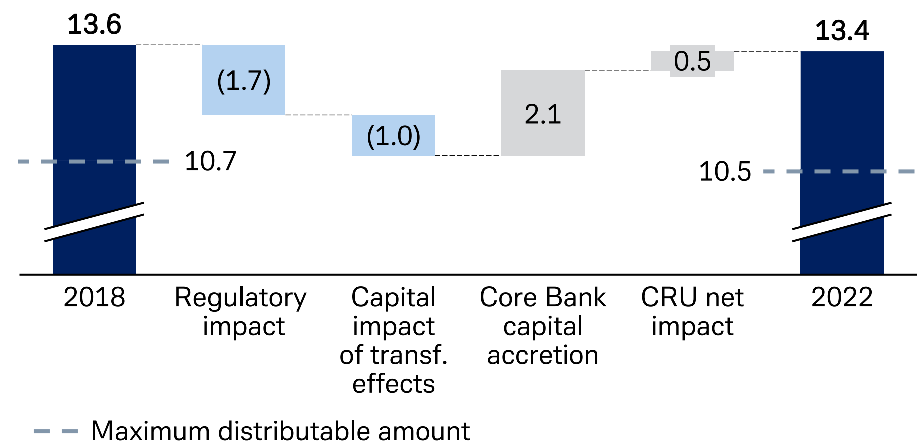
Group RoTE development, in %



Noninterest expenses, in € bn



CET1 ratio, in %



[1] Operating leverage calculation based on four-year CAGR of net revenues and noninterest expenses; detailed on slide 32

[2] All 2018 figures on the slide based on reporting structure as disclosed in Annual Report 2020; 2019 figures based on reporting structure as disclosed in Annual Report 2021

Positioned the Group for sustainable profitability, growth and greater resilience

FY 2022

Performance	Profitability	Resilience
❯ Revenues significantly above original expectations, reflecting business focus and momentum ❯ Competitively positioned with our clients, leading to sustainable revenue growth and increasing operating leverage[3] for the Group	❯ Progress on reducing expenses, with CIR in line with 2022 guidance ❯ Improvement in pre-provision profit, with € 6.8bn recorded in FY 2022	❯ Maintaining disciplined risk management throughout market cycles ❯ Delivered on capital targets despite significant pressure from regulatory changes and transformation-related effects
9% RoTE[1,2]	75% CIR	13.4% CET1

[1] Throughout this presentation post-tax return on average tangible shareholders' equity (RoTE) is calculated on net income after AT1 coupons; Group average tangible shareholders' equity: FY 2022: € 53.7bn, FY 2021: € 50.4bn; Group post-tax return on average shareholders' equity (RoE) FY 2022: 8.4%

[2] Includes € 1.4bn tax benefit from a deferred tax asset valuation adjustment driven by strong US performance

[3] Defined on slide 29

Ongoing disciplined risk management and strong balance sheet metrics

- **Strong and stable balance sheet and sound liquidity metrics**, positioned to navigate uncertainty
- **Investments in risk framework, controls and technology** facilitate timely and proactive risk management
- **Well-diversified loan book,** with strong collateral and active hedging to mitigate downside risks
- Close **monitoring of key emerging risks, through robust modeling, scenario analysis and consistent client dialogue**
- **Contained provision for credit losses**, in line with recent guidance

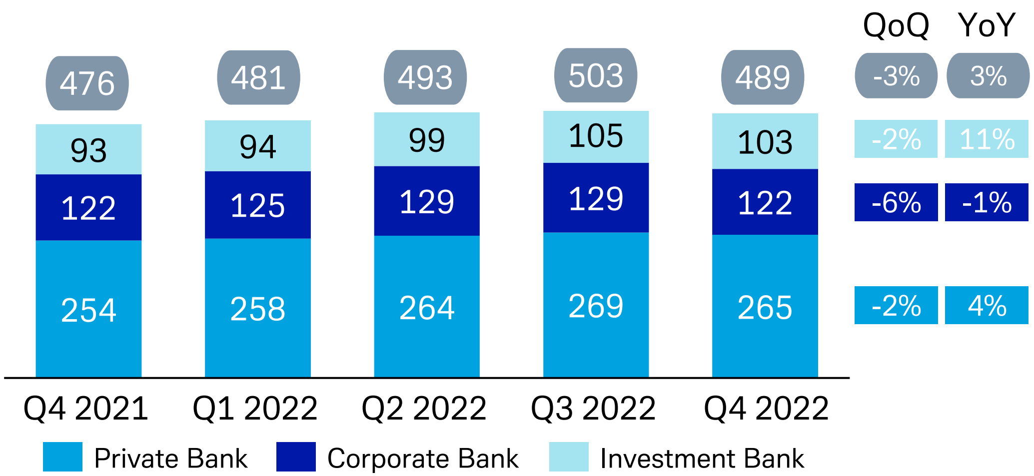
	2022
CET1 ratio	13.4%
Provision for credit losses as % of loans[1]	25bps
Average Value-at-Risk[2]	€ 47m
Liquidity coverage ratio	142%
Net stable funding ratio	119%

[1] Provision for credit losses as basis points of average loans gross of allowances for loan losses
[2] Trading book Value-at-Risk (VaR) at 99% confidence level and a 1-day holding period

Underlying loan trend flat while deposit growth continues

In € bn

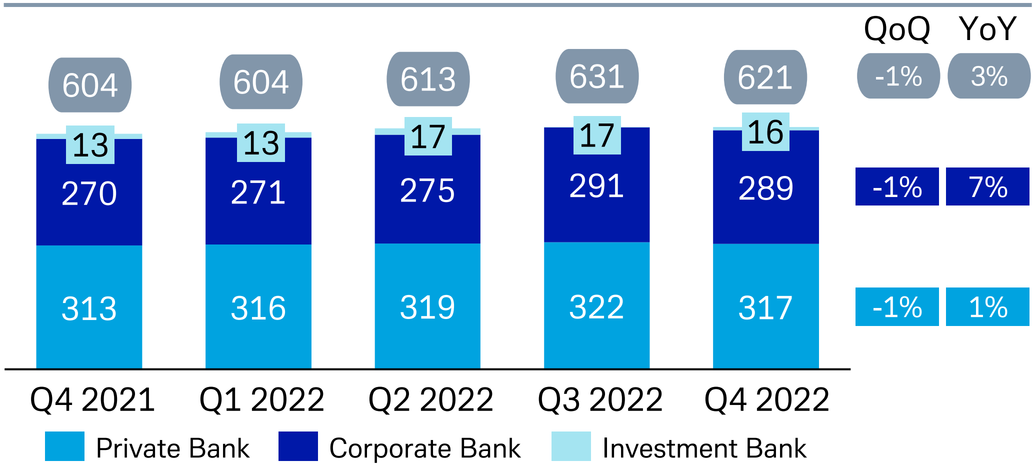
Loan development



Comments

- Lending reduction of € 2bn in the quarter adjusted for FX effects due to episodic effects
  - € 5bn reduction in Corporate Bank lending from active portfolio management including € 2bn of episodic effects
  - Offset by € 4bn growth in high quality lending in FIC Financing with moderate growth in Origination & Advisory
  - Loans in the Private Bank have remained essentially flat

Deposit development



Comments

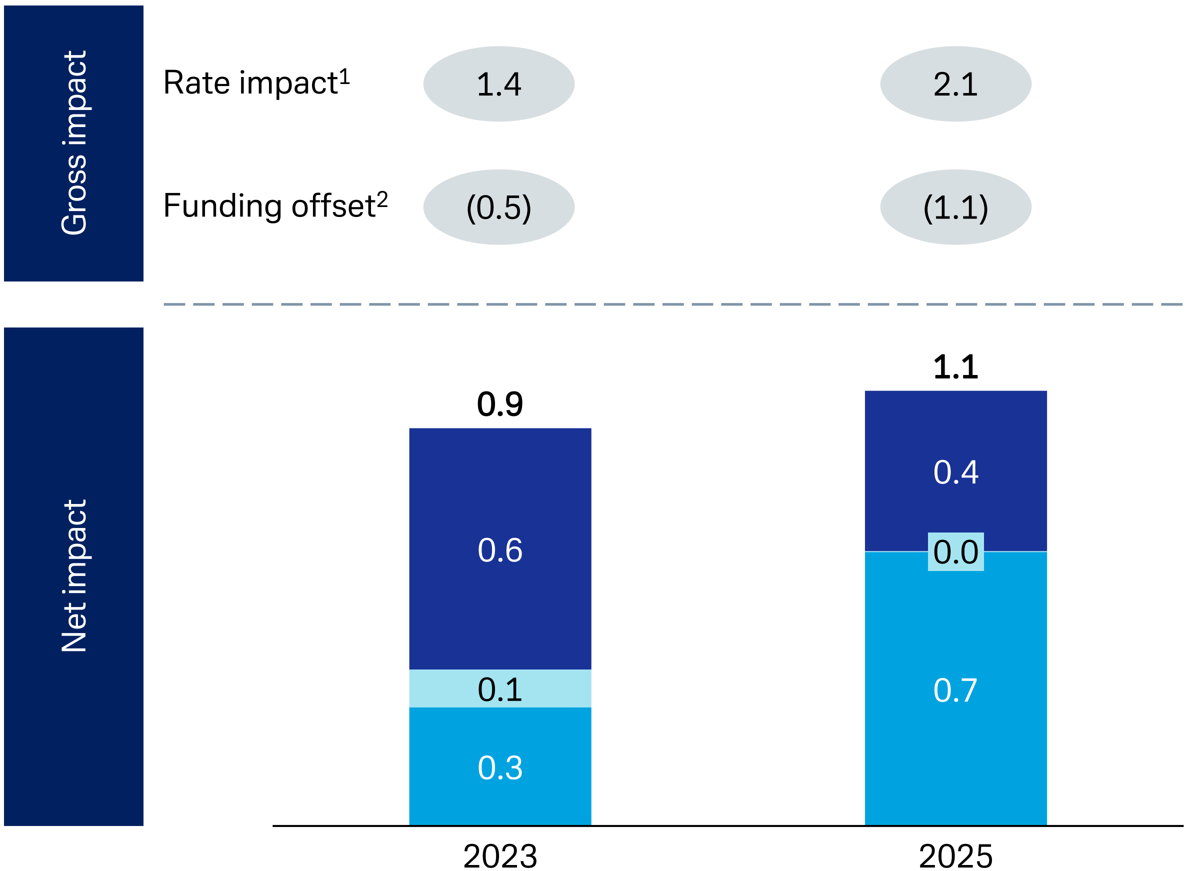
- Deposit growth of € 4bn in the quarter adjusted for FX effects, mostly driven by targeted measures in Corporate Bank
- Deposits in the Private Bank are essentially flat in the quarter
- Aim to continue targeted deposit growth in 2023 across Corporate Bank and Private Bank

Notes: Loans gross of allowances at amortized costs (IFRS 9); totals represent Group level balances whereas the graph shows only PB, CB and IB exposure for materiality reasons

Net interest income supports revenue development

In € bn, unless stated otherwise

Evolution of interest-sensitive revenues at current forward rates vs. FY 2022

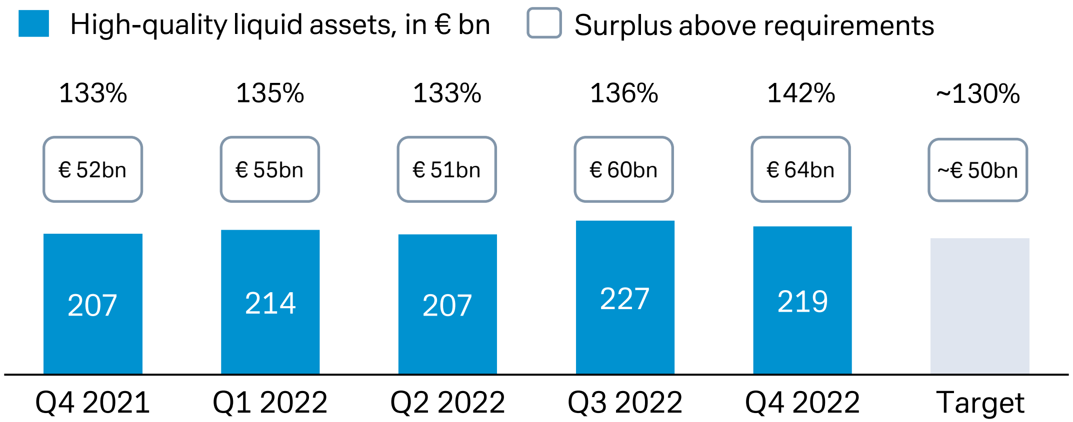


Division	Contribution to 2022 – 2025 CAGR net of funding impacts[2]
Corporate Bank	~2%
Investment Bank	~0%
Private Bank	~2.5%
Group	**~1.5%**

