



# Pillar 3 Report 2023

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# Regulatory framework

## Basis of Presentation

### **Article 431 (1), (2) CRR, 433 CRR and 433a CRR**

This Pillar 3 Report provides disclosures for the consolidated Deutsche Bank Group (the Group or the bank) as required by the global regulatory framework for capital and liquidity, which was established by the Basel Committee on Banking Supervision, also known as Basel 3.

In the European Union (EU), the Basel 3 framework is implemented by the amended versions of Regulation (EU) 575/2013 on prudential requirements for credit institutions (Capital Requirements Regulation or CRR) and the Directive (EU) 2013/36 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms (Capital Requirements Directive or CRD). As a single rulebook, the CRR is directly applicable to credit institutions in the European Union and provides the grounds for the determination of regulatory capital requirements, regulatory own funds, leverage and liquidity as well as other relevant requirements. In addition, the CRD was implemented into German law by means of further amendments to the German Banking Act (Kreditwesengesetz or KWG) and the German Solvency Regulation (SolvV) and accompanying regulations. Jointly, these laws and regulations represent the regulatory framework applicable in Germany.

The disclosure requirements are provided in Part Eight of the CRR and in Section 26a of the KWG. Further disclosure guidance has been provided by the European Banking Authority (EBA) in its “Final draft implementing technical standards on public disclosures by institutions of the information referred to in Titles II and III of Part Eight of Regulation (EU) No 575/2013” (EBA ITS). The Group adheres to the frequency of disclosure requirements as per Article 433 and 433a of the CRR and as provided within these EBA Guidelines and includes comparative periods in accordance with the requirements of EBA ITS. For those disclosures required only on an annual basis, the comparative period is the prior year. For those disclosures only required on a semi-annual basis, the comparative period is the prior half-year. Disclosures required on a quarterly basis generally include comparative information for prior quarter.

The information provided in this Pillar 3 Report is unaudited. Numbers presented throughout this document may not add up precisely to the totals and percentages may not precisely reflect the absolute figures due to rounding.

## Disclosure governance

### **Article 431 (3), 432 and 434CRR**

The Group's Pillar 3 Report is in compliance with the legal and regulatory requirements described above and is prepared in accordance with the Group's internal policies, processes, systems and internal controls as defined by the Group's risk disclosure key operating document (KOD). In line with the Group's KOD, a dedicated process is followed if the Group omits certain disclosures due to the disclosures being immaterial, proprietary or confidential. If the Group classifies information as immaterial in the Pillar 3 Report, this is stated accordingly in the related disclosures. The Group's Management Board approved this Pillar 3 Report for publication and affirmed that Deutsche Bank has complied with the requirements under Article 431 (3) CRR.

Based upon the Group's assessment and verification it also believes the risk and regulatory disclosures presented throughout this Pillar 3 Report appropriately and comprehensively convey the Group's overall risk profile as of December 31, 2023.

This Pillar 3 Report is published on the bank's website at [db.com/ir/en/regulatory-reporting.htm](https://www.db.com/ir/en/regulatory-reporting.htm).

In addition, the bank's website includes a description of the main features of the Group's capital instruments as well as its senior non-preferred subordinated eligible liabilities instruments eligible for subordinated minimum requirement for own funds and eligible liabilities (MREL) and total loss absorbing capacity (TLAC), to the extent that these do not constitute private placements and are treated confidentially ([db.com/ir/en/capital-instruments.htm](https://www.db.com/ir/en/capital-instruments.htm)).

### **Article 435 (1)(e) CRR (EU OVA)**

Deutsche Bank's Management Board confirms, for the purpose of Article 435 CRR, that the bank's risk management arrangements are adequate for its risk profile and strategy, and that the bank maintains appropriate resources to implement selected enhancements.

## Basel 3 and CRR/CRD

The CRR/CRD lays the foundation for the calculation of the minimum regulatory requirements with respect to own funds and eligible liabilities, the liquidity coverage ratio and the net stable funding ratio.

There is still uncertainty as to how some of the CRR/CRD rules should be interpreted and there are still related binding Technical Standards for which a final version is not yet available. Thus, the Group will continue to refine assumptions and models in line with evolution of these regulations as well as the industry's understanding and interpretation of the rules. Against this background, current CRR/CRD measures may not be comparable to previous expectations. Also, CRR/CRD measures may not be comparable with similarly labeled measures used by competitors, as their assumptions and estimates may differ from Deutsche Bank's.

## MREL and TLAC

Banks in the European Union are required to meet at all times a minimum requirement for own funds and eligible liabilities (MREL) which ensures that banks have sufficient loss absorbing capacity in resolution to avoid recourse to taxpayers' money. Relevant laws are the Single Resolution Mechanism Regulation (SRMR) and the Bank Recovery and Resolution Directive (BRRD) as implemented through the German Recovery and Resolution Act (Sanierungs- und Abwicklungsgesetz, SAG).

In addition, the CRR requires G-SIIs in Europe to have at least the maximum of 18% plus the combined buffer requirement of RWA and 6.75% of leverage exposure as total loss absorbing capacity (TLAC).

Instruments which qualify for MREL and TLAC as own funds are Common Equity Tier 1, Additional Tier 1, and Tier 2 along with certain eligible liabilities (mainly plain-vanilla unsecured bonds). Instruments qualifying for TLAC need to be fully subordinated to general creditor claims (e.g., senior non-preferred bonds). While this is not required for MREL, MREL regulations allow the Single Resolution Board (SRB) to also set an additional subordination requirement within the MREL requirements (but separate from TLAC), which allows only subordinated liabilities and own funds to be counted.

MREL is determined by the competent resolution authorities for each supervised bank and its preferred resolution strategy. In the case of Deutsche Bank AG, MREL is determined by the SRB. While there is no statutory minimum level of MREL, the CRR, SRMR, BRRD and delegated regulations set out criteria which the resolution authority must consider when determining the relevant required level of MREL. Guidance is provided through a MREL policy published annually by the SRB. Any binding MREL ratio determined by the SRB is communicated to Deutsche Bank via the German Federal Financial Supervisory Authority (BaFin). Deutsche Bank AG received its current total MREL and current subordinated MREL requirement with immediate applicability in the second quarter of 2023.

## ICAAP, ILAAP and SREP

The internal capital adequacy assessment process (ICAAP) as stipulated in Pillar 2 of Basel 3 requires banks to identify and assess risks, to apply effective risk management techniques and to maintain adequate capitalization. The Group's internal liquidity adequacy assessment process (ILAAP) aims to ensure that sufficient levels of liquidity are maintained on an ongoing basis by identifying the key liquidity and funding risks to which the Group is exposed, by monitoring and measuring these risks, and by maintaining tools and resources to manage and mitigate these risks.

In accordance with Article 97 CRD supervisors regularly review, as part of the supervisory review and evaluation process (SREP), the arrangements, strategies, processes, and mechanisms implemented by banks and evaluate: (a) risks to which the institution is or might be exposed; (b) risks the institution poses to the financial system; and (c) risks revealed by stress testing.

## Key metrics

### Article 447 (a-g) and Article 438 (b) CRR

The following table highlights Deutsche Bank's key regulatory metrics and ratios, and related input components as defined by CRR and CRD. In line with disclosure requirements the Liquidity Coverage Ratio is based on 12 months rolling averages and the other metrics are based on spot information.

## EU KM1 – Key metrics

	a	b	c	d	e
in € m. (unless stated otherwise)	Dec 31, 2023	Sep 30, 2023	Jun 30, 2023	Mar 31, 2023	Dec 31, 2022
<b>Available own funds (amounts)</b>					
1 Common Equity Tier 1 (CET 1) capital	48,066	49,401	49,348	48,926	48,097
2 Tier 1 capital	56,395	57,729	57,676	57,254	56,616
3 Total capital	65,005	66,764	66,720	66,512	66,146
<b>Risk weighted exposure amounts</b>					
4 Total risk-weighted exposure amount	349,742	354,311	358,785	359,534	360,003
<b>Capital ratios (as percentage of risk-weighted exposure amount)</b>					
5 Common Equity Tier 1 ratio (%)	13.7	13.9	13.8	13.6	13.4
6 Tier 1 ratio (%)	16.1	16.3	16.1	15.9	15.7
7 Total capital ratio (%)	18.6	18.8	18.6	18.5	18.4
<b>Additional own funds requirements based on SREP (as a percentage of risk-weighted exposure amount)</b>					
Additional own funds requirements to address risks other than the risk of excessive leverage (%)					
EU 7a	2.7	2.7	2.7	2.7	2.5
of which:					
to be made up of CET 1 capital (percentage points)					
EU 7b	1.5	1.5	1.5	1.5	1.4
to be made up of Tier 1 capital (percentage points)					
EU 7c	2.0	2.0	2.0	2.0	1.9
EU 7d Total SREP own funds requirements (%)	10.7	10.7	10.7	10.7	10.5
<b>Combined buffer requirement (as a percentage of risk-weighted exposure amount)</b>					
8 Capital conservation buffer (%)	2.5	2.5	2.5	2.5	2.5
Conservation buffer due to macro-prudential or systemic risk identified at the level of a Member State (%)					
EU 8a	0.0	0.0	0.0	0.0	0.0
Institution specific countercyclical capital buffer (%)					
9	0.45	0.46	0.42	0.38	0.07
EU 9a Systemic risk buffer (%)	0.2	0.2	0.2	0.2	0.0
Global Systemically Important Institution buffer (%)					
10	1.5	1.5	1.5	1.5	1.5
EU 10a Other Systemically Important Institution buffer (%)	2.0	2.0	2.0	2.0	2.0
11 Combined buffer requirement (%)	5.1	5.1	5.1	5.1	4.6
EU 11a Overall capital requirements (%)	15.8	15.8	15.8	15.8	15.1
12 CET 1 available after meeting the total SREP own funds requirements (%)	7.7	7.9	7.7	7.6	7.5
CET 1 available after meeting the total SREP own funds requirements					
	27,016	28,075	27,754	27,286	26,834
<b>Leverage ratio</b>					
13 Leverage ratio total exposure measure	1,240,318	1,235,211	1,236,042	1,237,814	1,240,483
14 Leverage ratio (%)	4.5	4.7	4.7	4.6	4.6
<b>Additional own funds requirements to address risks of excessive leverage (as a percentage of leverage ratio total exposure amount)</b>					
Additional own funds requirements to address the risk of excessive leverage (%)					
EU 14a	0.0	0.0	0.0	0.0	0.0
of which: to be made up of CET 1 capital (percentage points)					
EU 14b	0.0	0.0	0.0	0.0	0.0
EU 14c Total SREP leverage ratio requirements (%)	3.0	3.0	3.0	3.0	3.0
<b>Leverage ratio buffer and overall leverage ratio requirement (as a percentage of total exposure measure)</b>					
EU 14d Leverage ratio buffer requirement (%)	0.75	0.75	0.75	0.75	0.00
EU 14e Overall leverage ratio requirements (%)	3.75	3.75	3.75	3.75	3.00
<b>Liquidity Coverage Ratio</b>					
Total high-quality liquid assets (HQLA) (Weighted value - average)					
15	214,710	214,118	216,732	218,535	217,925
EU 16a Cash outflows - Total weighted value	211,856	212,256	215,359	218,746	220,132
EU 16b Cash inflows - Total weighted value	54,801	55,396	55,834	57,603	58,887
16 Total net cash outflows (adjusted value)	157,055	156,861	159,525	161,143	161,245
17 Liquidity coverage ratio (%)	137	137	136	136	135
<b>Net Stable Funding Ratio</b>					
18 Total available stable funding	605,189	599,987	592,094	594,721	605,783
19 Total required stable funding	498,548	495,129	495,503	496,579	506,698
20 NSFR ratio (%)	121	121	119	120	120



## Key metrics of own funds and eligible liabilities

### Article 447 (h) CRR and Article 45i(3)(a,c) BRRD

#### EU KM2 – Key metrics - MREL and G-SII Requirement for own funds and eligible liabilities (TLAC)

in € m. (unless stated otherwise)		Minimum requirement for own funds and eligible liabilities (MREL)		G-SII Requirement for own funds and eligible liabilities (TLAC)		d	e	f
		a	Sep 30, 2023	b	c			
		Dec 31, 2023	Sep 30, 2023	Dec 31, 2023	Sep 30, 2023	Jun 30, 2023	Mar 31, 2023	Dec 31, 2022
<b>Own funds and eligible liabilities, ratios and components</b>								
1	Own funds and eligible liabilities	123,253	124,591	114,106	116,177	114,370	118,800	115,907
EU 1a	Own funds and subordinated liabilities	114,106	116,177	–	–	–	–	–
2	Total risk exposure amount of the resolution group (TREA)	349,742	354,311	349,742	354,311	358,785	359,534	360,003
3	Own funds and eligible liabilities as percentage of TREA	35.24	35.16	32.63	32.79	31.88	33.04	32.20
of which:								
EU 3a	Own funds and subordinated liabilities	32.63	32.79	–	–	–	–	–
4	Total exposure measure of the resolution group (TEM)	1,240,318	1,235,211	1,240,318	1,235,211	1,236,042	1,237,814	1,240,483
5	Own funds and eligible liabilities as percentage of TEM	9.94	10.09	9.20	9.41	9.25	9.60	9.34
of which:								
EU 5a	Own funds and subordinated liabilities	9.20	9.41	–	–	–	–	–
6a	Does the subordination exemption in Article 72b(4) of the CRR apply? (5% exemption)	–	–	no	no	no	no	no
6b	Pro-memo item - Aggregate amount of permitted non-subordinated eligible liabilities instruments if the subordination discretion as per Article 72b(3) CRR is applied (max 3.5% exemption)	–	–	0	0	0	0	0
6c	Pro-memo item: If a capped subordination exemption applies under Article 72b (3) CRR, the amount of funding issued that ranks pari passu with excluded liabilities and that is recognized under row 1, divided by funding issued that ranks pari passu with excluded Liabilities and that would be recognized under row 1 if no cap was applied (%)	–	–	0	0	0	0	0
<b>Minimum requirement for own funds and eligible liabilities (MREL)</b>								
EU 7	MREL requirement expressed as percentage of the TREA	30.35	30.36	–	–	–	–	–
of which:								
EU 8	to be met with own funds or subordinated liabilities	24.68	24.69	–	–	–	–	–
EU 9	MREL requirement expressed as percentage of TEM	6.92	6.92	–	–	–	–	–
of which:								
EU 10	to be met with own funds or subordinated liabilities	6.92	6.92	–	–	–	–	–

As of December 31, 2023 the MREL ratio was 35.24% of Total Risk Exposure Amount (TREA) compared to a requirement of 30.35% of TREA including a 5.14% combined buffer requirement, equaling a surplus of € 17.1 billion above the bank's MREL requirement. The subordinated MREL ratio was 32.63% of TREA compared to a requirement of 24.68% of TREA including a 5.14% combined buffer requirement. The subordinated MREL surplus is € 27.8 billion.

As of December 31, 2023 the TLAC ratio was 32.63% of TREA compared to a requirement of 23.14% including a 5.14% combined buffer requirement, resulting in a surplus of € 33.2 billion. TLAC was 9.20% of TEM compared to a requirement of 6.75%, which corresponds to a surplus of € 30.4 billion.

# Capital

## Development and composition of Own Funds

### **Article 437 (a, d-f) CRR**

The own funds capital ratios provided for Deutsche Bank Group are defined by CRR regulations. Deutsche Bank's CET 1 capital as of December 31, 2023, amounted to € 48.1 billion, € 1.3 billion lower compared to € 49.3 billion as of June 30, 2023. AT1 capital remained unchanged at € 8.3 billion as of December 31, 2023. Tier 1 capital as of December 31, 2023, amounted to € 56.4 billion compared to € 57.7 billion as of June 30, 2023. Tier 2 capital was € 0.4 billion lower as of December 31, 2023, amounted to € 8.6 billion compared to € 9.0 billion as of June 30, 2023. Total capital was € 1.7 billion lower as of December 31, 2023, amounted to € 65.0 billion compared to € 66.7 billion as of June 30, 2023.

The CET1 capital decreased by 1.3 billion for the second half of 2023 mainly due to increased regulatory adjustments in expected loss shortfall of € 1.9 billion mainly due to new model implementation, deferred tax assets of € 1.2 billion, share buyback of € 0.5 billion and negative effects from currency translation adjustments of € 0.2 billion. These negative impacts were partly offset by net profit of € 2.6 billion for the second half of the year 2023 after regulatory deductions for future common share dividends and AT1 coupon payments of € 0.7 billion in line with the ECB Decision (EU) (2015/656) on the recognition of interim or year-end profits in CET1 capital in accordance with the Article 26(2) of Regulation (EU) No 575/2013 (ECB/2015/4), equity compensation of € 0.3 billion and unrealized gains and losses € 0.4 billion.

The Tier 2 capital decrease of € 0.4 billion was due to € 0.3 billion amortization and € 0.1 billion foreign exchange effects.

EU CC1 – Composition of regulatory own funds

in € m.		Dec 31, 2023	Jun 30, 2023	References <sup>1</sup>
		CRR/CRD	CRR/CRD	
<b>Common Equity Tier 1 (CET 1) capital: instruments and reserves</b>				
1	Capital instruments, related share premium accounts and other reserves	44,908	45,099	A
	of which: Instrument type 1 (ordinary shares) <sup>2</sup>	44,908	45,099	A
	of which: Instrument type 2	0	0	
	of which: Instrument type 3	0	0	
2	Retained earnings	16,509	16,922	B
3	Accumulated other comprehensive income (loss), net of tax	(1,760)	(1,737)	C
3a	Funds for general banking risk	0	0	
	Amount of qualifying items referred to in Art. 484 (3) and the related share premium accounts subject to phase-out from CET 1	0	0	
4	Minority interests (amount allowed in consolidated CET 1)	973	981	
5a	Independently reviewed interim profits net of any foreseeable charge or dividend <sup>3</sup>	3,493	1,641	B
<b>6</b>	<b>Common Equity Tier 1 (CET 1) capital before regulatory adjustments</b>	<b>64,124</b>	<b>62,906</b>	
<b>Common Equity Tier 1 (CET 1) capital: regulatory adjustments</b>				
7	Additional value adjustments (negative amount) <sup>4</sup>	(1,727)	(1,812)	
8	Goodwill and other intangible assets (net of related tax liabilities) (negative amount)	(5,014)	(4,963)	D
	Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liabilities where the conditions in Art. 38 (3) are met) (negative amount)	(4,207)	(2,997)	E
10	Fair value reserves related to gains or losses on cash flow hedges of financial instruments that are not valued at fair value	(44)	671	
11	Negative amounts resulting from the calculation of expected loss amounts	(2,386)	(509)	
12	Any increase in equity that results from securitized assets (negative amount)	(0)	(0)	
13	Gains or losses on liabilities designated at fair value resulting from changes in own credit standing <sup>5</sup>	(82)	(172)	
14	Defined benefit pension fund assets (net of related tax liabilities) (negative amount)	(920)	(1,384)	F
15	Direct, indirect and synthetic holdings by an institution of own CET 1 instruments (negative amount) <sup>6</sup>	(0)	(0)	
16	Direct, indirect and synthetic holdings of the CET 1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	0	0	
17	Direct, indirect and synthetic holdings by the institution of the CET 1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10 % threshold and net of eligible short positions) (negative amount) <sup>7</sup>	0	0	
18	Direct, indirect and synthetic holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10 % threshold and net of eligible short positions) (negative amount)	0	0	
19	Exposure amount of the following items which qualify for a risk weight of 1,250 %, where the institution opts for the deduction alternative	0	0	
20a	of which:			
20b	Qualifying holdings outside the financial sector (negative amount)	0	0	
20c	Securitization positions (negative amount)	0	0	
20d	Free deliveries (negative amount)	0	0	
21	Deferred tax assets arising from temporary differences (amount above 10 % threshold, net of related tax liabilities where the conditions in Article 38 (3) are met) (negative amount)	0	0	E
22	Amount exceeding the 17.65 % threshold (negative amount)	0	0	
	of which:			
23	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	
25	Deferred tax assets arising from temporary differences	0	0	E
25a	Losses for the current financial year (negative amount)	0	0	
25b	Foreseeable tax charges relating to CET 1 items except where the institution suitably adjusts the amount of CET 1 items insofar as such tax charges reduce the amount up to which those items may be used to cover risks or losses (negative amount)	0	0	
27	Qualifying AT1 deductions that exceed the AT1 items of the institution (negative amount)	0	0	
27a	Other regulatory adjustments (including IFRS 9 transitional adjustments when relevant) <sup>8</sup>	(1,679)	(2,393)	
<b>28</b>	<b>Total regulatory adjustments to Common Equity Tier 1 (CET 1) capital</b>	<b>(16,058)</b>	<b>(13,558)</b>	
<b>29</b>	<b>Common Equity Tier 1 (CET 1) capital</b>	<b>48,066</b>	<b>49,348</b>	
<b>Additional Tier 1 (AT1) capital: instruments</b>				
30	Capital instruments and the related share premium accounts	8,578	8,578	G
	of which:			
31	Classified as equity under applicable accounting standards	8,578	8,578	G
32	Classified as liabilities under applicable accounting standards	0	0	
33	Amount of qualifying items referred to in Article 484 (4) and the related share premium accounts subject to phase out from AT1 as described in Article 486(3) of CRR	0	0	H
	of which:			
EU 33a	Amount of qualifying items referred to in Article 494a(1) subject to phase out from AT1	0	0	
EU 33b	Amount of qualifying items referred to in Article 494b(1) subject to phase out from AT1	0	0	

		Dec 31, 2023	Jun 30, 2023	References <sup>1</sup>
in € m.		CRR/CRD	CRR/CRD	
34	Qualifying Tier 1 capital included in consolidated AT1 capital issued by subsidiaries and held by third parties	0	0	
35	of which: instruments issued by subsidiaries subject to phase out	0	0	
<b>36</b>	<b>Additional Tier 1 (AT1) capital before regulatory adjustments</b>	<b>8,578</b>	<b>8,578</b>	
<b>Additional Tier 1 (AT1) capital: regulatory adjustments</b>				
37	Direct, indirect and synthetic holdings by an institution of own AT1 instruments (negative amount)	(250)	(250)	G
38	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	0	0	
39	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above the 10 % threshold and net of eligible short positions) (negative amount) <sup>7</sup>	0	0	
40	Direct, indirect and synthetic holdings by the institution of the AT1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above the 10 % threshold net of eligible short positions) (negative amount)	0	0	
42	Qualifying T2 deductions that exceed the T2 items of the institution (negative amount)	0	0	
42a	of which: Other regulatory adjustments to AT1 capital	0	0	
<b>43</b>	<b>Total regulatory adjustments to Additional Tier 1 (AT1) capital</b>	<b>(250)</b>	<b>(250)</b>	
<b>44</b>	<b>Additional Tier 1 (AT1) capital</b>	<b>8,328</b>	<b>8,328</b>	
<b>45</b>	<b>Tier 1 capital (T1 = CET 1 + AT1)</b>	<b>56,395</b>	<b>57,676</b>	
<b>Tier 2 (T2) capital: instruments and provisions</b>				
46	Capital instruments and the related share premium accounts <sup>9</sup>	8,828	9,259	I
47	Amount of qualifying items referred to in Article 484 (5) and the related share premium accounts subject to phase out from T2 as described in Article 486(4) of CRR	27	28	I
	of which:			
EU 47a	Amount of qualifying items referred to in Article 494a (2) subject to phase out from T2	0	0	
EU 47b	Amount of qualifying items referred to in Article 494b (2) subject to phase out from T2	27	28	
48	Qualifying own funds instruments included in consolidated T2 capital issued by subsidiaries and held by third parties	0	1	I
49	of which: instruments issued by subsidiaries subject to phase out	0	0	
50	Credit risk adjustments	0	0	
<b>51</b>	<b>Tier 2 (T2) capital before regulatory adjustments</b>	<b>8,855</b>	<b>9,288</b>	
<b>Tier 2 (T2) capital: regulatory adjustments</b>				
52	Direct, indirect and synthetic holdings by an institution of own T2 instruments and subordinated loans (negative amount)	(245)	(245)	I
53	Direct, indirect and synthetic holdings of the T2 instruments and subordinated loans of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	0	0	
54	Direct, indirect and synthetic holdings of the T2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above 10 % threshold and net of eligible short positions) (negative amount) <sup>7</sup>	0	0	
55	Direct, indirect and synthetic holdings by the institution of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amount)	0	0	
56a	Qualifying eligible liabilities deductions that exceed the eligible liabilities items of the institution (negative amount)	0	0	
56b	Other regulatory adjustments to T2 capital	0	0	
<b>57</b>	<b>Total regulatory adjustments to Tier 2 (T2) capital</b>	<b>(245)</b>	<b>(245)</b>	
<b>58</b>	<b>Tier 2 (T2) capital</b>	<b>8,610</b>	<b>9,043</b>	
<b>59</b>	<b>Total capital (TC = T1 + T2)</b>	<b>65,005</b>	<b>66,720</b>	
<b>60</b>	<b>Total risk-weighted assets</b>	<b>349,742</b>	<b>358,785</b>	
<b>Capital ratios and buffers</b>				
61	Common Equity Tier 1 capital ratio (as a percentage of risk-weighted assets)	13.7	13.8	
62	Tier 1 capital ratio (as a percentage of risk-weighted assets)	16.1	16.1	
63	Total capital ratio (as a percentage of risk-weighted assets)	18.6	18.6	
64	Institution CET 1 overall capital requirement (CET 1 requirement in accordance with article 92 (1) of Regulation (EU) No 575/2013, plus additional CET 1 requirement which the institution is required to hold in accordance with Article 104(1)(a) of Directive 2013/36/EU, plus combined buffer requirement in accordance with Article 128(6) of Directive 2013/36/EU) expressed as a percentage of risk exposure amount <sup>10</sup>	11.2	11.1	
	of which:			
65	Capital conservation buffer requirement	2.5	2.5	
66	Countercyclical buffer requirement	0.45	0.42	
67	Systemic risk buffer requirement	0.2	0.2	
67a	Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	2.0	2.0	
67b	additional own funds requirements to address the risks other than the risk of excessive leverage	1.5	1.5	
68	Common Equity Tier 1 capital available to meet buffers (as a percentage of risk-weighted assets) <sup>11</sup>	7.7	7.7	

	Dec 31, 2023	Jun 30, 2023	Refe- rences <sup>1</sup>
in € m.	CRR/CRD	CRR/CRD	
<b>Amounts below the thresholds for deduction (before risk weighting)</b>			
72	3,674	3,680	
73	789	826	
75	3,910	4,195	
<b>Applicable caps on the inclusion of provisions in Tier 2 capital</b>			
76	0	0	
77	257	243	
78	0	0	
79	1,251	1,296	
<b>Capital instruments subject to phase-out arrangements</b>			
80	0	0	
81	0	0	
82	0	0	
83	0	0	
84	0	0	
85	0	0	

N/M – Not meaningful

<sup>1</sup> References provide the mapping of regulatory balance sheet items used to calculate regulatory capital as reflected in the column "References" and as presented in tables "EU CC2 – Reconciliation of regulatory own funds to balance sheet in the audited financial statements". Where applicable, more detailed information is provided in the respective reference footnote section

<sup>2</sup> Based on EBA list of Article 26(3) of CRR, competent authorities shall evaluate whether issuances of Common Equity Tier 1 instruments meet the criteria set out in Article 28 or, where applicable, Article 29

<sup>3</sup> Full year profit is recognized as per ECB Decision (EU) 2015/656 in accordance with the Article 26(2) of Regulation (EU) No 575/2013 (ECB/2015/4)

<sup>4</sup> The € 1.7 billion (June 2023: € 1.8 billion) additional value adjustments were derived from the EBA Regulatory Technical Standard on prudent valuation and are before consideration of a benefit from the related reduction of the shortfall of provisions to expected losses of € 1.9 billion (June 2023: € 0.04 billion)

<sup>5</sup> Represents gains and losses on liabilities and derivative liabilities carried at fair value that are a result of changes in own credit of the Group according to Article 33 (1) (b) CRR

<sup>6</sup> Excludes holdings that are already considered in the accounting base of Common Equity

<sup>7</sup> Based on the Group's current interpretation no deduction amount expected

<sup>8</sup> Includes capital deductions of 1.4 billion (June 2023: € 1.3 billion) based on ECB guidance on irrevocable payment commitments related to the Single Resolution Fund and the Deposit Guarantee Scheme, € 0.3 billion (June 2023: € 1.1 billion) based on ECB's supervisory recommendation for a prudential provisioning of non-performing exposures, € 0.9 million (June 2023: € 1 million) resulting from minimum value commitments as per Article 36 (1)(n) of the CRR and no CET 1 impact (June 2023: No CET1 benefit) from IFRS 9 transitional provision as per Article 473a of the CRR

<sup>9</sup> Amortization is taken into account

<sup>10</sup> Includes CET1 Pillar 2 Requirement

<sup>11</sup> Calculated as the CET1 Capital less the Group's CET1 capital requirements in accordance with article 92(1)(a) of Regulation (EU) No 575/2013 and following Article 104(1)(a) of Directive 2013/36/EU, and less any Common Equity Tier 1 items used by the Group to meet its additional Tier 1 and Tier 2 capital requirements.

<sup>A</sup> Common shares, additional paid-in capital and common shares in treasury reflect regulatory eligible CET 1 capital instruments

<sup>B</sup> Retained earnings in the regulatory balance sheet include net income (loss) attributable to Deutsche Bank shareholders of € 4,772 million (June 2023: € 2197 million). In the Own funds template (incl. RWA and capital ratios), this item is excluded from retained earnings and shown separately after subtracting the 'deduction for dividend and AT1 coupons' of € (1,279) million (June 2023: € (556) million) as 'independently reviewed interim profits net of any foreseeable charge or dividend' in row id 5a.

<sup>C</sup> Difference to regulatory balance sheet position driven by prudential filters for unrealized gains and losses

<sup>D</sup> Regulatory applicable amount is goodwill and other intangible assets of € 7,327 million (June 2023: € 7,141 million) plus goodwill from equity method investments of € 77 million (June 2023: € 76 million) as per regulatory balance sheet reduced by deferred tax liabilities on other intangibles of € 522 million (June 2023: € 465 million) and prudent software assets as per Art. 36 (1) (b) CRR of € 1,838 million (June 2023: € 1,789 million)

<sup>E</sup> Differences to balance sheet position mainly driven by adjustments as set out in Article 38 (2) to (5) CRR (e.g. regulatory offsetting requirements)

<sup>F</sup> Regulatory applicable amount is defined benefit pension fund assets of € 1,062 million (June 2023: € 1,545 million) reduced by deferred tax liabilities on defined benefit pension fund assets of € 142 million (June 2023: € 161 million)

<sup>G</sup> Additional equity components reflects regulatory eligible AT1 capital instruments

<sup>H</sup> Difference to regulatory balance sheet driven by regulatory adjustments as set out in Articles 51 to 61 CRR (e.g. current cap on AT1 instruments subject to phase-out arrangements)

<sup>I</sup> Difference to regulatory balance sheet driven by regulatory adjustments as set out in Articles 62 to 71 CRR (e.g. amortization, minority interest)

## Reconciliation of shareholders' equity to Own Funds

in € m.	Dec 31, 2023	Jun 30, 2023
<b>Total shareholders' equity per accounting balance sheet</b>	<b>64,486</b>	<b>62,440</b>
Deconsolidation/Consolidation of entities	(35)	68
of which:		
Additional paid-in capital	0	0
Retained earnings	(35)	68
Accumulated other comprehensive income (loss), net of tax	0	0
<b>Total shareholders' equity per regulatory balance sheet</b>	<b>64,451</b>	<b>62,509</b>
Minority Interests (amount allowed in consolidated CET 1)	973	981
AT1 coupon and shareholder dividend deduction <sup>1</sup>	(1,279)	(556)
Capital instruments not eligible under CET 1 as per CRR 28(1)	(21)	(27)
<b>Common Equity Tier 1 (CET 1) capital before regulatory adjustments</b>	<b>64,124</b>	<b>62,906</b>
Prudential filters	(1,853)	(1,312)
of which:		
Additional value adjustments	(1,727)	(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	(126)	499
Regulatory adjustments	(14,205)	(12,246)
of which:		
Goodwill and other intangible assets (net of related tax liabilities) (negative amount)	(5,014)	(4,963)
Deferred tax assets that rely on future profitability	(4,207)	(2,997)
Negative amounts resulting from the calculation of expected loss amounts	(2,386)	(509)
Defined benefit pension fund assets (net of related tax liabilities) (negative amount)	(920)	(1,384)
Direct, indirect and synthetic holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities	0	0
Other <sup>2</sup>	(1,679)	(2,393)
<b>Common Equity Tier 1 capital</b>	<b>48,066</b>	<b>49,348</b>
<b>Additional Tier 1 capital</b>	<b>8,328</b>	<b>8,328</b>
Additional Tier 1 Notes (AT1 Notes)	8,328	8,328
Per balance sheet	8,569	8,551
Deconsolidation/Consolidation of entities	0	0
Regulatory adjustments to balance sheet position	(240)	(222)
Hybrid capital securities	0	0
Per balance sheet	0	0
Deconsolidation/Consolidation of entities	0	0
Regulatory adjustments to balance sheet position	0	0
Other regulatory adjustments	0	0
Deductions from Additional Tier 1 capital	0	0
<b>Tier 1 capital</b>	<b>56,395</b>	<b>57,676</b>
<b>Tier 2 capital</b>	<b>8,610</b>	<b>9,043</b>
Subordinated debt	8,610	9,043
Per balance sheet	11,311	11,271
Deconsolidation/Consolidation of entities	0	0
Regulatory adjustments to balance sheet position	(2,701)	(2,228)
of which:		
Amortization according to Art. 64 CRR	(2,564)	(2,251)
Other	(137)	23
Other regulatory adjustments	0	0
Deductions from Tier 2 capital	0	0
<b>Total capital</b>	<b>65,005</b>	<b>66,720</b>

<sup>1</sup> Full year profit is recognized as per ECB Decision (EU) 2015/656 in accordance with the Article 26(2) of Regulation (EU) No 575/2013 (ECB/2015/4)

<sup>2</sup> Includes capital deductions of € 1.4 billion (June 2023: € 1.3 billion) based on ECB guidance on irrevocable payment commitments related to the Single Resolution Fund and the Deposit Guarantee Scheme, € 0.3 billion (June 2023: € 1.1 billion) based on ECB's supervisory recommendation for a prudential provisioning of non-performing exposures, € 0.9 million (June 2023: € 1 million) resulting from minimum value commitments as per Article 36 (1)(n) of the CRR and no CET 1 impact (June 2023: No CET 1 benefit) from IFRS 9 transitional provision as per Article 473a of the CRR

## Development of Own Funds

in € m.	six months ended Dec 31, 2023	six months ended Jun 30, 2023
<b>Common Equity Tier 1 (CET 1) capital - opening amount</b>	<b>49,348</b>	<b>48,097</b>
Common shares, net effect	1	(69)
of which:		
New shares issued (+)	0	0
Shares retired (-)	0	(68)
Capital instruments not eligible under CET 1 as per CRR 28(1)	1	(1)
Additional paid-in capital	235	(567)
Retained earnings	2,163	2,631
of which:		
Actuarial gains (losses) rel. to defined benefit plans, net of tax and Currency Translation Adjustment (CTA)	(309)	161
Net income attributable to Deutsche Bank Shareholders	2,575	2,197
Common shares in treasury, net effect/(+) sales (-) purchase	(427)	277
Movements in accumulated other comprehensive income	(23)	(422)
of which:		
Foreign currency translation, net of tax	(408)	(703)
Unrealized gains and losses	(122)	212
Other	507	70
AT1 coupon and shareholder dividend deduction <sup>1</sup>	(723)	(556)
of which:		
Gross dividends (deduction)	(439)	(459)
Shares issued in lieu of dividends (add back)	0	0
Gross AT1 coupons (deduction)	(284)	(97)
Additional value adjustments	85	215
Goodwill and other intangible assets (net of related tax liabilities) (negative amount)	(51)	61
Deferred tax assets that rely on future profitability (excluding those arising from temporary differences)	(1,210)	248
Negative amounts resulting from the calculation of expected loss amounts	(1,878)	(43)
Removal of gains/losses resulting from changes in own credit standing in liabilities designated at fair value (net of tax)	90	19
Defined benefit pension fund assets (net of related tax liabilities) (negative amount)	464	(234)
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
Deferred tax assets arising from temporary differences (amount above 10 % and 15 % threshold, net of related tax liabilities where the conditions in Art. 38 (3) CRR are met)	0	0
Other, including regulatory adjustments	(9)	(308)
<b>Common Equity Tier 1 (CET 1) capital - closing amount</b>	<b>48,066</b>	<b>49,348</b>
<b>Additional Tier 1 (AT1) capital - opening amount</b>	<b>8,328</b>	<b>8,518</b>
New Additional Tier 1 eligible capital issues	0	0
Matured and called instruments	0	0
Transitional arrangements	0	0
of which:		
Amount excluded from Additional Tier 1 capital due to cap	0	0
Goodwill and other intangible assets (net of related tax liabilities)	0	0
Negative amounts resulting from the calculation of expected loss amounts	0	0
Direct, indirect and synthetic holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities	0	0
Other, including regulatory adjustments	0	(190)
<b>Additional Tier 1 (AT1) capital - closing amount</b>	<b>8,328</b>	<b>8,328</b>
<b>Tier 1 capital (T1 = CET 1 + AT1)</b>	<b>56,395</b>	<b>57,676</b>
<b>Tier 2 (T2) capital - opening amount</b>	<b>9,043</b>	<b>9,531</b>
New Tier 2 eligible capital issues	0	1,337
Matured and called instruments	(1)	(1,266)
Amortization adjustments	(347)	(322)
Transitional arrangements	0	0
of which:		
Inclusion of amount excluded from Additional Tier 1 capital due to cap	0	0
Amount to be deducted from or added to Additional Tier 2 capital with regard to additional filters and deductions required pre-CRR	0	0
Negative amounts resulting from the calculation of expected loss amounts	0	0
Direct, indirect and synthetic holdings by the institution of the CET 1 instruments of financial sector entities where the institution has a significant investment in those entities	0	0
Other, including regulatory adjustments	(84)	(237)
<b>Tier 2 (T2) capital - closing amount</b>	<b>8,610</b>	<b>9,043</b>
<b>Total regulatory capital (TC = T1 + T2)</b>	<b>65,005</b>	<b>66,720</b>

<sup>1</sup> Full year profit is recognized as per ECB Decision (EU) 2015/656 in accordance with the Article 26(2) of Regulation (EU) No 575/2013 (ECB/2015/4)

## Scope of application of the regulatory framework

### Name of institution

#### Article 436 (a) CRR

Deutsche Bank Aktiengesellschaft (“Deutsche Bank AG”), headquartered in Frankfurt am Main, Germany, is the parent institution of the Deutsche Bank Group (the “regulatory group”). Under Section 10a KWG in conjunction with Articles 11 and 18 CRR, a regulatory group of institutions consists of an institution as the parent company, and all other institutions, financial institutions (comprising inter alia financial holding companies, payment institutions, asset management companies) and ancillary services undertakings that are its subsidiaries within the meaning of Article 4 (1) (16) CRR, or are jointly managed together with other parties within the meaning of Article 18 (4) CRR. Subsidiaries are fully consolidated, while companies which are not subsidiaries but consolidated for regulatory purposes are subject to proportional consolidation.

Insurance companies and companies outside the banking and financial sector are not consolidated in the regulatory group. The bank does not qualify as a financial conglomerate and is not subject to the respective supplementary supervisions.

### Differences in the scopes of consolidation

#### Article 436 (b) CRR

The principles of consolidation for Deutsche Bank’s regulatory group are not identical to those applied for the Group’s financial statements. Nonetheless, the majority of the bank’s subsidiaries in the regulatory group are also fully consolidated in accordance with IFRS in the Group’s consolidated financial statements.

The main differences between regulatory and accounting consolidation are:

- Subsidiaries outside the banking and financial sector are not consolidated within the regulatory group of institutions but are included in the consolidated financial statements according to IFRS
- Most of the Group’s special purpose entities (SPEs) consolidated under IFRS do not meet the regulatory subsidiary definition pursuant to Article 4 (1) (16) CRR and are not consolidated in the regulatory group. However, the risks resulting from the bank’s exposures to such entities are reflected in the regulatory capital requirements
- Only a few entities included in the regulatory group are not consolidated as subsidiaries for accounting purposes and are treated differently: three, mostly immaterial subsidiaries which are not consolidated for accounting purposes are consolidated within the regulatory group; one further entity is jointly managed by the Group and other owners and was consolidated on a pro-rata basis within the regulatory group while for financial accounting purposes it was treated as an asset fair value through profit or loss

For detailed information and the table LI3, please refer to the Pillar 3 Report section “Outline of differences in scopes of consolidation”.

## Derogations from prudential requirements for the parent company and subsidiaries

#### Article 436 (h) CRR (EU LIB)

As of December 31, 2023, Deutsche Bank AG fully applied the exemptions pursuant to Section 2a (1) KWG in conjunction with Article 7 (3) CRR, Art. 6 (5) CRR and Section 2a (2) KWG in conjunction with Section 25a (1) sentence 3 KWG (so-called “parent waiver”) pursuant to which the bank may waive the application of provisions on own funds and eligible liabilities, capital requirements, large exposures, exposures to transferred credit risks, leverage, reporting requirements and disclosure by institutions as well as certain risk management requirements on a stand-alone basis.

Deutsche Bank AG’s subsidiaries norisbank GmbH, Deutsche Bank Europe GmbH and Deutsche Oppenheim Family Office AG, which all were consolidated within the Deutsche Bank regulatory group, fully applied the same exemptions outlined above (so-called “subsidiary waiver”) pursuant to which the above mentioned subsidiaries may waive certain regulatory requirements to the same extent as Deutsche Bank AG (see preceding paragraph) on a stand-alone basis. In addition, Deutsche Bank AG’s subsidiaries Deutsche Immobilien Leasing GmbH and Leasing Verwaltungsgesellschaft Waltersdorf mbH, also consolidated within the Deutsche Bank regulatory group, applied the “subsidiary waiver” rules to the extent applicable to the subsidiary.

These exemptions are available only for group companies in Germany and can only be applied if, amongst others, the risk strategies and risk management processes of Deutsche Bank AG or the Group also include the companies that apply the



“waiver” rules and there is no material practical or legal impediment to the prompt transfer of own funds or repayment of liabilities from Deutsche Bank AG to the respective subsidiaries or from subsidiaries to Deutsche Bank AG Group.

The application of the aforementioned exemptions and the fulfillment of the respective requirements were notified to the BaFin and Deutsche Bundesbank. Pursuant to Section 2a (5) KWG the exemptions based on these notifications are grandfathered, i.e. the “waivers” are deemed to be granted under the current CRR and KWG rules.

## Additional disclosure requirements for large subsidiaries

### Article 13 (1) CRR

The bank’s large subsidiaries are required to disclose information to the extent applicable in respect of own funds, capital requirements, capital buffers, credit risk adjustments, remuneration policy, leverage and use of credit risk mitigation techniques on an individual or sub-consolidated basis.

For some of the bank’s subsidiaries located in Germany it is not mandatory to calculate or report regulatory capital or leverage ratios on a stand-alone basis if they qualify for the exemptions codified in the waiver rule pursuant to Section 2a KWG in conjunction with Article 7 CRR. In these cases, the above-mentioned disclosure requirements are also not applicable for those subsidiaries.

Large subsidiaries are identified in accordance with Article 4 No. 146 and 147 CRR, and applied to all subsidiaries classified as “credit institution” or “investment firm” under the CRR and not qualifying for a waiver status pursuant to Section 2a KWG in conjunction with Article 7 CRR. A subsidiary is required to comply with the requirements in Article 13 (1) CRR (as described above) if at least one criterion mentioned in the list below has been met. The total value of assets referenced below is calculated on an IFRS basis as of December 31, 2023:

- The subsidiary is a global systemically important institution;
- It has been identified as an other systemically important institution (O-SII) in accordance with Article 131(1) and (3) of Directive 2013/36/EU;
- The subsidiary is, in the Member State in which it is established, one of the three largest institutions in terms of total value of assets;
- Total value of assets on an individual basis or sub-consolidated basis is equal to or greater than € 30 billion.

As a result of the selection process described above, the bank identified two subsidiaries as “large” for the Group and hence required to provide additional disclosure requirements:

- DB USA Corporation, United States of America
- BHW Bausparkasse AG, Germany
- Deutsche Bank Luxembourg S.A., Luxembourg
- Deutsche Bank Società per Azioni, Italy

The additional disclosures for the large subsidiaries can be found either within the Pillar 3 Reports of the respective subsidiary as published on its website or on the Group’s website.

## Impediments to fund transfers

### Article 436 (f) CRR (EU LIB)

The Group entities within the scope of prudential consolidation are subject to local regulatory and tax requirements as well as potentially exchange controls. Deutsche Bank is not aware of any material impediments existing for capital distribution within the Group.

## Potential capital shortfalls in unconsolidated subsidiaries

### Article 436 (g) CRR (EU LIB)

Deutsche Bank’s subsidiaries which were not included in its regulatory consolidation due to their immateriality did not have to comply with own regulatory minimum capital standards in 2023.

## Reconciliation of regulatory own funds to the IFRS balance sheet

### Article 436 (c, d) CRR

The table EU LI1 below provides a comparison between the consolidated balance sheet for accounting and prudential purposes and also highlights how the amounts reported in the Group's financial statements, once the regulatory scope of consolidation is applied, are impacted by the different risk frameworks. The regulatory balance sheet is split further into sections subject to credit risk, counterparty credit risk, securitization positions in the regulatory banking book, market risk, and items not subject to capital requirements or relevant for deduction from capital. The market risk framework in column (f) includes the bank's trading book exposure, its banking book exposure which is booked in a currency different from Euro, as well as securitization positions in the regulatory trading book. Specific assets and liabilities may be subject to more than one regulatory risk framework. Therefore, the sum of values in column (c) to (g) may not be equal to the amounts in column (b). Moreover, the allocation of positions to the regulatory trading or banking book, as well as the product definition, impacts the allocation to and treatment within a regulatory framework and might be different to the product definition or trading classification under IFRS.

Differences between carrying values on the regulatory balance sheet in column (b) and amounts deducted from CRR/CRD capital are explained further in the footnotes of the table "EU CC1 Composition of regulatory own funds" as referenced in the last column of this table.

EU LI1 – Differences between accounting and regulatory scopes of consolidation and the mapping of financial statement categories with regulatory risk categories

	Dec 31, 2023							
	a	b	c	d	e	f	g	
	Carrying values of items:							
in € m.	Carrying values as reported in published financial statements	Carrying values under scope of prudential consolidation	Subject to the credit risk framework	Subject to the counterparty credit risk framework	Subject to the securitization framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital	References <sup>1</sup>
<b>Assets:</b>								
Cash and central bank balances	178,416	178,394	178,205	0	0	88,546	0	
Interbank balances (w/o central banks)	6,140	6,044	5,583	0	0	4,713	0	
Central bank funds sold and securities purchased under resale agreements	14,725	14,725	1,445	13,280	0	7,846	0	
Securities borrowed	39	39	0	39	0	6	0	
Financial assets at fair value through profit or loss								
Trading assets	125,275	123,357	5,190	147	354	121,724	0	
Positive market values from derivative financial instruments	251,856	252,034	31	251,850	41	251,894	0	
Non-trading financial assets mandatory at fair value through profit and loss	88,047	88,488	5,074	77,725	1,088	85,356	0	
Financial assets designated at fair value through profit or loss	75	75	75	0	0	0	0	
Total financial assets at fair value through profit or loss	465,252	463,953	10,369	329,722	1,483	458,974	0	
Financial assets at Fair Value through OCI								
Financial assets mandatory at fair value through OCI	35,546	35,362	33,487	1,805	0	23,129	0	
Equity Instruments designated at fair value through OCI	0	0	0	0	0	0	0	
Total financial assets at fair value through OCI	35,546	35,362	33,487	1,805	0	23,129	0	
Equity method investments	1,013	1,013	1,013	0	1	1,013	77	
of which: Goodwill	77	77	0	0	0	0	77	D
Loans at amortized cost	473,705	477,382	448,000	0	29,270	165,167	111	
Property and equipment	6,185	6,159	6,159	0	0	2,252	0	
Goodwill and other intangible assets	7,327	7,297	1,838	0	0	0	5,459	D
Other assets	114,697	114,618	32,803	41,331	3,734	39,392	29,758	
of which: Defined benefit pension fund assets	1,089	1,062	0	0	0	0	1,062	F
Assets for current tax	1,513	1,509	1,509	0	0	0	0	
Deferred tax assets	7,773	7,736	3,910	0	0	2,066	3,826	E
<b>Total assets</b>	<b>1,312,331</b>	<b>1,314,232</b>	<b>724,322</b>	<b>386,177</b>	<b>34,488</b>	<b>793,104</b>	<b>39,234</b>	
<b>Liabilities and equity:</b>								
Deposits	622,035	623,011	0	1,056	44	105,867	516,044	
Central bank funds purchased and securities sold under repurchase agreements	3,038	3,038	0	3,038	0	419	0	
Securities loaned	3	3	0	3	0	3	0	
Financial liabilities at fair value through profit or loss								
Trading liabilities	44,005	44,002	0	10	0	43,604	(17)	
Negative market values from derivative financial instruments	238,260	238,373	0	238,099	145	238,373	0	
Financial liabilities designated at fair value through profit or loss	83,727	83,277	0	75,901	0	75,986	(5)	
Investment contract liabilities	484	0	0	0	0	0	0	
Total financial liabilities at fair value through profit or loss	366,475	365,653	0	314,010	145	357,964	(22)	
Other short-term borrowings	9,620	9,563	0	0	0	2,611	6,952	
Other liabilities	113,036	111,621	0	49,533	0	49,223	20,830	
Provisions	2,448	2,416	0	0	0	867	1,548	
Liabilities for current tax	631	626	0	0	0	185	441	
Deferred tax liabilities	546	445	0	0	0	0	445	
Long-term debt	119,390	122,880	0	0	0	24,804	98,077	H.I
of which: Subordinated long-term debt <sup>2</sup>	11,311	11,311	0	0	0	4,921	6,391	H.I
Trust preferred securities <sup>2</sup>	289	289	0	0	0	0	289	
Obligation to purchase common shares	0	0	0	0	0	0	0	
<b>Total liabilities</b>	<b>1,237,513</b>	<b>1,239,546</b>	<b>0</b>	<b>367,641</b>	<b>190</b>	<b>541,944</b>	<b>644,604</b>	
Common shares, no par value, nominal value of € 2.56	5,223	5,223	0	0	0	0	5,223	A
Additional paid-in capital	40,187	40,187	0	0	0	0	40,187	A
Retained earnings	21,316	21,282	0	0	0	0	21,282	B
Common shares in treasury, at cost	(481)	(481)	0	0	0	0	(481)	A

Dec 31, 2023

	a	b	c	d	e	f	g	References <sup>1</sup>
	Carrying values as reported in published financial statements	Carrying values under scope of prudential consolidation	Subject to the credit risk framework	Subject to the counterparty credit risk framework	Subject to the securitization framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital	
in € m.								
Equity classified as obligation to purchase common shares	0	0	0	0	0	0	0	A
Accumulated other comprehensive income, net of tax	(1,760)	(1,760)	0	0	0	0	(1,760)	C
<b>Total shareholders' equity</b>	<b>64,486</b>	<b>64,451</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>64,451</b>	
Additional equity components	8,569	8,569	0	0	0	0	8,569	G
Noncontrolling interests	1,763	1,666	0	0	0	0	1,666	
<b>Total equity</b>	<b>74,818</b>	<b>74,686</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>74,686</b>	
<b>Total liabilities and equity</b>	<b>1,312,331</b>	<b>1,314,233</b>	<b>0</b>	<b>367,641</b>	<b>190</b>	<b>541,944</b>	<b>719,290</b>	

<sup>1</sup> References provide the mapping of regulatory balance sheet items used to calculate regulatory capital as reflected in the column "References" in "EU CC1– Composition of regulatory own funds". Where applicable, more detailed information are provided in the respective reference footnote section.

<sup>2</sup> Eligible Additional Tier 1 and Tier 2 instruments are reflected in these balance sheet positions based on their IFRS carrying values.

	Dec 31, 2022							
	a	b	c	d	e	f	g	
	Carrying values of items:							
in € m.	Carrying values as reported in published financial statements	Carrying values under scope of prudential consolidation	Subject to the credit risk framework	Subject to the counterparty credit risk framework	Subject to the securitization framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital	References <sup>1</sup>
<b>Assets:</b>								
Cash and central bank balances	178,896	178,861	178,859	0	0	82,738	0	
Interbank balances (w/o central banks)	7,195	7,025	6,335	0	0	5,688	0	
Central bank funds sold and securities purchased under resale agreements	11,478	11,478	700	10,778	0	6,460	0	
Securities borrowed	0	0	0	0	0	0	0	
Financial assets at fair value through profit or loss								
Trading assets	92,867	91,538	6,329	138	369	89,423	0	
Positive market values from derivative financial instruments	299,686	299,834	45	299,643	30	299,617	0	
Non-trading financial assets mandatory at fair value through profit and loss	89,654	90,085	5,742	79,389	1,378	87,635	0	
Financial assets designated at fair value through profit or loss	168	168	168	0	0	94	0	
Total financial assets at fair value through profit or loss	482,376	481,626	12,284	379,170	1,777	476,770	0	
Financial assets at Fair Value through OCI								
Financial assets mandatory at fair value through OCI	31,675	31,536	29,370	2,156	10	24,585	0	
Equity Instruments designated at fair value through OCI	0	0	0	0	0	0	0	
Total financial assets at fair value through OCI	31,675	31,536	29,370	2,156	10	24,585	0	
Equity method investments	1,124	1,124	1,124	0	1	1,124	79	
of which: Goodwill	79	79	0	0	0	0	79	D
Loans at amortized cost	483,700	487,259	457,720	0	29,420	167,793	119	
Property and equipment	6,103	6,075	6,075	0	0	2,349	0	
Goodwill and other intangible assets	7,092	7,092	1,683	0	0	0	5,409	D
Other assets	118,293	118,263	39,489	51,455	3,997	47,444	18,331	
of which: Defined benefit pension fund assets	1,328	1,301	0	0	0	0	1,301	F
Assets for current tax	1,584	1,581	1,581	0	0	0	0	
Deferred tax assets	7,272	7,237	4,273	0	0	2,410	2,964	E
<b>Total assets</b>	<b>1,336,788</b>	<b>1,339,157</b>	<b>739,493</b>	<b>443,559</b>	<b>35,205</b>	<b>817,360</b>	<b>26,902</b>	
<b>Liabilities and equity:</b>								
Deposits	621,456	622,876	0	1,033	50	106,117	515,676	
Central bank funds purchased and securities sold under repurchase agreements	573	573	0	573	0	407	0	
Securities loaned	13	13	0	13	0	7	0	
Financial liabilities at fair value through profit or loss								
Trading liabilities	50,616	50,660	0	0	0	50,660	8	
Negative market values from derivative financial instruments	282,353	282,436	0	282,021	247	282,436	0	
Financial liabilities designated at fair value through profit or loss	54,634	54,367	0	51,904	0	53,279	(13)	
Investment contract liabilities	469	0	0	0	0	0	0	
Total financial liabilities at fair value through profit or loss	388,072	387,463	0	333,925	247	386,374	(5)	
Other short-term borrowings	5,122	5,058	0	0	0	2,150	2,907	
Other liabilities	113,714	112,313	0	62,851	0	38,784	7,041	
Provisions	2,449	2,427	0	0	0	864	1,564	
Liabilities for current tax	388	385	0	0	0	162	223	
Deferred tax liabilities	650	557	0	0	0	0	557	
Long-term debt	131,525	134,731	0	0	0	24,615	110,116	H.I
of which: Subordinated long-term debt <sup>2</sup>	11,381	11,381	0	0	0	3,673	7,708	H.I
Trust preferred securities <sup>2</sup>	500	500	0	0	0	0	500	
Obligation to purchase common shares	0	0	0	0	0	0	0	
<b>Total liabilities</b>	<b>1,264,460</b>	<b>1,266,895</b>	<b>0</b>	<b>398,395</b>	<b>297</b>	<b>559,481</b>	<b>638,580</b>	
Common shares, no par value, nominal value of € 2.56	5,291	5,291	0	0	0	0	5,291	A
Additional paid-in capital	40,513	40,513	0	0	0	0	40,513	A
Retained earnings	17,800	17,830	0	0	0	0	17,830	B
Common shares in treasury, at cost	(331)	(331)	0	0	0	0	(331)	A
Equity classified as obligation to purchase common shares	0	0	0	0	0	0	0	A

		Dec 31, 2022							
		a	b	c	d	e	f	g	
		Carrying values of items:							
in € m.	Carrying values as reported in published financial statements	Carrying values under scope of prudential consolidation	Subject to the credit risk framework	Subject to the counterparty credit risk framework	Subject to the securitization framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital	References <sup>1</sup>	
Accumulated other comprehensive income, net of tax	(1,314)	(1,314)	0	0	0	0	(1,314)	C	
<b>Total shareholders' equity</b>	<b>61,959</b>	<b>61,988</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>61,988</b>		
Additional equity components	8,578	8,578	0	0	0	0	8,578	G	
Noncontrolling interests	1,791	1,696	0	0	0	0	1,696		
<b>Total equity</b>	<b>72,328</b>	<b>72,262</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>72,262</b>		
<b>Total liabilities and equity</b>	<b>1,336,788</b>	<b>1,339,157</b>	<b>0</b>	<b>398,395</b>	<b>297</b>	<b>559,481</b>	<b>710,842</b>		

<sup>1</sup> References provide the mapping of regulatory balance sheet items used to calculate regulatory capital as reflected in the column "References" in "Own funds template (incl. RWA and Capital Ratios)". Where applicable, more detailed information are provided in the respective reference footnote section.

<sup>2</sup> Eligible Additional Tier 1 and Tier 2 instruments are reflected in these balance sheet positions with their values according to IFRS.

Movements in carrying values as reported in published financial statements, i.e. under IFRS scope of consolidation for December 31, 2022 and December 31, 2023 are primarily driven by the following factors:

Trading assets increased by € 32.4 billion mainly due to increased exposure in government securities from higher client flows and desk positioning in relation to the current environment. Corresponding liabilities decreased by € 6.6 billion, primarily driven by decreased short positions in government bonds in Europe rates business. Positive and negative market values of derivative financial instruments decreased by € 47.8 billion and € 44.1 billion, respectively, driven by foreign exchange products primarily due to the weakening of the U.S. dollar against the euro and de-risking. The decline was also observed in interest rate products due to moves in interest rate curves. Loans at amortized cost decreased by € 10 billion, primarily driven by lower demand and continued selective balance sheet deployment in the Corporate Bank, as well as lower mortgage origination in the Private Bank. Financial liabilities designated at fair value through profit or loss increased by € 29.1 billion, mainly attributable to an increase in securities sold under repurchase agreements as a result of increased secured funding of trading inventory and client activities; as well as an increase in long term debt driven by new issuances in FIC business in the Investment Bank. Other short-term borrowings increased by € 4.5 billion, mainly driven by newly issued commercial paper. Long term debt at amortized cost decreased by € 12.1 billion, as a result of prepayment of TLTRO funding and matured issuances, which were partly offset by new issuances during the year.

The overall movement of the balance sheet included a decrease of € 18.6 billion due to foreign exchange rate movements, mainly driven by a weakening of the U.S. dollar versus the euro.

Table EU LI2 presents a description of the differences between the financial statements' carrying value amounts under the regulatory scope of consolidation and the exposure amounts used for regulatory purposes.

#### EU LI2 – Main sources of differences between regulatory exposure amounts and carrying values in financial statements

		Dec 31, 2023				
		a	b	c	d	e
		Items subject to:				
in € m.	Total	Credit risk framework	Securitization framework	Counterparty credit risk framework	Market risk framework	
1 Assets carrying value amount under the scope of prudential consolidation (as per template LI1)	1,314,232	724,322	34,488	386,177	793,104	
2 Liabilities carrying value amount under the scope of prudential consolidation (as per template LI1)	1,239,546	0	190	367,641	541,944	
3 Total net amount under the scope of prudential consolidation	74,686	724,322	34,298	18,537	251,160 <sup>5</sup>	
4 Off-balance-sheet amounts	309,269	289,465	16,568	8,942	0	
5,6 Differences in valuations (incl. impact from different netting rules) <sup>1</sup>	0	0	149	69,778	0	
7 Differences due to consideration of provisions <sup>3</sup>	0	6,776	(25)	0	0	
8 Differences due to the use of credit risk mitigation techniques (CRMs)	0	(3,001)	0	0	0	
9 Differences due to credit conversion factors	0	(172,383)	0	232	0	
10 Differences due to Securitisation with risk transfer <sup>2</sup>	0	(29,809)	27,428	0	96	
11 Other differences <sup>4</sup>	0	19,048	16	7,317	0	
<b>12 Exposure amounts considered for regulatory purposes</b>	<b>1,019,689</b>	<b>834,418</b>	<b>78,436</b>	<b>104,807</b>	<b>2,028<sup>6</sup></b>	

<sup>1</sup> Includes effects due to differences in exposure modelling applying the effective expected positive exposure as well as the SA-CCR for derivatives and financial collateral comprehensive method for SFT respectively; that also reflects differences as a result of the application of credit risk mitigation and regulatory netting rules

<sup>2</sup> Included in the sum of € 27.4 billion are FX mismatches amounting to € 1.1 billion; the amount represents the retained synthetic tranches after consideration of bought credit protection

<sup>3</sup> Includes credit-risk related purchase price adjustments arising in the context of asset purchases as well as business combinations

<sup>4</sup> Primarily reflects valuation differences as a result of regulatory product definition being different from the accounting product definition; moreover, under the counterparty credit risk framework funded default fund contribution in form of securities are considered in the exposure amounts for regulatory purposes

- <sup>5</sup> Included in the sum of € 251.2 billion are € 1.9 billion net carrying amount attributable to securitization positions in the regulatory trading book covered under the market risk standardized approach  
<sup>6</sup> Exposure at default is only considered for securitization positions in the regulatory trading book as the remaining exposure is considered within the internally developed market risk models

		Dec 31, 2022				
		a	b	c	d	e
		Items subject to:				
in € m.		Total	Credit risk framework	Securitization framework	Counterparty credit risk framework	Market risk framework
1	Assets carrying value amount under the scope of prudential consolidation (as per template LI1)	1,339,157	739,493	35,205	443,559	817,360
2	Liabilities carrying value amount under the scope of prudential consolidation (as per template LI1)	1,266,896	0	297	398,395	559,481
3	Total net amount under the scope of prudential consolidation	72,261	739,493	34,908	45,165	257,879 <sup>5</sup>
4	Off-balance-sheet amounts	313,445	289,273	15,252	7,800	0
5,6	Differences in valuations (incl. impact from different netting rules) <sup>1</sup>	0	0	317	46,053	0
7	Differences due to consideration of provisions <sup>3</sup>	0	7,204	0	0	0
8	Differences due to the use of credit risk mitigation techniques (CRMs)	0	(3,466)	0	0	0
9	Differences due to credit conversion factors	0	(172,433)	0	0	0
10	Differences due to Securitisation with risk transfer <sup>2</sup>	0	(22,492)	20,496	0	23
11	Other differences <sup>4</sup>	0	21,279	(19)	6,347	0
12	Exposure amounts considered for regulatory purposes	1,037,289	858,857	70,954	105,365	2,113 <sup>6</sup>

- <sup>1</sup> Includes effects due to differences in exposure modelling applying the effective expected positive exposure as well as the SA-CCR for derivatives and financial collateral comprehensive method for SFT respectively; that also reflects differences as a result of the application of credit risk mitigation and regulatory netting rules  
<sup>2</sup> Included in the sum of € 20.5 billion are FX mismatches amounting to € 0.9 billion; the amount represents the retained synthetic tranches after consideration of bought credit protection  
<sup>3</sup> Includes credit-risk related purchase price adjustments arising in the context of asset purchases as well as business combinations  
<sup>4</sup> Primarily reflects valuation differences as a result of regulatory product definition being different from the accounting product definition; moreover, under the counterparty credit risk framework funded default fund contribution in form of securities are considered in the exposure amounts for regulatory purposes  
<sup>5</sup> Included in the sum of € 256.7 billion are € 2.1 billion net carrying amount attributable to securitization positions in the regulatory trading book covered under the market risk standardized approach  
<sup>6</sup> Exposure at default is only considered for securitization positions in the regulatory trading book as the remaining exposure is considered within the internally developed market risk models

## Reconciliation of regulatory own funds to IFRS balance sheet

### Article 437 (a) CRR

The table below highlights the difference in the basis of consolidation for accounting and prudential reporting purposes as it compares the carrying values as reported under IFRS with the carrying values under the scope of the regulatory consolidation. References in the last column of the table provide the mapping of regulatory balance sheet items used to calculate regulatory capital. The reference columns presented below reconcile to the reference columns as presented in the template "EU CC1 – Composition of regulatory own funds".

### EU CC2 – Reconciliation of regulatory own funds to balance sheet in the audited financial statements

	Dec 31, 2023			June 30, 2023		
	a	b	References	a	b	References
in € m.	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation		Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	
<b>Assets:</b>						
Cash and central bank balances	178,416	178,394		164,586	164,566	
Interbank balances (w/o central banks)	6,140	6,044		6,567	6,393	
Central bank funds sold and securities purchased under resale agreements	14,725	14,725		11,547	11,547	
Securities borrowed	39	39		104	104	
Financial assets at fair value through profit or loss						
of which:						
Trading assets	125,275	123,357		108,465	107,323	
Positive market values from derivative financial instruments	251,856	252,034		258,731	258,923	
Non-trading financial assets mandatory at fair value through profit and loss	88,047	88,488		91,915	92,363	
Financial assets designated at fair value through profit or loss	75	75		166	166	
Total financial assets at fair value through profit or loss	465,252	463,953		459,278	458,775	
Financial assets at Fair Value through OCI						

	Dec 31, 2023			June 30, 2023		
	a	b	References	a	b	References
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation		Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	
in € m.						
Financial assets mandatory at fair value through OCI	35,546	35,362		29,824	29,663	
Equity Instruments designated at fair value through OCI	0	0		0	0	
Total financial assets at fair value through OCI	35,546	35,362		29,824	29,663	
Financial assets available for sale	0	0		0	0	
Equity method investments	1,013	1,013		1,023	1,023	
of which: Goodwill	77	77		76	76	D
Loans at amortized cost	473,705	477,382		477,380	481,002	
Securities held to maturity	0	0		0	0	
Property and equipment	6,185	6,159		6,010	5,984	
Goodwill and other intangible assets	7,327	7,297		7,141	7,141	D
Other assets	114,697	114,618		128,377	128,392	
of which: Defined benefit pension fund assets	1,089	1,062		1,574	1,545	F
Assets for current tax	1,513	1,509		1,552	1,549	
Deferred tax assets	7,773	7,736		6,904	6,867	E
<b>Total assets</b>	<b>1,312,331</b>	<b>1,314,232</b>		<b>1,300,293</b>	<b>1,303,004</b>	
<b>Liabilities and equity:</b>						
Deposits	622,035	623,011		593,223	594,250	
Central bank funds purchased and securities sold under repurchase agreements	3,038	3,038		2,331	2,331	
Securities loaned	3	3		10	10	
Financial liabilities at fair value through profit or loss						
of which:						
Trading liabilities	44,005	44,002		54,006	53,984	
Negative market values from derivative financial instruments	238,260	238,374		243,272	243,381	
Financial liabilities designated at fair value through profit or loss	83,727	83,277		79,146	78,899	
Investment contract liabilities	484	0		483	0	
Total financial liabilities at fair value through profit or loss	366,475	365,653		376,907	376,263	
Other short-term borrowings	9,620	9,563		7,081	7,021	
Other liabilities	113,036	111,621		121,162	120,287	
Provisions	2,448	2,416		2,806	2,787	
Liabilities for current tax	631	626		587	584	
Deferred tax liabilities	546	445		637	538	
Long-term debt	119,390	122,881		122,323	125,731	
of which: Subordinated long-term debt <sup>1</sup>	11,311	11,311		11,271	11,271	H.I
Trust preferred securities <sup>1</sup>	289	289		513	513	H.I
Obligation to purchase common shares	0	0		0	0	
<b>Total liabilities</b>	<b>1,237,513</b>	<b>1,239,546</b>		<b>1,227,579</b>	<b>1,230,316</b>	
Common shares, no par value, nominal value of € 2.56	5,223	5,223		5,223	5,223	A
Additional paid-in capital	40,187	40,187		39,958	39,958	A
Retained earnings	21,316	21,282		19,050	19,119	B
Common shares in treasury, at cost	(481)	(481)		(54)	(54)	A
Equity classified as obligation to purchase common shares	0	0		0	0	A
Accumulated other comprehensive income, net of tax	(1,760)	(1,760)		(1,737)	(1,737)	C
<b>Total shareholders' equity</b>	<b>64,486</b>	<b>64,451</b>		<b>62,440</b>	<b>62,509</b>	
Additional equity components	8,569	8,569		8,551	8,551	G
Noncontrolling interests	1,763	1,666		1,723	1,629	
<b>Total equity</b>	<b>74,818</b>	<b>74,686</b>		<b>72,714</b>	<b>72,688</b>	
<b>Total liabilities and equity</b>	<b>1,312,331</b>	<b>1,314,232</b>		<b>1,300,293</b>	<b>1,303,004</b>	

<sup>1</sup> Eligible Additional Tier 1 and Tier 2 instruments are reflected in these balance sheet positions based on their IFRS carrying values.



## Outline of differences in scopes of consolidation

### Article 436 (b) CRR

As of year-end 2023, Deutsche Banks' regulatory group comprised 298 entities (excluding the parent Deutsche Bank Aktiengesellschaft), of which one was consolidated on a pro-rata basis. The classification applied for these entities is in accordance with CRR. The regulatory group comprised 22 credit institutions, one payment institution, two investment firms, 194 financial institutions, three financial holding companies, ten asset management companies and 66 ancillary services undertakings.

As of year-end 2022, our regulatory group comprised 312 entities (excluding the parent Deutsche Bank Aktiengesellschaft), of which one was consolidated on a pro-rata basis. The regulatory group comprised 22 credit institutions, one payment institution, one investment firm, 191 financial institutions, 16 financial holding companies, ten asset management companies and 71 ancillary services undertakings.

17 entities were exempted from regulatory consolidation pursuant to Section 31 (3) KWG in conjunction with Article 19 CRR as per year end 2023 (year end 2022: 25 entities). These regulations allow the exclusion of small entities in the regulatory scope of application from consolidated regulatory reporting if either their total assets (including off-balance sheet items) are below € 10 million or below 1 % of our Group's total assets. Also, these entities were not required to be consolidated in our financial statements in accordance with IFRS.

These regulatory unconsolidated entities have to be included in the deduction treatment for significant investments in financial sector entities pursuant to Article 36 (1) (i) CRR in conjunction with Article 43 (c) CRR. The book values of participations in their equity included in the deduction treatment amounted to in total € 2.2 million as per year end 2023 (year end 2022: € 2.2 million).

Table EU LI3 below illustrates the differences in the scopes of consolidation for financial accounting and regulatory purposes for the Group. It considers all entities for which the method of the accounting consolidation is different from the method of the regulatory consolidation. On an entity-by-entity level the table presents the method of accounting consolidation and then in the following columns whether and how – under the regulatory scope of consolidation – the entity is recognized. This is then finally supplemented by a short description of the entity.

### EU LI3 – Outline of the differences in the scopes of consolidation (entity by entity)

a	b	Method of prudential consolidation					h
		c	d	e	f	g	
Name of the entity	Method of accounting consolidation	Full consolidation	Proportional consolidation	Equity method	Neither consolidated nor deducted	Deducted	Description of the entity
5353 WHMR LLC	Full consolidation					x	Other Enterprise
Al Mi'yar Capital SA	Full consolidation				x		Other Enterprise
Alfred Herrhausen Gesellschaft mbH	Full consolidation				x		Other Enterprise
Alguer Inversiones Designated Activity Company	Full consolidation				x		Other Enterprise
Alixville Invest, S.L.	Full consolidation				x		Other Enterprise
Altersvorsorge Fonds Hamburg Alter Wall Dr. Juncker KG	Full consolidation				x		Other Enterprise
Atlas Investment Company 1 S.à r.l., en liquidation volontaire	Full consolidation				x		Financial Institution
Atlas Investment Company 2 S.à r.l., en liquidation volontaire	Full consolidation				x		Financial Institution
Atlas Investment Company 3 S.à r.l., en liquidation volontaire	Full consolidation				x		Financial Institution
Atlas Investment Company 4 S.à r.l., en liquidation volontaire	Full consolidation				x		Financial Institution
Atlas Portfolio Select SPC	Full consolidation					x	Financial Institution
Atlas SICAV - FIS, en liquidation volontaire	Full consolidation				x		Other Enterprise
Australian Secured Personal Loans Trust	Full consolidation				x		Other Enterprise
Axia Insurance, Ltd.	Full consolidation				x		Other Enterprise
Benefit Trust GmbH	No consolidation	x					Financial Institution
Borfield Sociedad Anonima	Full consolidation				x		Other Enterprise
BT Globenet Nominees Limited	Full consolidation				x		Other Enterprise
Cathay Advisory (Beijing) Co., Ltd.	Full consolidation				x		Other Enterprise
Cathay Capital Company Limited	Full consolidation					x	Financial Institution
Cathay Strategic Investment Company Limited	Full consolidation				x		Financial Institution
Cathay Strategic Investment Company No. 2 Limited (in voluntary liquidation)	Full consolidation				x		Financial Institution
Cayman Reference Fund Holdings Limited	Full consolidation				x		Ancillary Services Undertaking
Ceto S.à r.l.	Full consolidation				x		Financial Institution

a	b	c	d	e	f		g	h
					Method of prudential consolidation			
Name of the entity	Method of accounting consolidation	Full consolidation	Proportional consolidation	Equity method	Neither consolidated nor deducted	Deducted		Description of the entity
Charitable Luxembourg Four S.à r.l.	Full consolidation				x			Financial Institution
Charitable Luxembourg Three S.à r.l.	Full consolidation				x			Financial Institution
Charitable Luxembourg Two S.à r.l.	Full consolidation				x			Financial Institution
CLASS Limited	Full consolidation				x			Other Enterprise
Collins Capital Low Volatility Performance II Special Investments, Ltd.	Full consolidation				x			Financial Institution
Crofton Invest, S.L.	Full consolidation				x			Other Enterprise
Danube Properties S.à r.l., en faillite	Full consolidation				x			Other Enterprise
DB (Malaysia) Nominee (Asing) Sdn. Bhd.	Full consolidation				x			Other Enterprise
DB (Malaysia) Nominee (Tempatan) Sendirian Berhad	Full consolidation				x			Other Enterprise
DB Holding Fundo de Investimento Multimercado Investimento no Exterior Crédito Privado	Full consolidation					x		Financial Institution
DB Immobilienfonds 1 Wieland KG	Full consolidation				x			Other Enterprise
DB International Trust (Singapore) Limited	Full consolidation				x			Other Enterprise
DB Investment Partners Pte. Ltd.	Full consolidation				x			Other Enterprise
DB Management Support GmbH	Full consolidation					x		Ancillary Services Undertaking
DB Nominees (Hong Kong) Limited	Full consolidation					x		Ancillary Services Undertaking
DB Nominees (Jersey) Limited	Full consolidation				x			Other Enterprise
DB Nominees (Singapore) Pte Ltd	Full consolidation				x			Other Enterprise
DB Re S.A.	Full consolidation					x		Reinsurance Undertaking
DB SPEARs/LIFERs, Series DB-8092 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8093 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8095 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8096 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8097 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8098 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8102 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8103 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8108 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8114 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8115 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8116 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8117 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8201 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DB-8202 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8052 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8055 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8057 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8060 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8067 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8070 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8071 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8081 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8082 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8083 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8085 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8086 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8090 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8094 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8099 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8100 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8101 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8105 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8106 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8107 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8109 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8110 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8112 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8113 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8118 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8902 Trust	Full consolidation					x		Ancillary Services Undertaking
DB SPEARs/LIFERs, Series DBE-8908 Trust	Full consolidation					x		Ancillary Services Undertaking
DB Trustee Services Limited	Full consolidation				x			Other Enterprise
DB Trustees (Hong Kong) Limited	Full consolidation				x			Other Enterprise
DB VersicherungsManager GmbH	Full consolidation				x			Other Enterprise

a	b	c	d	e	f		g	h
					Method of prudential consolidation			
Name of the entity	Method of accounting consolidation	Full consolidation	Proportional consolidation	Equity method	Neither consolidated nor deducted	Deducted	Description of the entity	
DB Vita S.A.	Full consolidation					x	Insurance Undertaking	
DBX ETF Trust	Full consolidation				x		Other Enterprise	
De Heng Asset Management Company Limited	Full consolidation				x		Financial Institution	
Deloraine Spain, S.L.	Full consolidation				x		Other Enterprise	
Deutsche Bank (Cayman) Limited	Full consolidation				x		Other Enterprise	
Deutsche Bank Insurance Agency Incorporated	Full consolidation				x		Other Enterprise	
Deutsche Bank Luxembourg S.A. - Fiduciary Deposits	Full consolidation				x		Other Enterprise	
Deutsche Bank Luxembourg S.A. - Fiduciary Note Programme	Full consolidation				x		Other Enterprise	
Deutsche Bank Representative Office Nigeria Limited	Full consolidation					x	Ancillary Services Undertaking	
Deutsche Cayman Ltd.	Full consolidation				x		Other Enterprise	
Deutsche Custody N.V.	Full consolidation					x	Financial Institution	
Deutsche Gesellschaft für Immobilien-Leasing mit beschränkter Haftung	Full consolidation					x	Financial Institution	
Deutsche Grundbesitz-Anlagegesellschaft mit beschränkter Haftung	Full consolidation				x		Other Enterprise	
Deutsche International Corporate Services Limited	Full consolidation				x		Other Enterprise	
Deutsche International Custodial Services Limited	Full consolidation				x		Other Enterprise	
Deutsche Investor Services Private Limited	Full consolidation				x		Other Enterprise	
Deutsche Securities (SA) (Proprietary) Limited	Full consolidation				x		Other Enterprise	
Deutsche StiftungsTrust GmbH	Full consolidation				x		Other Enterprise	
Deutsche Trustee Company Limited	Full consolidation				x		Other Enterprise	
Deutsche Trustee Services (India) Private Limited	Full consolidation				x		Other Enterprise	
Deutsche Trustees Malaysia Berhad	Full consolidation				x		Other Enterprise	
Deutsches Institut für Altersvorsorge GmbH	Full consolidation				x		Other Enterprise	
DI Deutsche Immobilien Treuhandgesellschaft mbH	Full consolidation				x		Other Enterprise	
Durian (Luxembourg) S.à r.l.	Full consolidation				x		Other Enterprise	
DWS Access S.A.	Full consolidation				x		Other Enterprise	
DWS Alternatives (IE) ICAV	Full consolidation				x		Other Enterprise	
DWS Alternatives France	Full consolidation				x		Other Enterprise	
DWS Funds	Full consolidation				x		Other Enterprise	
DWS Garant	Full consolidation				x		Other Enterprise	
DWS Invest	Full consolidation				x		Other Enterprise	
DWS Invest (IE) ICAV	Full consolidation				x		Other Enterprise	
DWS Shanghai Private Equity Fund Management Limited	Full consolidation				x		Other Enterprise	
DWS Zeitwert Protect	Full consolidation				x		Other Enterprise	
DWS-Fonds Treasury Liquidity (EUR)	Full consolidation				x		Other Enterprise	
Dynamic Infrastructure Securities Fund LP	Full consolidation				x		Financial Institution	
Earls Four Limited	Full consolidation				x		Other Enterprise	
EC EUROPA IMMOBILIEN FONDS NR. 3 GmbH & CO. KG i.l.	Full consolidation				x		Other Enterprise	
Einkaufszentrum "HVD Dresden" S.à r.l. & Co. KG i.l.	Full consolidation				x		Other Enterprise	
Eirles Three Designated Activity Company	Full consolidation				x		Other Enterprise	
Elm (Luxembourg) S.à r.l.	Full consolidation				x		Other Enterprise	
Emerging Markets Capital Protected Investments Limited	Full consolidation				x		Other Enterprise	
Emeris	Full consolidation				x		Financial Institution	
Encina Property Finance Designated Activity Company	Full consolidation				x		Financial Institution	
Epicuro SPV S.r.l.	Full consolidation				x		Other Enterprise	
ERET Lux 1 S.à r.l.	Full consolidation				x		Other Enterprise	
European Real Estate Transformation Fund S.C.A. SICAV-RAIF	Full consolidation				x		Other Enterprise	
Fiduciaria Sant' Andrea S.r.l.	Full consolidation				x		Other Enterprise	
Finanzberatungsgesellschaft mbH der Deutschen Bank	Full consolidation					x	Ancillary Services Undertaking	
Fir (Luxembourg) S.à r.l.	Full consolidation				x		Other Enterprise	
Fondo Privado de Titulización PYMES I Designated Activity Company	Full consolidation				x		Other Enterprise	
Franz Urbig- und Oscar Schlitter-Stiftung Gesellschaft mit beschränkter Haftung	Full consolidation					x	Ancillary Services Undertaking	

a	b	c	d	e	f g		h
					Method of prudential consolidation		
Name of the entity	Method of accounting consolidation	Full consolidation	Proportional consolidation	Equity method	Neither consolidated nor deducted	Deducted	Description of the entity
Freddie Mac Class A Taxable Multifamily M Certificates Series M-037	Full consolidation					x	Ancillary Services Undertaking
Freddie Mac Class A Taxable Multifamily M Certificates Series M-039	Full consolidation					x	Ancillary Services Undertaking
Freddie Mac Class A Taxable Multifamily M Certificates Series M-040	Full consolidation					x	Ancillary Services Undertaking
Freddie Mac Class A Taxable Multifamily M Certificates Series M-041	Full consolidation					x	Ancillary Services Undertaking
Freddie Mac Class A Taxable Multifamily M Certificates Series M-043	Full consolidation					x	Ancillary Services Undertaking
Freddie Mac Class A Taxable Multifamily M Certificates Series M-044	Full consolidation					x	Ancillary Services Undertaking
Freddie Mac Class A Taxable Multifamily M Certificates Series M-047	Full consolidation					x	Ancillary Services Undertaking
Fünfte SAB Treuhand und Verwaltung GmbH & Co. Suhl "Rimbachzentrum" KG	Full consolidation				x		Other Enterprise
Galene S.à r.l.	Full consolidation				x		Other Enterprise
Gladyr Spain, S.L.	Full consolidation				x		Other Enterprise
Global Opportunities Co-Investment Feeder, LLC	Full consolidation				x		Financial Institution
Global Opportunities Co-Investment, LLC	Full consolidation				x		Financial Institution
Greenheart (Luxembourg) S.à r.l.	Full consolidation				x		Other Enterprise
Grundstücksgesellschaft Frankfurt Bockenheimer Landstraße GbR	Full consolidation				x		Other Enterprise
Grundstücksgesellschaft Kerpen-Sindorf Vogelrutherfeld GbR	Full consolidation				x		Other Enterprise
Grundstücksgesellschaft Wiesbaden Luisenstraße/Kirchgasse GbR	Full consolidation				x		Other Enterprise
Havbell Designated Activity Company	Full consolidation				x		Other Enterprise
Histria Inversiones Designated Activity Company	Full consolidation				x		Financial Institution
Immobilienfonds Büro-Center Erfurt am Flughafen Bindersleben I GbR	Full consolidation				x		Other Enterprise
Immobilienfonds Wohn- und Geschäftshaus Köln-Blumenberg V GbR	Full consolidation				x		Other Enterprise
Infrastructure Debt Fund S.C.Sp. SICAV-RAIF	Full consolidation				x		Other Enterprise
Inn Properties S.à r.l., en faillite	Full consolidation				x		Other Enterprise
Investor Solutions Limited	Full consolidation				x		Other Enterprise
Isar Properties S.à r.l., en faillite	Full consolidation				x		Other Enterprise
IVAF (Jersey) Limited	Full consolidation				x		Ancillary Services Undertaking
Kelona Invest, S.L.	Full consolidation				x		Other Enterprise
KH Kitty Hall Holdings Limited	Full consolidation				x		Financial Institution
Kratus Inversiones Designated Activity Company	Full consolidation				x		Financial Institution
Ledyard, S.L.	Full consolidation				x		Other Enterprise
Leonardo III Initial GP Limited	Full consolidation					x	Financial Institution
Life Mortgage S.r.l.	Full consolidation				x		Other Enterprise
Lockwood Invest, S.L.	Full consolidation				x		Financial Institution
Lunashadow Limited	Full consolidation				x		Financial Institution
M Cap Finance Mittelstandsfonds GmbH & Co. KG	No consolidation		x				Financial Institution
Malabo Holdings Designated Activity Company	Full consolidation				x		Financial Institution
Merlin XI	Full consolidation				x		Financial Institution
Meseta Inversiones Designated Activity Company	Full consolidation				x		Other Enterprise
Numis Nominees (Client) Limited	Full consolidation				x		Other Enterprise
Numis Nominees (NSI) Limited	Full consolidation				x		Other Enterprise
Numis Nominees Limited	Full consolidation				x		Other Enterprise
Oasis Securitisation S.r.l.	Full consolidation				x		Other Enterprise
Oder Properties S.à r.l., en faillite	Full consolidation				x		Other Enterprise
OPB-Oktava GmbH	Full consolidation					x	Financial Institution
OPPENHEIM PRIVATE EQUITY Verwaltungsgesellschaft mbH	Full consolidation					x	Financial Institution
Opus Niestandaryzowany Sekurytyzacyjny Fundusz Inwestycyjny Zamkniety	Full consolidation				x		Other Enterprise
OTTAM Mexican Capital Trust Designated Activity Company	Full consolidation				x		Other Enterprise
Palladium Global Investments S.A.	Full consolidation				x		Other Enterprise
Palladium Securities 1 S.A.	Full consolidation				x		Other Enterprise
PanAsia Funds Investments Ltd.	Full consolidation				x		Financial Institution
PEIF III SLP Feeder GP, S.à r.l.	Full consolidation				x		Financial Institution
PEIF III SLP Feeder, SCSp	Full consolidation				x		Other Enterprise

a	b	c	d	e	Method of prudential consolidation		h
					f	g	
Name of the entity	Method of accounting consolidation	Full consolidation	Proportional consolidation	Equity method	Neither consolidated nor deducted	Deducted	Description of the entity
Plantation Bay, Inc.	Full consolidation				x		Other Enterprise
Postbank Finanzberatung AG	Full consolidation				x		Other Enterprise
Postbank Immobilien GmbH	Full consolidation				x		Other Enterprise
Prof. Weber GmbH	Full consolidation				x		Other Enterprise
Property Debt Fund S.C.Sp. SICAV-RAIF	Full consolidation				x		Other Enterprise
PUTTERS/DRIVERS, Series 3004 Trust	Full consolidation					x	Ancillary Services Undertaking
PUTTERS/DRIVERS, Series 3005DB Trust	Full consolidation					x	Ancillary Services Undertaking
PUTTERS/DRIVERS, Series 3006DB Trust	Full consolidation					x	Ancillary Services Undertaking
PUTTERS/DRIVERS, Series 3007DB Trust	Full consolidation					x	Ancillary Services Undertaking
Radical Properties Unlimited Company	Full consolidation				x		Financial Institution
Rhine Properties S.à r.l., en faillite	Full consolidation				x		Other Enterprise
Riviera Real Estate	Full consolidation				x		Other Enterprise
ROCKY 2021-1 SPV S.r.l.	Full consolidation				x		Other Enterprise
Romareda Holdings Designated Activity Company	Full consolidation				x		Financial Institution
RREEF Core Plus Residential Fund LP	Full consolidation				x		Other Enterprise
RREEF India Advisors Private Limited	Full consolidation				x		Other Enterprise
Samburg Invest, S.L.	Full consolidation				x		Other Enterprise
SCB Alp Spitze UG (haftungsbeschränkt)	Full consolidation				x		Financial Institution
Seaconview Designated Activity Company	Full consolidation				x		Other Enterprise
SGL SLP Feeder GP S.à r.l.	Full consolidation				x		Financial Institution
SGL SLP Feeder SCSp	Full consolidation					x	Financial Institution
Somkid Immobiliare S.r.l.	Full consolidation				x		Other Enterprise
SP Mortgage Trust	Full consolidation				x		Other Enterprise
Stelvio Immobiliare S.r.l.	Full consolidation				x		Other Enterprise
Style City Limited	Full consolidation				x		Financial Institution
Swabia 1 Designated Activity Company	Full consolidation				x		Other Enterprise
Tagus - Sociedade de Titularização de Creditos, S.A.	Full consolidation				x		Other Enterprise
Tasman NZ Residential Mortgage Trust	Full consolidation				x		Other Enterprise
Tech Venture Growth Portfolio, F.C.R.	Full consolidation					x	Financial Institution
TESATUR Beteiligungsgesellschaft mbH & Co. Objekt Halle I KG i.L.	No consolidation	x					Financial Institution
TESATUR Beteiligungsgesellschaft mbH & Co. Objekt Nordhausen I KG i.L.	No consolidation	x					Financial Institution
Timing Chance Multi Asset Income	Full consolidation				x		Other Enterprise
Trave Properties S.à r.l., en faillite	Full consolidation				x		Other Enterprise
Treinvest Service GmbH	Full consolidation				x		Other Enterprise
VCJ Lease S.à r.l.	Full consolidation				x		Other Enterprise
Vermögensfondmandat Flexible (80% teilgeschützt)	Full consolidation				x		Other Enterprise
Waltzfire Limited	Full consolidation				x		Financial Institution
Wedverville Spain, S.L.	Full consolidation				x		Other Enterprise
Wendelstein 2017-1 UG (haftungsbeschränkt)	Full consolidation				x		Other Enterprise
Xtrackers (IE) Public Limited Company	Full consolidation				x		Other Enterprise
Xtrackers II	Full consolidation				x		Other Enterprise

## IFRS 9 transitional arrangements on own funds

### Article 473a CRR

As of June 30, 2020, Deutsche Bank applied the transitional arrangements in relation to IFRS 9 as provided in Article 473a CRR to all of the CET 1 measures. The CRR allowed for a phase-in of the CET 1 reduction due to the increase in credit loss allowance as a result of the implementation of IFRS 9. The phase-in period of five years has expired at the end of 2022.

As per the CRR amendment published on June 26, 2020, the transitional provisions and phase-in percentages have been modified such that the dynamic component is reset and the implementation period extended until 2024, i.e., it separately covers the periods from January 1, 2018, to January 1, 2020 and the period from January 1, 2020 until 2024.

As of December 31, 2023 there is no capital add back for the IFRS 9 transitional arrangements from the dynamic component, which compares the credit loss allowance levels since January 1, 2020 and the reporting date.

As a consequence, CET 1, Tier 1 and Total Capital as well as risk weighted assets and leverage exposure and related ratios did not change. The template 'IFRS 9-FL: Comparison of institutions' own funds and capital and leverage ratios with and without the application of transitional arrangements for IFRS 9 or analogous ECLs" is not disclosed, also due to immateriality in prior periods.

## Main features of capital instruments

### Article 437 (b-c) CRR

A description of the main features of the Common Equity Tier 1, Additional Tier 1 and Tier 2 capital instruments issued by Deutsche Bank is published on Deutsche Bank's website ([db.com/ir/en/capital-instruments.htm](https://www.db.com/ir/en/capital-instruments.htm)). In addition, this website provides full terms and conditions of all Common Equity Tier 1, Additional Tier 1 and Tier 2 capital instruments to the extent that these do not constitute private placements and are treated confidentially.

## Capital buffers

### Minimum capital requirements and additional capital buffers

#### Article 438 (b) CRR

The Pillar 1 CET 1 minimum capital requirement applicable to the Group is 4.50% of RWA. The Pillar 1 total capital requirement of 8.00% demands further resources that may be met with up to 1.50% Additional Tier 1 capital and up to 2.00% Tier 2 capital.

Failure to meet minimum capital requirements can result in supervisory measures such as restrictions on profit distributions or limitations on certain businesses, such as lending. Deutsche Bank complied with the minimum regulatory capital adequacy requirements in 2023.