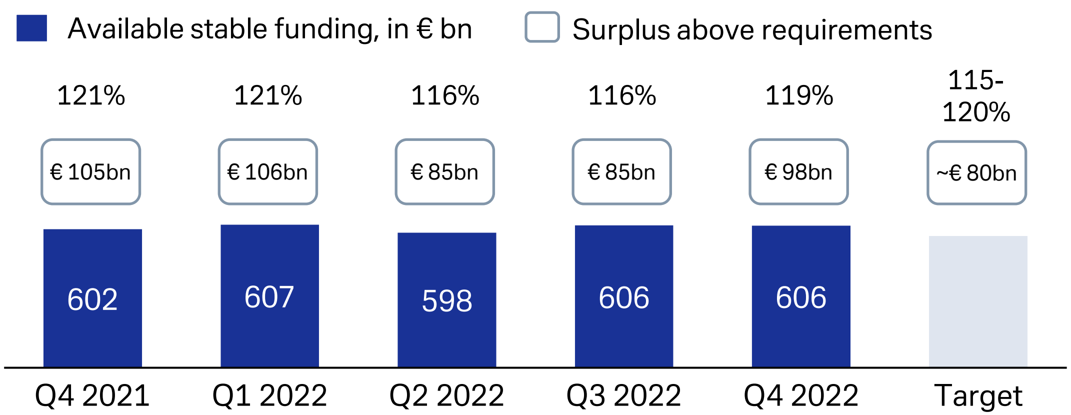
[1] Market-implied forward rates as of January 20, 2023, based on planned funding stack and income from static asset side; excludes impact of loan book growth
[2] Driven by TLTRO roll-off, spreads on capital markets issuance, cross-currency and funding basis on cash reserves and FX/XCCY swaps and yield on liquidity reserves

Strong liquidity position

Liquidity coverage ratio[1]



Net stable funding ratio[2]



Comments

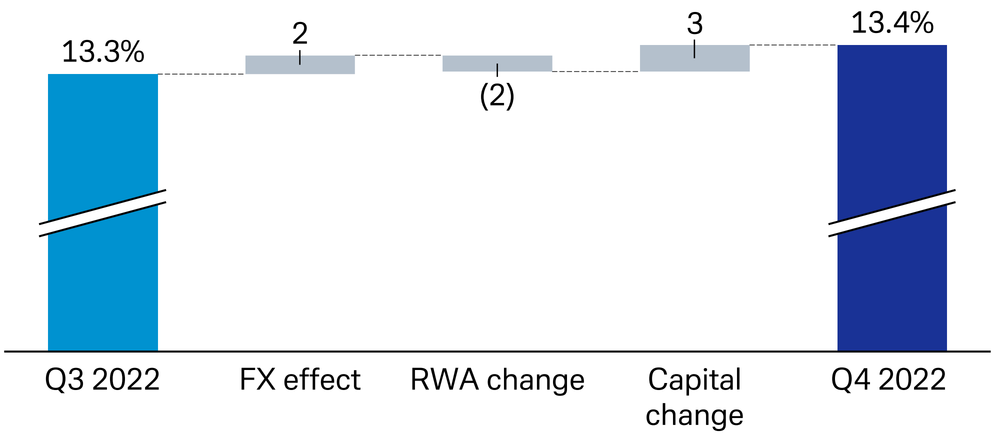
- Robust daily average LCR at 130% during the fourth quarter in line with targeted level
- LCR increased quarter on quarter, mainly driven by strong year-end client cash balances and significantly lower net cash outflows
- Net stable funding ratio at targeted level
- TLTRO funding being gradually replaced by covered bonds and deposit growth
- Diversified and stable funding benefits from
  - Solid domestic deposit franchise
  - Longer-dated capital market issuances

[1] Liquidity coverage ratio and high-quality liquid assets based on weighted EUR amounts in line with Commission Delegated Regulation 2015/61 as amended by Regulation 2018/1620
[2] Preliminary Q4 2022 net stable funding ratio and available stable funding based on weighted EUR amounts in line with Regulation 575/2013 as amended by Regulation 2019/876

CET1 ratio remains above 13%

Period end

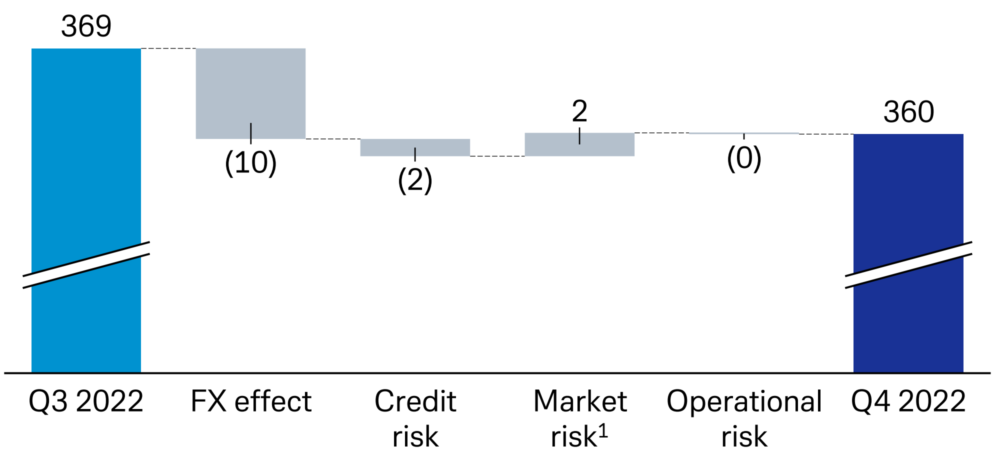
CET1 ratio, movements in basis points



Comments

- CET1 ratio up by 3bps compared to Q3 2022:
  - 2bps from FX movement effects
  - (2)bps from RWA changes, reflecting higher market risk RWA, partly offset by net reductions in credit risk RWA
  - 3bps from capital changes, with strong Q4 2022 earnings largely offset by dividend/AT1 deduction and DTA deduction

Risk-weighted assets, in € bn



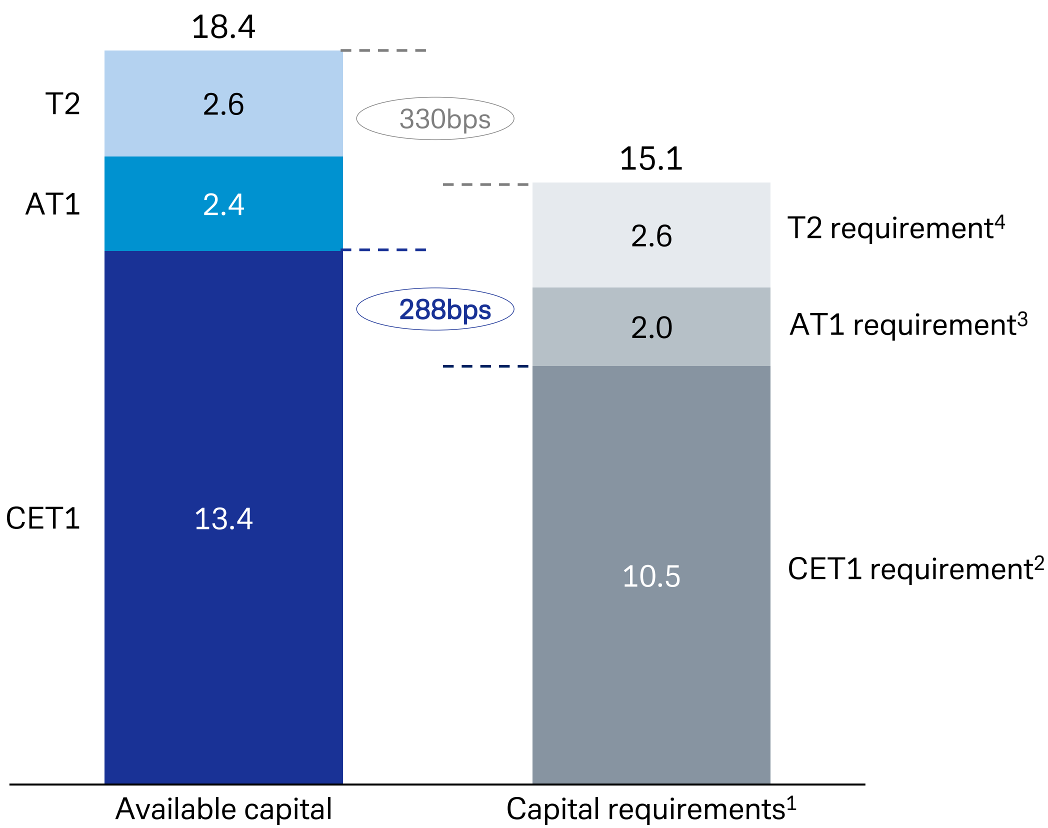
Comments

- RWA decreased by € (9)bn as compared to Q3 2022 (including FX impact) mainly due to:
  - € (10)bn from FX movement effects
  - € (2)bn in credit risk driven by regulatory model changes more than offset by reductions in Investment Bank and Corporate Bank from tight management
  - € 2bn in market risk principally from increase in SVaR

[1] Including credit valuation adjustment (CVA) RWA

Capital ratios well above regulatory requirements

In % of RWA, unless stated otherwise, period end



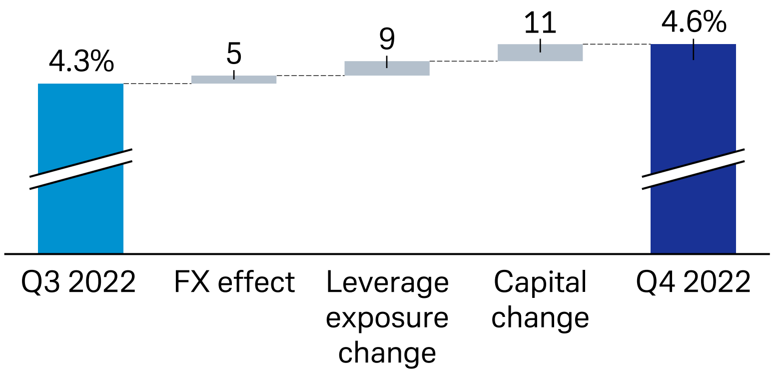
Comments

- Buffer to CET1 requirement of 288bps or € 10bn, down 1bp quarter on quarter, reflecting a higher CET1 ratio and countercyclical capital buffer requirement
- Buffer to total capital requirement at 330bps, up 26bps, with € 1.25bn AT1 issuance in Q4 2022 and lower RWA, partially offset by higher Tier 2 maturity haircuts
- CET1 requirement increased by ~60bps on February 1, 2023:
  - Higher Pillar 2 requirement (~20bps of which 11bps CET1), principally from ECB assessment of leveraged finance activities
  - Introduction of German countercyclical buffer (~30bps) and German systemic risk buffer for residential mortgages (~20bps)
  - Pro-forma buffer over Q1 2023 CET1 requirements of € 8bn