In addition to these minimum capital requirements, the following combined capital buffer requirements were fully effective beginning 2023 onwards. These buffer requirements must be met in addition to the Pillar 1 minimum capital requirements but can be drawn down in times of economic stress.

The capital conservation buffer is implemented in Section 10c German Banking Act, based on Article 129 CRD and equals a requirement of 2.50% CET 1 capital of RWA in 2023 and onwards.

The countercyclical capital buffer is deployed in a jurisdiction when excess credit growth is associated with an increase in system-wide risk. It may vary between 0% and 2.50% CET 1 capital of RWA. In exceptional cases, it could also be higher than 2.50%. The institution-specific countercyclical buffer that applies to Deutsche Bank is the weighted average of the countercyclical capital buffers that apply in the jurisdictions where our relevant credit exposures are located. As of December 31, 2023, the institution-specific countercyclical capital buffer was at 0.45%.

In addition to the aforementioned buffers, national authorities, such as the BaFin, may require a systemic risk buffer to prevent and mitigate long-term non-cyclical systemic or macro-prudential risks that are not covered by the CRR. They can require an additional buffer of up to 5.00% CET 1 capital of RWA. Systemic risk buffer applied to Deutsche Bank as of December 31, 2023 was 0.19%. This is in relation to German residential real estate exposures and is effective from February 2023.

Deutsche Bank continues to be designated as a global systemically important institution (G-SII) by the BaFin in agreement with the Deutsche Bundesbank, resulting in a G-SII buffer requirement of 1.50% CET 1 capital of RWA in 2023 based on the indicators as published in 2020. This assessment has been confirmed by the FSB in 2023. Further, BaFin has announced that the G-SII buffer requirement for Deutsche Bank will remain unchanged for the years 2024 and 2025. Deutsche Bank continues to publish the indicators in the Pillar 3 report on the bank's website.

Additionally, Deutsche Bank has been classified by BaFin in agreement with the Deutsche Bundesbank as an "other systemically important institution" (O-SII) with an additional capital buffer requirement of 2.00% in 2023 that has to be met on a consolidated level. Hence, for Deutsche Bank, the O-SII buffer amounts to 2.00% in 2023. BaFin has announced O-SII buffer requirement for Deutsche Bank remain unchanged for the year 2024. The higher of the buffers for systemically important institutions (G-SII buffer or O-SII buffer) must be applied.

Pursuant to the Pillar 2 SREP, the ECB may impose capital requirements on individual banks which are more stringent than statutory requirements (so-called Pillar 2 requirement).

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

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

#### Overview total capital requirements and capital buffers

	2023	2024
<b>Pillar 1</b>		
Minimum CET 1 requirement	4.50 %	4.50 %
Combined buffer requirement	5.14 %	5.19 %
Capital Conservation Buffer	2.50 %	2.50 %
Countercyclical Buffer <sup>1</sup>	0.45 %	0.50 %
Systemic Risk Buffer <sup>2</sup>	0.19 %	0.19 %
Maximum of:	2.00 %	2.00 %
G-SII Buffer	1.50 %	1.50 %
O-SII Buffer	2.00 %	2.00 %
<b>Pillar 2</b>		
Pillar 2 SREP Add-on of CET 1 capital	2.70 %	2.65 %
of which covered by CET 1 capital	1.52 %	1.49 %
of which covered by Tier 1 capital	2.03 %	1.99 %
of which covered by Tier 2 capital	0.68 %	0.66 %
<b>Total CET 1 requirement from Pillar 1 and 2<sup>3</sup></b>	<b>11.16 %</b>	<b>11.18 %</b>
<b>Total Tier 1 requirement from Pillar 1 and 2</b>	<b>13.17 %</b>	<b>13.18 %</b>
<b>Total capital requirement from Pillar 1 and 2</b>	<b>15.84 %</b>	<b>15.84 %</b>

<sup>1</sup> Deutsche Bank's countercyclical buffer requirement is subject to country-specific buffer rates decreed by EBA and the Basel Committee of Banking Supervision (BCBS) as well as Deutsche Bank's relevant credit exposures as per respective reporting date; the countercyclical buffer rate for 2024 has been calculated to be 0.50% based on known countercyclical buffer changes in 2024. The countercyclical buffer is subject to Deutsche Bank portfolio changes and further changes of countercyclical buffer rates throughout the year

<sup>2</sup> The Systemic risk buffer rate for 2024 has been calculated to be 0.19% based on known systemic risk buffer changes in 2024. The Systemic risk buffer is subject to Deutsche Bank portfolio changes and further changes in systemic risk buffer rates throughout the year

<sup>3</sup> The total Pillar 1 and Pillar 2 CET 1 requirement (excluding the "Pillar 2" guidance) is calculated as the sum of the SREP requirement, the systemic risk buffer requirement, the capital conservation buffer requirement and countercyclical buffer requirement as well as the higher of the G-SII/O-SII requirement

## Geographical distribution of credit exposures

### Article 440 (a) CRR

The following tables disclose the amount of Deutsche Bank's countercyclical buffer as well as the geographical distribution of credit exposures relevant for its calculation in the standard format as set out in Commission Delegated Regulation (EU) 2015/1555. The geographical split table shows countries on an individual basis if each country imposes a countercyclical capital buffer rate or the total own funds requirements exceed € 20 million. The values for the remaining countries are shown as "Other".

Countercyclical capital buffer rates are determined by Basel Committee member jurisdictions. Countercyclical capital buffer varies according to a percentage of risk weighted assets. The "General credit exposures" include only credit exposures to the private sector. Exposures to the public sector and to institutions are not in scope. The "Trading book exposures" contain market risk standardized approach non-securitization and trading book securitization positions as well as the IRC ("Incremental Risk Charge").

EU CCyB1 - Geographical distribution of credit exposures relevant for the calculation of the countercyclical capital buffer

Dec 31, 2023

in € m.	a	b	c		d	e	f	g	h	i	j	k	l	m
	General credit exposures		Relevant credit exposures – Market risk			Securitisation exposures Exposure value for non-trading book	Total exposure value	Relevant credit risk exposures - Credit risk	Relevant credit exposures – Market risk	Own funds requirements				
	Exposure value for SA	Exposure value for IRB	Sum of long and short positions of trading book exposures for SA	Value of trading book exposures for Internal models	Relevant credit exposures – Securitisation positions in the non-trading book					Total	Risk-weighted exposure amounts	Own fund requirements weights (%)	Countercyclical buffer rate (%)	
Australia	57	4,605	345	717	2,441	8,165	188	29	33	251	3,140	1.20	1.00	
Austria	0	1,164	0	49	0	1,213	35	3	0	39	485	0.19	0.00	
Belgium	66	3,579	0	0	46	3,692	105	8	1	114	1,428	0.55	0.00	
Benin	0	401	0	0	0	401	30	0	0	30	371	0.14	0.00	
Bermuda	10	1,403	0	21	393	1,828	67	0	10	78	972	0.37	0.00	
Brazil	67	1,568	0	977	0	2,612	76	67	0	144	1,797	0.69	0.00	
British Virgin Islands	3	4,344	0	0	0	4,347	59	0	0	59	738	0.28	0.00	
Bulgaria	0	37	0	0	0	37	1	0	0	1	16	0.01	2.00	
Canada	72	2,700	0	203	457	3,431	103	3	6	112	1,399	0.54	0.00	
Cayman Islands	128	9,207	4	0	65	9,405	323	1	13	338	4,221	1.62	0.00	
China	37	4,898	5	3,047	0	7,987	237	67	0	305	3,811	1.46	0.00	
Colombia	5	520	0	0	0	525	24	4	0	28	351	0.13	0.00	
Croatia	1	56	0	0	0	57	2	0	0	2	24	0.01	1.00	
Cyprus	25	660	0	64	0	748	10	2	0	11	141	0.05	0.50	
Czech Republic	3	283	0	0	0	286	8	0	0	8	98	0.04	2.00	
Denmark	32	1,463	0	53	0	1,548	68	1	0	69	863	0.33	2.50	
Estonia	0	255	0	18	0	273	10	0	0	10	126	0.05	1.50	
Finland	0	531	3	250	0	784	18	5	0	23	285	0.11	0.00	
France	242	8,988	81	967	394	10,672	274	57	4	335	4,187	1.60	0.50	
Germany	7,533	266,503	57	56	6,411	280,560	7,661	59	96	7,816	97,694	37.40	0.75	
Ghana	0	328	0	1	0	329	24	0	0	24	297	0.11	0.00	
Guernsey	34	1,087	0	2	0	1,123	27	0	0	28	344	0.13	0.00	
Hong Kong	20	3,219	0	128	0	3,367	77	2	0	79	985	0.38	1.00	
Iceland	2	8	0	54	0	64	1	0	0	1	12	0.00	2.00	
India	3,159	7,138	1	6	48	10,351	658	16	1	675	8,434	3.23	0.00	
Indonesia	56	1,130	0	380	0	1,565	50	38	0	88	1,104	0.42	0.00	
Ireland	320	7,261	57	0	3,984	11,622	154	8	108	270	3,373	1.29	1.00	
Israel	2	451	0	1,301	0	1,754	18	45	0	63	789	0.30	0.00	
Italy (incl. San Marino)	1,706	23,009	52	0	1,317	26,084	1,122	35	47	1,204	15,054	5.76	0.00	
Ivory Coast	0	392	0	48	0	440	28	0	0	28	352	0.13	0.00	
Japan	147	2,195	0	182	48	2,573	111	10	1	121	1,509	0.58	0.00	
Jersey	64	2,814	0	11	765	3,653	123	0	9	132	1,653	0.63	0.00	
Lithuania	0	5	0	2	0	8	0	0	0	0	5	0.00	1.00	
Luxembourg	2,491	17,538	7	243	5,428	25,707	629	0	74	702	8,781	3.36	0.50	
Malaysia	7	704	0	445	0	1,156	20	10	0	30	377	0.14	0.00	
Mauritius	205	439	0	0	0	644	42	0	0	42	528	0.20	0.00	
Mexico	21	1,149	0	0	0	1,170	56	0	0	56	694	0.27	0.00	
Netherlands	1,215	13,563	67	140	379	15,364	442	6	10	457	5,716	2.19	1.00	
Norway	101	838	0	136	0	1,075	38	4	0	42	527	0.20	2.50	



Dec 31, 2023

	a	b	c		d	e	f	g	h	i	j	k	l	m
	General credit exposures		Relevant credit exposures – Market risk					Own funds requirements						
	Exposure value for SA	Exposure value for IRB	Sum of long and short positions of trading book exposures for SA	Value of trading book exposures for Internal models	Securitisation exposures Exposure value for non-trading book	Total exposure value	Relevant credit risk exposures - Credit risk	Relevant credit exposures – Market risk	Relevant credit exposures – Securitisation positions in the non-trading book	Total	Risk-weighted exposure amounts	Own fund requirements weights (%)	Countercyclical buffer rate (%)	
in € m.														
Poland	3	2,184	0	151	0	2,339	60	2	0	62	779	0.30	0.00	
Qatar	37	1,977	0	0	0	2,015	51	1	0	52	644	0.25	0.00	
Romania	47	80	0	25	0	152	7	1	0	8	104	0.04	1.00	
Saudi Arabia	19	2,282	0	15	0	2,316	32	0	0	32	398	0.15	0.00	
Singapore	277	5,154	5	350	8	5,793	149	2	0	151	1,892	0.72	0.00	
Slovakia	0	92	0	0	0	93	1	0	0	2	22	0.01	1.50	
Slovenia	0	77	0	0	0	77	1	0	0	1	17	0.01	0.50	
South Africa	88	414	0	0	0	502	30	5	0	34	428	0.16	0.00	
South Korea	18	3,125	0	30	0	3,174	46	38	0	85	1,058	0.41	0.00	
Spain	330	17,642	51	622	14	18,659	693	11	0	704	8,802	3.37	0.00	
Sri Lanka	1	181	0	49	0	231	8	22	0	30	372	0.14	0.00	
Sweden	47	2,210	0	125	0	2,383	77	0	0	77	966	0.37	2.00	
Switzerland	64	11,659	0	194	0	11,917	227	0	0	227	2,843	1.09	0.00	
Thailand	0	895	0	301	0	1,195	32	14	0	46	575	0.22	0.00	
Turkey	54	823	0	0	0	877	48	0	0	48	594	0.23	0.00	
Ukraine	0	142	0	91	0	233	36	12	0	48	597	0.23	0.00	
United Arab Emirates	34	2,327	0	0	0	2,361	46	2	0	48	605	0.23	0.00	
United Kingdom	639	24,394	6	714	1,594	27,347	669	32	35	736	9,203	3.52	2.00	
United States of America (incl. Puerto Rico)	2,248	126,983	1,016	0	51,266	181,512	3,253	147	660	4,061	50,759	19.43	0.00	
Uzbekistan	0	854	0	2	0	856	36	0	0	37	457	0.17	0.00	
Vietnam	2	741	0	0	0	743	45	0	0	45	563	0.22	0.00	
Other	1,136	12,031	270	592	3,379	17,409	471	46	31	548	6,846	2.62	0.00	
<b>Total</b>	<b>22,877</b>	<b>612,701</b>	<b>2,028</b>	<b>12,763</b>	<b>78,436</b>	<b>728,805</b>	<b>18,939</b>	<b>818</b>	<b>1,139</b>	<b>20,897</b>	<b>261,208</b>	<b>100.00</b>	<b>0.45</b>	

Jun 30, 2023

in € m.	a	b	c		d	e	f	g	h	i	j	k	l	m
	General credit exposures		Relevant credit exposures – Market risk		Sum of long and short positions of trading book exposures for SA	Value of trading book exposures for Internal models	Securitisation exposures Exposure value for non-trading book	Total exposure value	Relevant credit risk exposures - Credit risk	Relevant credit exposures – Market risk	Own funds requirements			
	Exposure value for SA	Exposure value for IRB	Relevant credit exposures – Securitisation positions in the non-trading book	Total							Risk-weighted exposure amounts	Own fund requirements weights (%)	Countercyclical buffer rate (%)	
Angola	0	541	0	0	0	541	30	0	0	30	379	0.14	0.00	
Australia	60	5,078	215	353	1,846	7,551	190	14	23	227	2,837	1.05	1.00	
Austria	1	1,193	0	249	0	1,442	37	0	0	37	461	0.17	0.00	
Belgium	87	2,593	4	550	46	3,280	97	24	1	122	1,524	0.57	0.00	
Benin	0	457	0	0	0	457	27	0	0	27	338	0.13	0.00	
Bermuda	17	1,172	0	33	354	1,575	57	1	10	68	848	0.32	0.00	
Brazil	14	1,514	0	392	0	1,920	82	25	0	107	1,335	0.50	0.00	
British Virgin Islands	2	4,757	0	4	0	4,762	69	0	0	69	865	0.32	0.00	
Bulgaria	0	21	0	0	0	21	1	0	0	1	8	0.00	1.50	
Canada	91	2,392	0	314	468	3,266	94	0	6	100	1,252	0.47	0.00	
Cayman Islands	384	8,453	3	12	31	8,883	353	1	15	370	4,620	1.72	0.00	
China	58	4,409	0	2,005	0	6,472	225	13	0	238	2,980	1.11	0.00	
Colombia	0	431	0	0	0	431	27	3	0	30	374	0.14	0.00	
Croatia	0	84	0	0	0	84	1	0	0	1	17	0.01	0.50	
Czech Republic	2	394	0	15	0	410	13	0	0	13	160	0.06	2.50	
Denmark	6	1,486	0	5	0	1,498	74	1	0	75	937	0.35	2.50	
Estonia	0	254	0	1	0	255	10	0	0	10	122	0.05	1.00	
France	111	7,418	141	0	507	8,178	260	16	7	282	3,530	1.31	0.50	
Germany	7,791	272,782	61	11,309	9,145	301,088	8,082	135	160	8,378	104,723	38.92	0.75	
Ghana	0	415	0	0	0	415	21	0	0	21	267	0.10	0.00	
Guernsey	19	1,273	0	6	0	1,297	25	0	0	25	317	0.12	0.00	
Hong Kong	18	3,756	0	186	0	3,960	97	2	0	99	1,243	0.46	1.00	
Iceland	0	110	0	49	0	159	3	0	0	3	37	0.01	2.00	
India	2,479	7,351	0	0	22	9,851	462	0	1	462	5,781	2.15	0.00	
Indonesia	11	1,282	0	247	0	1,540	49	7	0	56	700	0.26	0.00	
Ireland	327	6,533	58	153	4,112	11,183	172	13	116	301	3,757	1.40	0.50	
Israel	4	427	0	1,441	0	1,872	22	54	0	75	943	0.35	0.00	
Italy (incl. San Marino)	1,886	24,506	31	0	178	26,601	1,255	261	8	1,525	19,058	7.08	0.00	
Ivory Coast	0	495	0	45	0	541	26	0	0	26	324	0.12	0.00	
Japan	115	2,542	0	605	48	3,309	109	0	1	110	1,370	0.51	0.00	
Jersey	43	3,174	0	2	624	3,844	131	0	7	139	1,737	0.65	0.00	
Luxembourg	2,855	17,050	5	0	4,561	24,471	675	0	66	742	9,271	3.45	0.50	
Malaysia	6	925	0	225	0	1,157	31	1	0	32	396	0.15	0.00	
Mauritius	163	344	0	0	0	507	46	0	0	46	575	0.21	0.00	
Mexico	2	1,381	0	0	0	1,382	49	0	0	49	616	0.23	0.00	
Netherlands	742	12,924	54	108	286	14,114	437	3	9	449	5,618	2.09	1.00	
Nigeria	2	335	0	0	0	337	24	0	0	24	300	0.11	0.00	
Norway	147	738	0	231	0	1,117	37	4	0	41	512	0.19	2.50	
Poland	1	2,126	0	153	0	2,280	64	1	0	65	811	0.30	0.00	
Qatar	37	1,750	0	0	0	1,788	51	0	0	51	633	0.24	0.00	

Jun 30, 2023

	a	b	c		d	e	f	g		h	i		j	k	l	m
	General credit exposures		Relevant credit exposures – Market risk					Own funds requirements								
	Exposure value for SA	Exposure value for IRB	Sum of long and short positions of trading book exposures for SA	Value of trading book exposures for Internal models	Securitisation exposures Exposure value for non-trading book	Total exposure value	Relevant credit risk exposures - Credit risk	Relevant credit exposures – Market risk	Relevant credit exposures – Securitisation positions in the non-trading book	Total	Risk-weighted exposure amounts	Own fund requirements weights (%)	Countercyclical buffer rate (%)			
in € m.																
Romania	18	78	0	25	0	121	4	1	0	5	62	0.02	0.50			
Saudi Arabia	43	1,655	0	22	0	1,720	23	0	0	23	283	0.11	0.00			
Singapore	211	5,640	0	439	0	6,290	208	1	0	209	2,611	0.97	0.00			
Slovakia	0	93	0	0	0	93	1	0	0	1	16	0.01	1.00			
South Africa	66	363	0	0	0	429	28	0	0	29	356	0.13	0.00			
South Korea	13	2,377	1	319	0	2,710	42	20	0	62	777	0.29	0.00			
Spain	278	19,333	53	1,094	29	20,787	680	76	1	758	9,469	3.52	0.00			
Sri Lanka	1	225	0	24	0	250	20	7	0	27	344	0.13	0.00			
Sweden	5	2,259	0	36	0	2,300	94	0	0	94	1,177	0.44	2.00			
Switzerland	32	11,928	0	58	0	12,018	198	0	0	198	2,480	0.92	0.00			
Taiwan	14	823	0	82	0	920	21	0	0	21	259	0.10	0.00			
Thailand	0	976	0	212	0	1,188	49	4	0	54	671	0.25	0.00			
Turkey	142	1,114	0	0	0	1,256	79	0	0	79	992	0.37	0.00			
United Arab Emirates	17	2,662	0	0	0	2,678	53	3	0	56	704	0.26	0.00			
United Kingdom	428	21,471	14	0	1,785	23,698	679	2	34	715	8,936	3.32	1.00			
United Republic of Tanzania	0	341	0	0	0	341	30	0	0	30	380	0.14	0.00			
United States of America (incl. Puerto Rico)	1,956	119,009	1,226	665	45,454	168,310	3,319	125	591	4,035	50,442	18.74	0.00			
Uzbekistan	0	557	0	0	0	557	25	0	0	25	311	0.12	0.00			
Vietnam	2	715	0	13	0	729	57	0	0	58	722	0.27	0.00			
Other	1,247	11,374	268	1,197	3,573	17,660	407	64	51	523	6,532	2.43	0.00			
<b>Total</b>	<b>21,953</b>	<b>607,861</b>	<b>2,133</b>	<b>22,878</b>	<b>73,068</b>	<b>727,894</b>	<b>19,534</b>	<b>887</b>	<b>1,106</b>	<b>21,528</b>	<b>269,097</b>	<b>100.00</b>	<b>0.42</b>			

## Institution specific countercyclical capital buffer

### Article 440 (b) CRR

The following table shows an overview of Deutsche Bank's countercyclical buffer rate and requirements.

#### EU CCyB2 – Institution-specific countercyclical capital buffer

	Dec 31, 2023	Jun 30, 2023
	a	a
1 Total risk exposure amount (in € m.)	349,742	358,785
2 Institution specific countercyclical buffer rate	0.45 %	0.42 %
3 Institution specific countercyclical buffer requirement (in € m.)	1,573	1,495

## Indicators of global systemic importance

### Article 441 CRR

Global systemic importance is measured in terms of the impact an institution's failure might have on the global financial system and the wider economy, rather than the risk that a failure could actually occur. The measurement approach of the global systemic importance is indicator-based, with the indicators reflecting size, interconnectedness, substitutability, or financial institution infrastructure for the services provided, as well as complexity and global (cross-jurisdictional) activity.

EBA issued revised guidelines on the specification of the indicators of global systemic importance and how they determine the score of G-SII's under Article 441 CRR as published in the Commission Implementing Regulation (EU) 2016/818 amending Implementing Regulation (EU) No 1030/2014. This regulation sets forth implementing technical standards regarding the uniform formats and date for the disclosure of the values used to identify global systemically important institutions according to Regulation (EU) No 575/2013 of the European Parliament and of the Council. Moreover, the Commission Delegated Regulation (EU) 2016/1608 as well as the EBA Guideline "EBA/RTS/2020/08" amended Delegated Regulation (EU) No 1222/2014 regarding regulatory technical standards for the specification of the methodology for the identification of global systemically important institutions and for the definition of subcategories of global systemically important institutions. Further specifications are laid down in the Instructions for year end 2023 G-SIB assessment, as published by the BCBS on January 23, 2024.

It falls under the aegis of the Financial Stability Board (FSB) and is intended to develop a methodology comprising both quantitative and qualitative indicators that can contribute to the assessment of the systemic importance of financial institutions at a global level.

The systemic importance of banks is assessed by the FSB in a global context. In the European Union, national competent authorities are responsible for identifying G-SIIs. In Germany, the BaFin is responsible for this assessment as prescribed by the German Banking Act.

Deutsche Bank continues to be designated as a G-SII by the BaFin in agreement with the Deutsche Bundesbank, resulting in a G-SII buffer requirement of 1.50% CET 1 capital of RWA in the year 2023 based on the indicators as published in 2021. This assessment has been confirmed by the FSB in 2022 and 2023.

The disclosure as of December 31, 2022 and December 31, 2023 provided below show indicators used for determining the score of the institutions which are calculated based on the aforementioned specific instructions and thus are not directly comparable to other disclosed information. The EBA respectively the BCBS instructions are based on the regulatory, not the IFRS accounting consolidated Group. Further, calculation methods as per EBA's/BCBS' instructions may lead to further deviations from other disclosures.

## G-SIB Assessment Exercise reporting template

in € m. (unless stated otherwise)	G-SIB	Dec 31, 2023	Dec 31, 2022
<b>General Bank Data</b>			
<b>Section 1 - General information</b>			
a. General information provided by the relevant supervisory authority:			
(1) Country code	1001	DE	DE
(2) Bank name	1002	Deutsche Bank AG	Deutsche Bank AG
(3) Reporting date (yyyy-mm-dd)	1003	2023-12-31	2022-12-31
(4) Reporting currency	1004	EUR	EUR
(5) Euro conversion rate	1005	1	1
(6) Submission date (yyyy-mm-dd)	1006	2024-04-26	2023-05-12
b. General Information provided by the reporting institution:			
(1) Reporting unit	1007	1,000,000	1,000,000
(2) Accounting standard	1008	IFRS	IFRS
(3) Date of public disclosure (yyyy-mm-dd)	1009	2024-04-11	2023-08-23
(4) Language of public disclosure	1010	English	English
(5) Web address of public disclosure	1011	<a href="https://www.db.com/ir/en/regulatory-reporting.htm">https://www.db.com/ir/en/regulatory-reporting.htm</a>	<a href="https://www.db.com/ir/en/regulatory-reporting.htm">https://www.db.com/ir/en/regulatory-reporting.htm</a>
(6) LEI code	2015	7LTWFZYICNSX8D621K86	7LTWFZYICNSX8D621K86
<b>Size Indicator</b>			
<b>Section 2 - Total exposures</b>			
a. Derivatives			
(1) Counterparty exposure of derivatives contracts	1012	37,248	44,060
(2) Capped notional amount of credit derivatives	1201	21,449	15,540
(3) Potential future exposure of derivative contracts	1018	72,247	70,496
b. Securities financing transactions (SFTs)			
(1) Adjusted gross value of SFTs	1013	93,196	90,468
(2) Counterparty exposure of SFTs	1014	5,983	5,735
c. Other assets			
	1015	894,430	896,388
d. Gross notional amount of off-balance sheet items			
(1) Items subject to a 0% credit conversion factor (CCF)		N/A	85,645
(1) Items subject to a 10% credit conversion factor (CCF)	1019	94,927	N/A
(2) Items subject to a 20% CCF	1022	92,924	89,422
(3) Items subject to a 40% CCF	2300	0	N/A
(3) Items subject to a 50% CCF	1023	184,655	185,539
(4) Items subject to a 100% CCF	1024	9,311	9,698
e. Regulatory adjustments			
	1031	13,951	11,121
f. Total exposures prior to regulatory adjustments (sum of items 2.a.(1) thorough 2.c., 0.1 times 2.d.(1), 0.2 times 2.d.(2), 0.5 times 2.d.(3), and 2.d.(4))			
	1103	1,254,269	1,251,604
g. Exposures of insurance subsidiaries not included in 2.f net of intragroup:			
(1) On-balance sheet and off-balance sheet insurance assets	1701	856	722
(2) Potential future exposure of derivatives contracts for insurance subsidiaries	1205	0	0
(3) Investment value in consolidated entities	1208	282	27
h. Intragroup exposures with insurance subsidiaries reported in 2.g that are included in 2.f			
	2101	4	5
i. Total exposures indicator, including insurance subsidiaries (sum of items 2.f, 2.g.(1) thorough 2.g.(2) minus 2.g.(3) thorough 2.h)			
	1117	1,254,839	1,252,294
<b>Interconnectedness Indicators</b>			
<b>Section 3 - Intra-Financial System Assets</b>			
a. Funds deposited with or lent to other financial institutions			
(1) Certificates of deposit	2102	2	2
b. Unused portion of committed lines extended to other financial institutions	1217	23,950	25,851
c. Holdings of securities issued by other financial institutions			
(1) Secured debt securities	2103	955	939
(2) Senior unsecured debt securities	2104	16,710	12,899
(3) Subordinated debt securities	2105	539	382
(4) Commercial paper	2106	0	0
(5) Equity securities	2107	3,638	4,057
(6) Offsetting short positions in relation to the specific equity securities included in item 3.c.(5)	2108	0	28
d. Net positive current exposure of SFTs with other financial institutions			
	1219	10,261	9,382
e. OTC derivatives with other financial institutions that have a net positive fair value			
(1) Net positive fair value	2109	6,879	19,818
(2) Potential future exposure	2110	25,262	25,248
f. Intra-financial system assets indicator, including insurance subsidiaries (sum of items 3.a, 3.b through 3.c.(5), 3.d, 3.e.(1), and 3.e.(2), minus 3.c.(6))			
	1215	140,777	161,849

in € m. (unless stated otherwise)	G-SIB	Dec 31, 2023	Dec 31, 2022
<b>Section 4 - Intra-Financial System Liabilities</b>			
a. Funds deposited by or borrowed from other financial institutions			
(1) Deposits due to depository institutions	2111	26,560	32,359
(2) Deposits due to non-depository financial institutions	2112	54,643	39,607
(3) Loans obtained from other financial institutions	2113	0	1,149
b. Unused portion of committed lines obtained from other financial institutions	1223	0	0
c. Net negative current exposure of SFTs with other financial institutions	1224	21,252	23,496
d. OTC derivatives with other financial institutions that have a net negative fair value			
(1) Net negative fair value	2114	6,248	13,868
(2) Potential future exposure	2115	23,501	26,064
e. Intra-financial system liabilities indicator, including insurance subsidiaries (sum of items 4.a.(1) through 4.d.(2))	1221	132,204	136,542
<b>Section 5 - Securities Outstanding</b>			
a. Secured debt securities	2116	18,000	16,389
b. Senior unsecured debt securities	2117	74,128	70,369
c. Subordinated debt securities	2118	11,452	11,635
d. Commercial paper	2119	5,497	1,899
e. Certificates of deposit	2120	4,246	3,258
f. Common equity	2121	24,622	21,581
g. Preferred shares and any other forms of subordinated funding not captured in item 5.c.	2122	8,569	8,578
h. Securities outstanding indicator, including the securities issued by insurance subsidiaries (sum of items 5.a through 5.g)	1226	146,514	133,710
<b>Substitutability/Financial Institution Infrastructure Indicators</b>			
<b>Section 6 - Payments made in the reporting year (excluding intragroup payments)</b>			
a. Australian dollars (AUD)	1061	129,153	147,535
b. Canadian dollars (CAD)	1063	398,565	386,113
c. Swiss francs (CHF)	1064	222,033	215,658
d. Chinese yuan (CNY)	1065	1,786,752	1,495,170
e. Euros (EUR)	1066	35,393,982	38,446,370
f. British pounds (GBP)	1067	2,926,824	3,076,143
g. Hong Kong dollars (HKD)	1068	187,198	184,676
h. Indian rupee (INR)	1069	537,010	542,123
i. Japanese yen (JPY)	1070	710,614	670,825
j. New Zealand dollars (NZD)	1109	N/A	9,969
k. Swedish krona (SEK)	1071	43,980	56,698
k. Singapore dollar (SGD)	2133	139,816	N/A
l. United States dollars (USD)	1072	83,867,963	84,576,123
m. Payments activity indicator (sum of items 6.a through 6.l)	1073	126,343,889	129,807,405
<b>Section 7 - Assets Under Custody</b>			
a. Assets under custody indicator	1074	3,031,231	3,020,137
<b>Section 8 - Underwritten Transactions in Debt and Equity Markets</b>			
a. Equity underwriting activity	1075	5,729	4,032
b. Debt underwriting activity	1076	180,673	191,277
c. Underwriting activity indicator (sum of items 8.a and 8.b)	1077	186,402	195,310
<b>Section 9 - Trading Volume</b>			
a. Trading volume of securities issued by other public sector entities, excluding intragroup transactions	2123	1,982,215	2,431,722
b. Trading volume of other fixed income securities, excluding intragroup transactions	2124	440,390	490,146
c. Trading volume fixed income sub-indicator (sum of items 9.a and 9.b)	2125	2,422,605	2,921,868
d. Trading volume of listed equities, excluding intragroup transactions	2126	402,979	281,741
e. Trading volume of all other securities, excluding intragroup transactions	2127	391	325
f. Trading volume equities and other securities sub-indicator (sum of items 9.d and 9.e)	2128	403,370	282,066
<b>Complexity indicators</b>			
<b>Section 10 - Notional Amount of Over-the-Counter (OTC) Derivatives</b>			
a. OTC derivatives cleared through a central counterparty	2129	32,027,303	28,551,825
b. OTC derivatives settled bilaterally	1905	13,987,741	13,093,657
c. Notional amount of over-the-counter (OTC) derivatives indicator, including insurance subsidiaries (sum of items 10.a and 10.b)	1227	46,015,044	41,645,482

in € m. (unless stated otherwise)	G-SIB	Dec 31, 2023	Dec 31, 2022
<b>Section 11 - Trading and Available-for-Sale Securities</b>			
a. Held-for-trading securities (HFT)	1081	139,615	106,515
b. Available-for-sale securities (AFS)	1082	28,690	25,312
c. Trading and AFS securities that meet the definition of Level 1 assets	1083	110,247	89,820
d. Trading and AFS securities that meet the definition of Level 2 assets, with haircuts	1084	15,436	11,989
e. Trading and AFS securities indicator (sum of items 11.a and 11.b, minus the sum of 11.c and 11.d)	1085	42,621	30,018
<b>Section 12 - Level 3 Assets</b>			
a. Level 3 assets indicator, including insurance subsidiaries	1229	24,900	26,218
Cross-Jurisdictional Activity Indicators			
<b>Section 13 - Cross-Jurisdictional Claims</b>			
a. Total foreign claims on an ultimate risk basis	1087	663,290	651,519
b. Foreign derivative claims on an ultimate risk basis	1146	244,693	285,471
c. Cross-jurisdictional claims indicator (sum of items 13.a and 13.b)	2130	907,983	936,990
<b>Section 14 - Cross-Jurisdictional Liabilities</b>			
a. Foreign liabilities on an immediate risk basis, excluding derivatives and including local liabilities in local currency	2131	444,997	451,603
b. Foreign derivative liabilities on an immediate risk basis	1149	229,039	265,621
c. Cross-jurisdictional liabilities indicator (sum of items 14.a and 14.b)	1148	674,036	717,225
Memorandum Items			
<b>Section 21 - Cross-Jurisdictional Activity Items</b>			
d. Total foreign claims on an ultimate risk basis (considering SRM as a single jurisdiction)	1280	464,996	458,005
e. Foreign derivatives claims on an ultimate risk basis (considering SRM as a single jurisdiction)	1281	191,647	225,762
f. Foreign liabilities on an immediate risk basis, including derivatives (considering SRM as a single jurisdiction)	1282	531,190	559,790

## Composition of own funds and eligible liabilities

### Article 437a CRR and Article 45i(3)(b) BRRD

This section provides detailed information on the composition of Deutsche Bank's own funds and eligible liabilities, its main features, its ranking in the creditor hierarchy and its maturities.

As of December 31, 2023 the Group's available own funds and eligible liabilities amounted to € 123.3 billion, consisting of € 65.0 billion own funds, € 49.1 billion subordinated liabilities and € 9.1 billion non-subordinated liabilities. The Group's regulatory CET1 capital included in the own funds currently contains € 0 million from the IFRS 9 transitional impact.

Deutsche Bank predominantly relies on own funds and subordinated eligible liabilities counting towards TLAC and subordinated MREL for meeting its MREL requirement, while 7.40% of the Group's MREL capacity is contributed from eligible liabilities which are not subordinated. Deutsche Bank has no permission as per CRR Article 72b (3) or (4) to use non-subordinated eligible liabilities for meeting subordinated MREL or TLAC. As of December 31, 2023, 29.78% of the subordinated liabilities were issued prior to June 27, 2019 and therefore grandfathered regarding the eligibility criteria newly established through Article 72b CRR.

As of December 31, 2023, Deutsche Bank has excess of CET 1 capital of 7.72% of TREA after meeting the resolution group's requirements. This is well above the institution specific combined buffer requirement of 5.14% and establishes a comfortable distance to triggering distribution restrictions under the MREL Minimum Distributable Amount (M-MDA) rules.

EU TLAC1 – Composition of MREL and G-SII requirement for own funds end eligible liabilities

		Dec 31, 2023		
		a	b	c
		Minimum requirement for own funds and eligible liabilities (MREL)	G-SII Requirement for own funds and eligible liabilities (TLAC)	Memo item: Amounts eligible for the purposes of MREL, but not TLAC
in € m.				
<b>Own funds and eligible liabilities and adjustments</b>				
1	Common Equity Tier 1 capital (CET1)	48,066	48,066	–
2	Additional Tier 1 capital (AT1)	8,328	8,328	–
6	Tier 2 capital (T2)	8,610	8,610	–
11	Own funds for the purpose of Articles 92a CRR and 45 BRRD	65,005	65,005	–
<b>Own funds and eligible liabilities: Non-regulatory capital elements</b>				
12	Eligible liabilities instruments issued directly by the resolution entity that are subordinated to excluded liabilities (not grandfathered)	32,739	32,739	–
EU 12a	Eligible liabilities instruments issued by other entities within the resolution group that are subordinated to excluded liabilities (not grandfathered)	0	0	–
EU 12b	Eligible liabilities instruments that are subordinated to excluded liabilities, issued prior to 27 June 2019 (subordinated grandfathered)	13,884	13,884	–
EU 12c	Tier 2 instruments with a residual maturity of at least one year to the extent they do not qualify as Tier 2 items	2,478	2,478	–
13	Eligible liabilities that are not subordinated to excluded liabilities (not grandfathered pre cap)	6,992	–	6,992
EU 13a	Eligible liabilities that are not subordinated to excluded liabilities issued prior to 27 June 2019 (pre-cap)	2,156	–	2,156
14	Amount of non subordinated instruments eligible, where applicable after application of Article 72b (3) CRR	–	–	–
17	Eligible liabilities items before adjustments	58,249	49,101	–
EU 17a	of which: subordinated	49,101	49,101	–
<b>Own funds and eligible liabilities: Adjustments to non-regulatory capital elements</b>				
18	Own funds and eligible liabilities items before adjustments	123,253	114,106	–
19	(Deduction of exposures between MPE resolution groups)	–	0	–
20	(Deduction of investments in other eligible liabilities instruments)	–	0	–
22	Own funds and eligible liabilities after adjustments	123,253	114,106	–
EU 22a	of which: Own funds and subordinated	114,106	–	–
<b>Risk-weighted exposure amount and leverage exposure measure of the resolution group</b>				
23	Total risk exposure amount	349,742	349,742	–
24	Total exposure measure	1,240,318	1,240,318	–
<b>Ratio of own funds and eligible liabilities</b>				
25	Own funds and eligible liabilities (as a percentage of total risk exposure amount)	35.24	32.63	–
EU 25a	of which: Own funds and subordinated	32.63	–	–
26	Own funds and eligible liabilities (as a percentage of total exposure measure)	9.94	9.20	–
EU 26a	of which: Own funds and subordinated	9.20	–	–
27	CET1 (as a percentage of TREA) available after meeting the resolution group's requirements	–	7.72	–
28	Institution-specific combined buffer requirement	–	5.14	–
29	of which: Capital conservation buffer requirement	–	2.50	–
30	Countercyclical buffer requirement	–	0.45	–
31	Systemic risk buffer requirement	–	0.19	–
EU 31a	Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	–	2.00	–
<b>Memorandum items</b>				
EU 32a	Total amount of excluded liabilities referred to in Article 72a(2) CRR	–	469,410	–



		Jun 30, 2023		
		a	b	c
		Minimum requirement for own funds and eligible liabilities (MREL)	G-SII Requirement for own funds and eligible liabilities (TLAC)	Memo item: Amounts eligible for the purposes of MREL, but not TLAC
in € m.				
<b>Own funds and eligible liabilities and adjustments</b>				
1	Common Equity Tier 1 capital (CET1)	49,348	49,348	–
2	Additional Tier 1 capital (AT1)	8,328	8,328	–
6	Tier 2 capital (T2)	(245)	(245)	–
11	Own funds for the purpose of Articles 92a CRR and 45 BRRD	9,043	9,043	–
<b>Own funds and eligible liabilities: Non-regulatory capital elements</b>				
12	Eligible liabilities instruments issued directly by the resolution entity that are subordinated to excluded liabilities (not grandfathered)	31,657	31,657	–
EU 12a	Eligible liabilities instruments issued by other entities within the resolution group that are subordinated to excluded liabilities (not grandfathered)	0	0	–
EU 12b	Eligible liabilities instruments that are subordinated to excluded liabilities, issued prior to 27 June 2019 (subordinated grandfathered)	13,785	13,785	–
EU 12c	Tier 2 instruments with a residual maturity of at least one year to the extent they do not qualify as Tier 2 items	2,209	2,209	–
13	Eligible liabilities that are not subordinated to excluded liabilities (not grandfathered pre cap)	4,666	–	4,666
EU 13a	Eligible liabilities that are not subordinated to excluded liabilities issued prior to 27 June 2019 (pre-cap)	2,245	–	2,245
14	Amount of non subordinated instruments eligible, where applicable after application of Article 72b (3) CRR	–	–	–
17	Eligible liabilities items before adjustments	54,562	47,650	0
EU 17a	of which: subordinated	47,650	47,650	–
<b>Own funds and eligible liabilities: Adjustments to non-regulatory capital elements</b>				
18	Own funds and eligible liabilities items before adjustments	121,281	114,370	0
19	(Deduction of exposures between MPE resolution groups)	–	0	–
20	(Deduction of investments in other eligible liabilities instruments)	–	0	–
22	Own funds and eligible liabilities after adjustments	121,281	114,370	0
EU 22a	of which: Own funds and subordinated	114,370	–	–
<b>Risk-weighted exposure amount and leverage exposure measure of the resolution group</b>				
23	Total risk exposure amount	358,785	358,785	–
24	Total exposure measure	1,236,042	1,236,042	–
<b>Ratio of own funds and eligible liabilities</b>				
25	Own funds and eligible liabilities (as a percentage of total risk exposure amount)	33.80	31.88	–
EU 25a	of which: Own funds and subordinated	31.88	–	–
26	Own funds and eligible liabilities (as a percentage of total exposure measure)	9.81	9.25	–
EU 26a	of which: Own funds and subordinated	9.25	–	–
27	CET1 (as a percentage of TREA) available after meeting the resolution group's requirements	–	7.74	–
28	Institution-specific combined buffer requirement	–	5.12	–
29	of which: Capital conservation buffer requirement	–	2.50	–
30	Countercyclical buffer requirement	–	0.42	–
31	Systemic risk buffer requirement	–	0.20	–
EU 31a	Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	–	2.00	–
<b>Memorandum items</b>				
EU 32a	Total amount of excluded liabilities referred to in Article 72a(2) CRR	–	422,843	–

## Main features of eligible liabilities instruments

A description of the main features of the Group's senior non-preferred subordinated eligible liabilities instruments eligible for subordinated MREL and TLAC and issued by Deutsche Bank is published on Deutsche Bank's website ([db.com/ir/en/capital-instruments.htm](https://www.db.com/ir/en/capital-instruments.htm)) to the extent that these do not constitute private placements and are treated confidentially.

## Ranking in the creditor hierarchy and maturity

The following table provides a simplified overview of the ranking of liabilities in an insolvency proceeding under German law. The ranking is presented from the more junior liabilities to the more senior liabilities. Deutsche Bank AG's subordinated eligible liability instruments qualifying for MREL and TLAC through meeting all the conditions in CRR Article 72b (2) or being grandfathered pursuant to CRR Article 494b (3) are exclusively rank at position 11 in the below order. Non-subordinated eligible liabilities instruments which are eligible for MREL rank in position 12. Deutsche Bank's eligible liabilities instruments do not include any eligible liability according to CRR Article 72b (3) or (4).

### Ranking of liabilities in an insolvency proceeding under German law

Rank	Label of claims	Code
1	<b>Common equity Tier 1 instruments</b>	Section 199 of the Insolvency Code
2	<b>Additional Tier 1 instruments</b>	
3	<b>Tier 2 instruments</b>	
4	Claims subordinated by virtue of a contractual subordination clause not specifying the pertinent rank (other than Additional Tier 1 or Tier 2 instruments)	Section 39 (2) of the Insolvency Code
5	Claims for repayment of shareholder loans and accrued interest thereon	Section 39 (1) no. 5 of the Insolvency Code
6	Claims for the delivery of goods or provision of services free of charge	Section 39 (1) no. 4 of the Insolvency Code
7	Criminal and administrative fines	Section 39 (1) no. 3 of the Insolvency Code
8	Creditors' costs related to the insolvency proceeding	Section 39 (1) no. 2 of the Insolvency Code
9	Interest and late payment surcharges accrued after the opening of insolvency proceedings	Section 39 (1) no. 1 of the Insolvency Code
10	Claims subordinated by virtue of a contractual subordination clause which specifies the relevant ranking	Section 39 (2) of the Insolvency Code
11	<b>Non-preferred creditor claims arising from non-subordinated, unsecured non-structured debt instruments which</b>  (i) are issued before 21 July 2018 and are neither deposits within the positions of no. 13 and 14 nor money market instruments  (ii) are issued from 21 July 2018 onwards, have an original contractual maturity of at least one year, do not qualify as deposits within the position of no. 13 and 14 and the contractual documentation and, where applicable, the prospectus explicitly refer to the lower ranking	
12	<b>General creditors' claims</b>	Section 38 of the Insolvency Code in conjunction with Section 46f (5) of the Banking Act, including instruments covered by Section 46f (6) sentence 3 and 46f (7) of the Banking Act
13	Deposits not covered, but preferential	Section 46f (4) no. 2 of the Banking Act
14	Deposits covered and preferential	Section 46f (4) no. 1 of the Banking Act
15	Costs of proceeding and obligations binding on the estate	Sections 53 to 55 of the Insolvency Code
16	Claims subject to a right of separation in insolvency proceedings	Sections 49 to 51 of the Insolvency Code
17	Claims subject to a right of segregation in insolvency proceedings	Sections 47 and 48 of the Insolvency Code

Deutsche Bank's own funds and eligible liabilities fall into these insolvency ranks as per below table EU TLAC3a based on German insolvency law. Liabilities fulfilling the MREL eligibility criteria as per CRR Art 72 are shown in the section "subset of liabilities and own funds less excluded liabilities that are own funds and liabilities potentially eligible for meeting MREL" and are issued out of the resolution entity Deutsche Bank AG.

EU TLAC3a – Creditor ranking

	Dec 31, 2023									
in € m.	1	2	3	4	5	6	7	8	9	Total
Description of insolvency rank	R1	R2	R3	R11	R12	R13	R14	R16	R17	
Liabilities and own funds	48,066	8,328	11,088	51,690	468,555	88,163	207,748	180,463	9,804	1,073,905
of which:										
Excluded liabilities	0	0	0	0	86,782	0	207,748	165,076	9,804	469,410
Liabilities and own funds less excluded liabilities	48,066	8,328	11,088	51,690	381,773	88,163	0	15,387	0	604,495
Subset of Liabilities and own funds less excluded liabilities that are own funds and liabilities potentially eligible for meeting TLAC/MREL	48,066	8,328	11,088	46,624	9,147	0	0	0	0	123,253
of which:										
Residual maturity ≥ 1 year < 2 years	0	0	2,720	5,491	2,000	0	0	0	0	10,210
Residual maturity ≥ 2 year < 5 years	0	0	836	20,340	4,358	0	0	0	0	25,534
Residual maturity ≥ 5 years < 10 years	0	0	6,199	13,714	1,526	0	0	0	0	21,439
Residual maturity ≥ 10 years, but excluding perpetual securities	0	0	1,334	7,079	1,264	0	0	0	0	9,676
Perpetual securities	48,066	8,328	0	0	0	0	0	0	0	56,395

	Jun 30, 2023									
in € m.	1	2	3	4	5	6	7	8	9	Total
Description of insolvency rank	R1	R2	R3	R11	R12	R13	R14	R16	R17	
Liabilities and own funds	49,348	8,329	11,252	51,729	472,245	86,187	207,431	170,844	7,882	1,065,246
of which:										
Excluded liabilities	0	0	0	0	53,029	0	207,431	154,500	7,882	422,843
Liabilities and own funds less excluded liabilities	49,348	8,329	11,252	51,729	419,216	86,187	0	16,344	0	642,403
Subset of Liabilities and own funds less excluded liabilities that are own funds and liabilities potentially eligible for meeting TLAC/MREL	49,348	8,329	11,252	45,441	6,911	0	0	0	0	121,281
of which:										
Residual maturity ≥ 1 year < 2 years	0	0	2,828	4,817	1,204	0	0	0	0	8,848
Residual maturity ≥ 2 year < 5 years	0	0	839	20,657	3,725	0	0	0	0	25,221
Residual maturity ≥ 5 years < 10 years	0	0	6,231	13,266	926	0	0	0	0	20,423
Residual maturity ≥ 10 years, but excluding perpetual securities	0	0	1,355	6,701	1,056	0	0	0	0	9,112
Perpetual securities	49,348	8,329	0	0	0	0	0	0	0	57,676

# Capital requirements

## Summary of Deutsche Bank's ICAAP approach

### Article 438 (a) CRR (EU OVC)

The internal capital adequacy assessment process (ICAAP) consists of several elements that aim to ensure that Deutsche Bank maintains, on an ongoing basis, an adequate capitalisation to cover the risks to which it is exposed.

- Risk identification and assessment: The risk identification process forms the basis of the ICAAP and results in an inventory of risks for the Group, and where appropriate, material legal entities, key branches and business units; the process identifies risks across risk types (e.g. credit, market, operational) and incorporates input from both the first line and second line of defense; materiality of all identified risks is assessed, based on their severity and likelihood to materialise in stressed conditions

The risk identification process adopts a descriptive (as opposed to taxonomy-driven) risk approach, eliciting how identified risks could manifest themselves based on potential real-world scenarios and events; this descriptive risk approach ensures the inventory covers both normative and economic perspectives and allows contributors to focus on future developments, risk behaviour under stress, and impact of mitigating actions; the risks in the risk inventory are mapped to Deutsche Bank's group risk type taxonomy; the resulting inventory of risks, after review and challenge by senior management, informs key risk management processes, including the development of stress scenarios tailored to Deutsche Bank's risk profile, informing business unit risk appetite statements, and risk profile monitoring and reporting

- Capital demand/risk measurement: Risk measurement methodologies and models are applied to quantify the capital demand required to cover all material risks, excluding those that cannot be adequately limited by capital, e.g. liquidity risk. ICAAP differentiates between the normative and economic internal perspective and this is reflected in the risk measurement process, which distinguishes between regulatory capital models (which form an input into the normative internal perspective) and economic capital models (which form an input into the economic internal perspective)

Under the normative internal perspective, Deutsche Bank applies regulatory models to measure risk-weighted assets in order to determine the regulatory capital demand:

- Credit risks are predominantly measured via the Advanced Internal Ratings Based Approach (A-IRBA); for the majority of the derivative counterparty exposures as well as securities financing transactions (SFT), internal model method (IMM) is used in accordance with the CRR
- Market risks are measured by internally developed risk metrics (as approved by the regulator) and regulatory-defined market risk approaches, namely the Value-at-Risk (VaR), Stressed Value-at-Risk (sVaR) and Incremental Risk Charge (IRC); the Market Risk Standardised Approach (MRSA) is used to determine the regulatory capital charge for the specific market risk arising on securitisations in the trading book
- Operational risks are measured using the Advanced Measurement Approach (AMA) methodology

For the measurement of capital demand under the economic internal perspective, Deutsche Bank applies various internally developed capital models in line with the economic capital framework and set at a level to absorb, with a confidence level of 99.9 %, aggregate unexpected losses within a one-year time period; the economic capital model landscape covers all material risks, i.e. quantifies credit, market, operational and strategic risk; diversification and concentrations are calculated on a group-wide basis; further details on the economic capital models are provided in the following sections

- Capital supply: Capital supply quantification refers to the definition of available capital resources to absorb losses; capital supply is defined for the normative internal and for the economic internal perspectives; the capital supply definition under the normative perspective follows the regulatory requirements in the CRR/CRD while the economic perspective follows an internal capital supply definition
- Risk appetite: Risk appetite is an expression of the level of risk that Deutsche Bank is willing to assume to achieve its strategic objectives; risk appetite plays an integral part in the business planning processes via risk strategy and plan, and promotes the appropriate alignment of risk, capital and performance targets; compliance of the plan with risk appetite and capacity is also tested under stressed market conditions; risk metrics that are sensitive to the material risks to which Deutsche Bank is exposed, and which function as indicators of financial health are assigned; in addition to that, risk and recovery management governance are linked with the risk appetite framework

From an ICAAP perspective, risk appetite is set for key capital adequacy metrics and thereby covers the normative (via the CET 1 ratio, leverage ratio and MREL) and the economic (via the economic capital adequacy (ECA) ratio) perspective; these metrics are fully integrated across strategic planning, risk appetite framework, stress testing (except MREL), and

recovery and resolution planning practices; threshold breaches are subject to a dedicated governance framework triggering management actions up to the execution of Deutsche Bank's recovery plan; the Management Board reviews and approves the risk appetite and capacity on an annual basis, or more frequently in the event of unexpected changes to the risk environment, with the aim of ensuring that they are consistent with the Group's strategy, business and regulatory environment and stakeholders' requirements

- Capital planning: Deutsche Bank's capital management steers the bank's capital stack and capital demand in the short, middle and long term, specifically via the strategic and capital plan, the rolling forecast, and the downside and countermeasures analysis process; the holistic management of Deutsche Bank's capital position looks at each of these elements, with differing focuses driven by the decision-making context

The integrated strategic and capital plan translates Deutsche Bank's overall risk and business objectives as well as external targets into risk, capital, liquidity, and performance targets for the Group, divisions/business units, and infrastructure functions; the strategic plan is based on assumptions regarding the future development of regulatory requirements and supervisory practices, the banking market and revenue pools, expected client behaviour and relative strengths and capabilities to serve the clients in a competitive environment; the strategic and capital plan is built over a 5-year horizon and thoroughly reviewed on an annual basis, including changes to the macro-economic and competitive landscape as well as any other updates to key planning assumptions, e.g. to the regulatory environment; the strategic plan is finalised with the Management Board approval and thereafter sent to the Supervisory Board

As actual developments might deviate from the strategic plan, Deutsche Bank conducts a monthly rolling forecast; the granularity of each forecast is designed to cover the development of Deutsche Bank's earnings as well as balance sheet, resources and capital components; the development of capital and resources is part of the monthly discussions in the Group Risk Committee (GRC) and Asset and Liability Committee (ALCO); the forecast develops a best estimate of the base case development at the time, including all material impacts of likely events at an expected level; these assumptions contain a judgmental element and might include a range of outcomes; to address this, Deutsche Bank complements the base case with a well-established downside and countermeasure analysis framework

- Stress testing: Capital plan figures are also considered under various stress test scenarios to prove resilience and overall viability of Deutsche Bank. Regulatory and economic capital adequacy metrics are also subject to regular stress tests throughout the year to constantly evaluate Deutsche Bank's capital position in hypothetical stress scenarios and to detect vulnerabilities; the stress testing framework comprises regular, sensitivity-based and scenario-based approaches addressing different severities and regional hotspots; these activities are complemented by portfolio- and country-specific downside analyses as well as regulatory-driven exercises such as reverse stress tests
- Capital adequacy assessment: In addition to the constant monitoring process that capital adequacy undergoes throughout the year, the ICAAP concludes with a dedicated annual capital adequacy assessment; the assessment consists of a Management Board statement about Deutsche Bank's capital adequacy that is linked to specific conclusions and management actions to be taken to safeguard capital adequacy on a forward-looking basis

## Credit risk economic capital model

Deutsche Bank calculates economic capital for counterparty risk, transfer risk and settlement risk as elements of credit risk. In line with the bank's economic capital framework, economic capital for credit risk is set at a level to absorb with a probability of 99.9 % very severe aggregate unexpected losses within one year.

The Group's economic capital for credit risk is derived from the loss distribution of a portfolio via Monte Carlo Simulation of correlated rating migrations. The portfolio loss distribution is calculated as follows: in a first step, potential credit losses are quantified on transactional level based on available exposure and loss-given-default information, where loss-given-default is stochastic. In a second step, the probability of joint defaults is modeled stochastically in terms of risk factors representing the relevant countries and industries that the counterparties are linked to. The simulation of portfolio losses is then performed by an internally developed model, which takes rating migration and maturity effects into account. Effects due to wrong-way derivatives risk (i.e., the credit exposure of a derivative in the default case is higher than in non-default scenarios) are modeled by applying the own alpha factor when deriving the exposure at default for derivatives and securities financing transactions under the Basel 3 Internal Models Method (IMM). The bank allocates expected losses and economic capital derived from loss distributions down to transaction level to enable management on transaction, customer and business level.

Deutsche Bank's asset value credit portfolio model is based on the assumption that an obligor firm defaults when its value is no longer high enough to cover its liabilities. The obligor's asset value or "ability to pay" is modeled as a random process, the ability to pay process. An obligor is taken to default when its asset value or ability to pay falls below a given default point. Changes in the value of systematic and specific factors are simulated in terms of multivariate distributions. The weight

assigned to systematic and specific components and the covariance of systematic factors are estimated using equity and rating time series or are based on standard settings for particular portfolio segments.

Modeling correlations via a factor model: A factor model describes the dynamics of a large number of random variables by making use of a reduced and fixed number of other random variables, called factors. The approach has the advantage of reducing computing time: fewer correlations need to be evaluated, and the factor correlation matrix does not change when new obligors are introduced. The parameters that specify the factor model are:

- The factor model characteristics for the different borrowers, i.e., the weights for the systematic country and industry factors (the model uses 41 systematic factors) and the  $R^2$ , which determines the weight for the specific factor
- The covariance matrix between the country and industry factors

Modeling rating migration: The rating migration methodology requires additional information, namely yield curves and transition matrices describing the probabilities of migrating between different credit ratings.

- Migration matrix: For  $K$  non-default credit rating grades and 1 default credit rating, a migration matrix is a  $(K + 1) \times (K + 1)$  matrix with entries  $\pi_{ij}$ . It expresses in percentage terms the probability  $\pi_{ij}$  that any borrower with the credit rating  $i$  moves to the credit rating  $j$  in the next time step.
- Risk-free curve: The risk-free curve required as an input for different points in time is used to derive the corresponding risk-free discount factors.

Economic capital is derived from Value-at-Risk (VaR) with confidence level  $\alpha = 99.9\%$ . The economic capital is allocated to individual transactions using expected shortfall allocation. Portfolio information includes exposure, loss given default, one-year default probability and maturity. The parameters are largely consistent with the best-estimate components of the parameters used for regulatory reporting, with the exception of those for derivatives and securities financing exposure.

## Market risk economic capital model

Economic capital for market risk measures the amount of capital needed to absorb very severe, unexpected losses arising from exposures over the period of one year. "Very severe" in this context means that the underlying economic capital is set at a level which covers, with a probability of 99.9%, all unexpected losses over a one year time horizon. Market Risk Economic Capital consists of the following three components:

- Traded Market Risk, capturing the risk due to valuation changes from market price movements
- Traded Default Risk, capturing the risk due to valuation changes caused by issuer default and migration risk
- Non-traded Market Risk, market risk arising outside of the core trading activities

### Traded market risk economic capital (TMR EC)

Deutsche Bank's traded market risk economic capital model - scaled Stressed VaR based EC (SVaR based EC) - comprises two core components, the "common risk" component covering risk drivers across all businesses and the "business-specific risk" component, which enriches the Common Risk via a suite of Business Specific Stress Tests (BSSTs). Both components are calibrated to historically-observed severe market shocks.

Common risk is calculated using a scaled version of the SVaR framework. The SVaR based EC uses the Monte Carlo SVaR framework. The SVaR measure itself replicates the Value-at-Risk calculation that would be generated on the bank's current portfolio if the relevant market factors were experiencing a period of stress. In particular, the model inputs are calibrated to historical data from a continuous 12-month period of significant financial stress relevant to the bank's portfolio. The SVaR model is then scaled-up to cover a different liquidity horizon (up to 1 year) and confidence level (99.9%). The liquidity horizon framework that is utilized in the SVaR based EC model accounts for different levels of market liquidity as well as risk concentrations in the bank's portfolios. In terms of coverage, the "common risk" captures outright linear and some non-linear risks (e.g. Gamma, Vega etc.) to systematic and idiosyncratic risk drivers. The model incorporates the following risk factors: interest rates, credit spreads, equity prices, foreign exchange rates, commodity prices, volatilities and correlations.

The "business-specific risk" captures more product/business-related bespoke risks (e.g. complex basis risks) as well as higher order risks (e.g. for equity options) not captured in the common risk component. The concept of business-specific risk is in particular important in areas where the lack of meaningful market data prevents direct use of the common risk model. BSSTs are in general calibrated to available historical data to obtain a stress scenario. Where appropriate, risk managers use their expert judgment to define severe market shocks, based upon the knowledge of past extreme market conditions. In addition to the BSSTs the business specific risk component of the SVaR based EC model also contains placeholders which carry an estimated EC component on a temporary basis, while efforts are being made to cover those risks with a proper business-specific stress test or integrate it in the common risk framework.

The Group continuously assesses and refines its market risk EC model to ensure the capture of new material risks as well as the appropriateness of the shocks applied. The calculation of the Traded Market Risk EC is performed weekly.

## Traded default risk economic capital (TDR EC)

TDR refers to changes in the value of instruments caused by default or rating changes of the issuer. For credit derivatives like credit default swaps (CDS), the rating of the issuer of the reference asset is modeled. TDR covers the following positions:

- Fair value assets in the banking book;
- Unsecuritized credit products in the trading book;
- Securitized products in the trading book.

The TDR methodology is similar to the credit risk methodology. An important difference between the EC calculation for traded default risk and credit risk is the capital horizon of 6 months which is used for most TDR positions compared to 12 months used for credit risk. Recognizing traded default risk EC for unsecuritized credit products corresponds to the calculation of the incremental risk charge for the trading book for regulatory purposes. EC for TDR represents an estimate of the default and migration risks of credit products at a 99.9 % confidence level, taking into account the liquidity horizons of the respective sub-portfolios.

TDR EC captures the relevant credit exposures across its trading and fair value banking books. Trading book exposures are monitored by market risk management via single name concentration and portfolio thresholds which are set based upon rating, size and liquidity. Single name concentration risk thresholds are set for two key metrics: Default Exposure, i.e., the P&L impact of an instantaneous default at the current recovery rate, and bond equivalent market value, i.e. default exposure at 0% recovery. In order to capture diversification and concentration effects the bank performs a joint calculation for traded default risk economic capital and credit risk economic capital. Important parameters for the calculation of traded default risk are exposures, recovery rates and default probabilities as well as maturities. For trading book positions exposures, recovery rates and default probabilities are derived from market information and external ratings and for banking book positions from internal assessments analogous to the credit risk economic capital model. Rating migrations are governed by issuer type specific migration matrices, which are obtained from historical rating time series from rating agencies and internal observations. The probability of joint rating downgrades and defaults is determined by the default and rating correlations of the portfolio model. These correlations are specified through systematic factors that represent countries, geographical regions and industries.

## Non-traded market risk economic capital (NTMR EC)

Non-traded market risk arises from market movements, primarily outside the activities of the Group's trading units, in the banking book and from off-balance sheet items. Significant market risk factors which the bank is exposed to and are overseen by risk management groups in that area are:

- Interest rate risk (including risk from embedded optionality and changes in behavioral patterns for relevant product types), credit spread risk, foreign exchange risk, equity risk (including investments in public and private equity as well as real estate, infrastructure and fund assets); and
- Market risks from off-balance sheet items such as pension schemes and guarantees as well as structural foreign exchange risk and equity compensation risk.

Non-traded market risk economic capital is being calculated either by applying the standard traded market risk EC methodology (SVaR based EC model) or through the use of non-traded market risk models that are specific to each risk class and which consider, among other factors, large historically observed market moves, the liquidity of each asset class, and changes in client's behavior in relation to products with behavioral optionalities. The calculation of EC for non-traded market risk is performed monthly.

An independent model validation team reviews all quantitative aspects of our MR EC model on a regular basis. The review covers, but is not limited to, model assumptions and calibration approaches for risk parameters.

## Operational risk economic capital model

For the quantification of its economic capital demands the Group uses the Advanced Measurement Approach (AMA). To absorb very severe unexpected losses within one year, both economic and regulatory capital are calculated at a 99.9 % confidence level.

## Strategic risk economic capital model

The strategic risk category captures the economic capital arising from earnings volatility risk (which also includes potential losses from software assets), tax redetermination risk, and a capital charge for the risk related to deferred tax assets on temporary differences.

The earnings volatility risk economic capital model projects the earnings distribution for the next twelve months on group level. Important input parameters of the model are the expected revenues and costs from the strategic plan and monthly forecasts on business unit level. This ensures that the model includes strategic decisions or changes to the business environment in a timely manner. These projections determine the mean values of the revenue and cost distributions. The volatilities of the revenue distributions are derived from historical revenue time series of the business units. Risk concentrations within and across businesses are calibrated using historical revenue time series. Revenues are then simulated together with costs to allow for a partial offset of revenue decreases by cost reductions, e.g. reduced bonus payments. Potential cost increases related to software assets are also modelled. The resulting earnings distribution for the Group is used to derive the economic capital amount, which is held to protect against potential operating losses covering twelve months with a confidence level of 99.9%, in line with the general economic capital definition.

Tax risk is determined by reference to corporate income tax, indirect and operational tax re-determination risk with respect to transactions undertaken by the bank. Tax re-determination risk is the risk that the eventual tax treatment of a transaction differs from that initially determined by the bank because of a judicial determination or a compromise by the bank with a tax authority. Examples of tax re-determination risk include a tax ceasing to be creditable, taxable income being treated as arising, a tax deduction not being granted, a tax consolidated group not being respected, or an anti-avoidance rule being determined to apply. Tax related inputs of the process are under the direction and control of tax professionals of the bank who are independent of business units. The calculation of tax risk economic capital is performed in a portfolio model which incorporates issues with a one-year time horizon. The notional exposure for each "tax issue" is determined and is then modified for reserves and a settlement adjustment. A probability is assigned to each "tax issue". Tax risk economic capital is computed at the 99.9% confidence level of the portfolio loss distribution, which is obtained through a Monte Carlo simulation.

The capital charge to account for the risk of deferred tax assets on temporary differences mirrors regulatory treatment and is incorporated through an economic capital placeholder.

## Risk type diversification

The economic capital model for risk type diversification and aggregation is a key component of Deutsche Bank's economic capital framework. The purpose of the risk type diversification and aggregation model is to reflect the diversification effects across all risk types, resulting in the diversified economic capital at group level. The risk type diversification and aggregation methodology is based on the specification of analytical loss distributions for individual risk types (i.e. credit, market, operational and strategic risk), which are linked via a copula function to reflect their dependence structure. Using advanced simulation techniques, an aggregate loss distribution across all risk types is calculated for the whole portfolio. Total diversified economic capital is then derived from the aggregate loss distribution at the 99.9% quantile, i.e. to absorb aggregate unexpected losses at group level over a one-year horizon with a confidence level of 99.9%.

## Result of ICAAP

### Article 438 (c) CRR (EU OVC)

The internal capital adequacy assessment process concludes that Deutsche Bank is adequately capitalized to cover its material risks and relevant regulatory requirements under the economic and normative perspective.

The bank assesses capital adequacy from an economic perspective as the ratio of economic capital supply divided by economic capital demand as shown in the table below. A ratio of more than 100% indicates that the available capital is sufficient to cover the risk positions. The economic capital adequacy ratio was 205% as of December 31, 2023, compared with 239% as of December 31, 2022. The decline in the ratio was due to an increase in economic capital demand and a decrease in economic capital supply.



## Total economic capital supply and demand

in € m.

(unless stated otherwise)

	Dec 31, 2023	Dec 31, 2022
<b>Components of economic capital supply</b>		
Shareholders' equity	64,486	61,959
Noncontrolling interests <sup>1</sup>	899	897
AT1 coupons deduction	(381)	(319)
Gain on sale of securitizations, cash flow hedges	(45)	790
Fair value gains on own debt and debt valuation adjustments, subject to own credit risk	(82)	(190)
Additional valuation adjustments	(1,727)	(2,026)
Intangible assets	(3,692)	(3,677)
IFRS deferred tax assets excl. temporary differences	(4,737)	(3,937)
Expected loss shortfall	(2,386)	(466)
Defined benefit pension fund assets	(947)	(1,176)
Other adjustments	(3,782)	(1,864)
<b>Economic capital supply</b>	<b>47,607</b>	<b>49,989</b>
<b>Components of economic capital demand</b>		
Credit risk	11,875	11,802
Market risk	8,328	6,355
Operational risk	4,572	4,668
Strategic risk	1,874	1,854
Diversification benefit	(3,385)	(3,778)
<b>Total economic capital demand</b>	<b>23,265</b>	<b>20,900</b>
<b>Economic capital adequacy ratio</b>	<b>205%</b>	<b>239%</b>

<sup>1</sup> Includes noncontrolling interest up to the economic capital requirement for each subsidiary.

The decrease in economic capital supply by € 2.4 billion compared to year-end 2022 was mainly driven by higher capital deduction from expected loss shortfall of € 1.9 billion, introduction of a new deduction of € 1.5 billion for valuation differences between carrying and fair values for debt securities held to collect, deductions for future common share dividend and AT1 coupon payments of € 1.3 billion, currency translation adjustments of € 1.1 billion, higher capital deductions for IFRS deferred tax assets excluding temporary differences of € 0.8 billion and cash flow hedges of € 0.8 billion. These decreases were partly offset by positive net income of € 4.8 billion and reduced deduction for additional valuation adjustments of € 0.3 billion.

The economic capital demand increased by € 2.4 billion mainly due to higher market risk and lower deduction in diversification benefit, which was partly offset by a decrease in economic capital demand for operational risk. The increase in market risk of € 2.0 billion was mainly driven by the annual recalibration of the model's distribution parameters, a reduction in net short credit spread exposure arising from the Group's defined benefit pension plan assets, an increase in trading inventory to support market making and client flow in the Global Rates and Credit Trading segments within the Investment Bank and a change in behavioral modelling assumptions of client deposits within the Private Bank. The inter-risk diversification benefit of the economic capital demand decreased € 0.4 billion mainly driven by the introduction of a compensating control for a shortcoming in the modeling of the operational risk distribution within the diversification calculation. The decrease in operational risk of € 0.1 billion was mainly driven by a more favorable development of Deutsche Bank's internal loss profile feeding into the capital model.

The development of capital adequacy ratios under the normative perspective (CET 1 ratio, leverage ratio and MREL) and respective SREP requirements are described in this report in sections "Own funds", "Overview of capital requirements" and "Leverage ratio".

## Overview of RWA and capital requirements

### Article 438 (d) CRR

The table below shows RWA broken down by risk types and model approaches compared to the previous quarter end. It also shows the corresponding minimum capital requirements, which is derived by multiplying the respective RWA by an 8% capital ratio.

## EU OV1 – Overview of RWA

		Dec 31, 2023		Sep 30, 2023	
		a	c1	b	c2
in € m.		RWA	Minimum capital requirements	RWA	Minimum capital requirements
1	Credit risk (excluding CCR)	217,327	17,386	214,693	17,175
	of which:				
2	The standardized approach (SA)	18,541	1,483	18,722	1,498
3	The foundation IRB (FIRB) approach	1,020	82	1,141	91
4	Slotting approach	474	38	517	41
EU 4a	Equities under the simple riskweighted approach	8,781	702	8,832	707
5	The advanced IRB (AIRB) approach	188,512	15,081	185,482	14,839
6	Counterparty credit risk (CCR)	27,748	2,220	31,078	2,486
	of which:				
7	The standardized approach	1,351	108	1,851	148
8	Internal model method (IMM)	15,467	1,237	16,637	1,331
EU 8a	Risk exposure to a CCP	4,140	331	3,764	301
EU 8b	Credit Valuation Adjustment (CVA)	5,276	422	6,262	501
9	Other CCR	1,514	121	2,563	205
15	Settlement risk	14	1	138	11
16	Securitization exposures in the banking book (after the cap)	14,242	1,139	13,325	1,066
	of which:				
17	SEC-IRBA approach	7,287	583	7,047	564
18	SEC-ERBA (including IAA)	602	48	502	40
19	SEC-SA approach	5,440	435	5,220	418
EU 19a	1250% / deduction	913	73	556	45
20	Market risk	21,510	1,721	23,300	1,864
	of which:				
20	Standardized approach	2,819	226	3,157	253
21	IMA	18,691	1,495	20,143	1,611
EU 22a	Large exposures	0	0	0	0
23	Operational risk	57,153	4,572	58,759	4,701
	of which:				
EU 23a	Basic indicator approach	0	0	0	0
EU 23b	Standardized approach	0	0	0	0
EU 23c	Advanced measurement approach	57,153	4,572	58,759	4,701
	Amounts below the thresholds for deduction (subject to 250% risk weight)	11,749	940	13,018	1,041
29	Total	349,742	27,979	354,311	28,345

As of December 31, 2023, RWA was at € 349.7 billion compared to € 354.3 billion as of September 30, 2023. The decrease of € 4.6 billion was primarily driven by RWA for counterparty credit risk (CCR), RWA for market risk, RWA for operational risk and RWA for amounts below thresholds for deduction (subject to 250% risk weight), which was partially offset by increased RWA for credit risk (excluding counterparty credit risk) and RWA for securitization exposures in the banking book (after the cap).

The reduction of € 3.3 billion for counterparty credit risk RWA is mainly driven by the decrease of € 1.2 billion for counterparty credit risk under the internal model method, which is predominantly reflecting reduced exposures along with lower risk weights for derivatives. Additionally, other CCR decreased by 1.0 billion due to lower risk weights for SFTs under the financial collateral comprehensive method. Additionally, credit valuation adjustment (CVA) RWA decreased by € 1.0 billion mainly due to market data changes and business activities. Furthermore, counterparty credit risk under the standardized approach decreased by € 0.5 billion which mainly reflects a favorable risk weight development. These decreases were partly offset by an increase of € 0.4 billion in RWA for risk exposures to a central counterparty (CCP). Lower market risk RWA of € 1.8 billion, primarily driven by a decrease in the Value-at-Risk component due to roll-off of market data from the rolling 1 year period of the Value-at-Risk model, partly offset by an increase in capitalization of Risk not in Value-at-Risk. Operational risk RWA decreased by € 1.6 billion, mainly driven by a more favorable development of Deutsche Bank's internal loss profile feeding into the capital model. Furthermore, RWA for amounts below the thresholds for deduction (subject to 250% risk weight) decreased by € 1.3 billion, primarily driven by lower RWA for deferred tax assets.

The increase in credit risk RWA (excluding counterparty credit risk) by € 2.6 billion was mainly driven by the increase of € 3.0 billion in RWA under the advanced IRB approach mainly due to counterparty rating deteriorations, impacts from the introduction of new models due to regulatory changes, business growth, model updates and the acquisition of Numis Corporation Plc., partly offset by a relief from synthetic securitizations and foreign exchange movements. RWA for securitization exposures in the banking book (after the cap) increased by € 0.9 billion mainly driven by increased exposures treated with a risk weight of 1,250% and higher RWA for securitization under the IRB and SA approaches.

The movements of RWA for credit, credit valuation adjustment, market and operational risk are discussed below in sections “Development of credit risk RWA”, “CCR exposures development”, “CCR CVA capital charge”, “Development of market risk RWA” and “Operational risk measurement”.

## Leverage ratio

### Leverage ratio according to CRR/CRD framework

The non-risk-based leverage ratio is intended to act as a supplementary measure to the risk-based capital requirements. Its objectives are to constrain the build-up of leverage in the banking sector, helping avoid destabilizing deleveraging processes which can damage the broader financial system and the economy, and to reinforce the risk-based requirements with a simple, non-risk based “backstop” measure.

A minimum leverage ratio requirement of 3% was introduced effective starting with June 28, 2021. Starting January 1, 2023, an additional leverage ratio buffer requirement of 50% of the applicable G-SII buffer rate applies. This additional requirement equals 0.75% for Deutsche Bank. Furthermore, the European Central Bank has set a Pillar 2 requirement for the leverage ratio for the first time; effective January 1, 2024, this requirement will be 0.10%.

Deutsche Bank calculates its leverage ratio exposure in accordance with Articles 429 to 429g of the CRR.

The Group’s total leverage ratio exposure includes derivatives, securities financing transactions (SFTs), off-balance sheet exposure and other on-balance sheet exposure (excluding derivatives and SFTs).

The leverage exposure for derivatives is calculated by using a modified version of the standardized approach for counterparty credit risk (SA-CCR), comprising the current replacement cost plus a regulatory defined add-on for the potential future exposure. The effective notional amount of written credit derivatives, i.e., the notional reduced by any negative fair value changes that have been incorporated in Tier 1 capital is included in the leverage ratio exposure measure; the resulting exposure measure is further reduced by the effective notional amount of purchased credit derivative protection on the same reference name provided certain conditions are met.

The SFT component includes the gross receivables for SFTs, which are netted with SFT payables if specific conditions are met. In addition to the gross exposure a regulatory add-on for the counterparty credit risk is included.

The off-balance sheet exposure component follows the standardized approach for credit risk with credit risk conversion factors (CCF) depending on the risk category (0% for low risk, 20% for medium/low risk, 50% for medium risk, or 100% for full risk). For the determination of the leverage exposure a floor of 10% is applied leading to a 10% CCF for the low risk category.

The on-balance sheet exposures (excluding derivatives and SFTs) component reflects the accounting values of the assets (excluding derivatives, SFTs and regular-way purchases and sales awaiting settlement). The exposure value of regular-way purchases and sales awaiting settlement is determined as offset between those cash receivables and cash payables where the related regular-way sales and purchases are both settled on a delivery-versus payment basis.

Assets can be excluded from the leverage ratio exposure measure if they have been deducted in the determination of Tier 1 capital. The corresponding regulatory adjustments are reflected in the asset amounts deducted in determining Tier 1 capital component.

#### **Article 451 (1)(a-c),(2) and (3) CRR**

The following tables show the leverage ratio exposure and the leverage ratio. The first table EU LR1 delivers a reconciliation of accounting assets reported in the IFRS financial statements to the leverage ratio exposure. The leverage ratio common disclosure table EU LR2 presents the components of the leverage exposure, the Tier 1 capital and the leverage ratio as well as the mean value for gross securities financing transaction (SFT) assets. For further details on Tier 1 capital please also refer to the “Regulatory capital composition, prudential filters and deduction items” section in chapter “Capital” in this report. Table EU LR3 provides a further breakdown of the balance sheet exposures (excluding derivatives, SFTs and exempted exposures).

EU LR1 – LRSum: Summary reconciliation of accounting assets and leverage ratio exposures

		a	a
		Dec 31, 2023	Jun 30, 2023
	in € bn. (unless stated otherwise)		
1	Total assets as per published financial statements	<b>1,312</b>	<b>1,300</b>
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of prudential consolidation	<b>2</b>	<b>3</b>
3	(Adjustment for securitised exposures that meet the operational requirements for the recognition of risk transference)	<b>0</b>	<b>0</b>
4	(Adjustment for temporary exemption of exposures to central banks (if applicable))	<b>0</b>	<b>0</b>
5	(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the total exposure measure in accordance with point (i) of Article 429a(1) CRR)	<b>N/M</b>	<b>N/M</b>
6	Adjustment for regular-way purchases and sales of financial assets subject to trade date accounting	<b>(26)</b>	<b>(30)</b>
7	Adjustment for eligible cash pooling transactions	<b>0</b>	<b>16</b>
8	Adjustment for derivative financial instruments	<b>(123)</b>	<b>(132)</b>
9	Adjustment for securities financing transactions (SFTs)	<b>5</b>	<b>4</b>
10	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	<b>130</b>	<b>126</b>
11	(Adjustment for prudent valuation adjustments and specific and general provisions which have reduced Tier 1 capital)	<b>(6)</b>	<b>(6)</b>
EU-11a	(Adjustment for exposures excluded from the total exposure measure in accordance with point (c) of Article 429a(1) CRR)	<b>N/M</b>	<b>N/M</b>
EU-11b	(Adjustment for exposures excluded from the total exposure measure in accordance with point (j) of Article 429a(1) CRR)	<b>N/M</b>	<b>N/M</b>
12	Other adjustments	<b>(53)</b>	<b>(45)</b>
13	Total exposure measure	<b>1,240</b>	<b>1,236</b>

N/M – Not meaningful

## EU LR2 – LRCom: Leverage ratio common disclosure

	a	b
in € bn. (unless stated otherwise)	Dec 31, 2023	Jun 30, 2023
<b>On-balance sheet exposures (excluding derivatives and SFTs)</b>		
1 On-balance sheet items (excluding derivatives, SFTs, but including collateral)	938	933
2 Gross-up for derivatives collateral provided, where deducted from the balance sheet assets pursuant to the applicable accounting framework	0	0
3 (Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(27)	(26)
4 (Adjustment for securities received under securities financing transactions that are recognised as an asset)	0	0
5 (General credit risk adjustments to on-balance sheet items)	(5)	(5)
6 (Asset amounts deducted in determining Tier 1 capital)	(14)	(11)
<b>7 Total on-balance sheet exposures (excluding derivatives and SFTs)</b>	<b>892</b>	<b>890</b>
<b>Derivative exposures</b>		
8 Replacement cost associated with SA-CCR derivatives transactions (ie net of eligible cash variation margin)	43	49
EU-8a Derogation for derivatives: replacement costs contribution under the simplified standardised approach	N/M	N/M
9 Add-on amounts for potential future exposure associated with SA-CCR derivatives transactions	79	79
EU-9a Derogation for derivatives: Potential future exposure contribution under the simplified standardised approach	N/M	N/M
EU-9b Exposure determined under Original Exposure Method	N/M	N/M
10 (Exempted CCP leg of client-cleared trade exposures) (SA-CCR)	(13)	(18)
EU-10a (Exempted CCP leg of client-cleared trade exposures) (simplified standardised approach)	N/M	N/M
EU-10b (Exempted CCP leg of client-cleared trade exposures) (Original exposure method)	N/M	N/M
11 Adjusted effective notional amount of written credit derivatives	510	589
12 (Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(489)	(571)
<b>13 Total derivatives exposures</b>	<b>131</b>	<b>128</b>
<b>Securities financing transaction (SFT) exposures</b>		
14 Gross SFT assets (with no recognition of netting), after adjustment for sales accounting transactions	287	274
15 (Netted amounts of cash payables and cash receivables of gross SFT assets)	(194)	(177)
16 Counterparty credit risk exposure for SFT assets	6	5
EU-16a Derogation for SFTs: Counterparty credit risk exposure in accordance with Articles 429e(5) and 222 CRR	N/M	N/M
17 Agent transaction exposures	0	0
EU-17a (Exempted CCP leg of client-cleared SFT exposure)	0	0
<b>18 Total securities financing transaction exposures</b>	<b>99</b>	<b>102</b>
<b>Other off-balance sheet exposures</b>		
19 Off-balance sheet exposures at gross notional amount	382	368
20 (Adjustments for conversion to credit equivalent amounts)	(252)	(242)
(General provisions deducted in determining Tier 1 capital and specific provisions associated with off-balance sheet exposures)	(0)	(0)
<b>22 Off-balance sheet exposures</b>	<b>129</b>	<b>126</b>
<b>Excluded exposures</b>		
EU-22a (Exposures excluded from the total exposure measure in accordance with point (c) of Article 429a(1) CRR)	N/M	N/M
EU-22b (Exposures exempted in accordance with point (j) of Article 429a(1) CRR (on and off balance sheet))	N/M	N/M
EU-22c (Excluded exposures of public development banks (or units) - Public sector investments)	N/M	N/M
EU-22d (Excluded exposures of public development banks (or units) - Promotional loans)	N/M	N/M
EU-22e (Excluded passing-through promotional loan exposures by non-public development banks (or units))	N/M	N/M
EU-22f (Excluded guaranteed parts of exposures arising from export credits)	(6)	(5)
EU-22g (Excluded excess collateral deposited at triparty agents)	N/M	N/M
EU-22h (Excluded CSD related services of CSD/institutions in accordance with point (o) of Article 429a(1) CRR)	N/M	N/M
(Excluded CSD related services of designated institutions in accordance with point (p) of Article 429a(1) CRR)	N/M	N/M
EU-22i	N/M	N/M
EU-22j (Reduction of the exposure value of pre-financing or intermediate loans)	(5)	(5)
<b>EU-22k (Total exempted exposures)</b>	<b>(11)</b>	<b>(10)</b>
<b>Capital and total exposure measure</b>		
23 Tier 1 capital	56.4	57.7
24 Total exposure measure	1,240	1,236
<b>Leverage ratio</b>		
25 Leverage ratio (in %)	4.5%	4.7%
Leverage ratio (excluding the impact of the exemption of public sector investments and promotional loans)	4.5%	4.7%
EU-25 (%)	4.5%	4.7%
25a Leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves) (%)	4.5%	4.7%
26 Regulatory minimum leverage ratio requirement (%)	3.0%	3.0%
EU-26a Additional own funds requirements to address the risk of excessive leverage (%)	0.0%	0.0%
EU-26b of which: to be made up of CET1 capital	0.0%	0.0%
27 Leverage ratio buffer requirement (%)	0.75%	0.75%
EU-27a Overall leverage ratio requirement (%)	3.75%	3.75%

	a	b
in € bn. (unless stated otherwise)	Dec 31, 2023	Jun 30, 2023
<b>Choice on transitional arrangements and relevant exposures</b>		
EU-27b Choice on transitional arrangements for the definition of the capital measure	Transitional	Transitional
<b>Disclosure of mean values</b>		
28 Mean of daily values of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivable	139	133
29 Quarter-end value of gross SFT assets, after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables	93	97
30 Total exposure measure (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	1,286	1,273
30a Total exposure measure (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	1,286	1,273
31 Leverage ratio (including the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	4.4%	4.5%
31a Leverage ratio (excluding the impact of any applicable temporary exemption of central bank reserves) incorporating mean values from row 28 of gross SFT assets (after adjustment for sale accounting transactions and netted of amounts of associated cash payables and cash receivables)	4.4%	4.5%

N/M – Not meaningful

#### EU LR3 – LRSpl: Split-up of on balance sheet exposures (excluding derivatives, SFTs and exempted exposures)

	a	a
in € bn. (unless stated otherwise)	Dec 31, 2023	Jun 30, 2023
EU-1 Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures)	894	891
of which:		
EU-2 Trading book exposures	130	114
EU-3 Banking book exposures	764	777
of which:		
EU-4 Covered bonds	0	0
EU-5 Exposures treated as sovereigns	228	210
EU-6 Exposures to regional governments, MDB, international organizations and PSE, not treated as sovereigns	1	1
EU-7 Institutions	10	10
EU-8 Secured by mortgages of immovable properties	212	217
EU-9 Retail exposures	32	33
EU-10 Corporates	200	221
EU-11 Exposures in default	11	10
EU-12 Other exposures (e.g. equity, securitizations, and other non-credit obligation assets)	68	75

## Process used to manage the risk of excessive leverage

### Article 451 (1)(d) CRR and EU LRA

The Group Risk Committee is mandated to oversee, control and monitor integrated planning of the Group's risk profile and capital capacity. The Group Asset and Liability Committee (ALCO) actively manages leverage exposure capacity within the Risk Appetite Framework via a limit setting process to

- Allocate group leverage exposure capacity to businesses
- Support business achievement of strategic performance plans
- Provide a firm basis for achieving the target leverage ratio
- Incentivize businesses to make appropriate decisions on its portfolios, with consideration to asset maturity and encumbrance amongst others
- Maintain risk and leverage exposure discipline

The governance framework ensures that the leverage exposure capacity is carefully decided to reach the Group's external leverage ratio target and avoids an excessive leverage of the bank and its divisions. The resulting leverage exposure limits include all assets including those inflating the Group's balance sheet through asset encumbrance. In the case of divisions exceeding its agreed limits, charges are imposed on the division for the excess amount. The limit excess charges are calculated in accordance with the Group-wide limit-setting framework for leverage.

## Factors that had an impact on the leverage ratio in the second half of 2023

### Article 451 (1)(e) CRR and EU LRA

As of December 31, 2023, the leverage ratio was 4.5% compared to 4.7% as of June 30, 2023. This takes into account a Tier 1 capital of € 56.4 billion over an applicable exposure measure of € 1,240.3 billion as of December 31, 2023 (€ 57.7 billion and € 1,236.0 billion as of June 30, 2023, respectively).

In the second half of 2023 the leverage exposure increased by € 4.3 billion or 0.3% to € 1,240.3 billion.

Off-balance sheet leverage exposures increased by € 3.8 billion corresponding to higher notional amounts for financial guarantees and irrevocable commitments.

Furthermore, the leverage exposure related to derivatives increased by € 3.1 billion, driven by the effective notional amount of written credit derivatives after offsetting of eligible bought credit derivatives.

In addition, the leverage exposure for on-balance sheet exposures (excluding derivatives and SFTs) increased by € 1.9 billion. On the one hand this reflects the development of the balance sheet: increases in non-derivative trading assets by € 14.2 billion, cash and central bank/interbank balances by € 13.8 billion and financial assets at fair value through OCI by € 7.2 billion were partly offset by decreases in loans by € 20.9 billion (includes impact from regulatory clarification on treatment of specific cash pooling structures) and pending settlements by € 7.3 billion on a net basis (€ 10.7 billion on a gross basis to seasonally low year-end levels); the remaining asset items not outlined separately decreased by € 2.0 billion. On the other hand, asset amounts deducted in determining Tier 1 capital declined by € 2.7 billion mainly reflecting higher capital deductions for negative amounts resulting from the calculation of expected loss amounts and deferred tax assets.

These increases were partly offset by SFT-related items (securities purchased under resale agreements and securities borrowed) which decreased by € 3.1 billion, in line with the development on the balance sheet.

The reduction in position excluded exposures by € 1.5 billion is driven by guaranteed parts of exposures arising from export credits.

The increase in leverage exposure in the second half of 2023 included a negative foreign exchange impact of € 4.7 billion, mainly due to the weakening of the U.S. Dollar versus the Euro. The effects from foreign exchange rate movements are embedded in the movement of the leverage exposure items discussed in this section.

For main drivers of the Tier 1 capital development please refer to section "Development and composition of Own Funds" in this report.

## Risk management objectives and policies

### Enterprise Risk

#### Risk management structure and organization

##### Article 435 (1)(b) CRR (EU OVA)

##### Governance principles

The Management Board is responsible for managing Deutsche Bank AG in accordance with the law, the Articles of Association, and its Terms of Reference.

The Management Board is responsible for ensuring the proper business organization of the Group, which includes appropriate and effective risk management as well as compliance with legal requirements and internal guidelines, along with taking the necessary measures to ensure that adequate internal guidelines are developed and implemented.

The bank's Code of Conduct is designed to ensure ethical conduct, in accordance with Deutsche Bank's policies and procedures as well as the laws and regulations that apply to the Group worldwide.

Accountability of senior management is ensured through transparency of its specific position and associated decision-making authority. Each position requires a separate position description with responsibilities against which individual performance is assessed.

Management committees (i.e. decision making bodies) are only permitted where true joint decision making is required. When committees are established, all members are equally accountable for all topics and decisions within the committees' scope of responsibility.

## Risk management principles

Deutsche Bank's business model inherently involves taking risks. Risks can be financial and non-financial and include on and off-balance sheet risks. The risk management framework aligns the bank's planned and actual risk taking with its risk appetite as expressed by the Management Board, while being in line with the Group's available capital and liquidity.

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

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

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

## Risk governance

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

Several layers of management provide cohesive risk governance:

Deutsche Bank's Supervisory Board is informed regularly on the risk situation, risk management and risk controlling, including reputational risk related items as well as material litigation cases. It has formed various committees to handle specific topics as outlined below.



- At the meetings of the Risk Committee, the Management Board reports on current and forward-looking risk exposures, portfolios, on risk appetite and strategy and on matters deemed relevant for the assessment and oversight of the risk situation of Deutsche Bank; it also reports on loans requiring a Supervisory Board resolution pursuant to law or the Articles of Association; the Risk Committee advises on issues related to the overall risk appetite, aggregate risk position and the risk strategy and keeps the Supervisory Board informed of its activities
- The Regulatory Oversight Committee, among other responsibilities, monitors the Management Board's measures that promote the company's compliance with legal requirements, authorities' regulations and the company's own policies; it also reviews the Bank's codes of conduct and ethics as well as its policy framework, and, upon request, supports the Risk Committee in monitoring and analyzing the Bank's legal and reputational risks; the Management Board informs the Committee about contacts with Regulators with a significant relevance for the business activity
- The Audit Committee, among other matters, monitors the effectiveness of the risk management system, particularly the internal control system and the internal audit system; it also monitors the Management Board's remediation of deficiencies identified

The Management Board established the Group Risk Committee as the central forum for review and decision on material risk and capital-related topics. The Group Risk Committee has various duties and dedicated authority, including approval of new or changed material risk and capital models and review of the inventory of risks, high-level risk portfolios, risk exposure developments, and internal and regulatory Group-wide stress testing results. In addition, the Group Risk Committee reviews and recommends items for Management Board approval, such as key risk management principles, the Group risk appetite statement, the Group recovery plan and the contingency funding plan, over-arching risk appetite parameters, and recovery and escalation indicators. The Group Risk Committee also supports the Management Board during Group-wide risk and capital planning processes.