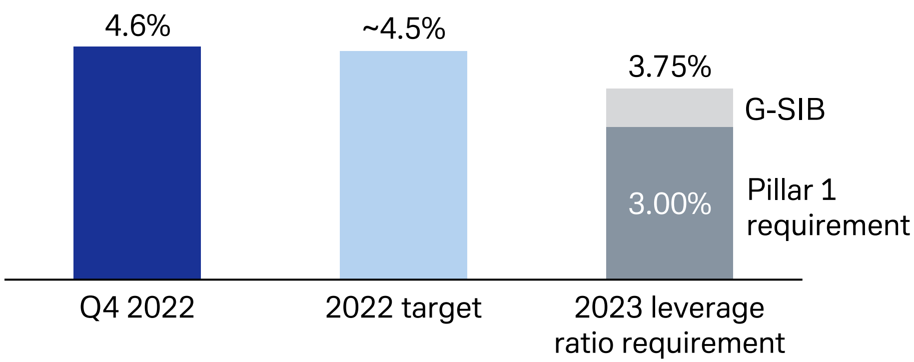
1 Maximum distributable amount (MDA)
2 CET1 requirement includes Pillar 1 requirement (4.50%), Pillar 2 requirement (1.41%), capital conservation buffer (2.50%), G/D-SIB buffer (2.00%), countercyclical capital buffer (0.07%)
3 AT1 requirement includes higher Pillar 1 requirement (6.00%) and Pillar 2 requirement (1.88%) compared to footnote 2 on this page
4 Total capital requirement includes higher Pillar 1 requirement (8.00%) and Pillar 2 requirement (2.50%) compared to footnotes 2 and 3 on this page

Leverage ratio in line with target

In € bn, except movements (in bps), period end



	Q3 2022	FX effect	Leverage exposure change	Capital change	Q4 2022
Tier 1 capital	56.5	(1.2)	-	1.4	56.6
Leverage exposure	1,310	(43)	(26)	-	1,240

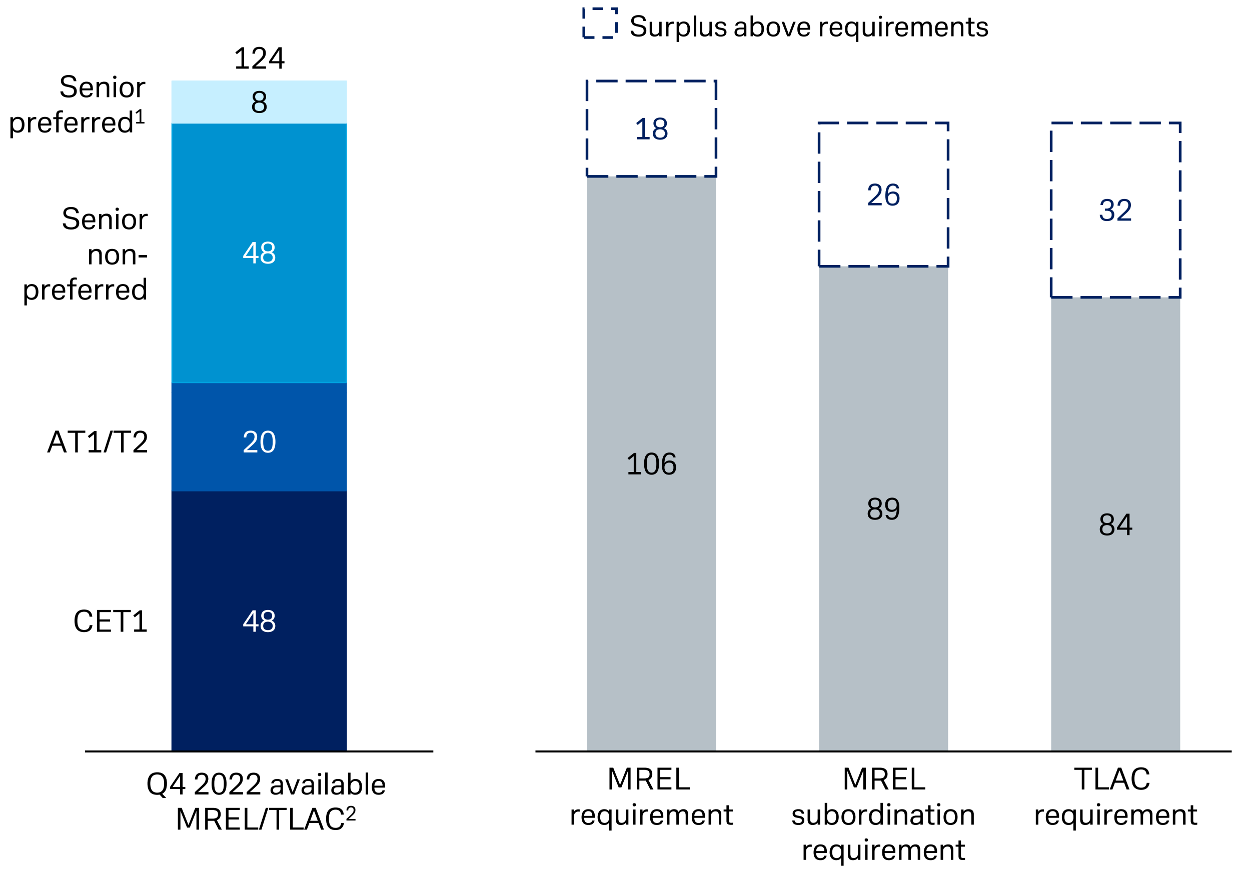


Comments

- Leverage ratio of 4.6%, in line with 2022 target of ~4.5% and a 25bps increase vs. Q3 2022:
  - 5bps from FX movement effects
  - 9bps from leverage exposure, mainly driven by seasonally lower trading activities
  - 11bps Tier 1 capital change, principally driven by CET 1 capital accretion and AT1 issuance in November 2022

Significant buffer over MREL/TLAC requirements

Loss-absorbing capacity, in € bn, period end



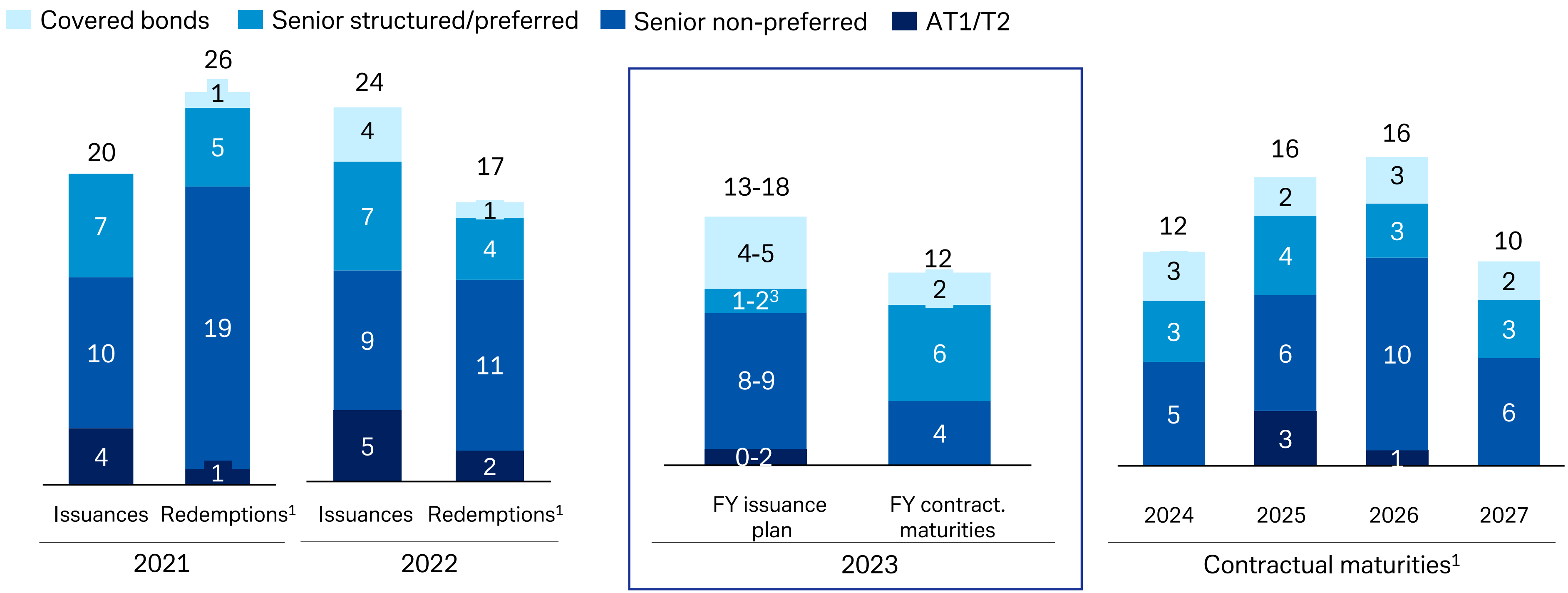
Comments

- Q4 2022 loss-absorbing capacity significantly above all regulatory requirements, with MREL remaining most binding constraint
- € 18bn MREL surplus, a € (2)bn impact quarter on quarter
  - ~€ (4)bn impact from lower available MREL/TLAC
  - ~€ 3bn impact from lower RWA-based MREL requirement
- Introduction of German countercyclical buffer and systemic risk buffer in Q1 2023 together with expected new MREL requirement reduces MREL surplus by ~€ 3bn (pro-forma)

[1] Plain vanilla instruments and structured notes eligible for MREL
[2] Includes adjustments to regulatory Tier 2 capital; available TLAC/subordinated MREL does not include senior preferred debt

Issuance plan below prior year level

In € bn, unless stated otherwise



- € 4.8bn issued during Q4, taking full-year total to € 24bn
- 2022 issuance at upper end of guidance, excluding structured note issuance[2]
- Q4 activity focused on covered, senior preferred and AT1 issuances, including a € 1.25bn AT1 issuance to support the bank's balance sheet and lending franchise
- 2023 issuance plan of € 13-18bn, primarily senior non-preferred and covered bonds
- ~€ 4bn completed as per January 27, 2023, including inaugural Panda bond transaction

[1] Historical redemptions include non-contractual outflows (e.g., calls, knock-outs, buybacks) whereas (future) contractual maturities do not; contractual maturities for 2021 and 2022 were € 20bn and € 12bn, respectively
[2] As of December 31, 2022; € 7bn senior structured/preferred includes € 4.3bn structured notes issuance, not part of original issuance plan of € 15-20bn
[3] For 2023 this includes only senior preferred issuances

Summary and Outlook

- Strategic objectives through *Compete to win* have delivered a transformed bank
- Continued interest rate tailwind
- Disciplined risk management supports guidance for provision for credit losses to be essentially flat compared to 2022
- Strong CET1 ratio as step-off point to support growth and absorb future regulatory driven volatility
- Operating leverage delivered throughout *Compete to win* supports 2025 targets

Appendix

Current ratings

As of February 2, 2023

			Moody's Investors Services	S&P Global Ratings	Fitch Ratings	DBRS
Counterparty obligations (e.g., deposits/structured notes/ derivatives/swaps/trade finance obligations)			A1	A-[1]	A-	A (high)
Senior unsecured	Long-term	Preferred[2]	A1	A-	A-	A (low)
		Non-preferred	Baa1	BBB-	BBB+	BBB (high)
Tier 2			Baa3	BB+	BBB-	-
Additional Tier 1			Ba2	BB-	BB	-
Short-term			P-1	A-2	F2	R-1 (low)
Outlook			Stable	Stable	Positive	Positive

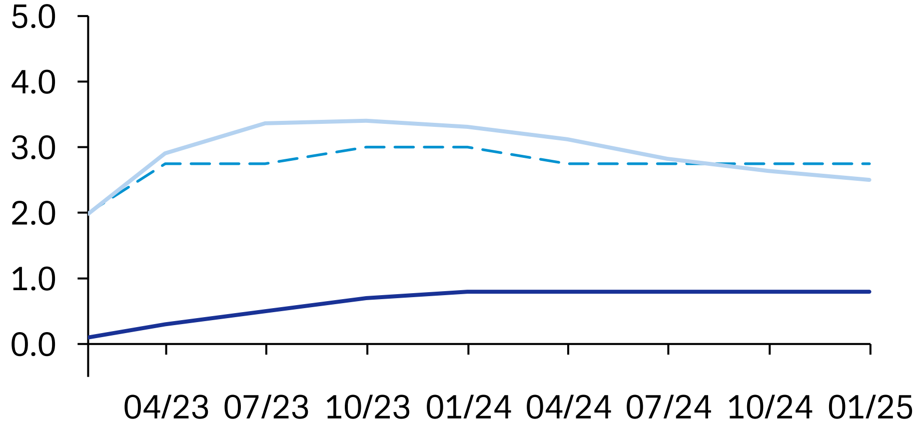
[1] The Issuer Credit Rating (ICR) is S&P's view on an obligor's overall creditworthiness; it does not apply to any specific financial obligation, as it does not take into account the nature of and provisions of the obligation, its standing in bankruptcy or liquidation, statutory preferences, or the legality and enforceability of the obligation