The Group Risk Committee has delegated some of its duties to sub-committees as follows:

- The Non-Financial Risk Committee oversees, governs and coordinates the management of non-financial risks in Deutsche Bank Group and establishes a cross-risk and holistic perspective of the key non-financial risks of the Group, including conduct and financial crime risk; it is tasked to define the non-financial risk appetite tolerance framework, to monitor and control the effectiveness of the non-financial risk operating model (including interdependencies between business divisions and control functions), and to monitor the development of emerging non-financial risks relevant for the Group
- The Group Reputational Risk Committee is responsible for the oversight, governance and coordination of reputational risk management and provides for a look-back and a lessons learnt process; matters are referred to the Group Reputational Risk Committee in exceptional circumstances – this may be the case if a matter is declined by the Regional Reputational Risk Committee and appealed by the business division, or if the Regional Reputational Risk Committee cannot reach a two-thirds majority decision; it provides guidance on Group-wide reputational risk matters, including communication of sensitive topics, to the appropriate levels of Deutsche Bank Group; the Regional Reputational Risk Committees which are sub-committees of the Group Reputational Risk Committee, are responsible for the oversight, governance and coordination of the management of reputational risk in the respective regions on behalf of the Management Board
- The Enterprise Risk Committee has been established with a mandate to focus on enterprise-wide risk trends, events and cross-risk portfolios, bringing together risk experts from various risk disciplines; as part of its mandate, the Enterprise Risk Committee approves the enterprise risk inventory, certain country and industry threshold increases, and scenario design outlines for more severe group-wide stress tests as well as reverse stress tests; it reviews group-wide stress test results in accordance with risk appetite, reviews the risk outlook, emerging risks and topics with enterprise-wide risk implications; it oversees the climate and environmental risk framework
- The Product Governance Committee has the mandate to ensure that there is appropriate oversight, governance and coordination of Product Governance in the Group by establishing a cross-risk and holistic perspective of key financial and non-financial risks associated with products and transactions throughout the lifecycle

The Financial Resource Management Council is an ad-hoc governance body, chaired by the Chief Financial Officer and the Chief Risk Officer, with delegated authority from the Management Board, to oversee financial crisis management at the bank. The Financial Resource Management Council provides a single forum to oversee execution of both the contingency funding plan and the Group recovery plan. The council recommends upon mitigating actions to be taken in a time of anticipated or actual capital or liquidity stress. Specifically, the Financial Resource Management Council is tasked with analyzing the bank's capital and liquidity position, in anticipation of a stress scenario recommending proposals for capital and liquidity related matters and overseeing the execution of decisions.

The Group Asset & Liability Committee has been established by the Management Board. Its mandate is to optimize the sourcing and deployment of the bank's balance sheet and financial resources within the overarching risk appetite set by the Management Board.

Deutsche Bank's Chief Risk Officer, who is a member of the Management Board, has Group-wide, supra-divisional responsibility for establishing a risk management framework with appropriate identification, measurement, monitoring, mitigation and reporting of liquidity, credit, market, enterprise, model and non-financial risks (including operational and

reputational risks). However, frameworks for certain risks are established by other functions as per the business allocation plan.

The Chief Risk Officer has direct management responsibility for the Chief Risk Office function. Risk management and control duties in the Chief Risk Office function are generally assigned to specialized risk management units focusing on the management of specific risk types, risks within a specific business or risks in a specific region.

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

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

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

## Risk committee and number of meetings

### Article 435 (2)(d) CRR (EU OVB)

Dedicated risk committees are in place both to support the Supervisory Board (the Risk Committee of the Supervisory Board) as well as the Management Board (the Group Risk Committee).

The Risk Committee of the Supervisory Board held 6 meetings in 2023.

The Group Risk Committee held 41 meetings in 2023.

## Risk management strategies and processes

### Article 435 (1)(a) CRR (EU OVA)

Enterprise risk relates to the potential losses or adverse consequences from strategic risk, insufficient capital, unduly portfolio concentrations or step-in risk on an enterprise level. Enterprise risk therefore covers various risk types with cross-risk character impacting Deutsche Bank holistically:

- Strategic risk is the risk of a shortfall in earnings (excluding other material risks) due to incorrect business plans (owing to flawed assumptions), ineffective plan execution or a lack of responsiveness to material plan deviations
- Capital risk is the risk that Deutsche Bank has an insufficient level or composition of capital supply to support its current and planned business activities and associated risks during normal and stressed conditions
- Portfolio concentration risk is the risk of exposures to common drivers, including on a country, industry or asset class basis
- Step-in risk is the risk that Deutsche Bank decides to provide support beyond contractual obligations to an entity outside the regulatory consolidation circle that is facing stress, in order to avoid the bank's reputational damage, negative impacts to its businesses or operations

Enterprise Risk Management function establishes strategies and processes to manage most enterprise risks. This includes inter alia the establishment of an appropriate risk governance, setting of a risk appetite and risk measurement and reporting. The management of these risks is also closely integrated with Deutsche Bank's overall strategy and processes on internal capital and liquidity adequacy.

Enterprise Risk Management is also responsible for defining a bank-wide framework for risk management, integrating and aggregating risks to provide greater enterprise risk transparency and support decision making, commissioning forward-looking stress tests and managing group recovery plans.

The stress test framework defined by Enterprise Risk Management satisfies internal as well as external stress test requirements. The internal stress tests are based on in-house developed methods and inform a variety of risk management use cases (risk type specific as well as cross risk). Internal stress tests form an integral part of Deutsche Bank's risk management framework, complementing traditional risk measures. The cross-risk stress test framework, the Group Wide Stress Test (GWST), serves a variety of bank management processes, in particular the strategic planning process, the ICAAP, the risk appetite framework and capital allocation. Capital plan stress testing is performed to assess the viability of the bank's capital plan in adverse circumstances and to demonstrate a clear link between risk appetite, business strategy, capital plan and stress testing. The time-horizon of internal stress tests is between one and five years, depending on the use case and

scenario assumptions. The regulatory stress tests, e.g. the EBA stress test and the US-based CCAR (Comprehensive Capital Analysis and Review) stress tests, strictly follow the processes and methodologies prescribed by the regulatory authorities.

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

## Scope and nature of risk measurement and reporting systems

### Article 435 (1)(c), 2(e) CRR (EU OVA)

#### Overview

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

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

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

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

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

### Key risk metrics

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

### Key risk reports

While a large number of reports are used across the Bank, Deutsche Bank designates a subset of these as "Key Risk Reports" that are critical to support Deutsche Bank's Risk Management Framework through the provision of risk information to senior

management and therefore enable the relevant governing bodies to monitor, steer and control the Bank's risk taking activities effectively. To ensure that Key Risk Reports meet recipients' requirements, report producing functions regularly check whether the Key Risk Reports are clear and useful.

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

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

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

## Policies for hedging and mitigating risk

### Article 435 (1)(d) CRR (EU OVA)

The bank is utilizing a variety of risk mitigation techniques to manage financial and non-financial risk exposures. More detailed risk type specific considerations can be found in following chapters.

## Concise risk statement approved by the board

### Article 435 (1)(f) CRR (EU OVA & EU LIQA)

Deutsche Bank's Management Board approves, for the purpose of Article 435 CRR, this concise risk statement succinctly describing the institution's overall risk profile associated with the business strategy.

The Group's business model inherently involves taking risks. Risk types as reflected in the risk type taxonomy include credit risk, market risk, liquidity risk, enterprise risk, model risk, reputational risk and operational risk.

The risk management framework aims to align the bank's planned and actual risk taking with the risk appetite as expressed by the Management Board, while being in line with the bank's available capital and liquidity. Deutsche Bank's risk management framework consists of various components including risk governance, risk organization, risk culture, risk appetite, strategy & planning, risk identification & assessment, mitigation & controls, risk measurement & reporting, stress planning & execution.

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

The table below shows the risk profile of business divisions as measured by economic capital calculated for credit, market, operational and strategic risk.

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

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

<sup>1</sup> Diversification benefit across credit, market, operational and strategic risk

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

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

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

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

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

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

The table below shows the results of the bank's stressed Net Liquidity Position (sNLP) under various scenarios. The sNLP is an internal liquidity risk management tool.

### Global All Currency Daily Stress Testing Results

in € bn.	Dec 31, 2023			Dec 31, 2022		
	Funding Gap <sup>1</sup>	Gap Closure <sup>2</sup>	Net Liquidity Position	Funding Gap <sup>1</sup>	Gap Closure <sup>2</sup>	Net Liquidity Position
Systemic market risk	123	242	119	120	234	114
1 notch downgrade (DB specific)	38	180	142	90	234	145
Severe downgrade (DB specific)	161	259	97	154	251	97
Combined <sup>3</sup>	203	261	58	205	254	48

<sup>1</sup> Funding gap caused by impaired rollover of liabilities and other projected outflows

<sup>2</sup> Based on liquidity generation through Liquidity Reserves and other business mitigants

<sup>3</sup> Combined impact of systemic market risk and severe downgrade

As part of the stress testing and scenario analysis the business portfolios are categorized under various liquidity risk drivers and appropriate models are defined for each of the liquidity risk drivers to arrive at the above results. The Corporate Bank and Private Bank are primarily loan and deposit businesses, which on a net basis generate liquidity for Deutsche Bank due to their surplus deposits in excess of their loan portfolios. This surplus liquidity is passed to Group Treasury. The Investment Bank by contrast is a net consumer of liquidity, predominantly due to its large loan and securities portfolios, and borrows from Group Treasury. The Investment Bank holds a portion of its liquid securities unencumbered as part of Deutsche Bank's liquidity reserves. Group Treasury raises funding primarily from long-term debt issuance, participation in central bank money market operations as well as short-term wholesale deposits. Group Treasury holds Deutsche Bank's liquidity reserves in the form of Central Bank cash and a highly liquid unencumbered securities portfolio.

Additional key risk ratios and figures are included in EU KM1, EU KM2, EU OVC and the various risk type specific sections.

Information on capital and risk measurement is based on the principles of consolidation. Intragroup transactions and transactions with related parties do not have any material impact on the Group's capital risk profile. For the Bank's consolidated LCR, NSFR (Pillar 1) and sNLP (Pillar 2), available surplus that resides in entities with restriction to transfer liquidity to other group entities, for example due to regulatory lending requirements, is considered to be trapped and as such not counted in the calculation of the consolidated group liquidity surplus.

# Credit risk and credit risk mitigation

## General qualitative information on credit risk

### Credit risk management strategies and processes

#### **Article 435 (1)(a) CRR (EU OVA & EU CRA)**

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

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

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

An appropriate set of credit metrics is used to properly monitor DB Group’s Credit Risk:

To manage counterparties and portfolios the Bank uses gross/ net credit limits and other credit exposure metrics. Where deemed appropriate, additional risk metrics (PD, EL, LGD, loan loss provisions) are applied and related capital consumption (EC, RWA) as well as risk/ reward are referenced. Enhanced focus is put on balance sheet consumption and stress losses.

The management of Credit Risk follows clearly defined and documented credit processes.

Key elements are:

- deriving a Credit Rating for the counterparties
- approving individual counterparty credit limits with the required Credit Authority
- setting credit limits for certain counterparties or portfolios, the latter in line with the allocated Risk Appetite also ensuring adequate limit/ exposure reflection in risk systems
- deciding on the requirement for Credit Risk Mitigation (including collateral and risk transfer)
- monitoring of the credit exposures on a counterparty level; monitoring on a portfolio level including specific stress testing to ensure adherence to the allocated Risk Appetite (in addition to the tasks of the independent Risk Control Function)
- managing higher risk counterparties via Watchlist process and transfer to Workout Units
- proactively managing Concentration Risks and identifying quality trends to adhere to the allocated Risk Appetite.

The credit rating is an essential part of Deutsche Bank’s credit process and builds – amongst others – the basis for maximum credit limit determination on a Borrower level and adequate pricing of the transaction and credit decision. The Bank performs an appropriate risk assessment of all Borrowers and the associated exposure on at least an annual basis. Ongoing active monitoring and management of individual Credit Risk positions is an integral part of Credit Risk Management and is regarded as the responsibility of all functions being part of the credit process. A credit rating is a prerequisite for any credit limit established/ approved. For each credit rating the appropriate rating approach has to be applied and the derived credit rating has to be established in the relevant systems. Different rating approaches have been established to best reflect the specific characteristics of exposure classes, including specific product types, central governments and central banks, institutions, corporates and retail.

Counterparties in the bank’s non-homogenous portfolios are rated by Deutsche Bank’s independent Credit Risk Management function. Country risk ratings are provided by Enterprise Risk Management Risk Research.

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

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

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

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

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

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

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

In determining the credit limit for a counterparty, Deutsche Bank considers the counterparty's credit quality by reference to its internal credit rating. Credit limits and credit exposures are both measured on a gross and net basis where net is derived by deducting hedges and certain collateral from respective gross figures. For derivatives, Deutsche Bank looks at current market values and the potential future exposure over the relevant time horizon which is based upon the bank's legal agreements with the counterparty. Deutsche Bank also takes into consideration the risk-return characteristics of individual transactions and portfolios. Risk-return metrics explain the development of client revenues as well as capital consumption.

## Credit risk management structure and organization

### Article 435 (1)(b) CRR EU OVA & EU CRA

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

- Credit Risk is only accepted:



- for adopted clients
- after completed proper due diligence involving the Business as 1st LoD
- for explicitly approved businesses, products and locations; New, products and changes to existing products have to be assessed within DB Group's new product approval (NPA) framework
- if a Rating has been assigned in line with agreed and approved processes
- if all credit relevant exposures are correctly reflected in the relevant risk systems
- if plans for an orderly termination of the risk positions have been considered
- Credit Risk is assumed within the applicable Risk Appetite
- P&L responsibility for credit exposures is kept and remains with the sponsoring Corporate Division
- Risk taken needs to be adequately compensated
- Risk must be continuously monitored and managed across 1st and 2nd LoD
- Credit standards are applied consistently across all Group Divisions in order to maintain a favourable risk profile in line with the Risk Appetite
- Collateral or other risk mitigating, hedging or rating transfer instruments which can be an alternative source of repayment do not substitute for underwriting standards and a thorough assessment of the debt service ability of the counterparty has to be performed during the credit process
- Deutsche Bank strives to adequately secure, guarantee or hedge outright Cash Risk and longer tenor exposures with acceptable remuneration. This approach does usually not include lower risk short-term transactions and facilities supporting specific trade finance or other lower risk products where the margin allows for adequate loss coverage
- Deutsche Bank measures and consolidates globally all exposure and facilities to the same Obligor. A Key Contact Person (KCP) within a Credit Team is assigned to each group of connected clients (Obligor) to globally co-ordinate the Credit Risk process for the respective Obligor
- Deutsche Bank has established within Credit Risk Management – where appropriate – specialized teams for deriving internal client ratings, analyzing and approving transactions or covering workout clients; for transaction approval purposes, structured credit risk management teams are aligned to the respective lending business areas to ascertain adequate product expertise
- Where required, Deutsche Bank has established processes to manage credit exposures at a legal entity level
- To meet the requirements of Article 190 CRR, DB Group has allocated the various control requirements for the credit processes to 2nd LoD units that are best suited to perform such controls

The model change process and the relevant governance bodies are described in the chapter "Role of the function in the credit risk model process, scope and main content of credit risk models".

## Scope and nature of credit risk measurement and reporting systems

### Article 435 (1)(c) CRR (EU OVA & EU CRA)

Both credit and non-credit risk measurement systems support credit risk related management reporting and provide the basis for reporting on credit risk positions and utilization under established limits to relevant stakeholders on a regular and ad-hoc basis. Established units within the Chief Risk Officer function assume responsibility for measurement, analysis and reporting of risk while promoting sufficient quality and integrity of credit risk-related data.

The main reports on credit risk that are used to provide stakeholders with information relating to the group credit risk profile are the following:

- The Key Risk Report focused on credit risk is the Credit Risk Appetite & Portfolio Management Report, issued monthly; this Key Risk Report holistically covers credit risk across Deutsche Bank Group; it has been established to monitor and promote discussion on qualitative and quantitative credit portfolio developments and the current macroeconomic environment including market trends and events; the material typically covers key credit risk themes, the credit portfolio risk profile, credit portfolio appetite, informs on potential counterparty and portfolio concentrations, provides information on the development of financial resources such as credit risk RWA and credit risk economic capital including stress testing, updates on credit portfolio risk mitigation across the banking and trading book positions and wrong way risk as well as the development and outlook of Credit Loss Provisions (CLP)
- The Weekly Credit Risk Wrap, a summary that provides an update of latest credit risk developments over the week, including recent news, CLP, and underwriting pipeline trends

While the above reports are used at a Group level to monitor and review the credit risk profile of Deutsche Bank holistically, there are other, supplementing standard and ad-hoc management reports, including for sub- and focus portfolios, asset classes as well as legal entities, which are used to monitor and control the risk profile. Fully automated credit portfolio overview reports can be also utilized and show, for the selected portfolio scope, key credit risk metrics and various portfolio splits, such as top movers by product classification, tenor and country. In addition, credit risk feeds information into the bank's cross risk reports as outlined earlier.

## Policies for hedging and mitigating credit risk

### Article 435 (1)(d) CRR (EU OVA & EU CRA)

Deutsche Bank has regulated the acceptance, valuation and management of risk mitigating and hedging instruments in a framework of approved global, local and product or business specific documents which determine the Bank's standards and consider legal and regulatory requirements. Tasks, responsibilities and respective authorities are dedicated here while the processes are executed mainly decentralized or locally or in specific teams with delegated tasks.

Under the framework of the "Principles for Managing Credit Risk" as well as the "Policy for Managing Credit Risk" the bank's main respective documents for hedging and mitigating credit risk are:

- The Global Collateral Management Guide (for Banking Book Collateral)
- The Global Collateral Guideline (for Derivatives and Securities Financing Transactions)
- Mandated Hedge Guidance for CPM Framework
- Leveraged and Hedge Funds Process Guide - CRO CRM

supplemented by divisional credit policies and process guides and a comprehensive regime of local, divisional and business specific collateral management and valuation procedures, directives and manuals. All these regulations are reviewed, updated and approved at least annually and distributed to the relevant staff as well as accessible on the bank's Policy Portal.

### Article 431 (5) CRR

Deutsche Bank Group, if requested, provides explanations of rating decisions to small and medium entities and other corporates.

## Definitions of past due and impairment

### Article 442 (a) CRR (EU CRB)

Exposures are considered to be past due if contractually agreed payments of principal and/or interest remain unpaid by the borrower, except if those are acquired through consolidation. The latter are considered to be past due if payments of principal and/or interest, which were expected at a certain payment date at the time of the initial consolidation of the loans, are unpaid by the borrower.

The Group has aligned its definition of "credit impaired" under IFRS 9 to the default definition as per Art. 178 of the Capital Requirements Regulation for regulatory purposes. As a consequence, credit impaired financial assets (or Stage 3 financial assets) consist of two types of defaulted financial assets: financial assets where the Group expects an impairment loss and the amount is reflected in the allowance for credit losses and financial assets, where the Group does not expect an impairment loss (e.g., due to high quality collateral or sufficient expected future cash flows following thorough due diligence).

## Credit risk adjustments

### Article 442 (b) CRR (EU CRB)

The determination of impairment losses and allowances is based on the expected credit loss model under IFRS 9, where allowances for loan losses are recorded upon initial recognition of the financial asset, based on expectations of potential credit losses at the time of initial recognition.

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

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

- Stage 1 reflects financial instruments where it is assumed that credit risk has not increased significantly after initial recognition
- Stage 2 contains all financial assets, that are not defaulted, but have experienced a significant increase in credit risk since initial recognition
- Stage 3 consists of financial assets of clients which are defaulted in accordance with DB's policies on regulatory default, which are based on the Capital Requirements Regulation (CRR) under Art. 178; the Group defines these financial assets as impaired, non-performing and defaulted

- Significant increase in Credit Risk is determined using quantitative and qualitative information based on the Group's historical experience, credit risk assessment and forward-looking information
- Purchased or Originated Credit Impaired (POCI) financial assets are assets where at the time of initial recognition there is objective evidence of impairment

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

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

## General quantitative information on credit risk

### Residual maturity breakdown of credit exposure

#### Article 442 (g) CRR

Table EU CR1-A provides the net credit exposures by maturities and exposure classes. The exposure amount includes on-balance sheet items, whereby the net exposure value is calculated by deducting credit risk adjustments from its gross carrying amount. The net exposure is split into the below 5 categories based on the residual contractual maturity of the instrument.

- On demand: where the counterparty has a choice of when the amount is repaid
- Bucketing remaining maturity: 0 to 1 year, 1 to 5 years, and more than 5 years
- No stated maturity: where an exposure has no stated maturity for reasons other than the counterparty having the choice of the repayment date

The breakdown into the exposure classes follows those as defined for the IRBA (i.e., combining the advanced and foundation IRB) as well as for the standardized approach. In the IRB approach, the line item "Central governments and central banks" includes exposures to regional governments or local authorities, public sector entities, multilateral development banks and international organizations. The exposure class "Other items" within the standardized approach includes all exposures not covered in the other categories.

EU CR1-A – Maturity of exposures

		Dec 31, 2023					
		a	b	c	d	e	f
		Net exposure value					
in € m.		On demand	<= 1 year	> 1 year <= 5 years	> 5 years	No stated maturity	Total
1	Central governments and central banks	83,396	12,623	8,382	15,497	0	119,898
2	Institutions	3,868	3,793	2,289	1,504	0	11,454
3	Corporates	13,208	106,559	89,860	30,601	0	240,228
4	Retail	2,095	5,161	19,493	181,052	0	207,800
5	Equity	710	1,114	4	0	0	1,828
5a	Other non-credit obligation asset	1,729	1,735	1,518	4,300	0	9,282
<b>6</b>	<b>Total IRB approach</b>	<b>105,006</b>	<b>130,984</b>	<b>121,546</b>	<b>232,954</b>	<b>0</b>	<b>590,490</b>
7	Central governments or central banks	84,771	12,068	3,525	10,978	0	111,342
8	Regional governments or local authorities	129	440	236	647	0	1,453
9	Public sector entities	13	71	266	159	0	508
10	Multilateral development banks	0	0	342	106	0	448
11	International organizations	0	0	0	69	0	69
12	Institutions	108	18	0	3,395	0	3,521
13	Corporates	1,577	3,228	3,920	1,466	0	10,191
14	Retail	430	146	334	528	0	1,437
15	Secured by mortgages on immovable property						
		511	478	588	3,043	0	4,620
16	Exposures in default <sup>1</sup>	141	186	295	544	0	1,167
17	Items associated with particularly high risk	28	121	3	23	0	175
18	Covered bonds	0	0	0	0	0	0
19	Claims on institutions and corporates with a short-term credit assessment	0	0	0	0	0	0
20	Collective investments undertakings (CIU)	0	0	0	0	0	0
21	Equity exposures	0	0	0	62	0	62
22	Other items	0	4	0	0	0	4
<b>23</b>	<b>Total standardized approach</b>	<b>87,567</b>	<b>16,573</b>	<b>9,215</b>	<b>20,477</b>	<b>0</b>	<b>133,831</b>
<b>24</b>	<b>Total</b>	<b>192,573</b>	<b>147,557</b>	<b>130,761</b>	<b>253,431</b>	<b>0</b>	<b>724,322</b>

		Jun 30, 2023					
		a	b	c	d	e	f
		Net exposure value					
in € m.		On demand	<= 1 year	> 1 year <= 5 years	> 5 years	No stated maturity	Total
1	Central governments and central banks	85,264	13,593	8,026	14,875	0	121,759
2	Institutions	4,496	3,218	2,892	907	0	11,513
3	Corporates	15,112	99,584	96,911	30,102	0	241,709
4	Retail	2,521	6,855	18,681	182,385	0	210,441
5	Equity	1,055	880	4	9	0	1,948
5a	Other non-credit obligation asset	3,315	1,946	750	5,053	0	11,063
<b>6</b>	<b>Total IRB approach</b>	<b>111,761</b>	<b>126,076</b>	<b>127,263</b>	<b>233,331</b>	<b>0</b>	<b>598,432</b>
7	Central governments or central banks	73,366	6,756	3,255	7,214	0	90,592
8	Regional governments or local authorities	91	662	280	571	0	1,604
9	Public sector entities	48	4	265	152	0	469
10	Multilateral development banks	0	0	344	101	0	445
11	International organizations	0	965	0	66	0	1,031
12	Institutions	50	20	0	3,240	0	3,310
13	Corporates	2,142	5,510	3,513	1,225	0	12,391
14	Retail	432	144	416	606	0	1,598
15	Secured by mortgages on immovable property						
		528	491	662	3,154	0	4,835
16	Exposures in default <sup>1</sup>	65	143	191	237	0	637
17	Items associated with particularly high risk	8	1	106	24	0	138
18	Covered bonds	0	0	0	0	0	0
19	Claims on institutions and corporates with a short-term credit assessment	0	0	0	0	0	0
20	Collective investments undertakings (CIU)	0	0	0	0	0	0
21	Equity exposures	0	0	0	53	0	53
22	Other items	0	137	0	0	0	137
<b>23</b>	<b>Total standardized approach</b>	<b>76,665</b>	<b>14,691</b>	<b>8,842</b>	<b>16,406</b>	<b>0</b>	<b>116,603</b>
<b>24</b>	<b>Total</b>	<b>188,426</b>	<b>140,767</b>	<b>136,105</b>	<b>249,737</b>	<b>0</b>	<b>715,035</b>

<sup>1</sup> In light of EBA guidance (Q&A 2017\_3481) the defaulted exposure is presented within the standardized approach as a total in row 16 but also shown as assigned to their respective exposure classes. In order to avoid double counting of exposures, the total exposure of the standardized approach as presented in row 23 does not take into account figures disclosed under row 16

## Quality of non-performing exposures by geography

The following 6 tables (EU CQ4, EU CQ5, EU CR1, EU CQ3, EU CR2 and EU CQ1) provide information on performing and non-performing exposures.

Relevant exposures are debt instruments (debt securities, loans, advances, cash at central bank balances, demand deposits) as well as off-balance sheet exposures (loan commitments given, financial guarantees given and any other commitments) excluding those exposures held for trading.

The amounts shown are based on the IFRS gross carrying and nominal values according to the regulatory scope of consolidation. The gross carrying amount reflects the exposure value before deduction of accumulated impairment, provisions and accumulated negative changes due to credit risk for non-performing exposures.

An exposure is being classified as non-performing if it meets the non-performing criteria in Article 47a of the CRR and an exposure is classified as defaulted if it meets the definition of default as per Article 178 of the CRR. Exposures subject to impairment under IFRS 9 include debt instruments at amortized cost and fair value through OCI as well as off-balance sheet exposures.

### Article 442 (c+e) CRR

Table EU CQ4 provides information about performing and non-performing exposures broken down by significant countries. For each reporting period Deutsche Bank considers the top 25 countries by exposure to be significant, as it represents more than 90% of the Group's total exposure. Immaterial exposures, with individual exposures being below € 3.5 billion, are included in "Other countries". The geographical distribution is based on the legal domicile of the counterparty or issuer.

EU CQ4 – Quality of non-performing exposures by geography

		Dec 31, 2023							
		a	b	c	d	e	f	g	
		Gross carrying/nominal amount							Accumulated negative changes in fair value due to credit risk on non- performing exposures
		of which non-performing							
in € m.				of which defaulted	of which subject to impairment	Accumulated impairment	Provisions on off-balance- sheet commitments and financial guarantees		
1	<b>On-balance-sheet exposures<sup>1</sup></b>	724,153	14,066	13,805	639,585	(5,285)	0	(21)	
2	Australia	5,381	45	45	5,088	(7)	0	0	
3	Austria	2,696	3	3	2,170	(2)	0	0	
4	Belgium	3,535	17	17	3,494	(7)	0	0	
5	Canada	1,831	0	0	1,771	(10)	0	0	
6	Cayman Islands	42,935	167	167	9,637	(12)	0	0	
7	China	5,662	22	22	4,484	(5)	0	0	
8	France	15,463	374	374	10,037	(62)	0	0	
9	Germany	245,852	3,771	3,745	244,437	(2,600)	0	0	
10	Hong Kong	3,748	256	256	3,622	(224)	0	0	
11	India	7,847	220	220	7,468	(54)	0	0	
12	Ireland	8,796	495	495	7,228	(114)	0	0	
13	Italy	37,851	1,106	1,104	36,130	(760)	0	0	
14	Japan	12,714	89	89	3,862	(5)	0	0	
15	Jersey	2,591	31	31	2,572	(4)	0	0	
16	Luxembourg	20,669	223	223	20,417	(38)	0	0	
17	Netherlands	12,637	112	112	12,292	(37)	0	(13)	
18	Poland	5,444	156	154	5,345	(36)	0	(1)	
19	Singapore	6,053	73	73	5,372	(8)	0	0	
20	Spain	19,722	931	925	19,655	(356)	0	0	
21	Sweden	2,583	1	1	1,346	(7)	0	0	
22	Switzerland	7,902	433	433	7,676	(33)	0	0	
23	Turkey	5,860	105	105	4,015	(8)	0	0	
24	U.S.	155,782	3,389	3,254	140,027	(528)	0	(0)	
25	United Kingdom	27,839	234	234	22,451	(27)	0	0	
26	Virgin Islands, British	4,329	187	187	4,329	(46)	0	0	
27	Other countries	58,430	1,626	1,537	54,662	(298)	0	(8)	
28	<b>Off-balance-sheet exposures</b>	316,449	2,457	2,451	0	0	(402)	0	
29	Australia	3,444	0	0	0	0	(2)	0	
30	Austria	1,070	0	0	0	0	(1)	0	
31	Belgium	2,212	3	3	0	0	(1)	0	
32	Canada	2,251	0	0	0	0	(5)	0	
33	Cayman Islands	3,201	11	11	0	0	(1)	0	
34	China	2,062	0	0	0	0	(0)	0	
35	France	9,155	2	2	0	0	(5)	0	
36	Germany	90,307	484	478	0	0	(128)	0	
37	Hong Kong	1,512	11	11	0	0	(4)	0	
38	India	4,513	8	8	0	0	(2)	0	
39	Ireland	4,724	13	13	0	0	(2)	0	
40	Italy	9,863	41	41	0	0	(28)	0	
41	Japan	885	5	5	0	0	(0)	0	
42	Jersey	800	0	0	0	0	(0)	0	
43	Luxembourg	8,655	120	120	0	0	(5)	0	
44	Netherlands	12,117	118	118	0	0	(18)	0	
45	Poland	2,790	9	9	0	0	(1)	0	
46	Singapore	2,628	12	12	0	0	(0)	0	
47	Spain	7,755	40	40	0	0	(20)	0	
48	Sweden	2,702	0	0	0	0	(3)	0	
49	Switzerland	11,382	9	9	0	0	(4)	0	
50	Turkey	662	0	0	0	0	(0)	0	
51	U.S.	98,755	988	988	0	0	(122)	0	
52	United Kingdom	14,587	34	34	0	0	(16)	0	
53	Virgin Islands, British	344	44	44	0	0	(0)	0	
54	Other countries	18,074	507	507	0	0	(32)	0	
55	<b>Total</b>	<b>1,040,602</b>	<b>16,522</b>	<b>16,256</b>	<b>639,585</b>	<b>(5,285)</b>	<b>(402)</b>	<b>(21)</b>	

<sup>1</sup> The on-balance sheet exposure includes debt securities and loans and advances.

								Jun 30, 2023
		a	b	c	d	e	f	g
		Gross carrying/nominal amount					Provisions on off-balance-sheet commitments and financial guarantees <sup>2</sup>	Accumulated negative changes in fair value due to credit risk on non-performing exposures <sup>2</sup>
		of which non-performing			of which subject to impairment	Accumulated impairment <sup>2</sup>		
in € m.			of which defaulted					
1	<b>On-balance-sheet exposures<sup>1</sup></b>	737,342	13,412	13,295	647,726	(5,301)	0	(18)
2	Australia	6,076	34	34	5,716	(11)	0	0
3	Austria	2,741	3	3	1,936	(2)	0	0
4	Belgium	2,564	16	16	2,533	(2)	0	0
5	Canada	5,973	0	0	2,079	(12)	0	0
6	Cayman Islands	39,057	155	155	10,447	(14)	0	0
7	China	4,578	36	36	4,011	(14)	0	0
8	France	14,575	235	235	7,562	(38)	0	0
9	Germany	266,641	4,247	4,140	263,484	(2,407)	0	0
10	Hong Kong	3,527	237	237	3,343	(171)	0	0
11	India	9,198	471	471	9,042	(108)	0	0
12	Ireland	8,243	450	450	6,555	(105)	0	0
13	Italy	37,755	1,149	1,148	35,989	(807)	0	0
14	Japan	12,977	102	102	3,908	(6)	0	0
15	Jersey	2,683	58	58	2,667	(38)	0	0
16	Luxembourg	18,677	180	180	18,288	(35)	0	0
17	Netherlands	10,663	129	129	10,231	(63)	0	(13)
18	Poland	4,778	131	128	4,710	(30)	0	(1)
19	Singapore	6,033	79	79	5,487	(12)	0	0
20	Spain	20,337	986	982	19,992	(412)	0	0
21	Sweden	2,053	59	59	1,302	(6)	0	0
22	Switzerland	7,100	378	378	6,773	(33)	0	0
23	Turkey	6,193	108	108	4,323	(12)	0	0
24	U.S.	145,415	1,993	1,993	128,528	(520)	0	0
25	United Kingdom	34,306	241	241	29,091	(24)	0	0
26	Virgin Islands, British	4,968	229	229	4,968	(34)	0	0
27	Other countries	60,231	1,703	1,703	54,764	(389)	0	(4)
28	<b>Off-balance-sheet exposures</b>	313,416	2,735	2,734	0	0	(498)	0
29	Australia	3,274	1	1	0	0	(4)	0
30	Austria	1,130	0	0	0	0	(1)	0
31	Belgium	2,286	33	33	0	0	(1)	0
32	Canada	2,348	0	0	0	0	(5)	0
33	Cayman Islands	2,616	11	11	0	0	(1)	0
34	China	2,003	0	0	0	0	(0)	0
35	France	8,259	16	16	0	0	(5)	0
36	Germany	94,632	425	424	0	0	(130)	0
37	Hong Kong	1,487	14	14	0	0	(5)	0
38	India	4,713	10	10	0	0	(3)	0
39	Ireland	4,974	12	12	0	0	(3)	0
40	Italy	9,316	24	24	0	0	(23)	0
41	Japan	871	4	4	0	0	(0)	0
42	Jersey	946	7	7	0	0	(1)	0
43	Luxembourg	7,218	94	94	0	0	(10)	0
44	Netherlands	12,339	110	110	0	0	(14)	0
45	Poland	1,989	1	1	0	0	(0)	0
46	Singapore	2,252	12	12	0	0	(1)	0
47	Spain	7,146	43	42	0	0	(19)	0
48	Sweden	2,469	5	5	0	0	(2)	0
49	Switzerland	10,584	3	3	0	0	(5)	0
50	Turkey	535	0	0	0	0	(1)	0
51	U.S.	99,815	1,036	1,036	0	0	(146)	0
52	United Kingdom	12,080	36	36	0	0	(14)	0
53	Virgin Islands, British	369	22	22	0	0	(0)	0
54	Other countries	17,764	814	814	0	0	(104)	0
55	<b>Total</b>	<b>1,050,758</b>	<b>16,147</b>	<b>16,029</b>	<b>647,726</b>	<b>(5,301)</b>	<b>(498)</b>	<b>(18)</b>

<sup>1</sup> The on-balance sheet exposure includes debt securities and loans and advances.

<sup>2</sup> Comparatives aligned to presentation in the current year.

## Credit quality of loans and advances to non-financial corporations by industry

### Article 442 (c+e) CRR

Table EU CQ5 provides information about performing and non-performing exposures to non-financial corporations broken down by industry. The industry classification is based on NACE codes. NACE (Nomenclature des Activités Économiques dans la Communauté Européenne) is a European industry standard classification system for classifying business activities.

## EU CQ5 – Credit quality of loans and advances to non-financial corporations by industry

		Dec 31, 2023					
		a	b	c	d	e	f
		Gross carrying amount					Accumulated negative changes in fair value due to credit risk on non- performing exposures
		of which non-performing					
in € m.				of which defaulted	of which loans and advances subject to impairment	Accumulated impairment	
1	Agriculture, forestry and fishing	384	20	20	384	(5)	0
2	Mining and quarrying	2,902	8	8	2,789	(8)	0
3	Manufacturing	31,333	1,499	1,499	31,327	(534)	0
4	Electricity, gas, steam and air conditioning supply	4,711	73	73	4,637	(23)	0
5	Water supply	414	5	5	414	(5)	0
6	Construction	4,291	262	262	4,290	(105)	0
7	Wholesale and retail trade	22,329	722	722	22,251	(402)	0
8	Transport and storage	5,314	189	189	5,301	(44)	0
9	Accommodation and food service activities	1,864	79	79	1,864	(31)	0
10	Information and communication	8,321	89	89	8,300	(49)	0
11	Financial and insurance activities	38,004	844	844	37,414	(456)	0
12	Real estate activities	49,612	2,975	2,846	49,488	(444)	(8)
13	Professional, scientific and technical activities	9,035	178	177	9,035	(91)	0
14	Administrative and support service activities	9,690	646	632	9,522	(152)	0
	Public administration and defense, compulsory social						
15	security	748	33	33	748	(1)	0
16	Education	282	11	11	282	(3)	0
17	Human health services and social work activities	4,402	35	34	4,402	(25)	0
18	Arts, entertainment and recreation	1,063	31	31	1,063	(10)	0
19	Other service activities	8,049	204	161	8,004	(118)	0
20	Total	202,747	7,902	7,714	201,514	(2,508)	(8)

		Jun 30, 2023					
		a	b	c	d	e	f
		Gross carrying amount					Accumulated negative changes in fair value due to credit risk on non- performing exposures <sup>1</sup>
		of which non-performing					
in € m.				of which defaulted	of which loans and advances subject to impairment	Accumulated impairment <sup>1</sup>	
1	Agriculture, forestry and fishing	439	27	27	439	(10)	0
2	Mining and quarrying	2,382	43	43	2,306	(30)	0
3	Manufacturing	31,890	1,530	1,530	31,862	(691)	0
4	Electricity, gas, steam and air conditioning supply	5,157	70	70	5,078	(22)	0
5	Water supply	517	8	8	517	(7)	0
6	Construction	4,158	251	250	4,157	(116)	0
7	Wholesale and retail trade	20,996	749	749	20,941	(344)	0
8	Transport and storage	5,495	272	272	5,478	(46)	0
9	Accommodation and food service activities	1,840	77	77	1,840	(30)	0
10	Information and communication	7,923	201	201	7,885	(138)	0
11	Financial and insurance activities	40,239	1,070	1,070	39,779	(549)	0
12	Real estate activities	50,204	1,342	1,342	50,110	(253)	(4)
13	Professional, scientific and technical activities	9,522	172	172	9,521	(82)	0
14	Administrative and support service activities	10,408	423	423	10,192	(154)	0
	Public administration and defense, compulsory social						
15	security	4,431	37	37	553	(1)	0
16	Education	253	7	7	253	(3)	0
17	Human health services and social work activities	4,555	66	66	4,555	(28)	0
18	Arts, entertainment and recreation	1,044	21	21	1,044	(8)	0
19	Other service activities	9,512	348	348	9,322	(209)	0
20	Total	210,964	6,714	6,714	205,833	(2,720)	(4)

<sup>1</sup> Comparatives aligned to presentation in the current year.

## Performing and non-performing exposures and related provisions

### Article 442 (c) CRR

Table EU CR1 provides information about performing and non-performing exposures broken down by Supervisory Reporting counterparty classes.



EU CR1 - Performing and non-performing exposures and related provisions

Dec 31, 2023

in € m.	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
	Gross carrying amount/nominal amount							Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions							
	Performing exposures			Non-performing exposures			Performing exposures - accumulated impairment and provisions			Non-performing exposures - accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions			Collaterals and financial guarantees received on		
	Total	of which: stage 1	of which: stage 2	Total	of which: stage 2	of which: stage 3	Total	of which: stage 1	of which: stage 2	Total	of which: stage 2	of which: stage 3	Accumulated partial write-off	non-performing exposures	non-performing exposures
<b>Cash balances at central banks and other demand deposits</b>	<b>182,596</b>	<b>181,713</b>	<b>883</b>	<b>40</b>	<b>0</b>	<b>40</b>	<b>(12)</b>	<b>(5)</b>	<b>(8)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>141</b>	<b>0</b>
<b>Loans and advances</b>															
Central banks	6,070	2,212	2	0	0	0	(0)	(0)	(0)	0	0	0	0	5,583	0
General governments	18,574	15,978	417	709	0	709	(9)	(8)	(1)	(28)	0	(28)	0	5,172	661
Credit institutions	42,823	30,205	2,081	15	0	10	(43)	(42)	(1)	(0)	0	(0)	0	17,778	0
Other financial corporations	186,682	119,834	4,172	1,167	0	976	(67)	(46)	(21)	(207)	0	(170)	(2)	107,753	380
Non-financial corporations	194,846	165,116	28,731	7,902	188	7,095	(445)	(173)	(272)	(2,071)	(1)	(1,983)	(115)	102,093	3,577
of which: SMEs	41,813	31,715	10,036	2,775	2	2,736	(121)	(28)	(93)	(642)	(0)	(640)	(24)	31,135	1,496
Households	206,578	187,159	19,419	4,168	73	4,092	(625)	(212)	(413)	(1,761)	(3)	(1,757)	(14)	150,871	1,757
<b>Total Loans and advances</b>	<b>655,573</b>	<b>520,503</b>	<b>54,822</b>	<b>13,960</b>	<b>260</b>	<b>12,882</b>	<b>(1,189)</b>	<b>(481)</b>	<b>(708)</b>	<b>(4,067)</b>	<b>(3)</b>	<b>(3,938)</b>	<b>(131)</b>	<b>389,250</b>	<b>6,376</b>
<b>Debt securities</b>															
Central banks	1,986	1,986	0	0	0	0	(0)	(0)	0	0	0	0	0	0	0
General governments	40,430	39,082	114	0	0	0	(13)	(12)	(1)	0	0	0	0	522	0
Credit institutions	2,200	2,082	0	0	0	0	(0)	(0)	0	0	0	0	0	0	0
Other financial corporations	6,455	4,803	161	40	0	25	(4)	(1)	(3)	(13)	0	0	0	519	0
Non-financial corporations	3,445	1,722	537	66	0	42	(13)	(6)	(7)	(8)	0	(8)	(37)	1,647	7
<b>Total Debt securities</b>	<b>54,515</b>	<b>49,675</b>	<b>813</b>	<b>105</b>	<b>0</b>	<b>68</b>	<b>(30)</b>	<b>(19)</b>	<b>(11)</b>	<b>(21)</b>	<b>0</b>	<b>(8)</b>	<b>(37)</b>	<b>2,688</b>	<b>7</b>
<b>Off-balance sheet exposures</b>															
Central banks	86	86	0	0	0	0	(0)	(0)	0	0	0	0	0	85	0
General governments	6,553	6,402	151	327	0	327	(0)	(0)	(0)	0	0	0	0	145	0
Credit institutions	8,607	8,585	22	0	0	0	(1)	(1)	(0)	0	0	0	0	504	0
Other financial corporations	51,500	49,959	1,541	149	0	149	(17)	(11)	(6)	(9)	0	(9)	0	11,469	7
Non-financial corporations	220,050	198,996	21,054	1,924	6	1,910	(172)	(103)	(69)	(161)	(0)	(160)	0	21,613	169
Households	27,195	25,599	1,597	57	0	57	(24)	(10)	(14)	(18)	(0)	(18)	0	6,738	22
<b>Total Off-balance sheet exposures</b>	<b>313,992</b>	<b>289,627</b>	<b>24,365</b>	<b>2,457</b>	<b>6</b>	<b>2,443</b>	<b>(214)</b>	<b>(126)</b>	<b>(88)</b>	<b>(188)</b>	<b>(0)</b>	<b>(187)</b>	<b>0</b>	<b>40,555</b>	<b>198</b>
<b>Total<sup>1</sup></b>	<b>1,206,676</b>	<b>1,041,518</b>	<b>80,883</b>	<b>16,562</b>	<b>266</b>	<b>15,433</b>	<b>(1,445)</b>	<b>(630)</b>	<b>(815)</b>	<b>(4,275)</b>	<b>(3)</b>	<b>(4,133)</b>	<b>(168)</b>	<b>432,634</b>	<b>6,581</b>

<sup>1</sup> Total including Cash balances at central banks and other demand deposits.