[2] Defined as senior unsecured debt rating at Moody's and S&P, as preferred senior debt rating at Fitch and as senior debt at DBRS

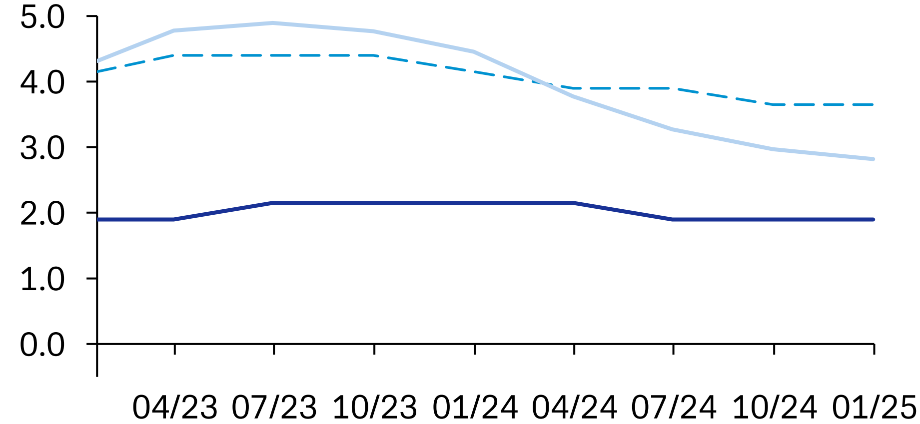
Evolution of market-implied interest rates

In %

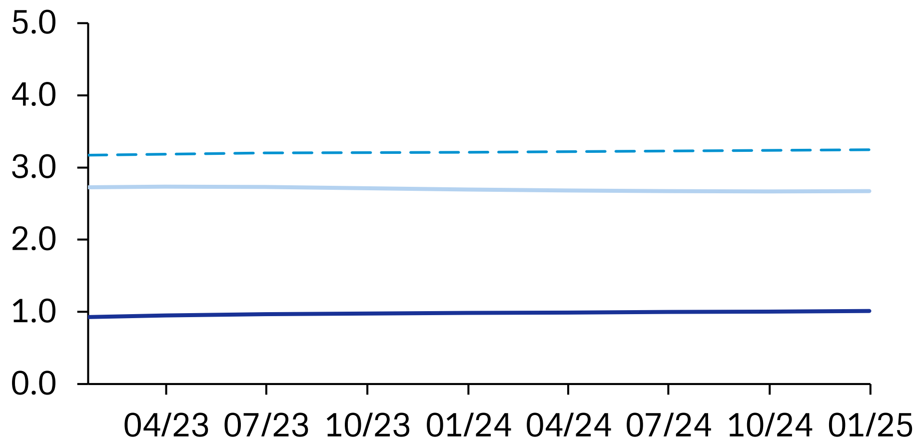
ECB deposit facility rate



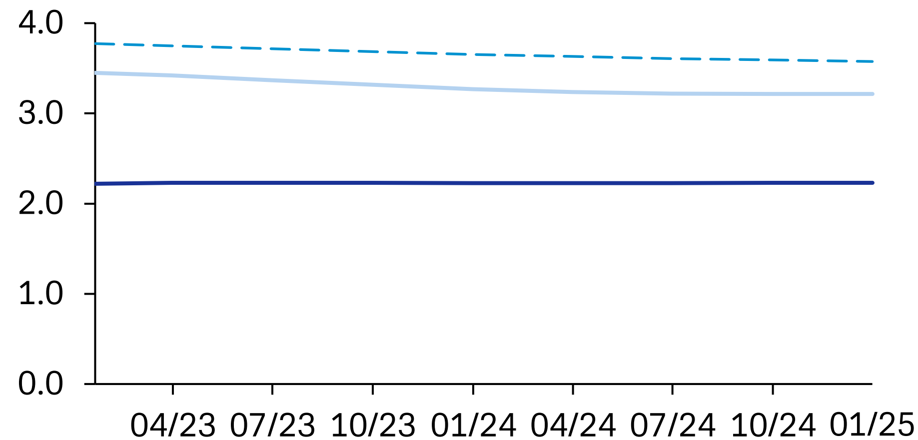
Federal Reserve interest on reserve balances



EUR 10-year swap rate



USD 10-year swap rate

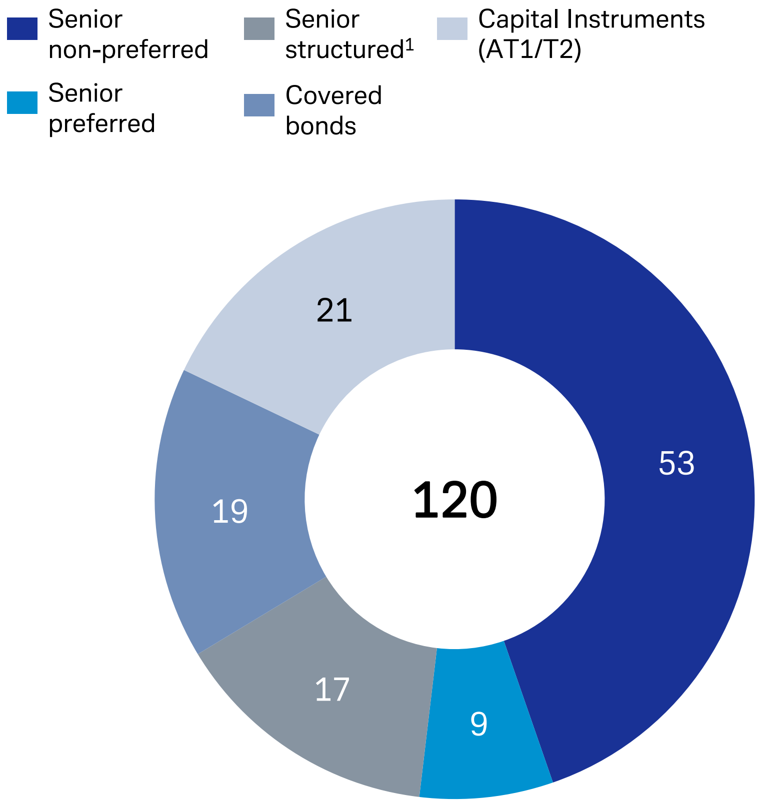


February 11, 2022 market-implied – per March 2022 Investor Deep Dive | September 30, 2022 market implied | January 20, 2023 market implied

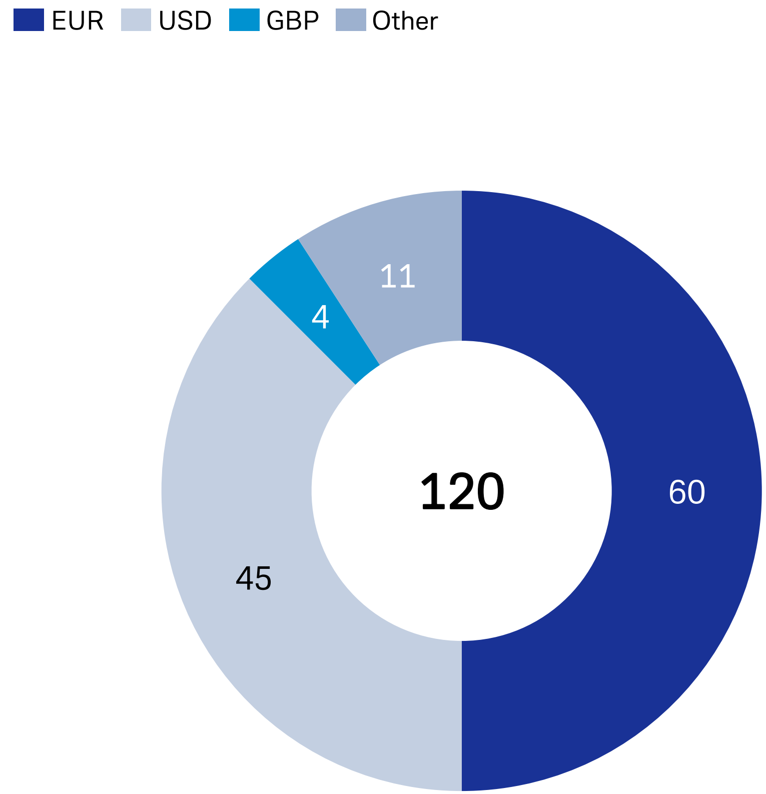
Additional funding disclosure

Q4 2022, capital markets issuance outstanding, in € bn

By product



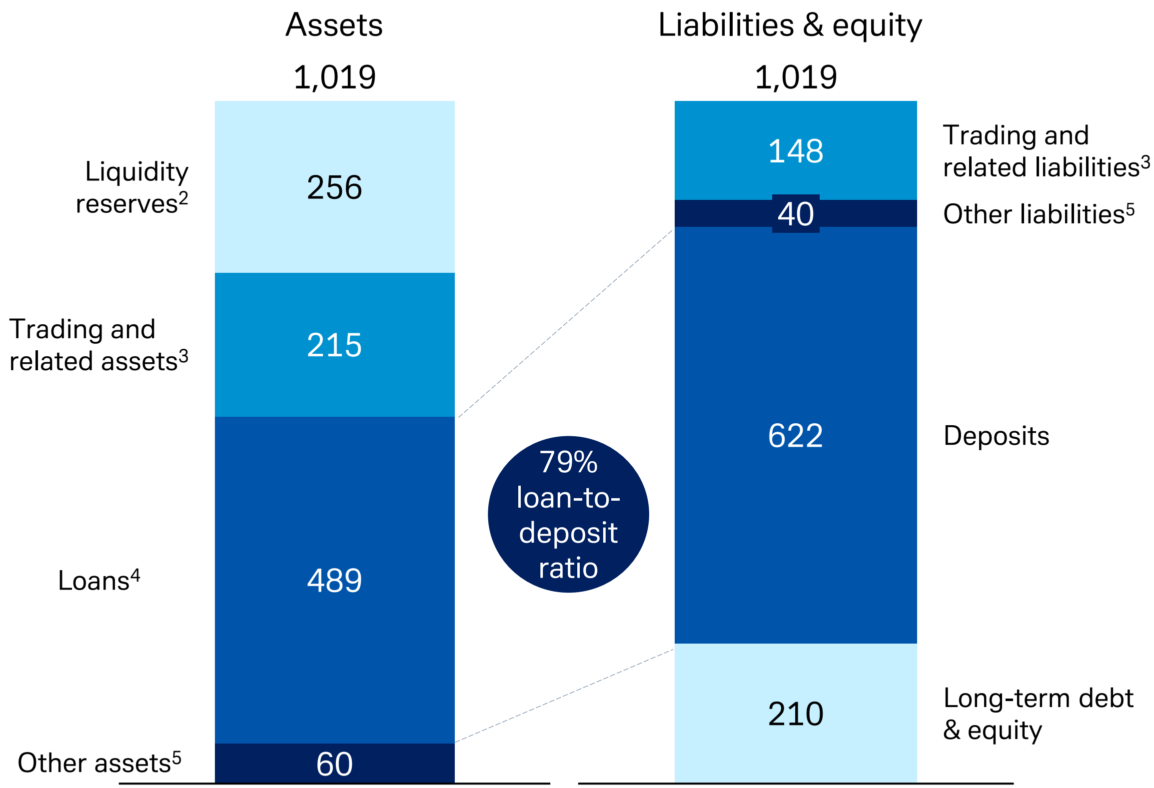
By currency



[1] Senior structured excludes new structured issuance off the FIC platform

Conservatively managed balance sheet

Net(1) in € bn, as of December 31, 2022



Comments

- Resilient balance sheet
- Liquidity reserves account for 25% of net balance sheet
- Conservative loan-to-deposit ratio provides room for further growth
- Highly diversified and stable funding profile with more than 60% of net balance sheet funded via deposits

1 Net balance sheet of € 1,019bn is defined as IFRS balance sheet (€ 1,337bn) adjusted to reflect the funding required after recognizing legal netting agreements (€ 231bn), cash collateral received (€ 43bn) and paid (€ 27bn), and offsetting pending settlement balances (€ 17bn)

2 Liquidity reserves comprise of total stock of high-quality liquid assets (HQLA), including assets subject to transfer restrictions and other central bank eligible securities

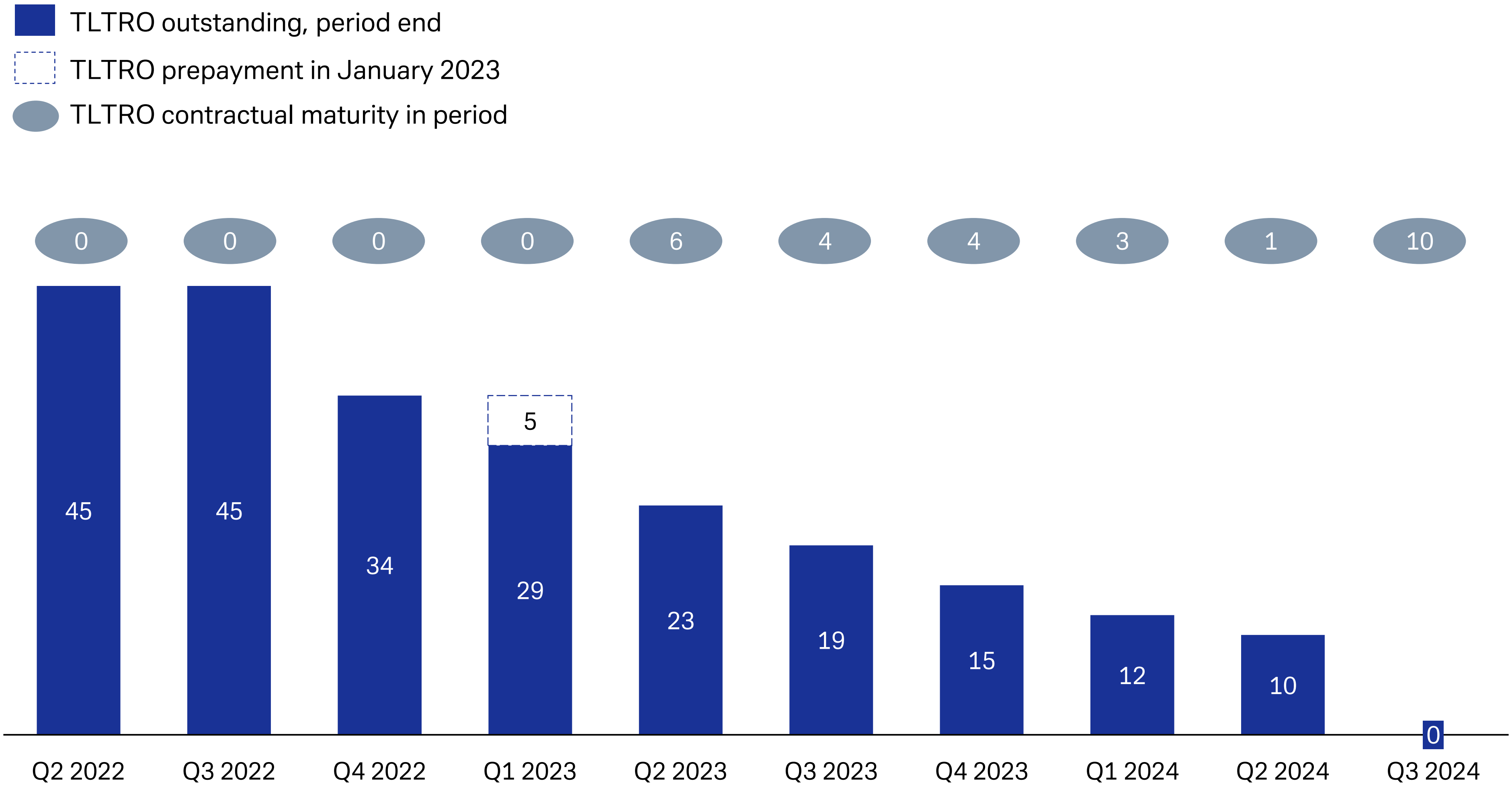
3 Trading and related assets along with similar liabilities, includes debt and equity securities (excluding highly liquid securities), derivatives, repos, securities borrowed and lent, brokerage receivables and payables, and loans measured at fair value

4 Loans at amortized cost, gross of allowances

5 Other assets include goodwill and other intangible, property and equipment, tax assets, cash and equivalents which are not part of liquidity reserve and other receivables. Other liabilities include accrued expenses, investment contract liabilities, financial liabilities designated at fair value through P&L excluding those included in trading and related assets

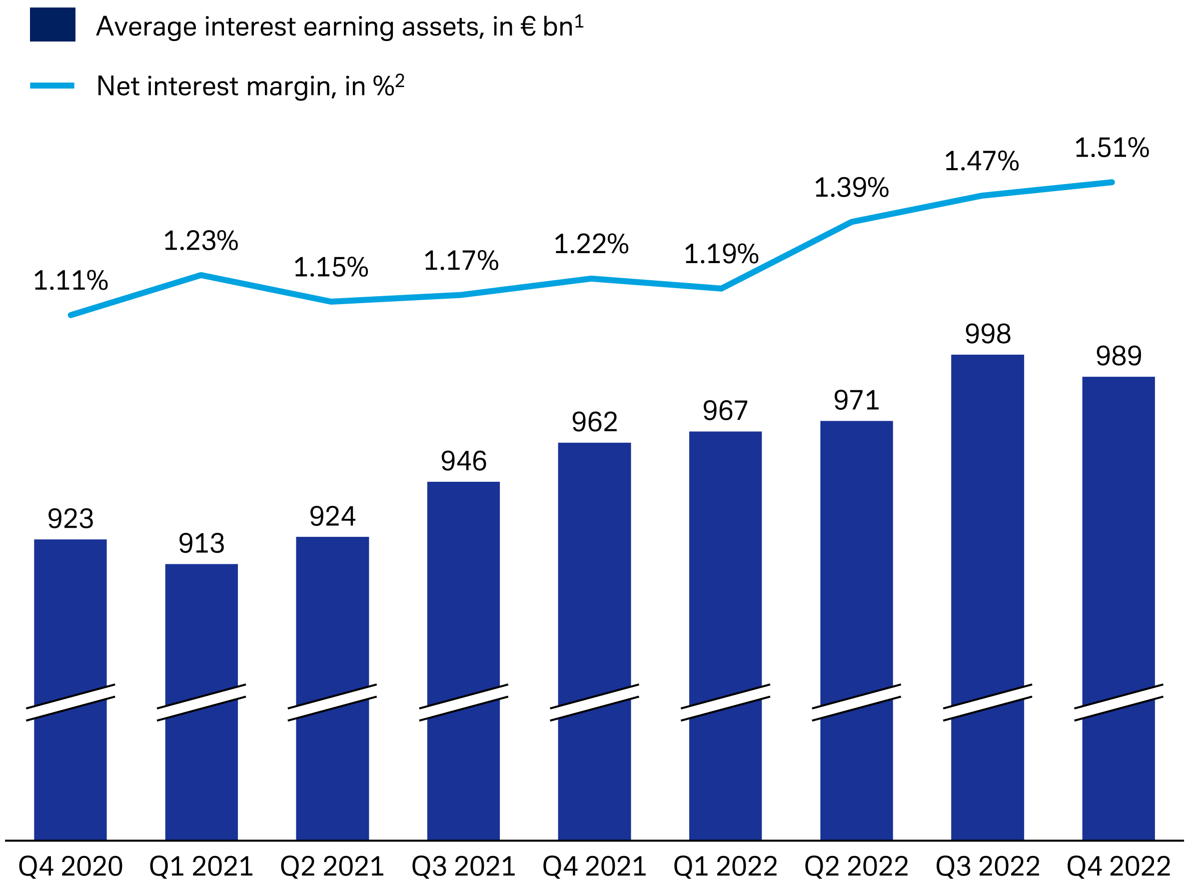
TLTRO development and forecast

In € bn



Net interest margin (NIM)

Evolution of Group NIM and average interest earning assets



Comments

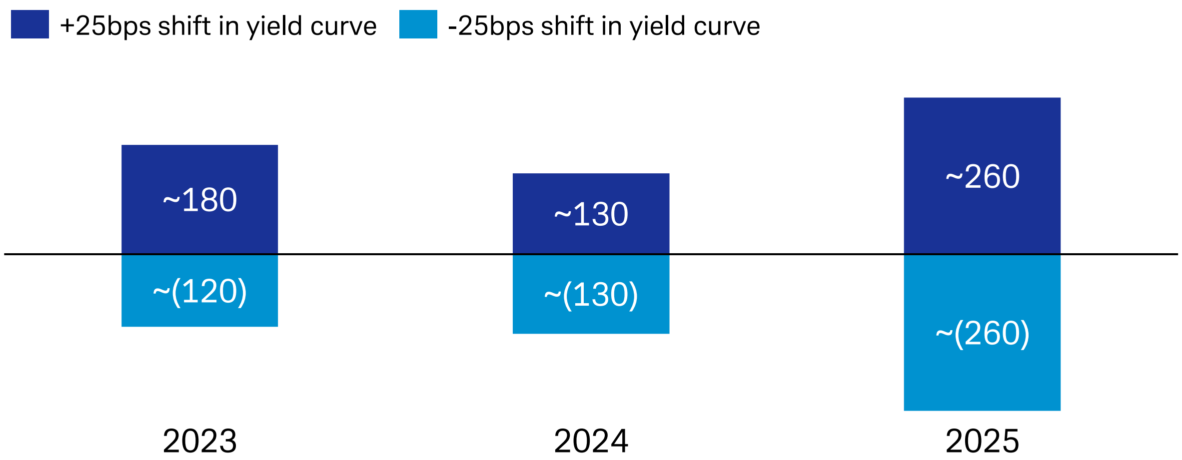
- NIM continues favorable trend driven by material EUR and USD rate rises in Q4 2022
- Strong underlying growth offset loss of one-off buyback benefits in Q3 2022
- NIM expected to stabilize as client rates normalize but will provide material year-on-year benefit
- Decrease in average interest earning assets in Q4 2022 driven by weaker USD in December and partial prepayment of TLTRO

[1] Average balances for each quarter are calculated based upon month-end balances
[2] Reported net interest income expressed as a percentage of average interest earning assets

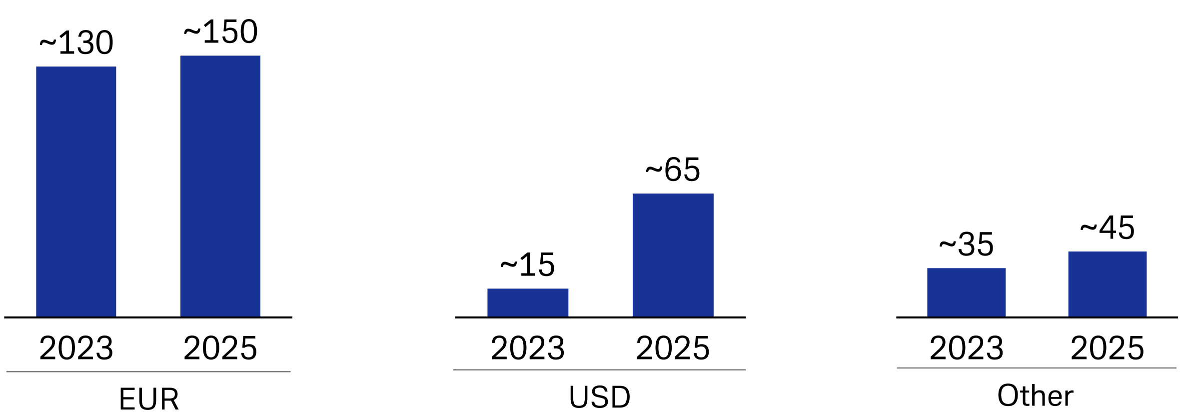
NII sensitivity shows incremental revenue upside