Jun 30, 2023

in € m.	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
	Gross carrying amount/nominal amount							Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions <sup>2</sup>							
	Performing exposures			Non-performing exposures			Performing exposures - accumulated impairment and provisions			Non-performing exposures - accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions			Accumulated partial write-off <sup>1</sup>	Collaterals and financial guarantees received on	
	Total	of which: stage 1	of which: stage 2	Total	of which: stage 2	of which: stage 3	Total	of which: stage 1	of which: stage 2	Total	of which: stage 2	of which: stage 3		performing exposures	non-performing exposures
<b>Cash balances at central banks and other demand deposits</b>	<b>168,950</b>	<b>168,183</b>	<b>767</b>	<b>143</b>	<b>0</b>	<b>143</b>	<b>(3)</b>	<b>(3)</b>	<b>(1)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>148</b>	<b>0</b>
<b>Loans and advances</b>															
Central banks	6,986	1,895	0	0	0	0	(0)	(0)	0	0	0	0	0	6,441	0
General governments	21,550	18,589	625	827	0	827	(6)	(5)	(1)	(19)	0	(19)	(0)	5,185	723
Credit institutions	49,565	34,614	1,566	26	0	19	(52)	(51)	(1)	(1)	0	(1)	0	19,982	0
Other financial corporations	184,168	120,129	5,287	1,268	0	1,029	(75)	(52)	(23)	(175)	(0)	(161)	(7)	103,948	397
Non-financial corporations	204,250	171,814	27,345	6,714	0	6,173	(507)	(219)	(288)	(2,218)	(0)	(2,123)	(127)	107,288	2,557
of which: SMEs	28,524	22,348	6,138	1,503	0	1,451	(81)	(25)	(57)	(578)	(0)	(574)	(13)	19,748	578
Households	207,515	190,233	17,282	4,353	173	4,176	(599)	(237)	(361)	(1,579)	(17)	(1,559)	(15)	150,999	1,794
<b>Total Loans and advances</b>	<b>674,034</b>	<b>537,275</b>	<b>52,105</b>	<b>13,187</b>	<b>174</b>	<b>12,224</b>	<b>(1,238)</b>	<b>(564)</b>	<b>(674)</b>	<b>(3,992)</b>	<b>(18)</b>	<b>(3,864)</b>	<b>(149)</b>	<b>393,842</b>	<b>5,471</b>
<b>Debt securities</b>															
Central banks	1,121	1,121	0	0	0	0	(0)	(0)	0	0	0	0	0	0	0
General governments	36,847	35,146	110	0	0	0	(12)	(10)	(1)	0	0	0	0	619	0
Credit institutions	1,723	1,638	0	0	0	0	(0)	(0)	0	0	0	0	0	142	0
Other financial corporations	5,917	4,114	244	54	0	39	(5)	(1)	(4)	(13)	0	0	0	561	0
Non-financial corporations	4,289	2,136	536	171	0	147	(14)	(9)	(5)	(46)	0	(46)	0	1,443	68
<b>Total Debt securities</b>	<b>49,896</b>	<b>44,155</b>	<b>889</b>	<b>225</b>	<b>0</b>	<b>186</b>	<b>(30)</b>	<b>(20)</b>	<b>(10)</b>	<b>(58)</b>	<b>0</b>	<b>(46)</b>	<b>0</b>	<b>2,765</b>	<b>68</b>
<b>Off-balance sheet exposures</b>															
Central banks	59	58	1	0	0	0	(0)	(0)	(0)	0	0	0	0	53	0
General governments	6,786	6,621	165	392	0	392	(2)	(1)	(0)	(1)	0	(1)	0	147	25
Credit institutions	7,224	7,187	37	0	0	0	(1)	(1)	(0)	0	0	0	0	470	0
Other financial corporations	50,166	48,295	1,872	132	0	131	(21)	(15)	(6)	(7)	0	(7)	0	11,485	4
Non-financial corporations	216,550	198,504	18,046	2,149	1	2,136	(196)	(111)	(84)	(232)	0	(232)	0	19,437	177
Households	29,896	28,380	1,516	63	0	63	(19)	(11)	(8)	(19)	0	(19)	0	8,347	28
<b>Total Off-balance sheet exposures</b>	<b>310,680</b>	<b>289,045</b>	<b>21,636</b>	<b>2,735</b>	<b>1</b>	<b>2,722</b>	<b>(239)</b>	<b>(141)</b>	<b>(98)</b>	<b>(260)</b>	<b>0</b>	<b>(260)</b>	<b>0</b>	<b>39,940</b>	<b>235</b>
<b>Total<sup>1</sup></b>	<b>1,203,561</b>	<b>1,038,658</b>	<b>75,397</b>	<b>16,290</b>	<b>176</b>	<b>15,275</b>	<b>(1,511)</b>	<b>(728)</b>	<b>(783)</b>	<b>(4,310)</b>	<b>(18)</b>	<b>(4,169)</b>	<b>(149)</b>	<b>436,695</b>	<b>5,773</b>

<sup>1</sup> Total including Cash balances at central banks and other demand deposits.

<sup>2</sup> Comparatives aligned to presentation in the current year..

## Credit quality of performing and non-performing exposures by days past due

### **Article 442 (c-d) CRR**

Table EU CQ3 provides information about performing and non-performing exposures by days past due broken down by Supervisory Reporting counterparty classes.

EU CQ3 – Credit quality of performing and non-performing exposures by past due days

	Dec 31, 2023											
	a	b	c	d	e	f	g	h	i	j	k	l
	Performing exposures							Non-performing exposure				
in € m.	Total	Not past due or past due <= 30 days	Past due >30d and <=90d	Total	Unlikely to pay that are not past due or past due <= 90d	Past due >90d and <=180d	Past due >180d and <=1yr	Past due >1yr and <=2yrs	Past due >2 and <=5 yrs	Past due >5 and <=7yrs	Past due >7 years	of which defaulted
Cash balances at central banks and other demand deposits	182,596	182,014	582	40	40	0	0	0	0	0	0	40
<b>Loans and advances</b>												
Central banks	6,070	6,070	0	0	0	0	0	0	0	0	0	0
General governments	18,574	18,574	0	709	565	28	61	54	0	0	0	709
Credit institutions	42,823	42,823	0	15	15	0	0	0	0	0	0	15
Other financial corporations	186,682	186,506	176	1,167	1,009	3	64	2	3	85	1	1,167
Non-financial corporations	194,846	194,389	457	7,902	5,844	332	646	420	351	87	221	7,714
of which:												
SME's	41,813	41,658	155	2,775	1,990	174	226	126	122	46	91	2,773
Households	206,578	205,852	727	4,168	1,967	375	450	411	722	120	124	4,095
<b>Total Loans and advances</b>	<b>655,573</b>	<b>654,213</b>	<b>1,360</b>	<b>13,960</b>	<b>9,400</b>	<b>738</b>	<b>1,221</b>	<b>887</b>	<b>1,076</b>	<b>292</b>	<b>346</b>	<b>13,700</b>
<b>Debt securities</b>												
Central banks	1,986	1,986	0	0	0	0	0	0	0	0	0	0
General governments	40,430	40,430	0	0	0	0	0	0	0	0	0	0
Credit institutions	2,200	2,200	0	0	0	0	0	0	0	0	0	0
Other financial corporations	6,455	6,455	0	40	40	0	0	0	0	0	0	40
Non-financial corporations	3,445	3,445	0	66	57	0	0	9	0	0	0	66
<b>Total Debt securities</b>	<b>54,515</b>	<b>54,515</b>	<b>0</b>	<b>105</b>	<b>96</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>105</b>
<b>Off-balance sheet exposures</b>												
Central banks	86	-	-	0	-	-	-	-	-	-	-	0
General governments	6,553	-	-	327	-	-	-	-	-	-	-	327
Credit institutions	8,607	-	-	0	-	-	-	-	-	-	-	0
Other financial corporations	51,500	-	-	149	-	-	-	-	-	-	-	149
Non-financial corporations	220,050	-	-	1,924	-	-	-	-	-	-	-	1,918
Households	27,195	-	-	57	-	-	-	-	-	-	-	57
<b>Total Off-balance sheet exposures</b>	<b>313,992</b>	<b>-</b>	<b>-</b>	<b>2,457</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,451</b>
<b>Total<sup>1</sup></b>	<b>1,206,676</b>	<b>890,742</b>	<b>1,942</b>	<b>16,562</b>	<b>9,537</b>	<b>738</b>	<b>1,221</b>	<b>896</b>	<b>1,076</b>	<b>292</b>	<b>346</b>	<b>16,296</b>

<sup>1</sup> Total including Cash balances at central banks and other demand deposits.

Jun 30, 2023

	a	b	c	d	e	f	g	h	i	j	k	l
	Performing exposures										Non-performing exposure	
in € m.	Total	Not past due or past due <= 30 days	Past due >30d and <=90d	Total	Unlikely to pay that are not past due or past due <= 90d	Past due >90d and <=180d	Past due >180d and <=1yr	Past due >1yr and <=2yrs	Past due >2 and <=5 yrs	Past due >5 and <=7yrs	Past due >7 years	of which defaulted
Cash balances at central banks and other demand deposits	168,950	168,329	622	143	143	0	0	0	0	0	0	143
<b>Loans and advances</b>												
Central banks	6,986	6,986	0	0	0	0	0	0	0	0	0	0
General governments	21,550	21,540	10	827	606	47	174	0	0	0	0	827
Credit institutions	49,565	49,565	0	26	23	0	0	0	3	0	0	26
Other financial corporations	184,168	184,064	104	1,268	1,076	117	2	1	1	71	1	1,268
Non-financial corporations	204,250	203,692	558	6,714	4,966	318	343	279	439	92	278	6,714
of which:												
SME's	28,524	28,414	110	1,503	922	54	91	96	176	51	113	1,503
Households	207,515	206,710	806	4,353	2,190	327	457	474	692	81	131	4,236
<b>Total Loans and advances</b>	<b>674,034</b>	<b>672,557</b>	<b>1,477</b>	<b>13,187</b>	<b>8,861</b>	<b>808</b>	<b>975</b>	<b>754</b>	<b>1,135</b>	<b>244</b>	<b>410</b>	<b>13,070</b>
<b>Debt securities</b>												
Central banks	1,121	1,121	0	0	0	0	0	0	0	0	0	0
General governments	36,847	36,847	0	0	0	0	0	0	0	0	0	0
Credit institutions	1,723	1,723	0	0	0	0	0	0	0	0	0	0
Other financial corporations	5,917	5,917	0	54	54	0	0	0	0	0	0	54
Non-financial corporations	4,289	4,289	0	171	162	0	0	9	0	0	0	171
<b>Total Debt securities</b>	<b>49,896</b>	<b>49,896</b>	<b>0</b>	<b>225</b>	<b>216</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>225</b>
<b>Off-balance sheet exposures</b>												
Central banks	59	-	-	0	-	-	-	-	-	-	-	0
General governments	6,786	-	-	392	-	-	-	-	-	-	-	392
Credit institutions	7,224	-	-	0	-	-	-	-	-	-	-	0
Other financial corporations	50,166	-	-	132	-	-	-	-	-	-	-	132
Non-financial corporations	216,550	-	-	2,149	-	-	-	-	-	-	-	2,147
Households	29,896	-	-	63	-	-	-	-	-	-	-	63
<b>Total Off-balance sheet exposures</b>	<b>310,680</b>	<b>-</b>	<b>-</b>	<b>2,735</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,734</b>
<b>Total<sup>1</sup></b>	<b>1,203,561</b>	<b>890,782</b>	<b>2,099</b>	<b>16,290</b>	<b>9,220</b>	<b>808</b>	<b>975</b>	<b>763</b>	<b>1,135</b>	<b>244</b>	<b>410</b>	<b>16,172</b>

<sup>1</sup> Total including Cash balances at central banks and other demand deposits.

## Development of non-performing loans and advances

### Article 442 (f) CRR

#### EU CR2 – Changes in the stock of non-performing loans and advances

	Dec 31, 2023	Jun 30, 2023
	a	a
in € m.	Gross carrying amount	Gross carrying amount
1 Initial stock of non-performing loans and advances	13,187	12,352
2 Inflows to non-performing portfolios	3,992	3,200
3 Outflows from non-performing portfolios	(3,218)	(2,366)
4 Outflows due to write-offs	(640)	(482)
5 Outflow due to other situations <sup>1</sup>	(2,578)	(1,884)
6 Final stock of non-performing loans and advances	13,960	13,187

<sup>1</sup> Inflows and outflows include restructurings and modifications

## Credit quality of forborne exposures

### Article 442 (c) CRR

Exposures are being classified as forborne according to the criteria in Article 47b of the CRR.

#### EU CQ1 – Credit quality of forborne exposures

in € m.	Dec 31, 2023							
	a	b	c	d	e	f	g	h
	Gross carrying amount of forborne exposures				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		Collateral received and financial guarantees received on forborne exposures	
	Performing forborne	Non-performing forborne	Non-performing forborne, of which defaulted	Non-performing forborne, of which impaired	on performing forborne exposures	on non-performing forborne exposures	Total	of which, non-performing exposures with forbearance measures
Cash balances at central banks and other demand deposits	0	0	0	0	0	0	0	0
Loans and advances	7,864	4,811	4,611	4,475	(89)	(1,160)	7,611	2,340
Central banks	0	0	0	0	0	0	0	0
General governments	73	0	0	0	(0)	0	70	0
Credit institutions	0	0	0	0	0	0	0	0
Other financial corporations	208	362	362	362	(2)	(32)	290	169
Non-financial corporations	5,613	3,587	3,399	3,263	(59)	(865)	5,512	1,736
Households	1,970	862	849	849	(29)	(263)	1,738	435
Debt securities	0	9	9	9	0	(1)	0	0
Loan commitments given	1,212	492	491	491	(6)	(42)	125	7
<b>Total<sup>1</sup></b>	<b>9,075</b>	<b>5,312</b>	<b>5,110</b>	<b>4,974</b>	<b>(95)</b>	<b>(1,204)</b>	<b>7,735</b>	<b>2,347</b>

<sup>1</sup> Total including Cash balances at central banks and other demand deposits.

	Jun 30, 2023							
	a	b	c	d	e	f	g	h
	Gross carrying amount of forborne exposures				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions <sup>2</sup>		Collateral received and financial guarantees received on forborne exposures	
in € m.	Performing forborne	Non-performing forborne	Non-performing forborne, of which defaulted	Non-performing forborne, of which impaired	on performing forborne exposures	on non-performing forborne exposures	Total	of which, non-performing exposures with forbearance measures
<b>Cash balances at central banks and other demand deposits</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Loans and advances	6,635	4,656	4,640	4,619	(79)	(1,354)	6,403	1,889
Central banks	0	0	0	0	0	0	0	0
General governments	84	0	0	0	(0)	0	81	0
Credit institutions	0	8	8	8	0	(0)	0	0
Other financial corporations	203	377	377	377	(2)	(32)	320	188
Non-financial corporations	4,253	3,099	3,095	3,074	(47)	(952)	4,019	1,172
Households	2,095	1,172	1,160	1,160	(30)	(370)	1,983	529
Debt securities	51	9	9	9	(1)	(1)	8	8
Loan commitments given	1,042	237	235	235	(6)	(50)	102	14
<b>Total<sup>1</sup></b>	<b>7,728</b>	<b>4,901</b>	<b>4,884</b>	<b>4,863</b>	<b>(86)</b>	<b>(1,405)</b>	<b>6,513</b>	<b>1,911</b>

<sup>1</sup> Total including Cash balances at central banks and other demand deposits.

<sup>2</sup> Comparatives aligned to presentation in the current year

## Minimum loss coverage for non-performing exposure

### Minimum loss coverage for non-performing exposure under Pillar 1

On April 25, 2019 the European Commission published the amendment on Regulation (EU) 2019/630 on minimum loss coverage on non-performing exposure. This regulation established a prudential treatment for NPEs arising from loans originated from April 26, 2019 onwards ("CRR – new NPE's originated after April 26, 2019") and represents a Pillar 1 measure which is legally binding and applies to all banks established in the EU.

The CRR regulation on minimum loss coverage for non-performing exposure does not focus on NPEs arising from loans originated before April 26, 2019 ("CRR - NPE Stock").

The following table provides an overview on Deutsche Bank's CRR – new NPE's originated after April 26, 2019 as of December 31, 2023 and June 30, 2023.

### CRR – new NPE's originated after April 26, 2019

	Dec 31, 2023			
	Time passed since exposures classified as non-performing			Total
in € m.	up to 2yrs	>2 and <=9yrs	>9yrs	
Non-Performing Exposure	5,999	1,335	0	7,334
Exposure value <sup>1</sup>	7,115	1,709	0	8,824
Total minimum coverage requirement	0	918	0	918
Total provisions and adjustments or deductions (uncapped)	1,910	1,068	0	2,978
Total provisions and adjustments or deductions (capped)	0	664	0	664
Applicable amount of insufficient coverage	0	254	0	254

<sup>1</sup> Exposure value in accordance with Article 47c CRR

in € m.	Time passed since exposures classified as non-performing			Jun 30, 2023
	up to 2yrs	>2 and <=9yrs	>9yrs	Total
	Non-Performing Exposure	4,840	1,145	0
Exposure value <sup>1</sup>	5,194	1,392	0	6,587
Total minimum coverage requirement	0	557	0	557
Total provisions and adjustments or deductions (uncapped)	1,013	557	0	1,570
Total provisions and adjustments or deductions (capped)	0	310	0	310
Applicable amount of insufficient coverage	0	247	0	247

<sup>1</sup> Exposure value in accordance with Article 47c CRR

## Minimum loss coverage for non-performing exposure under Pillar 2

### Non-performing exposures arising from clients defaulting after April 1, 2018

In March 2018 ECB published its "Addendum to the ECB Guidance to banks on non-performing loans: supervisory expectations for prudential provisioning of non-performing exposures". The guidance focuses on NPEs arising from clients defaulting after April 1, 2018 ("ECB – new NPE's after April 1, 2018"). Like for the CRR – new NPE's originated after April 26, 2019 a time dependent minimum loss coverage is required. The ECB guidance represents a Pillar 2 measure and its application is subject to a supervisory dialog between the bank and the ECB in context of the annual SREP process.

The ECB – new NPE's after April 1, 2018 and the CRR – new NPE's originated after April 26, 2019 differ in the following three key aspects:

- Timing of application: Exposures defaulting after April 1, 2018 are in scope of the ECB – new NPE's after April 1, 2018, but are only in scope of the CRR – new NPE's originated after April 26, 2019, if loans are originated after April 26, 2019
- Treatment of loans in the trading book / traded assets: the CRR – new NPE's originated after April 26, 2019 excludes all loans in the regulatory trading book whereas the ECB – new NPE's after April 1, 2018 excludes traded assets in accordance with the accounting classifications
- Treatment of Forbearance Measuring: the CRR – new NPE's originated after April 26, 2019 considers a one year freeze period of minimum loss coverage for exposures where a forbearance measure has been granted. This freeze period for loans with forbearance measure does not exist under the ECB – new NPE's after April 1, 2018

As long as the aforementioned differences exist, Deutsche Bank will report in the following table all NPE exposures under the ECB – new NPE's after April 1, 2018, which are not covered in the CRR – new NPE's originated after April 26, 2019.

The following table provides an overview on Deutsche Bank's ECB – new NPE's after April 1, 2018 as of December 31, 2023 and June 30, 2023, not reflected within the CRR – new NPE's originated after April 26, 2019:

### ECB – new NPE's after April 1, 2018

in € m.	Time passed since exposures classified as non-performing			Dec 31, 2023
	up to 2yrs	>2 and <=9yrs	>9yrs	Total
	Non-Performing Exposure	5,176	2,563	0
Exposure value <sup>1</sup>	4,838	2,753	0	7,590
Total minimum coverage requirement	0	1,476	0	1,476
Total provisions and adjustments or deductions (uncapped)	971	1,790	0	2,761
Total provisions and adjustments or deductions (capped)	0	1,453	0	1,453
Applicable amount of insufficient coverage	0	23	0	23

<sup>1</sup> Exposure value in accordance with Article 47c CRR

in € m.	Time passed since exposures classified as non-performing			Jun 30, 2023
	up to 2yrs	>2 and <=9yrs	>9yrs	Total
	Non-Performing Exposure	5,262	3,339	0
Exposure value <sup>1</sup>	5,093	3,532	0	8,625
Total minimum coverage requirement	0	1,697	0	1,697
Total provisions and adjustments or deductions (uncapped)	1,282	1,660	0	2,942
Total provisions and adjustments or deductions (capped)	0	1,174	0	1,174
Applicable amount of insufficient coverage	0	524	0	524

<sup>1</sup> Exposure value in accordance with Article 47c CRR



### Non-performing exposures arising from clients defaulting before April 1, 2018

ECB announced on July 11, 2018 that legacy stock of NPEs would be addressed by discussing bank-specific supervisory expectations for the provisioning of NPEs.

In August 2019, the ECB published its “Communication on supervisory coverage expectations for NPEs” introducing a minimum loss coverage expectation for NPEs arising from clients defaulting before April 1, 2018 (ECB – NPE Stock).

In a first step, banks were allocated to three comparable groups on the basis of the bank’s net NPL ratios at the end of 2017 and in a second step an assessment of capacity regarding the potential impact was carried out for each individual bank with a horizon of end 2026.

Deutsche Bank has been assigned to Group 1, which requires 100% minimum loss coverage by year end 2024 for secured loans and by year end 2023 for unsecured loans.

The following table provides an overview on Deutsche Bank’s ECB - NPE Stock as of December 31, 2023 and June 30, 2023.

#### ECB – NPE Stock

in € m.	Dec 31, 2023			
	Time passed since exposures classified as non-performing			Total
	up to 2yrs	>2 and <=9yrs	>9yrs	
Non-Performing Exposure	0	1,104	385	1,488
Exposure value <sup>1</sup>	0	2,512	1,345	3,857
Total minimum coverage requirement	0	2,089	1,338	3,427
Total provisions and adjustments or deductions (uncapped)	0	2,240	1,340	3,579
Total provisions and adjustments or deductions (capped)	0	2,074	1,308	3,381
Applicable amount of insufficient coverage	0	15	30	45

<sup>1</sup> Exposure value in accordance with Article 47c CRR

in € m.	Jun 30, 2023			
	Time passed since exposures classified as non-performing			Total
	up to 2yrs	>2 and <=9yrs	>9yrs	
Non-Performing Exposure	0	1,234	471	1,705
Exposure value <sup>1</sup>	0	2,762	6,347	9,109
Total minimum coverage requirement	0	2,058	5,701	7,758
Total provisions and adjustments or deductions (uncapped)	0	1,946	6,218	8,163
Total provisions and adjustments or deductions (capped)	0	1,824	5,616	7,440
Applicable amount of insufficient coverage	0	234	84	318

<sup>1</sup> Exposure value in accordance with Article 47c CRR

The shortfall between the minimum loss coverage requirements for non-performing exposure for the ECB – new NPE’s after April 1, 2018 and the ECB - NPE Stock and the risk reserves recorded in line with IFRS 9 for defaulted (Stage 3) assets amounted to € 0.3 billion as of December 31, 2023 versus € 1.1 billion as of June 30, 2023 and was deducted from CET 1. This additional CET 1 charge can be considered as additional loss reserve and led to a € 2.6 billion RWA relief as of December 31, 2023 and € 0.9 billion as of June 30, 2023. The reduction in the shortfall and the respective increase in the RWA relief in 2023 were driven by the benefits from data and process optimization as part of the bank’s capital efficiency measures.

#### Reconciliation of non-performing exposure

The following table reconciles the non-performing exposure reported in template EU CR1 into the minimum loss coverage framework.

#### Reconciliation of non-performing exposure

in € m.	Dec 31, 2023	
	Exposure	Provisions
Total Non-Performing Exposure and related provisions	16,562	4,275
of which:		
CRR – new NPE’s originated after April 26, 2019 <sup>1</sup>	7,334	1,759
ECB – new NPE’s after April 1, 2018 <sup>1</sup>	7,740	1,873
ECB – NPE Stock	1,488	644

<sup>1</sup> Treatment of loans in the Trading Book / Traded Assets: the CRR – new NPE’s originated after April 26, 2019 exclude all loans in the regulatory Trading Book whereas the ECB – new NPE’s after April 1, 2018 exclude Traded Assets in accordance with the accounting classifications

in € m.	Jun 30, 2023	
	Exposure	Provisions
Total Non-Performing Exposure and related provisions	16,290	4,310
of which:		
CRR – new NPE's originated after April 26, 2019 <sup>1</sup>	5,984	1,100
ECB – new NPE's after April 1, 2018 <sup>1</sup>	8,601	2,467
ECB – NPE Stock	1,705	743

<sup>1</sup> Treatment of loans in the Trading Book / Traded Assets: the CRR – new NPE's originated after April 26, 2019 exclude all loans in the regulatory Trading Book whereas the ECB – new NPE's after April 1, 2018 exclude Traded Assets in accordance with the accounting classifications

## Collateral obtained by taking possession

### Article 442 (c) CRR

Table EU CQ7 provides information about the collateral that has been obtained at the reporting date. Collateral obtained by taking possession includes assets that were not pledged by the debtor as collateral but obtained in exchange for the cancellation of debt.

The value at initial recognition reflects the gross carrying amount at the point in time of the initial recognition in the Group's balance sheet, while accumulated negative changes reflect the difference between the value at initial recognition and the carrying amount at the reporting date.

### EU CQ7 – Collateral obtained by taking possession and execution processes

in € m.	Dec 31, 2023		Jun 30, 2023	
	a	b	a	b
	Collateral obtained by taking possession		Collateral obtained by taking possession	
	Value at initial recognition	Accumulated negative changes	Value at initial recognition	Accumulated negative changes <sup>1</sup>
1 Property, plant and equipment (PP&E)	0	0	0	0
2 Other than PP&E	38	(26)	39	(28)
3 Residential immovable property	29	(21)	30	(22)
4 Commercial immovable property	9	(6)	9	(6)
5 Movable property (auto, shipping, etc.)	0	0	0	0
6 Equity and debt instruments	0	0	0	0
7 Other	0	0	0	0
8 Total	38	(26)	39	(28)

<sup>1</sup> Comparatives aligned to presentation in the current year.

## General qualitative information on credit risk mitigation

### Article 453 (a-e) CRR (EU CRC)

#### Use of on- and off-balance sheet netting

### Article 453 (a) CRR

Netting is applicable to both exchange traded derivatives and OTC derivatives. Netting is also applied to securities financing transactions (e.g. repurchase, securities lending and margin lending transactions) as far as documentation, structure and nature of the risk mitigation allow netting with the underlying credit risk in accordance with applicable law and the bank's Financial Contracts Netting and Collateral KOD– Legal ( "Netting Policy"). While cross-product netting between derivatives and securities financing transactions may be used in certain cases, the bank does not make use of cross-product netting for regulatory purposes.

All exchange traded derivatives are cleared through central counterparties (CCPs), which interpose themselves between the trading entities by becoming the counterparty to each of the entities. Where legally required or where available and to the extent agreed with the bank's counterparties, Deutsche Bank also uses CCP clearing for its OTC derivative transactions.

The Dodd-Frank Act and related Commodity Futures Trading Commission (CFTC) rules require CCP clearing in the United States for certain standardized OTC derivative transactions, including certain interest rate swaps and index credit default swaps, subject to limited exceptions when facing certain counterparties. The European Regulation (EU) No 648/2012 on OTC Derivatives, Central Counterparties and Trade Repositories (EMIR) and the Commission Delegated Regulations (EU) 2015/2205, (EU) 2015/592 and (EU) 2016/1178 based thereupon introduced mandatory CCP clearing in the EU for certain standardized OTC derivatives transactions. Mandatory CCP clearing in the EU began for certain interest rate derivatives on

June 21, 2016 and for certain iTraxx-based credit derivatives and additional interest rate derivatives on February 9, 2017. Article 4 (2) of EMIR authorizes competent authorities to exempt intragroup transactions from mandatory CCP clearing, provided certain requirements, such as full consolidation of the intragroup transactions and the application of an appropriate centralized risk evaluation, measurement and control procedure are met. The bank successfully applied for the clearing exemption for a number of its regulatory consolidated subsidiaries with intragroup derivatives, including e.g., Deutsche Bank Securities Inc. and Deutsche Bank Luxembourg S.A. The extent of the exemptions granted differs as not all entities enter into relevant transaction types subject to the clearing obligation. Of the exempted intragroup relationships, ca. two thirds are relationships where one entity is established in a third country (Third Country Relationship). Third Country Relationships required repeat applications for each new asset class being subject to the clearing obligation; the process took place in the course of 2017. Due to "Brexit", the status of some group entities has changed from an EU entity to a third country entity, but there has not been an impact for the bank in respect of clearing exemptions. Since 2017, no new clearing exemption application has been filed.

The rules and regulations of CCPs typically allow for the bilateral set off of all amounts payable on the same day and in the same currency ("payment netting") thereby reducing the bank's settlement risk. Depending on the business model applied by the CCP, this payment netting applies either to all of the bank's derivatives cleared by the CCP or at least to those that form part of the same class of derivatives. Many CCPs' rules and regulations also provide for the termination, close-out and netting of all cleared transactions upon the CCP's default (close-out netting), which reduces the bank's credit risk further. In its risk measurement and risk assessment processes Deutsche Bank applies close-out netting only to the extent Deutsche Bank believes that the relevant CCP's close-out netting provisions are legally valid and enforceable and have been approved in accordance with the bank's Netting Policy.

In order to reduce the credit risk resulting from OTC derivative transactions, where CCP clearing is not available, Deutsche Bank regularly seeks the execution of standard master agreements with the bank's counterparties (such as master agreements for derivatives published by the International Swaps and Derivatives Association, Inc. (ISDA) or the "German Master Agreement for Financial Derivative Transactions" sponsored by the German Banking Association). A master agreement, upon the counterparty's default, allows for the close-out netting of rights and obligations arising under derivative transactions that have been entered into under such an agreement, resulting in a single net claim owed by or to the counterparty. Payment netting may be agreed from time to time with the bank's counterparties for multiple transactions having the same payment dates (e.g., foreign exchange transactions) pursuant to the terms of master agreement which can reduce the bank's settlement risk. In its risk measurement and risk assessment processes, Deutsche Bank applies close-out netting only to the extent Deutsche Bank has concluded that the master agreement is legally valid and enforceable in all relevant jurisdictions and the recognition of close-out netting has been approved in accordance with the bank's Netting Policy.

Deutsche Bank also enters into credit support annexes (CSAs) to master agreements in order to further reduce the bank's derivatives-related credit risk. These annexes generally provide risk mitigation through periodic, usually daily, margining of the covered exposure. The CSAs also provide for the right to terminate the related derivative transactions upon the counterparty's failure to honor a margin call. As with netting, when Deutsche Bank believes the annex is enforceable, Deutsche Bank reflects this in its exposure measurement.

Certain CSAs to master agreements provide for rating-dependent triggers, where additional collateral must be pledged if a party's rating is downgraded. Deutsche Bank also enters into master agreements that provide for an additional termination event upon a party's rating downgrade. These downgrade provisions in CSAs and master agreements usually apply to both parties but in some agreements may apply to Deutsche Bank only. Deutsche Bank analyzes and monitors its potential contingent payment obligations resulting from a rating downgrade in its stress testing and liquidity coverage ratio approach for liquidity risk on an ongoing basis. For an assessment of the quantitative impact of a downgrading of the bank's credit rating please refer to table "Stress Testing Results" in the section "Liquidity Risk".

The Dodd-Frank Act and CFTC rules thereunder, including CFTC rule § 23.504, as well as EMIR and Commission Delegated Regulation based thereon, namely Commission Delegated Regulation (EU) 2016/2251, introduced the mandatory use of master agreements and related CSAs, which must be executed prior to or contemporaneously with entering into an uncleared OTC derivative transaction. Certain documentation is also required by the U.S. margin rules adopted by U.S. prudential regulators. Under the U.S. prudential regulators' margin rules, Deutsche Bank is required to post and collect initial margin for its derivatives exposures with other derivatives dealers, as well as with the bank's counterparties that (a) are "financial end users," as that term is defined in the U.S. margin rules, and (b) have an average daily aggregate notional amount of uncleared swaps, uncleared security-based swaps, foreign exchange forwards and foreign exchange swaps exceeding U.S.\$ 8 billion in June, July and August of the previous calendar year. The U.S. margin rules additionally require Deutsche Bank to post and collect variation margin for its derivatives with other derivatives dealers and certain financial end user counterparties. These margin requirements are subject to a U.S.\$ 50 million threshold for initial margin, but no threshold for variation margin, with a combined U.S.\$ 500,000 minimum transfer amount. The U.S. margin requirements have been in effect for large banks since September 2016, with additional variation margin requirements having come into effect March 1, 2017, and additional initial margin requirements being phased in from September 2017 through September 2022.

Under Commission Delegated Regulation (EU) 2016/2251, which implements the EMIR margin requirements, the CSA must provide for daily valuation and daily variation margining based on a zero threshold and a minimum transfer amount of not more than € 500,000. For large derivative exposures exceeding € 8 billion, initial margin has to be posted as well. The variation margin requirements under EMIR apply as of March 1, 2017; the initial margin requirements originally were subject to a staged phase-in until September 1, 2021. However, legislative changes published on February 17, 2021 extended deadlines into 2022. Under Article 31 of Commission Delegated Regulation (EU) 2016/2251, an EU party may decide to not exchange margin with counterparties in certain non-netting jurisdictions provided certain requirements are met. Pursuant to Article 11 (5) to (10) of EMIR, competent authorities are authorized to exempt intragroup transactions from the margining obligation, provided certain requirements are met. While some of those requirements are the same as for the EMIR clearing exemptions (see above), there are additional requirements such as the absence of any current or foreseen practical or legal impediment to the prompt transfer of funds or repayment of liabilities between intragroup counterparties. The bank is making use of this exemption. The bank has successfully applied for the collateral exemption for some of its regulatory-consolidated subsidiaries with intragroup derivatives, including, e.g., Deutsche Bank Securities Inc. and Deutsche Bank Luxembourg S.A. The bank is allowed to use intragroup exemptions from the EMIR collateral obligation for a number of bilateral intragroup relationships which are published under <https://www.db.com/legal-resources/european-market-infrastructure-regulation/intra-group-exemptions-margining>. For some bilateral intragroup relationships, the EMIR margining exemption may be used based on Article 11 (5) of EMIR, i.e. without the need for any application, because both entities are established in the same EU Member State. For third country subsidiaries, the intragroup exemption was originally limited until the earlier of June 30, 2022 and four months after the publication of an equivalence decision by the EU Commission under Article 13(2) EMIR, unless, in the case of an equivalence decision being applicable, a follow-up exemption application is made and granted. On February 13, 2023, an amendment to Regulation (EU) 2016/2251 has been published in the Official Journal, which amendment relates to the extension of the exemption end date until June 30, 2025. While the application requirements may be amended with “EMIR 3.0” (see European Commission proposal COM (2022) 697 final), Deutsche Bank continues to have processes in place ensuring readiness for intragroup margining should the need arise.

## Collateral evaluation and management

### Article 453 (b) CRR

Deutsche Bank’s processes ensure onboarding of high-quality collateral the bank accepts for risk mitigation purposes and their prudent valuation and management. This includes processes to generally ensure legally effective and enforceable documentation for realizable and measurable collateral assets which are evaluated within the on-boarding process by dedicated internal appraisers or teams with the respective qualification, skills and experience or adequate external valuers mandated in regulated processes. The applied valuations follow generally accepted valuation methods or models. Ongoing correctness of values is monitored by collateral type specific appropriate frequent and event-driven reviews considering relevant risk parameters. Revaluations are applied in cases of identified probable material deteriorations and future monitoring may be adjusted respectively. The assessment of the suitability of collateral for a specific transaction is part of the credit decision and must be undertaken in a conservative way, including collateral haircuts that are applied. Deutsche Bank has collateral type specific haircuts in place which are regularly reviewed and approved. In this regard, Deutsche Bank strives to avoid “wrong-way” risk characteristics where the counterparty’s risk is positively correlated with the risk of deterioration in the collateral value. For guarantee collateral, the process for the analysis of the guarantor’s creditworthiness is aligned to the credit assessment process for counterparties.

The valuation of collateral is considered under a liquidation scenario. The liquidation value is equal to the expected proceeds of collateral monetization/realization in a base case scenario, wherein a fair price is achieved through careful preparation and orderly liquidation of the collateral. Collateral can either move in value over time (dynamic value) or not (static value). The dynamic liquidation value generally includes a safety margin or haircut over realizable value to address liquidity and marketability aspects.

The Group assigns a liquidation value to eligible collateral, based on, among other things:

- The market value and / or lending value, notional amount or face value of a collateral as a starting point
- The type of collateral; the currency mismatch, if any, between the secured exposure and the collateral; and a maturity mismatch, if any
- The applicable legal environment or jurisdiction (onshore versus offshore collateral)
- The market liquidity and volatility in relation to agreed termination clauses
- The correlation between the performance of the borrower and the value of the collateral, e.g., in the case of the pledge of a borrower’s own shares or securities (in this case generally full correlation leads to no liquidation value)
- The quality of physical collateral and potential for litigation or environmental risks; and
- A determined collateral type specific haircut (0 – 100 %) reflecting collection risks (i.e. price risks over the average liquidation period and processing/utilization/sales costs) as specified in the respective policies

Collateral haircut settings are typically based on available historic internal and/or external recovery data (expert opinions may also be used, where appropriate). They also incorporate a forward-looking component in the form of collection and valuation

forecast provided by experts within Risk Management. Considering the expected proceeds from the liquidation of the different collateral types, respective value fluctuations, market specific liquidation costs and time applied haircuts vary between 0% to 100%. When data is not sufficiently available or inconclusive, more conservative haircuts than otherwise used must be applied. Haircut settings are reviewed at least annually.

## Main types of collateral

### Article 453 (c) CRR

Deutsche Bank regularly agrees on collateral to be received from customers that are subject to credit risk or to be provided by third parties agreed by legally effective and enforceable contracts, documented by a written and reasoned legal opinion. Collateral is credit protection in the form of (funded) assigned or pledged assets or (unfunded) third-party obligations that serves to mitigate the inherent risk of credit loss in an exposure, by either substituting the counterparty default risk or improving recoveries in the event of a default. Deutsche Bank generally takes all types of valuable and eligible collateral for its respective businesses but may limit accepted collateral types for specific businesses or regions as customary in the respective market or driven by purpose of efficiency. While collateral can be an alternative source of repayment, it does not replace the necessity of high-quality underwriting standards and a thorough assessment of the debt service ability of the counterparty in line with Article 194 (9) CRR.

Deutsche Bank distinguishes between following two types of credit protection approaches:

- Funded credit protection in forms of financial and other collateral, which enables Deutsche Bank to recover all or part of the outstanding exposure by liquidating the collateral asset provided, in cases where the counterparty is unable or unwilling to fulfill its primary obligations; cash collateral, securities (equity, bonds), collateral pledges or assignments of other claims or inventory, movable assets (i.e., plant, machinery, ships and aircraft) and real estate typically fall into this category; all financial collateral is regularly, mostly daily, revalued and measured against the respective credit exposure; the value of other collateral, including real estate, is monitored based upon established processes that include regular reviews or revaluations by internal and/or external experts with appropriate qualification, skills and experience
- Unfunded credit protection in forms of guarantees, which complements the counterparty's ability to fulfill its obligation under the legal contract and as such is provided by uncorrelated third parties; letters of credit, insurance contracts, export credit insurance, guarantees, credit derivatives and risk participations typically fall into this category; guarantees and strong letters of comfort provided by correlated group members of customers (generally the parent company) are also accepted and considered in approved rating approaches; guarantee collateral with a non-investment grade rating of the guarantor is limited

## Main types of guarantor and credit derivative counterparties

### Article 453 (d) CRR

Deutsche Bank accepts different types of unfunded credit protection, which complements the counterparty's ability to fulfill its obligation under the legal contract and as such is provided by uncorrelated third parties with checked creditworthiness. The process for the analysis of the guarantor's creditworthiness is aligned to the credit assessment process for counterparties. Letters of credit, insurance contracts, export credit insurance, guarantees, credit derivatives and risk participations typically fall into this category. Main guarantor types are banks, export credit agencies and other public-sector undertakings and insurance companies whose obligations are recognized via several methodologies, e.g. substitution of risk parameters approach or modelling approach. Also, corporate clients play an important role in providing declarations of liability. Guarantees and strong letters of comfort provided by correlated group members of customers (generally the parent company) are accepted and considered in approved rating approaches. Guarantee collateral with a non-investment grade rating of the guarantor is limited.

## Risk concentrations within credit risk mitigation

### Article 453 (e) CRR

Concentrations within credit risk mitigations taken may occur if a number of guarantors and credit derivative providers with similar economic characteristics are engaged in comparable activities with changes in economic or industry conditions affecting their ability to meet contractual obligations. Concentration risk may also occur in collateral portfolios (e.g. multiple claims and receivables against third parties) which are considered conservatively within the valuation process and/or on-site inspections where applicable. Deutsche Bank uses a range of tools and metrics to monitor concentrations in its credit risk mitigating activities and initiate respective actions if deemed necessary.

## General quantitative information on credit risk mitigation

### Overview of credit risk mitigation techniques

#### Article 453 (f) CRR

The table EU CR3 below shows a breakdown of unsecured and secured credit risk exposures and credit risk exposures secured by various credit risk mitigants for all loans and debt securities including the carrying amounts of the total population which are in default. Exposures unsecured (column a) represent the carrying amount of credit risk exposures (net of credit risk adjustments) that do not benefit from a credit risk mitigation technique, regardless of whether this technique is recognized in the CRR. Exposures secured (column b) represent the carrying amount of exposures that have at least one credit risk mitigation mechanism (collateral, financial guarantees, credit derivatives) associated with them. Exposure secured by various credit risk mitigants (column c-e) are the carrying amount of exposures (net of credit risk adjustments) partly or totally secured by collateral, financial guarantees and credit derivatives, whereby only the secured portion of the overall exposure is presented. The allocation of the carrying amount of multi-secured exposures to their different credit risk mitigation mechanisms is made by order of priority, starting with the credit risk mitigation mechanism expected to be called first in the event of a loss, and within the limits of the carrying amount primarily observed of the secured exposures. Moreover, no overcollateralization is considered.

#### EU CR3 – Credit Risk Mitigation techniques – Overview

						Dec 31, 2023				
						a	b	c	d	e
						Exposures unsecured: Carrying amount	Exposures secured: Carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
in € m.										
1	Total Loans and advances		451,275	395,626	352,252	43,373	0			
2	Total Debt securities		51,875	2,695	2,153	542	0			
3	<b>Total exposures</b>		<b>503,150</b>	<b>398,320</b>	<b>354,405</b>	<b>43,915</b>	<b>0</b>			
4	of which: non-performing		3,595	6,383	4,947	1,436	0			
5	of which: defaulted		3,335	6,272	4,833	1,439	0			

						Jun 30, 2023				
						a	b	c	d	e
						Exposures unsecured: Carrying amount	Exposures secured: Carrying amount	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
in € m.										
1	Total Loans and advances		451,769	399,313	357,947	41,366	0			
2	Total Debt securities		47,200	2,832	1,626	1,206	0			
3	<b>Total exposures</b>		<b>498,969</b>	<b>402,145</b>	<b>359,573</b>	<b>42,572</b>	<b>0</b>			
4	of which: non-performing		3,823	5,538	4,093	1,446	0			
5	of which: defaulted		3,706	5,488	4,044	1,444	0			

Secured and unsecured total exposures slightly increased to € 901.5 billion in December 2023 compared to € 901.1 billion in June 2023, driven by increase in unsecured exposure by € 4.2 billion which is partly offset by decrease in secured exposure by € 3.8 billion.

# Credit risk and credit risk mitigation in the standardized approach

## Qualitative information on the use of the standardized approach

Deutsche Bank treats a subset of the credit risk exposures within the standardized approach. The standardized approach measures credit risk either pursuant to fixed risk weights, which are regulatory predefined or determined through the application of external ratings.

Certain credit exposures are permanently assigned to the standardized approach, in accordance with Article 150 CRR. These are predominantly exposures to the Federal Republic of Germany and other German public sector entities as well as exposures to central governments of other European Member States that meet the required conditions. These exposures make up the majority of the exposures carried under the standardized approach and receive predominantly a risk weight of zero percent. For internal purposes, however, these exposures are subject to an internal credit assessment and fully integrated in the risk management and economic capital processes.

In line with Article 150 CRR and Section 10 SolvV, Deutsche Bank assigns further exposures permanently to the standardized approach. This population comprises several small-sized portfolios, which are considered to be immaterial on a stand-alone basis for inclusion in the IRBA.

### External ratings in the standardized approach and usage of issue rating

#### Article 444 (a-d) CRR and EU CRD

In order to calculate the regulatory capital requirements under the standardized approach, Deutsche Bank uses eligible external ratings from Standard & Poor's, Moody's, Fitch Ratings and in some cases from DBRS. Ratings are applied to all relevant exposure classes in the standardized approach. If more than one rating is available for a specific counterparty, the selection criteria as set out in Article 138 CRR are applied in order to determine the relevant risk weight for the capital calculation.

Given the low volume of exposures covered under the standardized approach and the high percentage of (externally rated) central government exposures therein, Deutsche Bank principally does not consider impacts from inferring issue ratings from issuer ratings.

This information does not need to be disclosed separately as Deutsche Bank complies with the standard association published by EBA.

## Quantitative information on the use of the standardized approach

### Standardized approach exposure by risk weight before and after credit mitigation

#### Article 444 (e) CRR and Article 453 (g-i) CRR

The table below shows the credit risk exposure before and post credit conversion factors and credit risk mitigation obtained in the form of eligible financial collateral, guarantees and credit derivatives based on the EAD in the standardized approach as well as related RWA and average risk weights broken down by regulatory exposure classes and a split into on- and off-balance sheet exposures.

EU CR4 – Standardized approach – credit risk exposure and credit risk mitigation (CRM) effects

		Dec 31, 2023											
in € m. (unless stated otherwise)		a		b		c		d		e		f	
		Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA and RWA density							
Exposure classes		On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density						
1	Central governments or central banks	111,786	71	111,803	2	3	0%						
2	Regional government or local authorities	1,456	5,408	1,455	4,030	7	0.13%						
3	Public sector entities	515	9	515	0	36	7.05%						
4	Multilateral development banks	448	0	448	0	0	0%						
5	International organizations	69	0	69	0	0	0%						
6	Institutions	342	283	356	8	300	82.47%						
7	Corporates	12,677	2,256	10,235	669	9,733	89.26%						
8	Retail	1,807	1,482	1,469	53	1,066	70.05%						
9	Secured by mortgages on immovable property	3,842	0	3,683	0	1,360	36.93%						
10	Exposures in default	1,125	30	1,098	13	1,534	138.07%						
11	Exposures associated with particularly high risk	172	17	170	1	256	150.00%						
12	Covered bonds	0	0	0	0	0	0%						
Institutions and corporates with a short-term credit assessment		0	0	0	0	0	0%						
13	assessment	0	0	0	0	0	0%						
14	Collective investments undertakings (CIU)	601	10,861	601	2,702	4,183	126.62%						
15	Equity	62	0	62	0	62	100.00%						
16	Other items	4	0	4	0	1	20.00%						
17	Total	134,906	20,417	131,968	7,478	18,541	13.30%						

		Jun 30, 2023											
in € m. (unless stated otherwise)		a		b		c		d		e		f	
		Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA and RWA density							
Exposure classes		On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density						
1	Central governments or central banks	90,842	48	90,884	8	8	0.01%						
2	Regional government or local authorities	1,608	5,400	1,608	4,034	11	0.19%						
3	Public sector entities	475	17	510	5	13	2.43%						
4	Multilateral development banks	446	0	446	0	0	0%						
5	International organizations	1,031	0	1,031	0	0	0%						
6	Institutions	235	299	246	28	143	51.95%						
7	Corporates	13,405	3,027	10,382	834	10,788	96.17%						
8	Retail	1,965	1,550	1,587	71	1,171	70.65%						
9	Secured by mortgages on immovable property	3,966	0	3,797	0	1,388	36.56%						
10	Exposures in default	728	12	698	4	855	121.88%						
11	Items associated with particularly high risk	138	17	135	1	204	150.00%						
12	Covered bonds	0	0	0	0	0	0%						
Claims on institutions and corporates with a short-term credit assessment		0	0	0	0	0	0%						
13	assessment	0	0	0	0	0	0%						
14	Collective investments undertakings (CIU)	455	8,180	455	2,246	3,293	121.90%						
15	Equity exposures	53	0	53	0	53	100.00%						
16	Other items	137	0	137	0	27	20.00%						
17	Total	115,484	18,549	111,967	7,231	17,953	15.06%						

The RWA for credit risk (excluding CCR) in the standardized approach were at € 18.5 billion as of December 31, 2023, compared to € 18.0 as of June 30, 2023. The increase of € 0.6 billion was mainly driven by increased exposures and higher risk weights in exposure classes “collective investments undertakings (CIU)”, “exposures in default” and “institutions”. These increases were partially offset by decreases in exposure classes “corporates” due to reduced exposures and lower risk weights as well as “retail” due to reduced exposures.