Hypothetical +/-25bps shift in yield curve, in € m

Net interest income (NII) sensitivity[1]



Breakdown of sensitivity by currency for +25bps shift in yield curve[1]



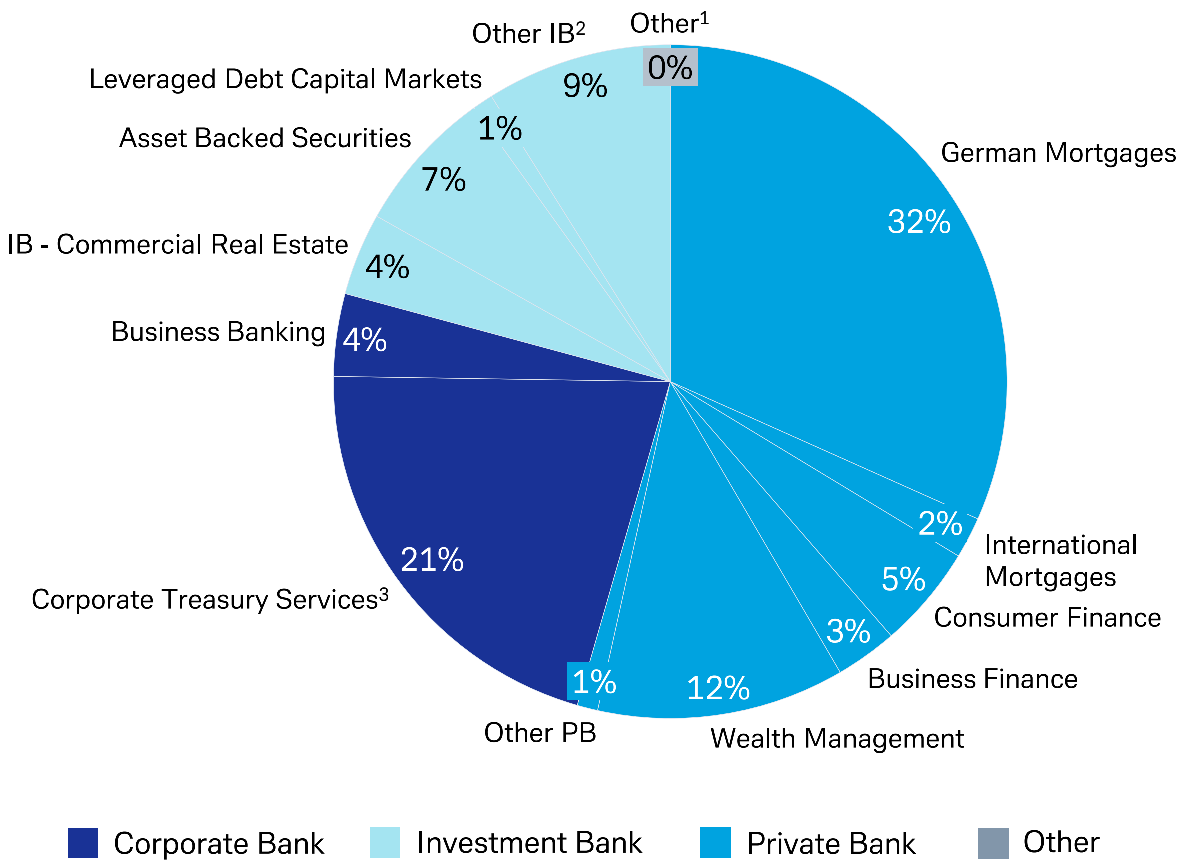
Comments

- NII increases with higher rates
- Longer term, the impact is dominated by higher EUR rates
- Sensitivity is high in 2023 as the rapid pace of increases in the market-implied curve temporarily amplifies the impact of incremental moves
- Current observations on client pricing indicate a higher than anticipated pricing lag, which would positively impact NII as well as temporarily increase NII sensitivity

[1] Based on a static balance sheet per November 2022 vs. current market-implied forward rates as of January 20, 2023

Loan book composition

Q4 2022, IFRS loans: € 489bn



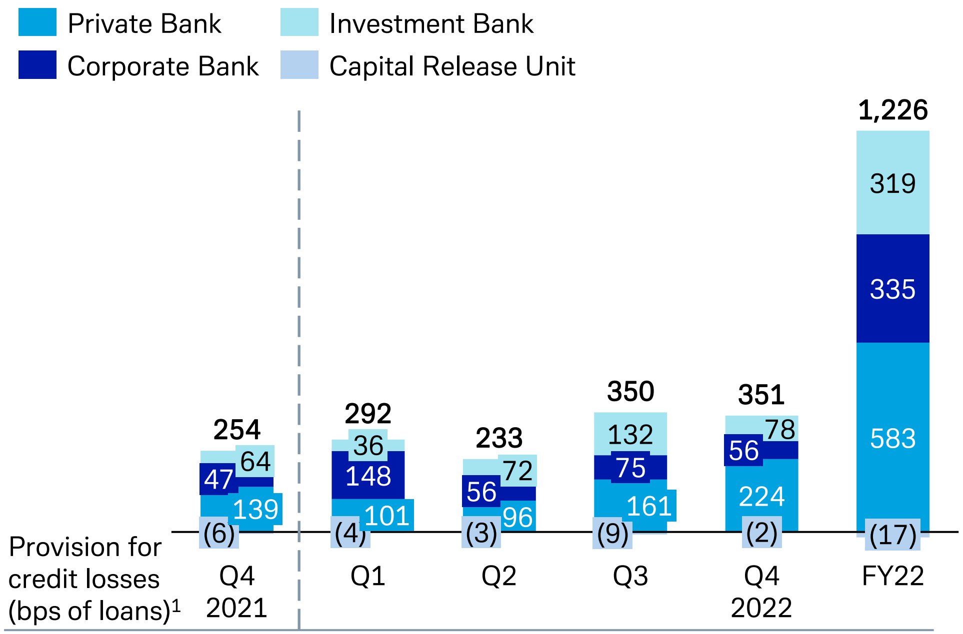
Comments

- Well diversified loan portfolio
- YTD FX impact on loan book is € 6.5bn
- 54% of loan portfolio in Private Bank, mainly consisting of retail mortgages in Private Bank Germany and collateralized lending in International Private Bank
- 25% of loan portfolio in Corporate Bank, predominantly in Corporate Treasury Services (Trade Finance & Lending and Cash Management); followed by Business Banking (SME clients in Germany)
- 21% of loan portfolio in Investment Bank, comprising well-secured, mainly asset backed loans, commercial real estate loans and collateralized financing; well-positioned to withstand downside risks due to conservative underwriting standards and risk appetite frameworks limiting concentration risk

Note: Loan amounts are gross of allowances for loans
[1] Mainly includes Corporate & Other, Institutional Client Services in the Corporate Bank and Capital Release Unit
[2] Other businesses with exposure less than 2% each, including APAC Commercial Real Estate
[3] Includes Strategic Corporate Lending and recourse & non-recourse Commercial Real Estate business

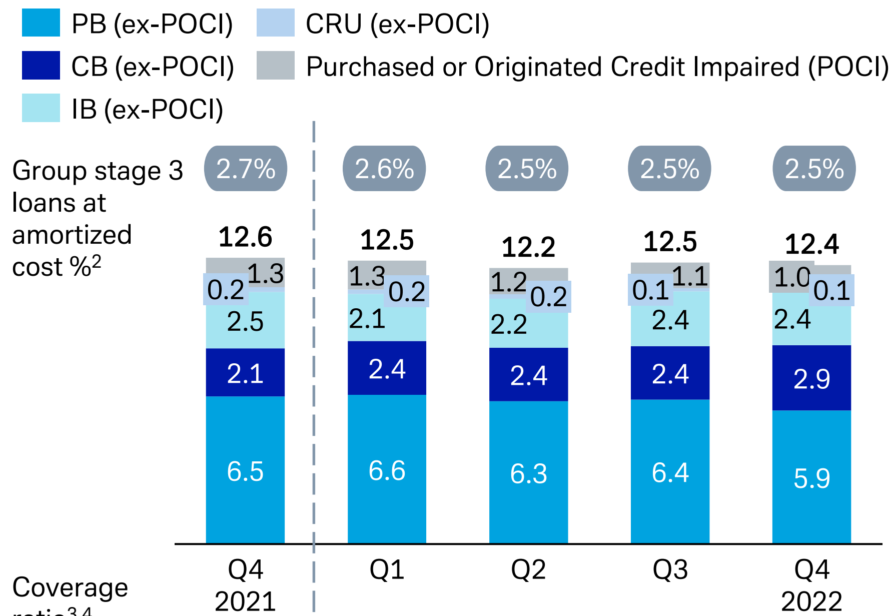
Provision for credit losses and stage 3 loans

Provision for credit losses, in € m



Provision for credit losses (bps of loans)[1]	Q4 2021	Q1	Q2	Q3	Q4 2022	FY22
Group	22	24	19	28	28	25
CB	16	48	18	24	18	27
IB	30	15	30	52	30	32
PB	22	16	15	24	34	22

Stage 3 at amortized cost, in € bn



Coverage ratio[3,4]	Q4 2021	Q1	Q2	Q3	Q4 2022
Group	33%	33%	33%	33%	32%
CB	43%	42%	40%	42%	33%
IB	14%	16%	16%	21%	21%
PB	37%	36%	36%	36%	37%

Note: Provision for credit losses in the Corporate & Other and Asset Management segments are not shown on this chart but are included in Group totals

1 Quarterly provision for credit losses annualized as basis points of average quarterly loans gross of allowance at amortized cost

2 IFRS 9 stage 3 assets at amortized cost including POCI as % of loans at amortized cost (€ 489bn as of December 31, 2022)

3 IFRS 9 stage 3 allowance for credit losses for assets at amortized cost excluding POCI divided by stage 3 assets at amortized cost excluding POCI

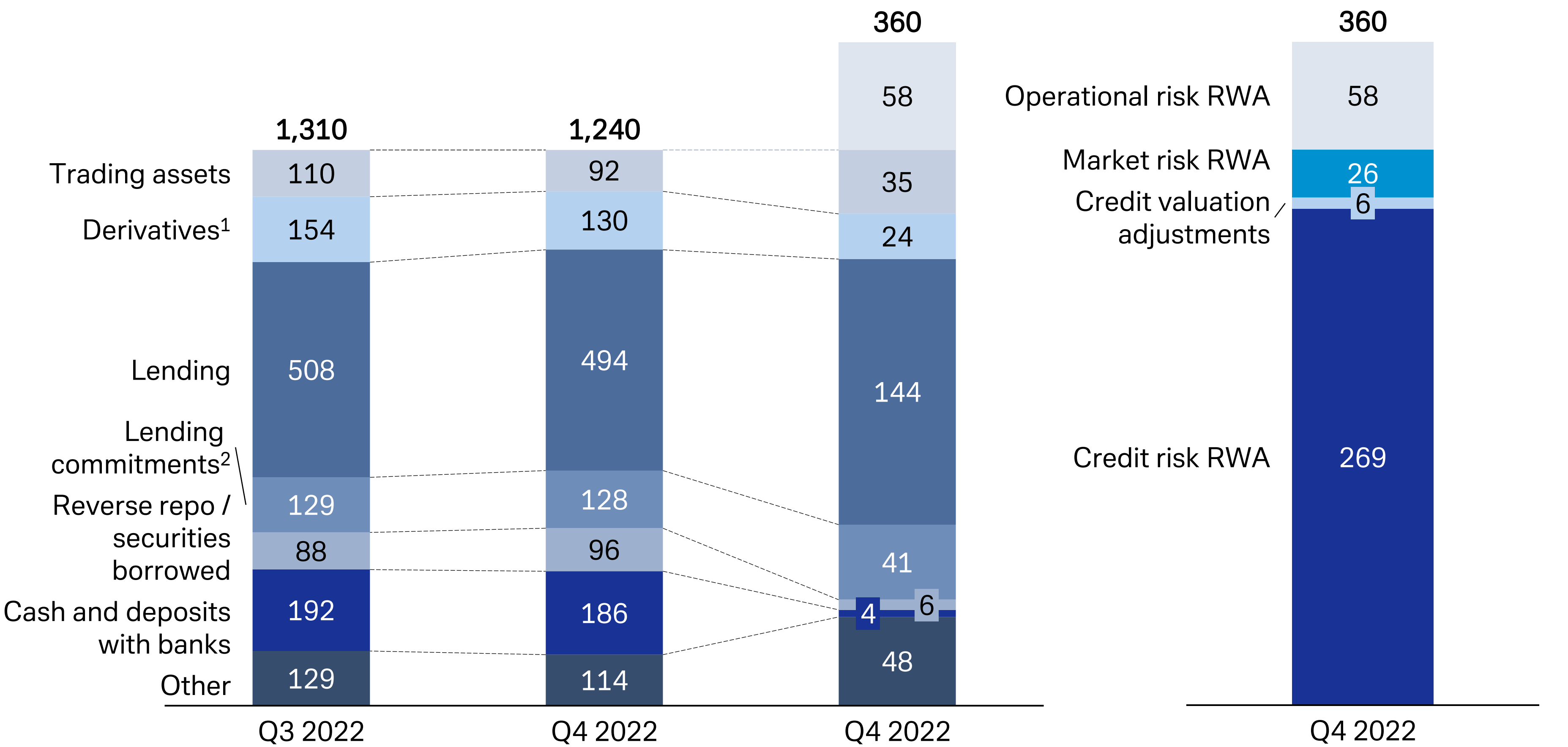
4 IFRS 9 stage 1 coverage ratio for assets at amortized cost (excluding country risk allowance) is 0.1% and IFRS 9 stage 2 coverage ratio for assets at amortized cost (excluding country risk allowance) is 1.4% as of December 31, 2022