In the following tables the EAD per regulatory exposure class are assigned to their standardized risk weights. Deducted or unrated items are split out separately. The exposures are shown after the shift to the exposure class of the protection seller, if applicable.



EU CR5 – Standardized approach

in € m.	Dec 31, 2023					
	Risk Weight					
	a	b	c	d	e	f
Exposure classes	0%	2%	4%	10%	20%	35%
1 Central governments or central banks	111,795	0	0	0	6	0
2 Regional governments or local authorities	5,464	0	0	0	13	0
3 Public sector entities	432	0	0	0	17	0
4 Multilateral development banks	448	0	0	0	0	0
5 International organizations	69	0	0	0	0	0
6 Institutions	0	0	0	0	72	0
7 Corporates	348	0	0	0	832	0
8 Retail exposures	0	0	0	0	0	188
9 Exposures secured by mortgages on immovable property	0	0	0	0	0	3,147
10 Exposures in default	0	0	0	0	0	0
11 Exposures associated with particularly high risk	0	0	0	0	0	0
12 Covered bonds	0	0	0	0	0	0
Exposures to institutions and corporates with a short-term credit assessment	0	0	0	0	0	0
13						
14 Units or shares in collective investment undertakings (CIU)	1,896	0	0	0	315	0
15 Equity exposures	0	0	0	0	0	0
16 Other items	0	0	0	0	4	0
17 Total	120,453	0	0	0	1,259	3,336

in € m.	Dec 31, 2023					
	Risk Weight					
	g	h	i	j	k	l
Exposure classes	50%	70%	75%	100%	150%	250%
1 Central governments or central banks	4	0	0	0	0	0
2 Regional governments or local authorities	9	0	0	0	0	0
3 Public sector entities	66	0	0	0	0	0
4 Multilateral development banks	0	0	0	0	0	0
5 International organizations	0	0	0	0	0	0
6 Institutions	12	0	0	280	0	0
7 Corporates	143	0	0	9,550	29	0
8 Retail	0	0	1,333	0	0	0
9 Secured by mortgages on immovable property	535	0	0	0	0	0
10 Exposures in default	0	0	0	265	846	0
11 Items associated with particularly high risk	0	0	0	0	170	0
12 Covered bonds	0	0	0	0	0	0
Claims on institutions and corporates with a short-term credit assessment	0	0	0	0	0	0
13						
14 Collective investments undertakings (CIU)	35	0	0	598	0	0
15 Equity exposures	0	0	0	62	0	0
16 Other items	0	0	0	0	0	0
17 Total	803	0	1,333	10,755	1,047	0

in € m.	Dec 31, 2023				
	Risk Weight				
	m	n	o	p	q
Exposure classes	370%	1250%	Others	Total	Of which: unrated
1 Central governments or central banks	0	0	0	111,805	111,805
2 Regional governments or local authorities	0	0	0	5,486	5,477
3 Public sector entities	0	0	0	515	450
4 Multilateral development banks	0	0	0	448	448
5 International organizations	0	0	0	69	69
6 Institutions	0	0	0	364	351
7 Corporates	0	2	0	10,904	10,761
8 Retail	0	0	0	1,522	1,522
9 Secured by mortgages on immovable property	0	0	0	3,683	3,683
10 Exposures in default	0	0	0	1,111	1,111
11 Items associated with particularly high risk	0	0	0	170	170
12 Covered bonds	0	0	0	0	0
13 Claims on institutions and corporates with a short-term credit assessment	0	0	0	0	0
14 Collective investments undertakings (CIU)	0	220	238	3,303	3,227
15 Equity exposures	0	0	0	62	62
16 Other items	0	0	0	4	4
17 Total	0	222	238	139,447	139,141

		Jun 30, 2023					
in € m.		Risk Weight					
		a	b	c	d	e	f
Exposure classes		0%	2%	4%	10%	20%	35%
1	Central governments or central banks	90,856	0	0	0	32	0
2	Regional governments or local authorities	5,604	0	0	0	27	0
3	Public sector entities	454	0	0	0	59	0
4	Multilateral development banks	446	0	0	0	0	0
5	International organizations	1,031	0	0	0	0	0
6	Institutions	0	0	0	0	147	0
7	Corporates	96	0	83	0	237	0
8	Retail	0	0	0	0	0	180
9	Secured by mortgages on immovable property	0	0	0	0	0	3,322
10	Exposures in default	0	0	0	0	0	0
11	Items associated with particularly high risk	0	0	0	0	0	0
12	Covered bonds	0	0	0	0	0	0
13	Claims on institutions and corporates with a short-term credit assessment	0	0	0	0	0	0
14	Collective investments undertakings (CIU)	1,485	0	0	0	310	0
15	Equity exposures	0	0	0	0	0	0
16	Other items	0	0	0	0	137	0
17	<b>Total</b>	<b>99,971</b>	<b>0</b>	<b>83</b>	<b>0</b>	<b>948</b>	<b>3,502</b>

		Jun 30, 2023					
in € m.		Risk Weight					
		g	h	i	j	k	l
Exposure classes		50%	70%	75%	100%	150%	250%
1	Central governments or central banks	4	0	0	0	0	0
2	Regional governments or local authorities	10	0	0	0	0	0
3	Public sector entities	1	0	0	0	0	0
4	Multilateral development banks	0	0	0	0	0	0
5	International organizations	0	0	0	0	0	0
6	Institutions	29	0	0	99	0	0
7	Corporates	77	0	0	10,656	67	0
8	Retail	0	0	1,477	0	0	0
9	Secured by mortgages on immovable property	476	0	0	0	0	0
10	Exposures in default	0	0	0	394	307	0
11	Items associated with particularly high risk	0	0	0	0	136	0
12	Covered bonds	0	0	0	0	0	0
13	Claims on institutions and corporates with a short-term credit assessment	0	0	0	0	0	0
14	Collective investments undertakings (CIU)	43	0	0	653	0	0
15	Equity exposures	0	0	0	53	0	0
16	Other items	0	0	0	0	0	0
17	<b>Total</b>	<b>640</b>	<b>0</b>	<b>1,477</b>	<b>11,856</b>	<b>510</b>	<b>0</b>

		Jun 30, 2023				
in € m.		Risk Weight				
		m	n	o	p	q
Exposure classes		370%	1250%	Others	Total	Of which: unrated
1	Central governments or central banks	0	0	0	90,892	90,892
2	Regional governments or local authorities	0	0	0	5,641	5,631
3	Public sector entities	0	0	0	515	514
4	Multilateral development banks	0	0	0	446	446
5	International organizations	0	0	0	1,031	1,031
6	Institutions	0	0	0	274	246
7	Corporates	0	1	0	11,217	10,981
8	Retail	0	0	0	1,657	1,657
9	Secured by mortgages on immovable property	0	0	0	3,797	3,797
10	Exposures in default	0	0	0	701	701
11	Items associated with particularly high risk	0	0	0	136	136
12	Covered bonds	0	0	0	0	0
13	Claims on institutions and corporates with a short-term credit assessment	0	0	0	0	0
14	Collective investments undertakings (CIU)	0	197	13	2,701	2,637
15	Equity exposures	0	0	0	53	53
16	Other items	0	0	0	137	137
17	<b>Total</b>	<b>0</b>	<b>198</b>	<b>13</b>	<b>119,198</b>	<b>118,858</b>

# Credit risk exposure and credit risk mitigation in the internal-rating-based approach

## Qualitative information on the use of the IRB approach

### Approval status for IRB approaches

#### **Article 452 (a) CRR**

For the majority of the Group's credit portfolios, the bank applies the advanced IRBA to calculate the regulatory capital requirements according to the CRR/CRD 4 framework, based on respective approvals received from BaFin and ECB. The regulatory approvals obtained as a result of IRB audit processes for the Group's regulatory credit exposures allow the usage of currently 64 internally developed rating systems for regulatory capital calculation purposes. Overall, they cover all of the bank's material exposures in the IRB eligible exposure classes "Central governments and central banks", "Institutions", "Corporates", and "Retail".

As an IRB institution, Deutsche Bank is required to treat specific equity positions and other non-credit obligation assets generally within the IRB. For these exposure types typically regulatory defined IRB risk weights are applied.

The Group's exposures reported under foundation IRB include parts of former Postbank's corporate portfolios, which partially receive regulatory risk weights using the so-called 'supervisory slotting criteria' approach. Further details of the Foundation Approach are provided in the section "Foundation Internal Ratings Based Approach".

At Group level, the bank assigns a few portfolios to the standardized approach. Details of the standardized approach and the standardized approach exposures are discussed in the section "Credit risk and credit risk mitigation in the standardized approach" within this report.

The bank is in regular exchange with ECB on model enhancements, changes in the IRB model landscape and other model related changes that are monitored jointly with ECB based on a model map.

### Scope of the use of IRB and SA approaches

#### **Article 452 (b) CRR (EU CRE)**

The table EU CR6-A below shows exposures and percentages covered by the IRB and standardized approaches, also showing exposures subject to the permanent partial use and to a roll-out plan. It splits the exposures further down into the major regulatory exposure classes. Differences between the exposure value as defined in Art. 166 CRR and the total exposure value for exposures subject to the standardized approach and to the IRB approach following the leverage exposure approach are explained in the leverage section of this report.

## EU CR6-A - Scope of the use of IRB and SA approaches

		Dec 31, 2023				
		a	b	c	d	e
in € m. (unless stated otherwise)		Exposure value as defined in Article 166 CRR for exposures subject to IRB approach	Total exposure value for exposures subject to the Standardized approach and to the IRB approach	Percentage of total exposure value subject to the permanent partial use of the SA	Percentage of total exposure value subject to IRB Approach	Percentage of total exposure value subject to a roll-out plan
1	Central governments or central banks	121,047	229,483	50	50	0
	of which:					
1.1	Regional governments or local authorities	-	1,623	100	0	0
1.2	Public sector entities	-	509	100	0	0
2	Institutions	15,163	13,536	2	98	0
3	Corporates	320,244	357,219	4	96	0
	of which:					
3.1	Corporates - Specialised lending, excluding slotting approach	-	48,361	0	100	0
3.2	Corporates - Specialised lending under slotting approach	-	722	0	100	0
4	Retail	219,675	209,408	2	98	0
	of which:					
4.1	Retail – Secured by real estate SMEs	-	9,378	0	100	0
4.2	Retail – Secured by real estate non-SMEs	-	160,134	0	100	0
4.3	Retail – Qualifying revolving	-	1,993	0	100	0
4.4	Retail – Other SMEs	-	5,103	0	100	0
4.5	Retail – Other non-SMEs	-	27,702	0	100	0
5	Equity	4,362	3,526	2	98	0
6	Other non-credit obligation assets	10,416	8,341	0	100	0
7	Total	690,908	821,512	16	84	0

		Dec 31, 2022				
		a	b	c	d	e
in € m. (unless stated otherwise)		Exposure value as defined in Article 166 CRR for exposures subject to IRB approach	Total exposure value for exposures subject to the Standardized approach and to the IRB approach	Percentage of total exposure value subject to the permanent partial use of the SA	Percentage of total exposure value subject to IRB Approach	Percentage of total exposure value subject to a roll-out plan
1	Central governments or central banks	122,735	230,975	51	49	0
	of which:					
1.1	Regional governments or local authorities	-	3,026	100	0	0
1.2	Public sector entities	-	518	100	0	0
2	Institutions	17,684	14,446	2	98	0
3	Corporates	324,214	379,249	4	96	0
	of which:					
3.1	Corporates - Specialised lending, excluding slotting approach	-	48,468	0	100	0
3.2	Corporates - Specialised lending under slotting approach	-	900	0	100	0
4	Retail	231,389	216,257	3	97	0
	of which:					
4.1	Retail – Secured by real estate SMEs	-	8,431	0	100	0
4.2	Retail – Secured by real estate non-SMEs	-	166,522	0	100	0
4.3	Retail – Qualifying revolving	-	2,161	0	100	0
4.4	Retail – Other SMEs	-	4,778	0	100	0
4.5	Retail – Other non-SMEs	-	28,790	0	100	0
5	Equity	4,116	3,082	0	100	0
6	Other non-credit obligation assets	10,586	10,852	0	100	0
7	Total	710,724	854,861	16	84	0

## Relationship between the risk management function and the internal audit function

### Article 452 (c)(i) CRR (EU CRE)

As discussed in the Enterprise Risk Management section “Risk Management structure and organization”, Deutsche Bank’s risk management framework consists of various components and the organizational structures follow the 3LoD model with a clear definition of roles and responsibilities for all risk types.

Group Audit is a part of the 3LoD and an instrument of the Management Board and the Global Head of Group Audit reports administratively to the CEO. Group Audit supports the MB in identifying significant known and emerging weaknesses in the control framework, assessing whether risks, including the potential occurrences of fraud, are appropriately identified and managed. Group Audit is also responsible for assessing the effectiveness and efficiency of risk management, internal controls, governance processes and systems in a holistic and forward-looking manner. Group Audit is not responsible for the design, installation, procedures, or operations of the institution's internal control.

## Rating system review

### **Article 452 (c)(ii) CRR (EU CRE)**

The 2nd LoD for model risk is Model Risk Management. The Model Risk Management function comprises the Credit Validation unit which performs different types of independent validations across the rating system's lifecycle in accordance with the standards set in the applicable Model Risk Management Policy.

## Procedure of independence between reviewing function and development function

### **Article 452 (c)(iii) CRR (EU CRE)**

A high level of independence of the Model Risk Management function (including the Credit Validation unit) is ensured through organizational set-up independent from the Credit Risk Control Unit (comprising credit model owners and developers). The Head of Model Risk Management reports into the Chief Risk Officer. The independent Credit Validation unit reports into the Head of Model Risk Management.

## Procedure to ensure accountability of development and reviewing function

### **Article 452 (c)(iv) CRR (EU CRE)**

Model development function is accountable for reflecting IRB requirements in the design, development and documentation of IRB models. Furthermore, it is accountable to provide model users, model owners and control functions with accurate information on IRB models including relevant assumptions and limitations.

Credit Validation unit as part of Model Risk Management function is accountable for ongoing review of IRB models and assumptions taken in the development of these models.

Group Audit as 3<sup>rd</sup> LoD is accountable for providing independent and objective assurance on the adequacy of the design, operating effectiveness and efficiency of the risk management system and systems of internal control.

## Role of the function in the credit risk model process, scope and main content of credit risk models

### **Article 452 (d-e) CRR (EU CRE)**

#### Model Change Process

New model development or changes to existing models are agreed between model developers within DB Group Strategic Analytics and users of the models within CRM. Other departments of the bank are involved as required e.g., to support on the provision of data required for model development or on the implementation of models in production systems.

Changes to existing credit models and introduction of new models are approved by the Regulatory Credit Risk Model Committee chaired by the Head of CRM before the models are used for credit decisions and capital calculation for the first time or before they are significantly changed. Separately, an approval by the Head of Model Risk Management is required. Where appropriate, less significant changes can be approved by a delegate or function under a delegated authority – mainly to the Regulatory Credit Risk Model Forum. Proposals with high impact are recommended for approval to the Group Risk Committee. Regulatory notification or approval may also be required.

The model validation is performed independently of model development by Model Risk Management. The results of the regular validation processes as stipulated by internal policies are brought to the attention of the Regulatory Credit Risk Model Forum and the Regulatory Credit Risk Model Committee, even if the validation results do not lead to a change.

## Credit Risk Model reporting

Aggregate model risk for credit risk is reported on a quarterly basis by Model Risk Management Governance in a dedicated credit risk section of the CRO Model Risk Profile report. The main scope of the credit risk section of this report is to inform on model usages in credit risk contributing to or towards a breach of the Group model risk appetite metrics, in total eleven quantitative metrics.

This includes information regarding the number of model usages that have Tier 1, Tier 2 or Tier 3 model risk ratings with weak control environment and information related to model risk framework, like unapproved model use. Further, information for Tier 1 and Tier 2 models on timeliness of material validation findings remediation and gaps in ongoing performance monitoring were reported.

Significant model risk matters and model risk contribution to model risk appetite metrics are outlined by individual model usage. Details cover among others, key issue for contribution, status and the responsible issue owner and date when the issue was identified. The latter builds the basis for the assessment of application of internal consequences in case remediation exceeds the remediation timeline.

Furthermore, there is also a standing agenda item on Credit Risk Models in the Regulatory Credit Risk Model Committee that covers model risk focus topics as well as the status and development and timely remediation of all internal validation findings across all Credit Risk models.

## Internal rating-based approaches

### Article 452 (f) CRR (EU CRE)

#### Advanced Internal Ratings Based Approach

The advanced IRBA is the most sophisticated approach available under the regulatory framework for credit risk and allows us to make use of Deutsche Bank's internal rating methodologies as well as internal estimates of specific other risk parameters. These methods and parameters represent long-used key components of the internal risk measurement and management process supporting the credit approval process, the economic capital and expected loss calculation and the internal monitoring and reporting of credit risk. The relevant parameters include the probability of default, the loss-given-default and the maturity driving the regulatory risk-weight and the credit conversion factor as part of the regulatory exposure at default estimation. For most of Deutsche Bank's internal rating systems more than seven years of historical information is available to assess these parameters. Deutsche Bank's internal rating methodologies aim at point-in-time rather than a through-the-cycle rating.

The probability of default for customers is derived from Deutsche Bank's internal rating systems. A probability of default is assigned to each relevant counterparty credit exposure as a function of a transparent and consistent 21-grade master rating scale for all of Deutsche Bank's exposure. The probability of default used for RWA calculation is subject to the regulatory probability of default floor of 3 basis points.

A prerequisite for the development of rating methodologies and the determination of risk parameters is a proper definition, identification and recording of the default event of a customer. A default definition is applied in accordance with the requirements of Article 178 CRR as confirmed by the BaFin and ECB as part of the IRBA approval process. In 2021, modifications to Deutsche Bank's definition of default reflecting EBA/RTS/2016/06 and EBA/GL/2016/07 were implemented after ECB approval.

The borrower ratings are derived on the grounds of internally developed rating models which specify consistent and distinct customer-relevant criteria and assign a rating grade based on a specific set of criteria as given for a certain customer. The set of criteria is generated from information sets relevant for the respective customer segments like general customer behavior, financial and external data. The methods in use range from statistical scoring models to expert-based models taking into account the relevant available quantitative and qualitative information. For the majority of exposures the statistical scoring or hybrid models combining both approaches are commonly used. Expert-based rating models, calibrated to internal default rates are partially applied for counterparts in the exposure classes "Central governments and central banks", "Institutions" and "Corporates". Quantitative rating methodologies are developed based on applicable statistical modeling techniques, such as logistic regression. In line with Article 174 CRR, these models are complemented by human judgment and oversight to review model-based assignments and are intended to ensure that the models are used appropriately. When Deutsche Bank assigns internal risk ratings, it allows the comparison with external risk ratings assigned to Deutsche Bank's counterparties by the major international rating agencies, where possible, as Deutsche Bank's internal rating scale has been designed to principally correspond to the external rating scales from rating agencies.

Ratings for central governments and central banks take into account economic, political and sociodemographic indicators, e.g. the political dynamics in a country. The model incorporates relevant aspects covered in the fields of empirical country risk analysis and early warning crisis models to arrive at an overall risk evaluation.

The majority of ratings for “Corporates” and “Institutions” combine quantitative analysis of financial information with qualitative assessments of, inter alia, industry trends, market position and management experience. Financial analysis has a specific focus on cash flow generation and the counterparty’s capability to service its debts, also in comparison to peers. Deutsche Bank supplements the analysis of financials by an internal forecast of the counterparty’s financial profile where deemed to be necessary. For purchased corporate receivables the corporate rating approach is applied. The exposure classes “Central governments”, “Institutions” and “Corporates” hold customer segments which often only have few observed occurrences of defaults, so-called “low default portfolios”. For low-default portfolios, a larger amount of expert judgment enters the rating and related probability of default assignment than for other segments. Such ratings are subject to rigorous reviews by Deutsche Bank’s Asset Quality Review team.

Ratings for SME clients are based on automated sub-ratings for e.g. financial aspects and behaviour on their bank account. Specialized lending is managed by specific credit risk management teams, e.g. for real estate, ship finance or leveraged transactions. Following the individual characteristic of the underlying credit transactions Deutsche Bank have developed bespoke scorecards where appropriate to derive credit ratings.

In Deutsche Bank’s retail business, creditworthiness checks and counterparty ratings are generally derived by utilizing an automated decision engine. The decision engine incorporates quantitative aspects (i.e., financial figures), behavioral aspects, credit bureau information (such as SCHUFA in Germany) and general customer data. These input factors are used by the decision engine to determine the creditworthiness of the borrower and, after consideration of collateral, the expected loss. The established rating procedures in Deutsche Bank’s retail business are based on multivariate statistical methods.

They are used to support Deutsche Bank’s individual credit decisions for the retail portfolio as well as to continuously monitor it in an automated fashion. In case elevated risks are identified as part to this monitoring process or new regulatory requirements apply, credit ratings are reviewed on an individual basis for these affected counterparties.

Although different rating methodologies are applied to the various customer segments in order to properly reflect customer-specific characteristics, they all adhere to the same risk management principles. Credit process policies provide guidance on the classification of customers into the various rating systems.

Drivers for differences between probability of default and actual default rates are described in the section on Article 452 (h).

Deutsche Bank applies internally estimated loss-given-default factors as part of the advanced IRBA capital requirement calculation as approved by the ECB. Loss-given-default is defined as the likely loss intensity in case of a counterparty default. It provides an estimation of the exposure that cannot be recovered in a default event and therefore captures the severity of a loss. Conceptually, loss-given-default estimates are independent of a customer’s probability of default. The loss-given-default models ensure that the main drivers for losses (i.e., different levels and quality of collateralization and customer or product types or seniority of facility) are reflected in specific loss-given-default factors. Deutsche Bank’s loss-given-default parameters are derived from statistical models based on empirical realized loss-given-defaults. In some portfolios, loss-given-default parameters incorporate further available information in addition to empirical loss-given-defaults, in particular for low-default portfolios.

Loss-given-default estimates used for regulatory purposes are estimated to be appropriate for an economic downturn.

As part of the application of the advanced IRBA specific credit conversion factors are applied in order to calculate an exposure at default value. Conceptually the exposure at default is defined as the expected amount of the credit exposure to a counterparty at the time of its default. For advanced IRBA calculation purposes general principles as defined in Article 166 CRR are applied to determine the exposure at default of a transaction. In instances, however, where a transaction involves an unused limit, a percentage share of this unused limit is added to the outstanding amount in order to appropriately reflect the expected outstanding amount in case of a counterparty default. This reflects the assumption that for commitments the utilization at the time of default might be higher than the current utilization. When a transaction involves an additional contingent component (i.e., guarantees) a further percentage share (usage factor) is applied as part of the credit conversion factor model in order to estimate the amount of guarantees drawn in case of default. Where allowed under the advanced IRBA, the credit conversion factors are internally estimated. The calibrations of such parameters are based on statistical analysis of internal historical data and consider customer and product type specifics. As part of the approval process, the ECB assessed Deutsche Bank’s credit conversion factor models and stated their appropriateness for use in the process of regulatory capital requirement calculations.

The exposure at default for Deutsche Bank’s derivatives and securities financing transactions (“SFT”) portfolios are primarily calculated based on the IMM approach as described in the section “Counterparty credit risk” of this report.

## Foundation Internal Ratings Based Approach

The foundation IRBA is an approach available under the regulatory framework for credit risk allowing institutions to make use of their internal rating methodologies while using pre-defined regulatory values for all other risk parameters. Parameters subject to internal estimates include the probability of default while the loss-given-default and the credit conversion factor are defined in the regulatory framework.

A probability of default is assigned to each relevant counterparty credit exposure as a function of a transparent and consistent rating master scale. The borrower ratings assigned are derived on the grounds of internally developed rating models which specify consistent and distinct customer-relevant criteria and assign a rating grade based on a specific set of criteria as given for a certain customer following the approaches as outlined for Deutsche Bank's Advanced IRBA rating systems. Currently the former Postbank rating systems Factoring and Special Rating are reported under the foundation IRBA. For the latter, regulatory risk weights are applied using the so-called 'supervisory slotting criteria' approach as defined by Article 153 CRR.

For the foundation IRBA the same default definition is applied as for Advanced IRBA in accordance with the requirements of Article 178 CRR as confirmed by the BaFin and ECB as part of its IRBA approval process.

### Assignment to regulatory exposure classes

The advanced and foundation IRBA requires differentiating a bank's credit portfolio into various regulatory defined exposure classes. The relevant regulatory exposure class for each exposure is identified by considering factors like customer-specific characteristics, the rating system used as well as certain materiality thresholds which are regulatory defined.

The simple risk-weight approach according to Article 155 (2) CRR is used for Deutsche Bank's investments in equity positions. It distinguishes between exposure in equities which are non-exchange traded but sufficiently diversified, exchange-traded and other non-exchange-traded and then uses the regulatory-defined risk weights of 190 %, 290 % or 370 %, respectively. This includes exposures attracting a risk weight of 250 % according to Article 48 (4) for significant investments in the CET 1 instruments of financial sector entities which are subject to the threshold exemptions as outlined in Article 48 CRR. Exposures which are assigned to the exposure class "other non-credit obligation assets" receive an IRBA risk weight of 0 % in case of cash positions and a risk weight of 100 % for all other cases.

For collective investment undertakings a "look through"-approach is applied, where applicable, and the risk weights are derived based on the underlying positions. In case a look-through approach cannot be applied the fall-back position is to use a risk weight of 1,250%.

## Quantitative information on the use of the IRB approach

### Foundation IRB exposure

#### Article 452 (g) (i-v) CRR

The following series of tables details Deutsche Bank's foundation internal rating based (FIRB) exposures distributed on its internal rating scale for all relevant regulatory exposure classes. The tables exclude the counterparty credit risk position from derivatives and securities financing transactions which are presented separately in the section "Counterparty credit risk" in this report.

The tables show the on-balance sheet as well as the off-balance sheet exposure with their corresponding exposure-weighted credit conversion factors. All undrawn commitment exposure values shown below are assigned to the exposure class of the borrower and not to the exposure class of the counterparty providing Deutsche Bank credit protection.

In addition, the tables provide the exposure post credit risk mitigation (CRM) and credit conversion factor (CCF), where exposures covered by guarantees or credit derivatives are assigned to the protection seller. The exposure post CCF & CRM is presented in conjunction with exposures-weighted average PD, LGD, maturity as well as the RWA and the average risk weight. The tables provide the defaulted exposure separately. Further details in the tables are number of obligors, regulatory expected loss and provisions comprising specific risk adjustments.



EU CR6 – FIRB approach – Credit risk exposures by exposure class and PD range

												Dec 31, 2023
in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Central governments and central banks</b>												
0.00 to <0.15	0	0	0	0	0.05	0.0	27.98	2.5	0	12.29	0	0
0.00 to <0.10	0	0	0	0	0.05	0.0	27.98	2.5	0	12.29	0	0
0.10 to <0.15	0	0	0	0	0	0.0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0	0	0	0	0	0
0.25 to <0.50	0	0	0	0	0.38	0.0	53.73	2.5	0	77.46	0	0
0.50 to <0.75	0	0	0	0	0	0	0	0	0	0	0	0
0.75 to <2.50	0	0	0	0	0	0	0	0	0	0	0	0
0.75 to <1.75	0	0	0	0	0	0	0	0	0	0	0	0
1.75 to <2.5	0	0	0	0	0	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0	0	0	0	0	0
2.50 to <5	0	0	0	0	0	0	0	0	0	0	0	0
5 to <10	0	0	0	0	0	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0.0	0	0	0	0	0	0
10 to <20	0	0	0	0	0	0	0	0	0	0	0	0
20 to <30	0	0	0	0	0	0.0	0	0	0	0	0	0
30.00 to <100.00	0	0	0	0	0	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0	0	0	0.00	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.11</b>	<b>0.0</b>	<b>32.41</b>	<b>2.5</b>	<b>0</b>	<b>23.51</b>	<b>0</b>	<b>0</b>
<b>Institutions</b>												
0.00 to <0.15	4	111	0	4	0.06	0.0	21.00	2.5	0	10.82	0	0
0.00 to <0.10	4	110	0	4	0.05	0.0	21.42	2.5	0	10.87	0	0
0.10 to <0.15	0	1	0	0	0.13	0.0	11.48	2.5	0	9.68	0	0
0.15 to <0.25	42	64	0	42	0.19	0.0	11.49	2.5	5	11.44	0	0
0.25 to <0.50	1	0	0	1	0.28	0.0	11.95	2.5	0	14.75	0	0
0.50 to <0.75	0	11	0	0	0.66	0.0	16.99	2.5	0	33.41	0	0
0.75 to <2.50	0	0	0	0	0	0	0	0	0	0	0	0
0.75 to <1.75	0	0	0	0	0	0	0	0	0	0	0	0
1.75 to <2.5	0	0	0	0	0	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0	0	0	0	0	0
2.50 to <5	0	0	0	0	0	0	0	0	0	0	0	0
5 to <10	0	0	0	0	0	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0	0	0	0	0	0
10 to <20	0	0	0	0	0	0	0	0	0	0	0	0
20 to <30	0	0	0	0	0	0	0	0	0	0	0	0
30.00 to <100.00	0	0	0	0	0	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0	0	0	0.00	0	0
<b>Sub-total</b>	<b>47</b>	<b>186</b>	<b>0</b>	<b>47</b>	<b>0.18</b>	<b>0.1</b>	<b>12.31</b>	<b>2.5</b>	<b>5</b>	<b>11.44</b>	<b>0</b>	<b>0</b>

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in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Corporates</b>												
0.00 to <0.15	1,130	1,812	0	1,130	0.09	2.4	11.92	2.5	92	8.18	0	0
0.00 to <0.10	669	1,025	0	669	0.07	2.0	12.20	2.5	48	7.22	0	0
0.10 to <0.15	461	787	0	461	0.12	0.4	11.50	2.5	44	9.58	0	0
0.15 to <0.25	1,675	1,916	0	1,675	0.19	2.0	11.94	2.5	210	12.51	0	0
0.25 to <0.50	1,597	1,752	0	1,597	0.32	2.4	12.21	2.5	265	16.61	1	0
0.50 to <0.75	639	1,051	0	639	0.55	1.4	13.03	2.5	145	22.70	0	0
0.75 to <2.50	650	950	0	650	1.33	1.8	13.85	2.5	208	31.92	1	0
0.75 to <1.75	475	634	0	475	1.05	1.1	14.02	2.5	141	29.79	1	0
1.75 to <2.5	175	316	0	175	2.12	0.7	13.39	2.5	66	37.72	1	0
2.50 to <10.00	170	172	0	170	5.14	0.5	12.77	2.5	76	44.76	1	0
2.50 to <5	79	133	0	79	3.82	0.5	14.26	2.5	36	45.74	0	0
5 to <10	91	39	0	91	6.30	0.0	11.48	2.5	40	43.91	1	0
10.00 to <100.00	26	130	0	26	21.38	0.2	13.10	2.5	19	70.93	1	1
10 to <20	11	16	0	11	12.87	0.0	11.48	2.5	6	58.19	0	0
20 to <30	10	107	0	10	20.01	0.2	15.55	2.5	9	87.29	0	1
30.00 to <100.00	5	7	0	5	40.61	0.0	11.61	2.5	4	64.72	0	0
100.00 (Default)	7	3	0	7	100.00	0.1	19.79	2.5	0	0.00	1	0
<b>Sub-total</b>	<b>5,894</b>	<b>7,787</b>	<b>0</b>	<b>5,894</b>	<b>0.72</b>	<b>10.9</b>	<b>12.37</b>	<b>2.5</b>	<b>1,014</b>	<b>17.21</b>	<b>6</b>	<b>3</b>
<b>of which:</b>												
<b>SMEs</b>												
0.00 to <0.15	6	25	0	6	0.07	0.1	14.91	2.5	0	4.91	0	0
0.00 to <0.10	3	21	0	3	0.04	0.1	17.00	2.5	0	4.49	0	0
0.10 to <0.15	2	4	0	2	0.10	0.0	11.82	2.5	0	5.52	0	0
0.15 to <0.25	5	13	0	5	0.16	0.1	15.72	2.5	1	10.46	0	0
0.25 to <0.50	15	46	0	15	0.38	0.2	13.52	2.5	2	13.54	0	0
0.50 to <0.75	11	20	0	11	0.65	0.1	13.47	2.5	2	20.51	0	0
0.75 to <2.50	66	66	0	66	1.30	0.1	11.93	2.5	14	21.50	0	0
0.75 to <1.75	50	31	0	50	1.01	0.1	11.73	2.5	8	17.01	0	0
1.75 to <2.5	16	35	0	16	2.22	0.1	12.55	2.5	6	35.46	0	0
2.50 to <10.00	10	16	0	10	4.35	0.1	13.37	2.5	3	33.40	0	0
2.50 to <5	8	16	0	8	3.84	0.1	13.76	2.5	3	33.60	0	0
5 to <10	2	1	0	2	6.83	0.0	11.52	2.5	1	32.43	0	0
10.00 to <100.00	3	9	0	3	18.01	0.0	11.68	2.5	2	61.57	0	0
10 to <20	2	8	0	2	17.31	0.0	11.48	2.5	2	61.42	0	0
20 to <30	0	0	0	0	0	0.0	0	0	0	0	0	0
30.00 to <100.00	0	0	0	0	36.16	0.0	17.02	2.5	0	65.54	0	0
100.00 (Default)	0	0	0	0	100.00	0.0	43.97	2.5	0	0.00	0	0
<b>Sub-total</b>	<b>115</b>	<b>195</b>	<b>0</b>	<b>115</b>	<b>1.79</b>	<b>0.7</b>	<b>12.77</b>	<b>2.5</b>	<b>24</b>	<b>20.90</b>	<b>1</b>	<b>1</b>

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in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
Other												
0.00 to <0.15	1,124	1,787	0	1,124	0.09	2.3	11.90	2.5	92	8.20	0	0
0.00 to <0.10	666	1,004	0	666	0.07	1.9	12.18	2.5	48	7.23	0	0
0.10 to <0.15	458	783	0	458	0.12	0.3	11.50	2.5	44	9.60	0	0
0.15 to <0.25	1,670	1,903	0	1,670	0.19	1.9	11.92	2.5	209	12.52	0	0
0.25 to <0.50	1,582	1,706	0	1,582	0.32	2.2	12.20	2.5	263	16.64	1	0
0.50 to <0.75	628	1,031	0	628	0.55	1.3	13.02	2.5	143	22.74	0	0
0.75 to <2.50	584	884	0	584	1.34	1.7	14.07	2.5	193	33.10	1	0
0.75 to <1.75	425	604	0	425	1.05	1.0	14.29	2.5	133	31.28	1	0
1.75 to <2.5	159	281	0	159	2.11	0.6	13.48	2.5	60	37.95	0	0
2.50 to <10.00	160	156	0	160	5.19	0.5	12.74	2.5	73	45.45	1	0
2.50 to <5	71	117	0	71	3.82	0.4	14.31	2.5	33	47.12	0	0
5 to <10	89	38	0	89	6.29	0.0	11.48	2.5	39	44.12	1	0
10.00 to <100.00	24	121	0	24	21.74	0.2	13.25	2.5	17	71.94	1	1
10 to <20	8	8	0	8	11.52	0.0	11.48	2.5	5	57.21	0	0
20 to <30	10	106	0	10	20.01	0.2	15.55	2.5	9	87.29	0	1
30.00 to <100.00	5	7	0	5	40.68	0.0	11.52	2.5	3	64.71	0	0
100.00 (Default)	6	3	0	6	100.00	0.0	19.10	2.5	0	0.00	1	0
<b>Sub-total</b>	<b>5,778</b>	<b>7,592</b>	<b>0</b>	<b>5,778</b>	<b>0.70</b>	<b>10.2</b>	<b>12.37</b>	<b>2.5</b>	<b>990</b>	<b>17.14</b>	<b>6</b>	<b>2</b>
<b>All exposure classes</b>												
<b>Total</b>	<b>5,941</b>	<b>7,973</b>	<b>0</b>	<b>5,941</b>	<b>0.71</b>	<b>10,909.0</b>	<b>12.37</b>	<b>2.50</b>	<b>1,020</b>	<b>17.1673</b>	<b>6</b>	<b>3</b>

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in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Central governments and central banks</b>												
0.00 to <0.15	0	0	0	20	0.00	0.0	45.00	2.5	0	0.00	0	0
0.00 to <0.10	0	0	0	20	0.00	0.0	45.00	2.5	0	0.00	0	0
0.10 to <0.15	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
0.15 to <0.25	0	1	0	0	0.20	0.0	64.80	2.5	0	63.70	0	0
0.25 to <0.50	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
0.50 to <0.75	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
0.75 to <2.50	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
0.75 to <1.75	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
1.75 to <2.5	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
2.50 to <10.00	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
2.50 to <5	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
5 to <10	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
10.00 to <100.00	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
10 to <20	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
20 to <30	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
30.00 to <100.00	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
100.00 (Default)	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
<b>Sub-total</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>20</b>	<b>0.00</b>	<b>0.0</b>	<b>45.28</b>	<b>2.5</b>	<b>0</b>	<b>0.89</b>	<b>0</b>	<b>0</b>
<b>Institutions</b>												
0.00 to <0.15	4	17	0	3	0.05	0.0	21.24	2.5	0	10.59	0	0
0.00 to <0.10	4	12	0	3	0.04	0.0	19.18	2.5	0	8.79	0	0
0.10 to <0.15	0	5	0	0	0.11	0.0	68.12	2.5	0	51.59	0	0
0.15 to <0.25	0	3	0	0	0.17	0.0	19.50	2.5	0	19.81	0	0
0.25 to <0.50	46	58	0	46	0.25	0.0	12.34	2.5	7	14.47	0	0
0.50 to <0.75	0	1	0	0	0.70	0.0	25.49	2.5	0	48.16	0	0
0.75 to <2.50	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
0.75 to <1.75	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
1.75 to <2.5	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
2.50 to <10.00	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
2.50 to <5	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
5 to <10	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
10.00 to <100.00	3	0	0	3	20.00	0.0	45.00	2.5	9	286.67	0	0
10 to <20	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
20 to <30	3	0	0	3	20.00	0.0	45.00	2.5	9	286.67	0	0
30.00 to <100.00	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
100.00 (Default)	0	0	0	0	0.00	0.0	0.00	0.0	0	0.00	0	0
<b>Sub-total</b>	<b>53</b>	<b>78</b>	<b>0</b>	<b>52</b>	<b>1.42</b>	<b>0.1</b>	<b>14.81</b>	<b>2.5</b>	<b>16</b>	<b>30.50</b>	<b>0</b>	<b>0</b>

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in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Corporates</b>												
0.00 to <0.15	1,420	1,492	0	2,008	0.06	1.1	14.70	2.5	163	8.10	0	0
0.00 to <0.10	1,380	1,399	0	1,980	0.06	0.7	14.40	2.5	155	7.85	0	0
0.10 to <0.15	39	93	0	28	0.11	0.4	35.37	2.5	7	25.23	0	0
0.15 to <0.25	746	1,101	0	611	0.17	2.6	20.62	2.5	127	20.75	0	0
0.25 to <0.50	1,568	2,795	0	1,353	0.33	3.5	17.12	2.5	324	23.97	1	0
0.50 to <0.75	729	874	0	608	0.66	2.2	19.66	2.5	223	36.64	1	0
0.75 to <2.50	642	772	0	538	1.30	1.3	16.73	2.5	203	37.75	1	0
0.75 to <1.75	492	520	0	421	1.10	1.1	17.79	2.5	163	38.74	1	0
1.75 to <2.5	151	252	0	117	2.01	0.2	12.93	2.5	40	34.21	0	0
2.50 to <10.00	145	300	0	137	4.48	0.2	12.63	2.5	57	41.92	1	0
2.50 to <5	92	126	0	87	3.41	0.1	12.79	2.5	34	39.19	0	0
5 to <10	53	175	0	49	6.37	0.1	12.34	2.5	23	46.73	0	0
10.00 to <100.00	74	94	0.45	51	26.36	1.3	22.99	2.5	63	123.59	3	1
10 to <20	7	12	0	7	13.84	0.0	12.33	2.5	4	64.66	0	0
20 to <30	45	66	0.65	23	20.51	1.3	35.79	2.5	45	193.74	2	1
30.00 to <100.00	22	16	0	21	36.60	0.0	12.33	2.5	14	65.36	1	0
100.00 (Default)	3	1	0.46	3	100.00	3.0	34.28	2.5	0	0.00	1	0
<b>Sub-total</b>	<b>5,327</b>	<b>7,429</b>	<b>0.01</b>	<b>5,309</b>	<b>0.75</b>	<b>15.1</b>	<b>16.81</b>	<b>2.5</b>	<b>1,160</b>	<b>21.85</b>	<b>8</b>	<b>3</b>
<b>of which:</b>												
<b>SMEs</b>												
0.00 to <0.15	4	9	0	18	0.05	0.1	26.65	2.5	2	9.52	0	0
0.00 to <0.10	0	4	0	15	0.04	0.0	24.77	2.5	1	8.05	0	0
0.10 to <0.15	3	4	0	3	0.11	0.0	35.81	2.5	1	16.75	0	0
0.15 to <0.25	7	15	0	5	0.20	0.1	39.93	2.5	1	28.65	0	0
0.25 to <0.50	15	49	0	10	0.37	0.2	27.35	2.5	3	27.61	0	0
0.50 to <0.75	19	26	0	16	0.70	0.1	31.49	2.5	6	40.05	0	0
0.75 to <2.50	58	39	0	54	1.17	0.1	14.45	2.5	13	23.70	0	0
0.75 to <1.75	46	19	0	43	0.97	0.1	14.33	2.5	9	21.94	0	0
1.75 to <2.5	12	20	0	11	1.93	0.0	14.90	2.5	3	30.51	0	0
2.50 to <10.00	18	25	0	17	4.19	0.0	12.46	2.5	5	30.42	0	0
2.50 to <5	11	20	0	11	3.34	0.0	12.49	2.5	3	29.47	0	0
5 to <10	7	6	0	6	5.75	0.0	12.41	2.5	2	32.18	0	0
10.00 to <100.00	14	18	0	12	29.38	0.1	14.90	2.5	8	66.58	1	0
10 to <20	2	10	0	2	14.00	0.0	12.33	2.5	2	68.71	0	0
20 to <30	4	7	0	2	21.31	0.1	26.62	2.5	2	102.67	0	0
30.00 to <100.00	8	1	0	8	36.16	0.0	12.33	2.5	4	55.75	0	0
100.00 (Default)	0	0	0	0	100.00	0.0	43.58	2.5	0	0.00	0	0
<b>Sub-total</b>	<b>134</b>	<b>181</b>	<b>0</b>	<b>133</b>	<b>3.91</b>	<b>0.7</b>	<b>19.90</b>	<b>2.5</b>	<b>38</b>	<b>28.89</b>	<b>1</b>	<b>0</b>

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in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
Other												
0.00 to <0.15	1,416	1,484	0	1,990	0.06	1.0	14.59	2.5	161	8.08	0	0
0.00 to <0.10	1,380	1,395	0	1,965	0.06	0.6	14.32	2.5	154	7.85	0	0
0.10 to <0.15	36	89	0	25	0.11	0.4	35.32	2.5	7	26.29	0	0
0.15 to <0.25	739	1,086	0	607	0.17	2.5	20.47	2.5	125	20.69	0	0
0.25 to <0.50	1,553	2,746	0	1,342	0.33	3.3	17.04	2.5	321	23.94	1	0
0.50 to <0.75	710	848	0	593	0.66	2.0	19.35	2.5	217	36.55	1	0
0.75 to <2.50	584	733	0	484	1.31	1.2	16.98	2.5	190	39.33	1	0
0.75 to <1.75	446	501	0	378	1.11	1.0	18.18	2.5	153	40.66	1	0
1.75 to <2.5	139	232	0	106	2.02	0.2	12.72	2.5	37	34.59	0	0
2.50 to <10.00	127	275	0	120	4.52	0.1	12.65	2.5	52	43.56	1	0
2.50 to <5	81	106	0	76	3.42	0.1	12.83	2.5	31	40.60	0	0
5 to <10	46	169	0	44	6.46	0.1	12.33	2.5	21	48.73	0	0
10.00 to <100.00	60	76	0.56	39	25.43	1.3	25.49	2.5	55	141.25	2	1
10 to <20	4	2	0	4	13.75	0.0	12.33	2.5	3	62.57	0	-
20 to <30	41	59	0.72	21	20.43	1.2	36.73	2.5	43	203.12	2	1
30.00 to <100.00	15	15	0	14	36.84	0.0	12.33	2.5	10	70.76	1	0
100.00 (Default)	3	1	0.51	2	100.00	3.0	33.77	2.5	0	0.00	1	0
<b>Sub-total</b>	<b>5,193</b>	<b>7,248</b>	<b>0.01</b>	<b>5,176</b>	<b>0.67</b>	<b>14.4</b>	<b>16.73</b>	<b>2.5</b>	<b>1,122</b>	<b>21.67</b>	<b>7</b>	<b>2</b>
<b>All exposure classes</b>												
<b>Total</b>	<b>5,381</b>	<b>7,508</b>	<b>0.01</b>	<b>5,381</b>	<b>0.76</b>	<b>15.2</b>	<b>16.90</b>	<b>2.5</b>	<b>1,176</b>	<b>21.86</b>	<b>8</b>	<b>3</b>

## Advanced IRB exposure

### **Article 452 (g) (i-v) CRR**

The following series of tables details Deutsche Bank's advanced internal rating based (AIRB) exposures distributed on its internal rating scale for all relevant regulatory exposure classes. The tables exclude the counterparty credit risk position from derivatives and securities financing transactions which are presented separately in the section "Counterparty credit risk" in this report.