Leverage exposure and risk-weighted assets

CRD4, in € bn, period end

Leverage exposure

Risk-weighted assets



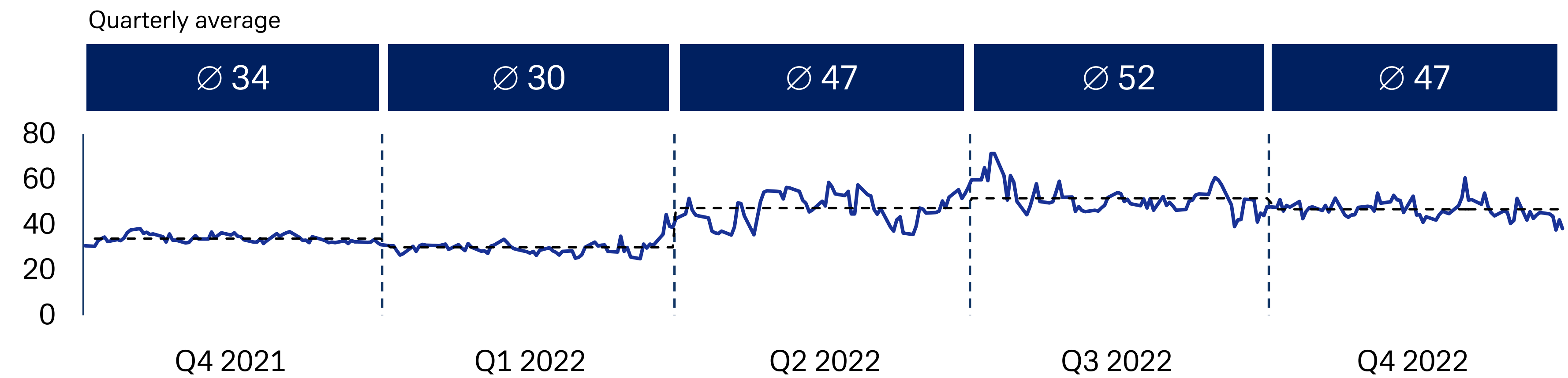
[1] Excludes any derivatives-related market risk RWA, which have been fully allocated to non-derivatives trading assets

[2] Includes contingent liabilities

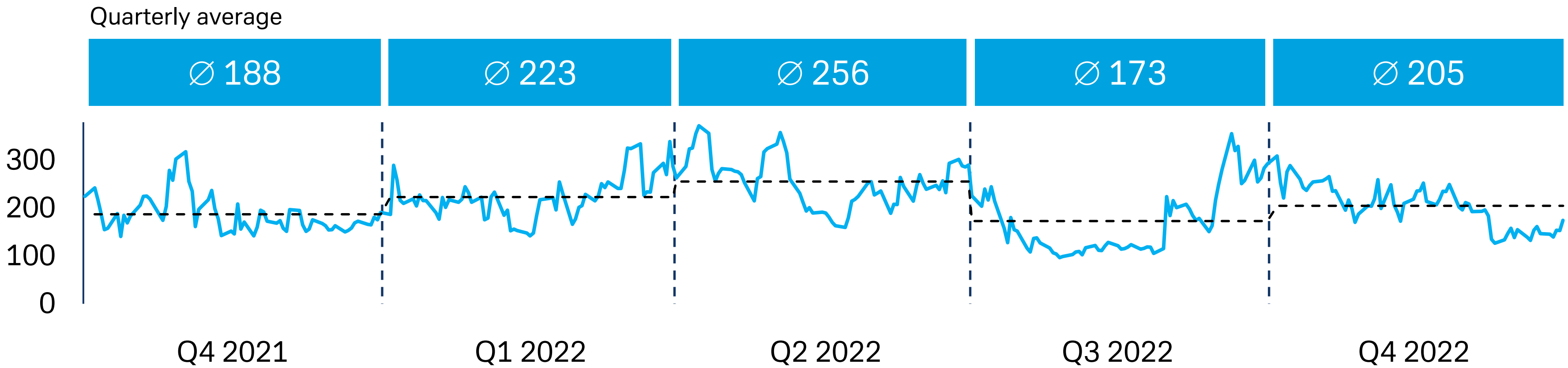
Value-at-Risk/stressed Value-at-Risk (VaR/sVaR)

In € m, unless stated otherwise

VaR, DB Group Trading book, 99%, 1 day



Stressed VaR, DB Group Regulatory scope, 99%, 10 days



Sustainability at Deutsche Bank

Q4 2022 highlights

Our key focus areas	Recent achievements
Sustainable Finance	— Increase of cumulative volumes in sustainable financing and investment by € 18bn to € 215bn[1], reaching our three-year-target, announced 2020 — Deal highlights: Deutsche Bank acted as structuring advisor and joint lead manager on New Zealand's inaugural € 1.8bn Green Bond (IB O&A) and as sustainability bond structuring advisor, joint bookrunner and marketing coordinator on State Street Corporation's inaugural € 504m sustainability bond offering (IB O&A) — Corporate Bank supported Knorr-Bremse in integrating sustainability aspects into its Supply Chain Finance (SCF) program and won two SCF Community Awards 2022 for the sustainability-linked SCF Program of Henkel
Policies & Commitments	— Deutsche Bank announced net zero aligned targets for 2030 and 2050 in four carbon-intensive sectors representing a core element of its commitment as a founding member of the Net Zero Banking Alliance (NZBA) — Published its annual Green Financing Instruments Report 2021/2022 incl. renewed Second Party Opinion (SPO)
People & Own Operations	— Deutsche Bank achieved externally communicated targets on its own operations (e.g., energy reduction (H1 2022 reported of 21% vs. 2025 target of 20%), renewable electricity (YE 2022 reported of 95% vs. 2025 target of 100%)) — Established a Net Zero Alignment Forum to assess carbon-intense transactions, client transition strategies and respective impact on the bank's financed emissions — Launched a "Sustainability Hub" internally in December as single point of access to all ESG activities in Deutsche Bank
Thought Leadership & Stakeholder Engagement	— Deutsche Bank was represented at the UN Climate Change Conference (COP27) in collaboration with the Resilience Hub — Joined the Glasgow Financial Alliance for Net Zero (GFANZ) private finance working group supporting Egypt's ambition under its Nexus for Water, Food & Energy initiative as well as GFANZ working group to support mobilization of private capital for Indonesia's Just Energy Transition Partnership, co-led by the US and Japan — DB's Investment Bank and International Private Bank published a paper on the power of UNFCCC REDD+[2] Sovereign Carbon

We support all the major international standards and guidelines:

Sustainable Development Goals
International Bill of Human Rights
Guiding Principles for Business and Human Rights
UNEP FI Principles for Responsible Banking

Paris Pledge for Action

EU Transparency Register

Core Labor Standards of the International Labor Organization

Global Reporting Initiatives

Environmental and Social Performance Standards

Partnership for Carbon Accounting Financials

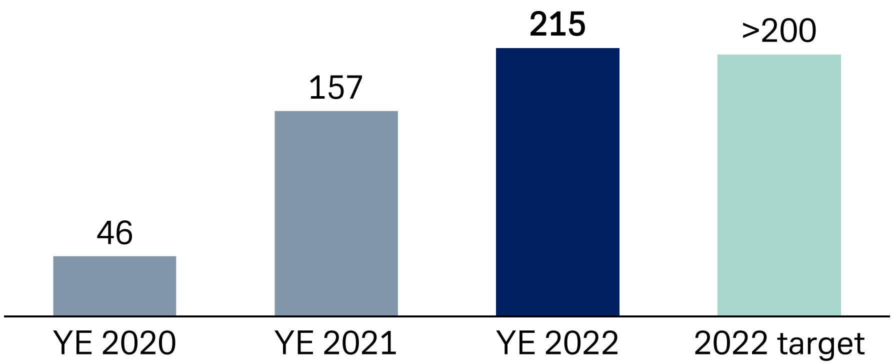
[1] Cumulative sustainable financing and investing volumes since 2020, as of December 31, 2022; defined in Deutsche Bank's Sustainable Finance Framework, which is published on our website; given the cumulative definition of our target, in cases where validation against the Framework cannot be completed in the reporting quarter, volumes may be disclosed in the subsequent quarters after the validation completion

[2] United Nations Framework Convention on Climate Change; reducing emissions from deforestation and forest degradation in developing countries

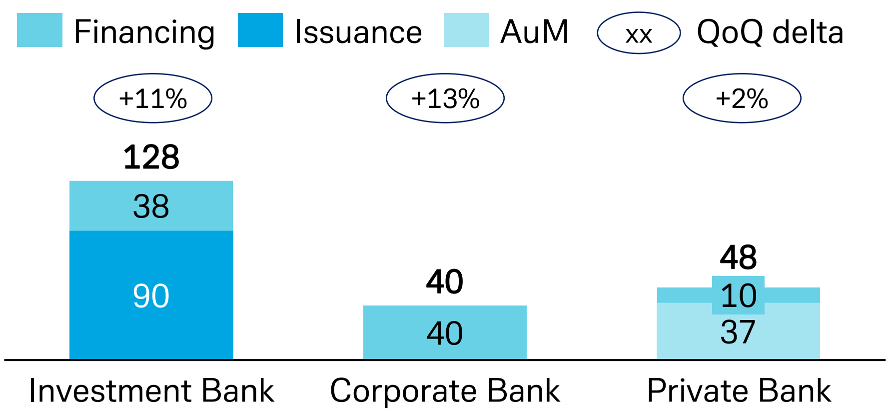
Sustainable Finance volume target for 2022 exceeded

In € bn, cumulative since 2020

Sustainable Finance[1] volumes vs. target



Reported volumes by business and product type



Key sustainability highlights

- Importance of sustainability continues to grow in management and businesses' agenda
- Overachieved Sustainable Finance volume target for 2022
- Created Chief Sustainability Office responsible for driving ESG strategy
- Released glide path to net zero for most CO_2-emission-heavy industry sectors

[1] Sustainable financing and investment activities as defined in Deutsche Bank's Sustainable Finance Framework, which is published on our website; given the cumulative definition of our target, in cases where validation against the Framework cannot be completed in the reporting quarter, volumes may be disclosed in the subsequent quarters after validation completion

Deutsche Bank's performance in leading ESG ratings

Overview of core ESG ratings as of December 31, 2022

Rating agency	ESG rating criteria (weighting)	Score range (best to worst)	Rating score DB	Rating development
MSCI	– Environment (15%) – Social (50%) – Governance (35%)	AAA to CCC	**A**	Stable at A
SUSTAINALYTICS	– Corporate Governance (12.9%) – Business Ethics (42%) – Data Privacy & Security (15.5%) – Product Governance (7.5%) – ESG Integration-Financials (7%) – Human Capital (6.7%) – Resilience (8.4%)	0 to 100; Negligible to Severe Risk	**27.9 Medium Risk**	Stable at Medium Risk
ISS ESG	– Staff and Suppliers (15%) – Society & Product Responsibility (25%) – Corporate Governance & Business Ethics (10%) – Environmental Management (5%) – Products & Services (42.5%) – Eco-efficiency (2.5%)	A+ to D-	**C**	Stable at C/Prime Status
S&P Global Sustainable1	– Environment (18%) – Social (33%) – Governance & Economic (49%)	100 to 0	**59**	Slightly score decrease
CDP	– Criteria related to climate change topics	A to D-	**B**	Stable total CDP score of B
ESG Index Listings	Dow Jones Sustainability Index Europe, FTSE4Good Index (World, Eurozone)			

Definition of certain financial measures

Revenues excluding specific items	Revenues excluding specific items are 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 as shown on slides 30 and 31
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 costs	Adjusted costs are 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 as shown on slides 30 and 31
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 7 July 2019 and certain costs related to incremental or accelerated decisions driven by the changes in our 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
Transformation-related effects	Transformation-related effects are financial impacts, in addition to transformation charges (as defined above), which are recorded outside of adjusted costs. These include goodwill impairments in the second quarter 2019, as well as restructuring and severance expenses from the third quarter 2019 onwards. In addition to the aforementioned pre-tax items, transformation-related effects on a post-tax basis include pro-forma tax effects on the aforementioned items and deferred tax asset valuation adjustments in connection with the transformation of the Group
Operating leverage	Operating leverage is calculated as the difference between year-on-year change in percentages of reported net revenues and year-on-year change in percentages of reported noninterest expenses

Specific revenue items and adjusted costs – Q4 2022

In € m

		Q4 2022								Q4 2021								Q3 2022							
		CB	IB	PB	AM	C&O	Core Bank	CRU	Group	CB	IB	PB	AM	C&O	Core Bank	CRU	Group	CB	IB	PB	AM	C&O	Core Bank	CRU	Group
Revenues		1,760	1,675	2,507	609	(225)	6,326	(12)	6,315	1,352	1,913	2,040	789	(199)	5,895	5	5,900	1,564	2,372	2,268	661	71	6,935	(17)	6,918
Specific revenue items	DVA - IB Other / CRU	-	(47)	-	-	-	(47)	(3)	(49)	-	8	-	-	-	8	1	9	-	91	-	-	-	91	2	93
	Sal. Oppenheim workout – IPB	-	-	5	-	-	5	-	5	-	-	3	-	-	3	-	3	-	-	110	-	-	110	-	110
	Gain on sale Financial Advisors business Italy – IPB	-	-	305[2]	-	-	305	-	305	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Revenues ex-specific items		1,760	1,722	2,196	609	(225)	6,062	(9)	6,053	1,352	1,905	2,037	789	(199)	5,884	4	5,888	1,564	2,280	2,158	661	71	6,734	(19)	6,715

		Q4 2022								Q4 2021								Q3 2022							
		CB	IB	PB	AM	C&O	Core Bank	CRU	Group	CB	IB	PB	AM	C&O	Core Bank	CRU	Group	CB	IB	PB	AM	C&O	Core Bank	CRU	Group
Noninterest expenses		978	1,483	1,631	500	411	5,003	187	5,189	1,074	1,535	1,955	452	185	5,200	364	5,564	991	1,423	1,660	476	196	4,746	208	4,954
Nonoperating costs	Impairment of goodwill and other intangible assets	-	-	-	68	-	68	-	68	2	-	-	-	-	2	-	2	-	-	-	-	-	-	-	-
	Litigation charges, net	11	56	(9)	9	134	202	25	227	(1)	63	(3)	1	(10)	49	106	155	7	(7)	14	3	(26)	(9)	54	45
	Restructuring & severance	(17)	12	(13)	23	2	8	2	9	59	46	134	11	1	250	1	251	6	21	(4)	5	2	30	0	30
Adjusted costs		984	1,414	1,652	399	275	4,725	160	4,885	1,015	1,426	1,824	440	195	4,899	256	5,155	977	1,409	1,650	468	220	4,724	154	4,878
Transformation charges[1]		3	-	19	-	-	22	-	22	23	23	80	0	59	185	19	204	4	-	28	-	-	32	-	32
Adjusted costs ex-transformation charges		981	1,414	1,633	399	275	4,703	160	4,863	992	1,403	1,744	439	136	4,714	237	4,951	973	1,409	1,622	468	220	4,692	154	4,846
Bank levies									15								3								11
Adjusted costs ex-transformation charges and bank levies									4,848								4,948								4,835

1 Defined on slide 29

2 Gain on sale of € 312m, net of transaction-related fees of € 6m

Specific revenue items and adjusted costs – FY 2022

In € m

		FY 2022								FY 2021							
		CB	IB	PB	AM	C&O	Core Bank	CRU	Group	CB	IB	PB	AM	C&O	Core Bank	CRU	Group
Revenues		6,335	10,016	9,155	2,608	(877)	27,238	(28)	27,210	5,151	9,631	8,234	2,708	(340)	25,384	26	25,410
Specific revenue items	DVA - IB Other / CRU	-	49	-	-	-	49	(6)	43	-	(28)	-	-	-	(28)	(2)	(30)
	Sal. Oppenheim workout – IPB	-	-	125	-	-	125	-	125	-	-	103	-	-	103	-	103
	Gain on sale Financial Advisors business Italy – IPB	-	-	305[2]	-	-	305	-	305	-	-	-	-	-	-	-	-
Revenues ex-specific items		6,335	9,968	8,725	2,608	(877)	26,759	(22)	26,737	5,151	9,660	8,132	2,708	(340)	25,309	28	25,337

		FY 2022								FY 2021							
		CB	IB	PB	AM	C&O	Core Bank	CRU	Group	CB	IB	PB	AM	C&O	Core Bank	CRU	Group
Noninterest expenses		3,949	6,196	6,593	1,836	893	19,468	922	20,390	4,143	5,831	7,433	1,664	1,002	20,073	1,432	21,505
Nonoperating costs	Impairment of goodwill and other intangible assets	-	-	-	68	-	68	-	68	5	-	-	-	-	5	-	5
	Litigation charges, net	23	166	(60)	24	122	274	139	413	2	99	134	2	1	236	230	466
	Restructuring & severance	(6)	44	(87)	37	5	(8)	2	(6)	111	87	237	21	7	464	6	470
Adjusted costs		3,933	5,986	6,740	1,708	767	19,134	781	19,915	4,025	5,645	7,062	1,641	995	19,368	1,195	20,564
Transformation charges[1]		16	-	116	-	-	132	-	132	58	60	221	3	603	945	57	1,003
Adjusted costs ex- transformation charges		3,917	5,986	6,624	1,708	767	19,001	781	19,782	3,967	5,585	6,841	1,638	391	18,423	1,138	19,561
Bank levies									762								553
Adjusted costs ex-transformation charges and bank levies									19,020								19,008

[1] Defined on slide 29

[2] Gain on sale of € 312m, net of transaction-related fees of € 6m

Pre-provision profit, CAGR and operating leverage

In € m, unless stated otherwise

	FY 2018[2]	FY 2019[2]	FY 2020	FY 2021	FY 2022	CAGR[3] 2018 - 2022
Net revenues						
Corporate Bank	5,278	5,247	5,146	5,151	6,335	4.7%
Investment Bank	7,561	7,023	9,286	9,631	10,016	7.3%
Private Bank	8,520	8,239	8,126	8,234	9,155	1.8%
Asset Management	2,187	2,332	2,229	2,708	2,608	4.5%
Corporate & Other	(142)	107	(534)	(340)	(877)	
Core Bank	23,405	22,948	24,253	25,384	27,238	3.9%
Capital Release Unit	1,911	217	(225)	26	(28)	
Group	25,316	23,165	24,028	25,410	27,210	1.8%
Noninterest expenses						
Corporate Bank	(3,882)	(4,877)	(4,235)	(4,143)	(3,949)	0.4%
Investment Bank	(6,509)	(6,397)	(5,418)	(5,831)	(6,196)	(1.2)%
Private Bank	(7,556)	(8,159)	(7,522)	(7,433)	(6,593)	(3.4)%
Asset Management	(1,735)	(1,711)	(1,526)	(1,664)	(1,836)	1.4%
Corporate & Other	(428)	(531)	(568)	(1,002)	(893)	
Core Bank	(20,110)	(21,675)	(19,269)	(20,073)	(19,468)	(0.8)%
Capital Release Unit	(3,351)	(3,400)	(1,947)	(1,432)	(922)	
Group	(23,461)	(25,076)	(21,216)	(21,505)	(20,390)	(3.4)%
Pre-provision profit[1]						**Operating leverage based on CAGR[4]**
Corporate Bank	1,396	369	911	1,008	2,386	4.2%
Investment Bank	1,052	626	3,868	3,800	3,820	8.5%
Private Bank	965	80	603	801	2,562	5.2%
Asset Management	452	621	703	1,044	771	3.1%
Corporate & Other	(570)	(424)	(1,102)	(1,343)	(1,770)	
Core Bank	3,295	1,272	4,984	5,311	7,769	4.7%
Capital Release Unit	(1,440)	(3,183)	(2,172)	(1,405)	(949)	
Group	1,855	(1,911)	2,812	3,905	6,820	5.3%

1 Pre-provision profit defined as net revenues less noninterest expenses
2 2018 figures based on reporting structure as disclosed in Annual Report 2020; 2019 figures based on reporting structure as disclosed in Annual Report 2021
3 Compound annual growth rates of revenues and noninterest expenses over the four years between 2018 and 2022
4 Operating leverage defined as the difference between compound annual growth rates of revenues and noninterest expenses over the four years between 2018 and 2022

Cautionary statements

The figures in this presentation are preliminary and unaudited. Our Annual Report 2022 and SEC Form 20-F are scheduled to be published on March 17, 2023.

Forward-looking statements

This presentation 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 11 March 2022 under the heading "Risk Factors." Copies of this document are readily available upon request or can be downloaded from investor-relations.db.com.

Non-IFRS financial measures

This presentation also contains non-IFRS financial measures. For a reconciliation to directly comparable figures reported under IFRS, to the extent such reconciliation is not provided in this presentation, refer to the Q4 2022 Financial Data Supplement, which is accompanying this presentation and available at investor-relations.db.com.

EU carve out

Results are prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board ("IASB") and endorsed by the European Union ("EU"), including application of portfolio fair value hedge accounting for non-maturing deposits and fixed rate mortgages with pre-payment options (the "EU carve-out"). Fair value hedge accounting under the EU carve-out is employed to minimize the accounting exposure to both positive and negative moves in interest rates in each tenor bucket thereby reducing the volatility of reported revenue from Treasury activities. For the three-month period ended December 31, 2022, application of the EU carve-out had a positive impact of € 304 million on profit before taxes and of € 227 million on profit. For the same time period in 2021, the application of the EU carve-out had a positive impact of € 148 million on profit before taxes and of € 102 million on profit. For the full-year 2022, application of the EU carve out had a positive impact of € 147 million on profit before taxes and of € 105 million on profit. For the same time period in 2021, the application of the EU carve out had a negative impact of € 128 million on profit before taxes and of € 85 million on profit. 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 full-year 2022, application of the EU carve-out had a positive impact on the CET1 capital ratio of about 3 basis points and a negative impact of about 2 basis points for the same time period in 2021. In any given period, the net effect of the EU carve-out can be positive or negative, depending on the fair market value changes in the positions being hedged and the hedging instruments.

ESG Classification

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

In Asset Management DWS introduced its ESG Product Classification Framework ("ESG Framework") in 2021 taking into account relevant legislation (including Regulation (EU) 2019/2088 – SFDR), market standards and internal developments. The ESG Framework is further described in the Annual report 2021 of DWS under the heading "Our Product Suite – Key Highlights / ESG Product Classification Framework" which is available at group.dws.com/ir/reports-and-events/annual-report/. There is no change in the ESG Framework in Q4 2022. DWS will continue to develop and refine its ESG Framework in accordance with evolving regulation and market practice.