The tables show the on-balance sheet as well as the off-balance sheet exposure with their corresponding exposure-weighted credit conversion factors. All undrawn commitment exposure values shown below are assigned to the exposure class of the borrower and not to the exposure class of the counterparty providing Deutsche Bank credit protection.

In addition, the tables provide the exposure post CRM and CCF, where exposures covered by guarantees or credit derivatives are assigned to the protection seller.

The exposure post CCF and CRM is presented in conjunction with exposures-weighted average PD, LGD, maturity as well as the RWA and the average risk weight. The effect of double default, as far as applicable to exposures outside of former Postbank, is considered in the average risk weight. It implies that for a guaranteed exposure a loss only occurs if the primary obligor and the guarantor fail to meet their obligations at the same time. The tables provide the defaulted exposure separately, where Deutsche Bank applies an LGD estimate already incorporating potential unexpected losses in the loss rate estimate as required by Article 181 (1) (h) CRR.

Further details in the tables are number of obligors, regulatory expected loss and provisions comprising specific risk adjustments.

EU CR6 – AIRB approach – Credit risk exposures by exposure class and PD range

												Dec 31, 2023
in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years) <sup>1</sup>	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Central governments and central banks</b>												
0.00 to <0.15	108,798	338	31.89	120,872	0.00	0.1	65.25	1.2	1,181	0.98	2	0
0.00 to <0.10	108,397	274	29.03	120,442	0.00	0.1	65.28	1.2	1,078	0.89	2	0
0.10 to <0.15	401	65	44.03	430	0.13	0.0	57.03	2.5	103	23.97	0	0
0.15 to <0.25	694	44	54.55	1,074	0.23	0.0	66.36	2.3	760	70.76	2	0
0.25 to <0.50	1,520	1	20.00	1,295	0.39	0.0	66.56	1.7	1,128	87.04	3	0
0.50 to <0.75	513	2	42.54	289	0.64	0.0	66.55	0.9	264	91.36	1	0
0.75 to <2.50	4,862	430	40.19	4,067	1.76	0.0	98.71	5.0	9,982	245.47	1	1
0.75 to <1.75	39	0	24.03	1	1.07	0.0	65.69	4.5	2	186.64	0	0
1.75 to <2.5	4,823	430	40.19	4,066	1.76	0.0	98.72	5.0	9,981	245.48	1	1
2.50 to <10.00	2,131	467	36.59	330	4.54	0.0	63.07	2.0	512	154.85	7	6
2.50 to <5	1,415	359	35.78	256	3.55	0.0	62.74	1.3	467	182.27	6	4
5 to <10	716	108	39.25	74	7.95	0.0	64.23	4.5	44	59.74	1	1
10.00 to <100.00	1,129	0	20.00	827	16.07	0.0	55.28	1.0	2,189	264.83	77	8
10 to <20	753	0	20.00	658	12.87	0.0	52.40	1.2	1,593	241.89	45	1
20 to <30	45	0	0	45	22.01	0.0	66.56	0.0	154	341.63	7	0
30.00 to <100.00	331	0	100.00	123	31.01	0.0	66.56	0.2	442	359.44	25	7
100.00 (Default)	792	327	40.21	82	100.00	0.0	100.10	2.6	183	222.11	77	28
<b>Sub-total</b>	<b>120,439</b>	<b>1,609</b>	<b>37.78</b>	<b>128,836</b>	<b>0.24</b>	<b>0.2</b>	<b>66.29</b>	<b>1.3</b>	<b>16,198</b>	<b>12.57</b>	<b>170</b>	<b>43</b>
<b>Institutions</b>												
0.00 to <0.15	6,783	6,021	33.08	8,666	0.05	0.4	41.00	1.5	1,675	19.33	2	1
0.00 to <0.10	6,391	5,723	33.67	8,117	0.05	0.3	40.71	1.5	1,531	18.86	2	1
0.10 to <0.15	392	298	21.85	549	0.13	0.1	45.52	0.8	144	26.19	0	0
0.15 to <0.25	125	382	34.01	257	0.20	0.1	37.82	1.9	91	35.51	0	0
0.25 to <0.50	1,076	1,472	45.19	4,495	0.34	0.1	76.04	1.4	690	15.34	2	0
0.50 to <0.75	1,001	270	35.49	776	0.63	0.0	33.07	1.4	514	66.28	3	0
0.75 to <2.50	234	260	21.92	262	1.43	0.1	26.80	3.0	185	70.59	1	0
0.75 to <1.75	130	72	24.15	133	1.10	0.0	17.15	3.1	51	38.65	0	0
1.75 to <2.5	104	188	21.06	129	1.76	0.0	36.73	2.9	134	103.47	1	0
2.50 to <10.00	2,800	368	21.97	2,728	2.96	0.0	14.12	1.5	1,388	50.87	20	2
2.50 to <5	2,787	353	21.35	2,708	2.94	0.0	13.92	1.5	1,352	49.90	20	2
5 to <10	14	15	36.01	19	6.55	0.0	43.05	3.6	36	188.08	1	0
10.00 to <100.00	33	17	20.09	34	10.99	0.0	51.71	0.9	75	221.80	2	0
10 to <20	33	17	20.11	34	10.98	0.0	51.71	0.9	75	221.78	2	0
20 to <30	0	0	0	0	0	0	0	0	0	0	0	0
30.00 to <100.00	0	0	15.74	0	40.32	0.0	45.74	5.0	0	276.10	0	0
100.00 (Default)	38	0	0	38	100.00	0.0	51.14	5.0	35	91.40	17	0
<b>Sub-total</b>	<b>12,092</b>	<b>8,790</b>	<b>34.40</b>	<b>17,256</b>	<b>0.88</b>	<b>0.7</b>	<b>45.30</b>	<b>1.5</b>	<b>4,652</b>	<b>26.96</b>	<b>48</b>	<b>5</b>



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in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years) <sup>1</sup>	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Corporates</b>												
0.00 to <0.15	48,572	94,020	36.45	88,393	0.07	12.2	31.40	2.1	17,420	19.71	34	12
0.00 to <0.10	37,297	59,807	36.58	65,432	0.06	8.5	31.25	2.1	11,506	17.59	21	6
0.10 to <0.15	11,275	34,213	36.22	22,961	0.12	3.6	31.90	2.1	5,914	25.76	12	6
0.15 to <0.25	36,265	47,529	39.24	52,276	0.19	6.3	24.96	2.0	12,082	23.11	28	16
0.25 to <0.50	33,471	65,308	17.01	41,798	0.36	9.6	28.60	2.3	16,249	38.88	49	28
0.50 to <0.75	22,159	15,661	34.63	24,929	0.60	5.3	27.60	2.3	11,039	44.28	41	25
0.75 to <2.50	47,987	29,153	40.87	54,764	1.45	8.6	27.05	2.4	30,478	55.65	210	141
0.75 to <1.75	29,383	19,655	38.45	33,804	1.12	6.0	26.56	2.6	19,387	57.35	105	83
1.75 to <2.5	18,604	9,498	45.90	20,960	1.98	2.6	27.84	2.1	11,091	52.92	105	58
2.50 to <10.00	23,062	15,851	30.82	24,776	4.65	2.9	24.13	2.2	17,499	70.63	279	214
2.50 to <5	15,710	11,071	26.94	16,578	3.52	2.0	24.22	2.3	10,902	65.76	141	114
5 to <10	7,352	4,780	39.82	8,198	6.93	0.9	23.94	2.1	6,597	80.47	138	100
10.00 to <100.00	3,673	1,286	37.05	2,939	17.79	0.8	21.43	2.3	2,873	97.75	122	75
10 to <20	2,939	887	37.47	2,301	13.61	0.3	19.17	2.3	2,131	92.59	63	45
20 to <30	442	152	32.72	294	24.11	0.1	35.37	1.8	524	178.49	25	10
30.00 to <100.00	292	247	38.22	344	40.40	0.4	24.65	3.0	217	63.26	34	19
100.00 (Default)	10,890	1,986	40.80	10,876	100.00	2.6	50.55	1.9	6,672	61.35	4,837	3,524
<b>Sub-total</b>	<b>226,079</b>	<b>270,793</b>	<b>32.33</b>	<b>300,750</b>	<b>4.59</b>	<b>48.4</b>	<b>28.78</b>	<b>2.2</b>	<b>114,312</b>	<b>38.01</b>	<b>5,599</b>	<b>4,035</b>
<b>of which:</b>												
<b>SMEs</b>												
0.00 to <0.15	3,564	1,773	39.58	4,601	0.07	2.8	24.61	3.4	481	10.45	1	1
0.00 to <0.10	2,699	1,298	42.19	3,581	0.05	1.6	22.56	3.4	298	8.33	0	0
0.10 to <0.15	865	475	32.46	1,020	0.12	1.2	31.80	3.3	183	17.91	0	0
0.15 to <0.25	2,755	1,832	37.99	3,399	0.20	2.3	28.91	2.8	776	22.82	2	1
0.25 to <0.50	3,182	2,190	38.59	3,937	0.36	4.9	37.73	2.9	1,435	36.46	5	3
0.50 to <0.75	1,901	1,011	51.42	2,301	0.65	2.0	39.16	2.3	1,091	47.40	6	3
0.75 to <2.50	5,125	2,541	41.33	5,624	1.37	3.2	31.58	2.6	2,884	51.28	25	17
0.75 to <1.75	3,537	1,689	41.45	3,928	1.09	2.0	30.00	2.6	1,836	46.74	13	8
1.75 to <2.5	1,588	852	41.10	1,696	2.03	1.2	35.22	2.5	1,048	61.79	12	9
2.50 to <10.00	2,210	1,313	40.81	2,167	4.85	1.5	37.36	2.6	1,777	81.98	37	29
2.50 to <5	1,430	855	41.81	1,429	3.67	1.0	39.39	2.7	1,153	80.68	20	15
5 to <10	780	458	38.94	738	7.13	0.5	33.45	2.3	624	84.51	17	14
10.00 to <100.00	372	64	42.43	268	20.40	0.3	34.40	2.7	317	118.21	19	12
10 to <20	189	28	36.03	157	14.77	0.1	26.71	3.2	129	82.41	6	5
20 to <30	120	13	47.56	58	23.29	0.1	49.52	1.3	105	179.97	6	3
30.00 to <100.00	63	23	47.40	53	33.84	0.1	40.59	2.9	83	156.44	7	5
100.00 (Default)	637	80	43.23	582	100.00	0.4	61.49	2.1	327	56.20	333	282
<b>Sub-total</b>	<b>19,746</b>	<b>10,803</b>	<b>40.82</b>	<b>22,881</b>	<b>3.75</b>	<b>17.4</b>	<b>32.94</b>	<b>2.8</b>	<b>9,088</b>	<b>39.72</b>	<b>429</b>	<b>348</b>

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in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years) <sup>1</sup>	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Specialized Lending</b>												
0.00 to <0.15	1,902	16	41.85	1,909	0.11	0.0	10.02	2.9	278	14.57	1	0
0.00 to <0.10	157	1	49.93	158	0.06	0.0	20.86	3.3	153	96.87	0	0
0.10 to <0.15	1,745	15	41.29	1,751	0.12	0.0	9.05	2.9	125	7.16	0	0
0.15 to <0.25	2,102	133	47.15	2,093	0.18	0.1	9.11	2.8	170	8.15	0	0
0.25 to <0.50	7,070	592	50.17	7,244	0.37	0.2	13.51	2.4	1,265	17.47	4	3
0.50 to <0.75	3,815	1,065	41.43	4,123	0.68	0.2	13.66	2.6	959	23.25	4	3
0.75 to <2.50	14,274	1,843	47.37	14,666	1.57	0.4	14.65	2.1	4,394	29.96	35	22
0.75 to <1.75	7,718	1,195	51.24	7,884	1.22	0.2	14.95	2.4	2,529	32.08	15	12
1.75 to <2.5	6,556	649	40.24	6,782	1.97	0.1	14.29	1.9	1,865	27.49	20	10
2.50 to <10.00	11,854	2,620	43.19	12,121	4.43	0.3	15.11	2.2	4,845	39.97	82	65
2.50 to <5	8,415	2,247	44.07	8,656	3.46	0.2	15.17	2.3	3,244	37.47	47	42
5 to <10	3,439	373	37.91	3,465	6.85	0.1	14.94	2.0	1,602	46.22	35	24
10.00 to <100.00	1,372	71	41.34	1,244	16.59	0.0	10.21	2.3	620	49.86	23	13
10 to <20	1,208	66	42.29	1,079	13.29	0.0	9.55	2.2	498	46.15	14	12
20 to <30	79	0	100.00	79	25.87	0.0	12.74	1.6	53	67.66	3	1
30.00 to <100.00	86	4	26.56	87	49.19	0.0	16.21	3.8	69	79.97	7	0
100.00 (Default)	4,156	248	42.24	4,176	100.00	0.1	35.93	2.2	2,852	68.29	1,256	831
<b>Sub-total</b>	<b>46,546</b>	<b>6,588</b>	<b>44.73</b>	<b>47,575</b>	<b>10.95</b>	<b>1.3</b>	<b>15.83</b>	<b>2.3</b>	<b>15,383</b>	<b>32.33</b>	<b>1,404</b>	<b>937</b>
<b>Other</b>												
0.00 to <0.15	43,106	92,231	36.39	81,883	0.07	9.3	32.28	2.0	16,661	20.35	32	11
0.00 to <0.10	34,441	58,508	36.45	61,693	0.06	6.9	31.78	2.0	11,055	17.92	21	5
0.10 to <0.15	8,664	33,723	36.27	20,190	0.12	2.4	33.89	2.0	5,606	27.76	12	6
0.15 to <0.25	31,407	45,563	39.26	46,783	0.19	4.0	25.38	1.9	11,136	23.80	26	14
0.25 to <0.50	23,219	62,526	15.94	30,618	0.35	4.5	31.00	2.3	13,549	44.25	40	22
0.50 to <0.75	16,442	13,585	32.85	18,505	0.58	3.2	29.27	2.2	8,989	48.58	31	19
0.75 to <2.50	28,588	24,769	40.34	34,474	1.41	5.0	31.59	2.5	23,201	67.30	150	101
0.75 to <1.75	18,128	16,772	37.23	21,992	1.09	3.8	30.11	2.7	15,023	68.31	77	63
1.75 to <2.5	10,460	7,997	46.87	12,481	1.97	1.3	34.19	2.2	8,178	65.52	73	39
2.50 to <10.00	8,998	11,918	27.00	10,488	4.85	1.2	31.81	2.2	10,877	103.71	159	120
2.50 to <5	5,865	7,969	20.51	6,493	3.56	0.8	32.94	2.2	6,505	100.19	74	57
5 to <10	3,133	3,949	40.11	3,995	6.96	0.4	29.98	2.1	4,372	109.42	86	63
10.00 to <100.00	1,929	1,151	36.49	1,426	18.36	0.5	28.78	2.2	1,935	135.67	79	49
10 to <20	1,542	792	37.12	1,065	13.76	0.2	27.81	2.2	1,504	141.12	44	29
20 to <30	243	139	31.30	157	23.54	0.0	41.45	2.1	367	233.39	16	6
30.00 to <100.00	143	220	37.50	204	38.36	0.3	24.08	2.7	65	31.84	20	14
100.00 (Default)	6,097	1,658	40.46	6,117	100.00	2.1	59.48	1.6	3,493	57.11	3,248	2,411
<b>Sub-total</b>	<b>159,787</b>	<b>253,402</b>	<b>31.64</b>	<b>230,294</b>	<b>3.36</b>	<b>29.7</b>	<b>31.04</b>	<b>2.1</b>	<b>89,841</b>	<b>39.01</b>	<b>3,766</b>	<b>2,749</b>

												Dec 31, 2023
in € m.												
(unless stated otherwise)												
	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years) <sup>1</sup>	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Retail</b>												
0.00 to <0.15	48,137	16,499	46.90	56,142	0.08	3,131.2	22.50	0	2,251	4.01	11	5
0.00 to <0.10	28,129	10,231	54.43	33,985	0.06	2,263.3	23.10	0	1,025	3.02	5	2
0.10 to <0.15	20,008	6,268	34.62	22,157	0.12	867.9	21.59	0	1,226	5.53	6	2
0.15 to <0.25	31,468	3,345	59.93	33,541	0.19	876.2	20.64	0	2,698	8.04	13	7
0.25 to <0.50	40,441	3,500	60.65	42,804	0.36	956.0	22.29	0	5,923	13.84	34	17
0.50 to <0.75	16,936	1,542	67.27	17,858	0.62	421.1	22.83	0	3,779	21.16	25	14
0.75 to <2.50	39,001	3,391	61.43	40,873	1.42	1,726.5	29.32	0	17,006	41.61	197	106
0.75 to <1.75	30,445	2,377	61.46	31,859	1.12	1,054.1	26.13	0	10,529	33.05	94	49
1.75 to <2.5	8,556	1,014	61.34	9,014	2.47	672.4	40.59	0	6,478	71.86	103	57
2.50 to <10.00	19,495	1,117	60.98	19,759	4.89	851.6	35.30	0	15,826	80.09	380	225
2.50 to <5	13,009	870	59.35	13,231	3.81	565.7	35.20	0	9,257	69.97	182	103
5 to <10	6,485	247	66.75	6,528	7.08	285.9	35.50	0	6,569	100.61	199	122
10.00 to <100.00	4,402	213	71.00	4,392	27.18	289.9	40.21	0	5,961	135.72	430	307
10 to <20	1,700	134	70.39	1,727	13.95	184.0	50.99	0	2,401	138.99	121	112
20 to <30	550	22	63.35	525	24.73	24.1	37.90	0	704	134.14	49	31
30.00 to <100.00	2,152	57	75.42	2,141	38.44	81.8	32.07	0	2,857	133.46	260	165
100.00 (Default)	3,917	98	61.18	3,826	100.00	247.4	59.01	0	1,115	29.14	2,227	2,008
<b>Sub-total</b>	<b>203,796</b>	<b>29,705</b>	<b>53.45</b>	<b>219,195</b>	<b>3.17</b>	<b>8,500.0</b>	<b>25.62</b>	<b>0</b>	<b>54,558</b>	<b>24.89</b>	<b>3,318</b>	<b>2,688</b>
<b>of which:</b>												
Secured by real estate property SMEs												
0.00 to <0.15	3,102	223	58.60	3,232	0.08	14.6	13.54	0	74	2.29	0	0
0.00 to <0.10	2,117	162	58.55	2,212	0.06	10.2	12.99	0	39	1.78	0	0
0.10 to <0.15	984	61	58.73	1,020	0.11	4.4	14.74	0	35	3.39	0	0
0.15 to <0.25	1,222	87	68.72	1,282	0.18	5.2	13.88	0	58	4.53	0	0
0.25 to <0.50	2,077	96	65.90	2,140	0.36	9.5	16.14	0	192	8.96	1	1
0.50 to <0.75	251	17	61.29	259	0.54	0.7	17.12	0	32	12.30	0	1
0.75 to <2.50	1,893	86	69.85	1,945	1.27	7.4	16.78	0	427	21.96	4	4
0.75 to <1.75	1,457	73	69.98	1,506	1.01	5.8	16.84	0	290	19.26	3	3
1.75 to <2.5	436	12	69.10	440	2.15	1.7	16.60	0	137	31.20	2	2
2.50 to <10.00	558	22	63.19	564	5.20	2.1	16.76	0	280	49.62	5	6
2.50 to <5	310	13	59.69	312	3.62	1.1	16.60	0	129	41.41	2	2
5 to <10	248	9	67.94	252	7.14	1.0	16.96	0	151	59.79	3	4
10.00 to <100.00	133	4	77.57	135	24.48	0.6	18.20	0	126	93.33	6	5
10 to <20	62	3	72.42	64	14.71	0.2	17.92	0	54	84.86	2	2
20 to <30	26	1	86.55	26	26.36	0.1	19.34	0	28	106.75	1	1
30.00 to <100.00	45	1	90.77	45	37.20	0.2	17.92	0	44	97.43	3	2
100.00 (Default)	108	1	70.67	108	100.00	0.5	29.13	0	44	40.41	31	28
<b>Sub-total</b>	<b>9,343</b>	<b>536</b>	<b>63.80</b>	<b>9,665</b>	<b>2.17</b>	<b>40.5</b>	<b>15.34</b>	<b>0</b>	<b>1,233</b>	<b>12.75</b>	<b>49</b>	<b>46</b>

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in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years) <sup>1</sup>	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
Secured by real estate property non-SMEs												
0.00 to <0.15	42,151	1,167	71.23	42,982	0.08	307.0	16.71	0	1,597	3.72	7	3
0.00 to <0.10	24,766	681	67.09	25,222	0.06	181.9	16.37	0	725	2.88	3	1
0.10 to <0.15	17,385	486	77.02	17,759	0.12	125.0	17.19	0	872	4.91	4	2
0.15 to <0.25	28,493	669	83.80	29,054	0.19	202.0	17.39	0	2,107	7.25	10	5
0.25 to <0.50	35,347	736	79.13	35,927	0.36	222.4	18.37	0	4,339	12.08	24	12
0.50 to <0.75	15,369	312	97.08	15,668	0.62	95.4	19.51	0	3,035	19.37	19	10
0.75 to <2.50	27,428	714	87.88	28,044	1.38	193.0	18.68	0	9,123	32.53	94	53
0.75 to <1.75	24,067	538	87.42	24,531	1.13	144.9	19.17	0	6,801	27.72	54	28
1.75 to <2.5	3,361	176	89.26	3,514	3.11	48.0	15.26	0	2,322	66.09	40	25
2.50 to <10.00	11,490	160	90.35	11,620	4.98	61.9	19.57	0	7,510	64.63	114	101
2.50 to <5	7,695	105	92.02	7,783	3.92	39.6	19.62	0	4,364	56.08	60	43
5 to <10	3,795	55	87.18	3,837	7.12	22.3	19.48	0	3,146	81.97	53	59
10.00 to <100.00	1,871	66	91.80	1,919	34.75	19.5	19.08	0	2,728	142.20	132	121
10 to <20	148	39	92.83	181	16.68	9.4	11.27	0	656	362.86	4	41
20 to <30	289	2	79.49	287	24.29	2.0	17.64	0	320	111.27	12	9
30.00 to <100.00	1,435	26	91.04	1,450	39.08	8.0	20.34	0	1,753	120.84	116	72
100.00 (Default)	1,385	22	95.14	1,402	100.00	11.8	28.50	0	458	32.67	391	288
<b>Sub-total</b>	<b>163,535</b>	<b>3,846</b>	<b>81.40</b>	<b>166,616</b>	<b>2.01</b>	<b>1,113.0</b>	<b>18.11</b>	<b>0</b>	<b>30,897</b>	<b>18.54</b>	<b>789</b>	<b>594</b>
Qualifying Revolving												
0.00 to <0.15	45	9,128	54.01	4,975	0.07	2,105.2	59.90	0	133	2.67	2	1
0.00 to <0.10	24	7,074	54.84	3,904	0.05	1,598.1	60.71	0	88	2.25	1	1
0.10 to <0.15	20	2,054	51.17	1,071	0.12	507.1	56.95	0	45	4.19	1	0
0.15 to <0.25	38	1,431	54.16	813	0.19	405.4	58.90	0	51	6.24	1	0
0.25 to <0.50	94	1,054	60.44	731	0.34	378.1	62.01	0	79	10.87	2	1
0.50 to <0.75	45	324	60.89	243	0.54	125.9	53.89	0	33	13.52	1	0
0.75 to <2.50	240	634	67.00	665	1.35	470.2	60.77	0	200	30.13	5	3
0.75 to <1.75	165	514	66.51	507	1.06	327.0	60.73	0	129	25.48	3	2
1.75 to <2.5	75	120	69.08	158	2.27	143.2	60.90	0	71	45.08	2	1
2.50 to <10.00	128	125	70.52	216	5.27	247.8	60.79	0	172	79.75	7	4
2.50 to <5	63	75	69.48	115	3.82	121.0	60.46	0	74	64.51	3	2
5 to <10	64	50	72.10	100	6.94	126.8	61.17	0	98	97.22	4	3
10.00 to <100.00	121	42	78.69	154	23.41	124.0	56.14	0	236	152.97	21	12
10 to <20	63	32	78.15	88	14.08	84.6	54.33	0	112	127.64	7	4
20 to <30	7	1	69.11	8	26.41	5.2	73.78	0	18	225.39	2	1
30.00 to <100.00	52	8	82.52	58	37.11	34.2	56.47	0	106	181.40	12	7
100.00 (Default)	135	6	71.54	139	100.00	96.6	74.47	0	94	67.35	98	105
<b>Sub-total</b>	<b>846</b>	<b>12,744</b>	<b>55.63</b>	<b>7,936</b>	<b>2.58</b>	<b>3,953.4</b>	<b>60.09</b>	<b>0</b>	<b>998</b>	<b>12.58</b>	<b>137</b>	<b>126</b>

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in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years) <sup>1</sup>	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Other retail SMEs</b>												
0.00 to <0.15	805	2,570	27.11	1,469	0.09	49.6	47.60	0	133	9.06	1	0
0.00 to <0.10	391	897	44.18	775	0.06	31.5	50.35	0	53	6.88	0	0
0.10 to <0.15	415	1,673	17.96	694	0.12	18.0	44.53	0	80	11.49	0	0
0.15 to <0.25	364	417	39.84	516	0.19	12.9	54.52	0	95	18.40	1	0
0.25 to <0.50	609	578	36.30	788	0.37	18.2	55.75	0	232	29.39	2	1
0.50 to <0.75	281	297	47.27	305	0.60	5.7	57.12	0	110	36.15	1	0
0.75 to <2.50	1,164	865	38.08	1,238	1.36	22.9	58.28	0	681	55.02	10	5
0.75 to <1.75	691	570	37.62	810	1.05	15.8	57.04	0	410	50.61	5	3
1.75 to <2.5	473	295	38.97	428	1.96	7.2	60.62	0	271	63.34	5	2
2.50 to <10.00	833	391	37.24	593	4.69	12.2	63.00	0	433	73.05	16	10
2.50 to <5	602	326	36.57	443	3.71	8.7	63.68	0	318	71.81	10	5
5 to <10	231	64	40.64	150	7.60	3.5	60.99	0	115	76.71	7	4
10.00 to <100.00	265	43	39.87	143	21.15	3.8	62.41	0	153	106.47	18	9
10 to <20	125	27	42.38	77	13.70	1.9	59.35	0	68	87.71	6	3
20 to <30	66	8	37.11	34	24.75	1.0	64.05	0	41	120.00	5	2
30.00 to <100.00	74	8	33.54	32	35.26	1.0	68.06	0	44	137.24	7	4
100.00 (Default)	361	27	37.48	248	100.00	4.2	69.18	0	78	31.52	173	196
<b>Sub-total</b>	<b>4,682</b>	<b>5,187</b>	<b>33.06</b>	<b>5,302</b>	<b>6.22</b>	<b>129.5</b>	<b>55.66</b>	<b>0</b>	<b>1,915</b>	<b>36.13</b>	<b>221</b>	<b>222</b>
<b>Other retail non-SMEs</b>												
0.00 to <0.15	2,035	3,412	33.70	3,484	0.08	654.9	38.37	0	314	9.02	1	0
0.00 to <0.10	831	1,418	52.31	1,871	0.05	441.6	36.03	0	119	6.38	0	0
0.10 to <0.15	1,204	1,994	20.48	1,612	0.12	213.3	41.08	0	195	12.08	1	0
0.15 to <0.25	1,351	740	59.80	1,876	0.19	250.7	49.67	0	387	20.64	2	1
0.25 to <0.50	2,313	1,037	60.83	3,218	0.37	327.7	52.85	0	1,081	33.59	6	3
0.50 to <0.75	991	593	65.28	1,383	0.60	193.3	48.49	0	569	41.12	4	2
0.75 to <2.50	8,276	1,091	58.73	8,980	1.59	1,033.0	58.96	0	6,575	73.21	84	41
0.75 to <1.75	4,064	681	56.19	4,505	1.13	560.6	57.72	0	2,898	64.33	29	14
1.75 to <2.5	4,211	411	62.94	4,474	2.05	472.3	60.21	0	3,676	82.16	55	27
2.50 to <10.00	6,486	419	68.96	6,767	4.72	527.6	60.61	0	7,431	109.81	238	103
2.50 to <5	4,340	351	68.59	4,578	3.65	395.3	59.56	0	4,371	95.48	107	51
5 to <10	2,146	69	70.86	2,189	6.98	132.3	62.80	0	3,060	139.77	131	52
10.00 to <100.00	2,011	58	64.12	2,041	20.94	142.1	58.76	0	2,718	133.17	254	160
10 to <20	1,303	32	59.29	1,317	13.55	87.9	57.33	0	1,510	114.66	103	62
20 to <30	161	11	77.30	169	25.14	15.7	68.35	0	297	175.94	29	18
30.00 to <100.00	547	15	65.01	555	37.22	38.4	59.24	0	911	164.11	122	80
100.00 (Default)	1,928	42	56.67	1,929	100.00	134.3	80.44	0	441	22.87	1,534	1,390
<b>Sub-total</b>	<b>25,390</b>	<b>7,392</b>	<b>48.72</b>	<b>29,677</b>	<b>9.59</b>	<b>3,263.5</b>	<b>56.56</b>	<b>0</b>	<b>19,515</b>	<b>65.76</b>	<b>2,123</b>	<b>1,701</b>
<b>All exposure classes</b>												
<b>Total</b>	<b>562,406</b>	<b>310,896</b>	<b>34.43</b>	<b>666,037</b>	<b>3.19</b>	<b>8,549.3</b>	<b>35.42</b>	<b>1.9</b>	<b>189,721</b>	<b>28.49</b>	<b>9,135</b>	<b>6,771</b>

<sup>1</sup> Starting with December 31, 2023, exposure weighted average maturity for retail exposures are no longer disclosed, which is in line with the implementation technical standards

Jun 30, 2023

in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Central governments and central banks</b>												
0.00 to <0.15	112,211	272	34.76	125,248	0.00	0.1	50.38	1.2	1,057	0.84	2	0
0.00 to <0.10	111,660	210	30.12	124,666	0.00	0.1	50.42	1.2	933	0.75	1	0
0.10 to <0.15	551	62	50.50	583	0.13	0.0	43.86	2.5	124	21.24	0	0
0.15 to <0.25	1,036	37	34.61	1,364	0.23	0.0	50.00	1.8	654	47.91	2	0
0.25 to <0.50	1,792	1	24.29	1,567	0.39	0.0	45.05	2.4	960	61.28	3	0
0.50 to <0.75	388	2	49.26	241	0.64	0.0	49.96	1.3	180	74.51	1	0
0.75 to <2.50	4,997	358	35.29	4,283	1.76	0.0	98.96	5.0	10,465	244.35	1	1
0.75 to <1.75	45	0	100.00	1	1.07	0.0	49.82	4.4	1	140.61	0	0
1.75 to <2.5	4,951	358	35.29	4,282	1.76	0.0	98.97	5.0	10,464	244.37	1	1
2.50 to <10.00	1,973	543	41.44	435	4.45	0.0	35.31	3.0	377	86.68	6	6
2.50 to <5	1,112	397	40.27	336	3.33	0.0	36.55	2.5	232	69.02	4	3
5 to <10	861	146	44.61	99	8.23	0.0	31.11	4.5	145	146.35	2	3
10.00 to <100.00	898	18	36.60	797	14.36	0.0	40.72	0.9	1,518	190.46	48	1
10 to <20	778	18	35.01	677	13.00	0.0	39.09	1.1	1,226	180.97	34	1
20 to <30	120	0	0	120	22.01	0.0	50.00	0.0	292	244.37	13	0
30.00 to <100.00	0	0	100.00	0	34.11	0.0	23.86	0.4	0	131.17	0	0
100.00 (Default)	1,331	392	35.02	273	100.00	0.0	15.82	2.3	253	92.51	34	20
<b>Sub-total</b>	<b>124,625</b>	<b>1,624</b>	<b>37.20</b>	<b>134,209</b>	<b>0.37</b>	<b>0.2</b>	<b>51.69</b>	<b>1.3</b>	<b>15,464</b>	<b>11.52</b>	<b>96</b>	<b>29</b>
<b>Institutions</b>												
0.00 to <0.15	6,583	3,745	38.92	6,824	0.06	0.4	45.72	0.9	1,316	19.28	3	1
0.00 to <0.10	6,560	3,667	38.99	6,773	0.06	0.3	45.85	0.9	1,109	16.37	2	1
0.10 to <0.15	23	77	35.63	51	0.13	0.0	27.74	1.4	207	408.36	2	0
0.15 to <0.25	1,001	1,104	53.62	1,649	0.16	0.1	36.13	0.9	384	23.26	1	0
0.25 to <0.50	933	1,398	40.56	4,430	0.40	0.1	78.93	2.1	761	17.18	2	1
0.50 to <0.75	866	214	53.65	785	0.70	0.0	44.13	1.2	650	82.76	3	2
0.75 to <2.50	335	95	30.80	342	1.57	0.1	12.26	2.5	120	35.06	1	0
0.75 to <1.75	137	41	39.98	134	1.12	0.0	20.04	3.1	72	53.22	0	0
1.75 to <2.5	198	54	23.89	208	1.86	0.0	7.23	2.2	48	23.31	1	0
2.50 to <10.00	2,311	516	35.48	2,304	3.28	0.0	10.52	2.0	588	25.51	9	3
2.50 to <5	2,287	307	45.13	2,257	3.24	0.0	9.86	2.0	514	22.77	8	2
5 to <10	24	209	21.28	46	5.38	0.0	43.04	2.7	74	159.53	1	0
10.00 to <100.00	19	63	38.25	42	13.21	0.0	19.57	1.1	39	92.83	1	0
10 to <20	19	63	38.27	42	13.20	0.0	19.56	1.1	39	92.73	1	0
20 to <30	0	0	0	0	0	0	0	0	0	0	0	-
30.00 to <100.00	0	0	20.01	0	34.11	0.0	49.50	5.0	0	310.81	0	0
100.00 (Default)	394	0	0	392	100.00	0.0	0.85	4.9	29	7.30	1	1
<b>Sub-total</b>	<b>12,442</b>	<b>7,135</b>	<b>41.60</b>	<b>16,769</b>	<b>3.03</b>	<b>0.7</b>	<b>46.84</b>	<b>1.5</b>	<b>3,886</b>	<b>23.17</b>	<b>21</b>	<b>7</b>

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in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Corporates</b>												
0.00 to <0.15	50,583	94,270	31.54	84,008	0.07	13.0	33.03	2.3	16,734	19.92	28	6
0.00 to <0.10	44,283	86,999	30.92	74,964	0.06	10.7	34.44	2.3	14,356	19.15	16	4
0.10 to <0.15	6,301	7,270	38.99	9,044	0.13	2.3	21.21	2.5	2,378	26.29	12	3
0.15 to <0.25	27,943	27,762	30.05	35,325	0.19	5.4	25.50	2.3	7,843	22.20	16	12
0.25 to <0.50	33,425	64,710	17.26	43,028	0.36	10.2	30.32	2.3	15,825	36.78	43	33
0.50 to <0.75	22,356	14,141	37.54	26,600	0.64	5.3	28.75	2.3	12,232	45.99	47	33
0.75 to <2.50	48,693	30,283	34.18	52,903	1.53	8.7	27.91	2.3	30,980	58.56	192	148
0.75 to <1.75	23,775	14,830	33.56	25,246	1.14	5.6	27.54	2.3	14,570	57.71	79	67
1.75 to <2.5	24,918	15,453	34.77	27,657	1.89	3.2	28.25	2.2	16,410	59.33	113	82
2.50 to <10.00	32,575	23,566	29.80	35,380	4.53	3.8	23.17	2.4	25,309	71.53	346	281
2.50 to <5	22,174	19,267	28.27	25,163	3.48	2.8	25.38	2.5	18,411	73.17	212	189
5 to <10	10,401	4,299	36.67	10,217	7.11	1.1	17.73	2.1	6,898	67.51	135	92
10.00 to <100.00	3,751	1,222	51.07	3,548	17.97	0.6	18.07	2.2	3,108	87.60	122	79
10 to <20	2,689	932	53.62	2,585	13.36	0.3	15.53	2.2	1,928	74.58	57	41
20 to <30	446	142	52.18	374	22.73	0.1	35.08	1.7	604	161.46	27	23
30.00 to <100.00	617	147	33.87	589	35.20	0.3	18.45	2.3	576	97.83	38	15
100.00 (Default)	16,816	2,191	34.15	16,245	100.00	2.9	21.93	3.1	4,843	29.81	3,366	3,668
<b>Sub-total</b>	<b>236,142</b>	<b>258,144</b>	<b>28.40</b>	<b>297,037</b>	<b>6.65</b>	<b>49.9</b>	<b>28.49</b>	<b>2.3</b>	<b>116,873</b>	<b>39.35</b>	<b>4,159</b>	<b>4,262</b>
<b>of which:</b>												
<b>SMEs</b>												
0.00 to <0.15	3,453	1,688	38.41	4,234	0.07	2.9	23.21	3.6	493	11.64	1	0
0.00 to <0.10	2,640	1,290	39.93	3,297	0.05	1.7	22.87	3.7	333	10.12	0	0
0.10 to <0.15	813	398	33.46	937	0.12	1.2	24.41	3.0	159	16.99	0	0
0.15 to <0.25	1,734	1,639	30.31	2,159	0.20	2.2	34.20	3.0	594	27.52	1	1
0.25 to <0.50	2,604	2,496	31.56	3,295	0.37	5.0	42.74	2.8	1,402	42.55	5	3
0.50 to <0.75	1,990	1,103	38.02	2,255	0.67	2.2	41.35	2.3	1,149	50.96	6	3
0.75 to <2.50	3,556	1,830	35.60	3,794	1.42	3.3	39.47	2.5	2,347	61.87	22	16
0.75 to <1.75	2,242	895	40.20	2,427	1.12	2.1	34.78	2.5	1,214	50.04	9	7
1.75 to <2.5	1,314	935	31.20	1,367	1.95	1.2	47.80	2.4	1,133	82.86	12	9
2.50 to <10.00	2,362	1,423	34.43	2,296	4.69	1.6	39.10	2.2	1,893	82.46	40	31
2.50 to <5	1,570	1,145	34.17	1,597	3.67	1.1	41.31	2.2	1,307	81.83	23	20
5 to <10	792	277	35.52	699	7.03	0.5	34.03	2.3	586	83.89	17	11
10.00 to <100.00	366	62	52.19	285	22.38	0.3	42.38	2.6	442	155.15	25	20
10 to <20	121	36	52.16	111	13.99	0.1	41.52	2.6	153	137.62	6	4
20 to <30	155	13	34.07	81	22.04	0.1	59.70	0.8	171	210.57	10	14
30.00 to <100.00	91	13	70.08	92	32.78	0.1	28.17	4.1	118	127.46	9	2
100.00 (Default)	1,343	88	37.38	1,254	100.00	0.4	24.28	3.3	481	38.35	275	300
<b>Sub-total</b>	<b>17,410</b>	<b>10,328</b>	<b>34.45</b>	<b>19,572</b>	<b>7.73</b>	<b>17.9</b>	<b>35.17</b>	<b>2.8</b>	<b>8,802</b>	<b>44.97</b>	<b>376</b>	<b>375</b>

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in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Specialized Lending</b>												
0.00 to <0.15	2,347	23	80.87	2,366	0.10	0.1	6.29	3.1	405	17.11	8	0
0.00 to <0.10	626	2	19.98	626	0.07	0.0	5.15	4.1	29	4.59	0	0
0.10 to <0.15	1,721	21	85.90	1,739	0.11	0.0	6.70	2.7	376	21.62	8	0
0.15 to <0.25	2,531	231	64.14	2,581	0.18	0.1	7.91	3.0	229	8.86	0	0
0.25 to <0.50	7,248	458	31.38	7,260	0.36	0.2	8.11	2.4	833	11.47	2	2
0.50 to <0.75	5,485	1,543	89.01	6,742	0.67	0.2	18.99	2.8	2,310	34.27	8	6
0.75 to <2.50	13,929	1,672	50.44	14,331	1.68	0.5	9.73	2.0	3,419	23.86	23	16
0.75 to <1.75	5,124	786	64.54	5,349	1.22	0.2	11.43	2.3	1,485	27.77	8	7
1.75 to <2.5	8,806	887	37.94	8,982	1.95	0.3	8.71	1.9	1,934	21.53	15	10
2.50 to <10.00	11,910	2,309	42.96	12,390	4.68	0.3	10.51	2.0	3,762	30.36	51	36
2.50 to <5	8,044	1,706	47.74	8,351	3.51	0.2	12.12	2.0	2,717	32.54	30	22
5 to <10	3,865	604	29.45	4,039	7.12	0.1	7.20	1.9	1,045	25.86	21	14
10.00 to <100.00	1,756	105	20.95	1,629	16.46	0.0	8.12	2.5	681	41.82	26	13
10 to <20	1,555	94	21.30	1,425	13.31	0.0	7.48	2.3	536	37.64	15	12
20 to <30	31	0	36.85	31	25.62	0.0	9.12	3.1	17	54.41	1	1
30.00 to <100.00	171	11	18.03	173	40.84	0.0	13.22	3.5	128	74.08	10	0
100.00 (Default)	3,518	128	40.49	3,304	100.00	0.1	21.58	2.9	476	14.41	679	615
<b>Sub-total</b>	<b>48,724</b>	<b>6,470</b>	<b>55.54</b>	<b>50,603</b>	<b>8.84</b>	<b>1.5</b>	<b>11.39</b>	<b>2.3</b>	<b>12,115</b>	<b>23.94</b>	<b>797</b>	<b>690</b>
<b>Other</b>												
0.00 to <0.15	44,783	92,559	31.40	77,408	0.07	10.0	34.38	2.2	15,836	20.46	19	6
0.00 to <0.10	41,017	85,707	30.78	71,040	0.06	8.9	35.23	2.2	13,994	19.70	15	4
0.10 to <0.15	3,766	6,851	39.17	6,367	0.13	1.1	24.71	2.4	1,842	28.93	4	2
0.15 to <0.25	23,678	25,893	29.73	30,584	0.19	3.1	26.37	2.2	7,020	22.95	14	10
0.25 to <0.50	23,572	61,756	16.58	32,474	0.36	4.9	34.02	2.2	13,591	41.85	36	28
0.50 to <0.75	14,882	11,495	30.58	17,603	0.63	3.0	30.88	2.1	8,772	49.84	32	23
0.75 to <2.50	31,207	26,780	33.07	34,777	1.48	5.0	34.15	2.4	25,213	72.50	147	116
0.75 to <1.75	16,409	13,149	31.26	17,470	1.12	3.4	31.47	2.3	11,870	67.95	62	53
1.75 to <2.5	14,798	13,631	34.81	17,308	1.85	1.6	36.85	2.4	13,343	77.09	85	63
2.50 to <10.00	18,303	19,834	27.94	20,693	4.41	1.9	28.98	2.6	19,653	94.97	255	214
2.50 to <5	12,559	16,416	25.84	15,214	3.44	1.5	30.98	2.7	14,387	94.56	159	147
5 to <10	5,744	3,418	38.03	5,479	7.11	0.5	23.41	2.3	5,267	96.12	97	67
10.00 to <100.00	1,628	1,055	54.00	1,635	18.71	0.3	23.75	1.8	1,985	121.43	71	46
10 to <20	1,013	803	57.45	1,049	13.36	0.1	23.70	2.0	1,238	118.10	36	25
20 to <30	260	129	53.96	262	22.60	0.1	30.49	1.8	416	158.80	16	8
30.00 to <100.00	355	123	31.50	324	32.88	0.1	18.46	1.2	331	102.04	20	13
100.00 (Default)	11,955	1,974	33.59	11,688	100.00	2.3	21.78	3.1	3,886	33.25	2,412	2,753
<b>Sub-total</b>	<b>170,009</b>	<b>241,346</b>	<b>27.41</b>	<b>226,862</b>	<b>6.06</b>	<b>30.5</b>	<b>31.72</b>	<b>2.3</b>	<b>95,957</b>	<b>42.30</b>	<b>2,987</b>	<b>3,196</b>



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in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Retail</b>												
0.00 to <0.15	41,745	16,438	53.30	51,082	0.08	3,134.6	25.70	15.1	2,042	4.00	11	6
0.00 to <0.10	26,062	10,131	64.53	33,191	0.06	2,286.2	26.51	14.5	1,034	3.11	6	3
0.10 to <0.15	15,683	6,307	35.26	17,891	0.11	848.4	24.19	16.2	1,008	5.64	5	3
0.15 to <0.25	28,689	3,710	62.17	31,295	0.19	949.5	21.67	21.8	2,593	8.29	13	10
0.25 to <0.50	43,009	4,204	65.67	45,882	0.37	995.5	22.97	22.3	6,702	14.61	40	25
0.50 to <0.75	32,270	2,877	76.37	34,359	0.69	561.4	23.29	25.1	8,037	23.39	55	38
0.75 to <2.50	38,926	3,303	68.12	40,925	1.37	1,584.5	31.95	20.2	18,445	45.07	205	132
0.75 to <1.75	25,378	2,315	69.24	26,883	1.04	948.0	29.62	22.7	10,189	37.90	104	63
1.75 to <2.5	13,548	988	65.49	14,042	2.01	636.5	36.42	15.5	8,256	58.79	101	70
2.50 to <10.00	16,450	908	60.28	16,599	4.99	762.7	37.59	15.7	12,588	75.83	302	257
2.50 to <5	10,440	681	57.87	10,541	3.66	536.9	39.41	14.4	7,517	71.32	149	123
5 to <10	6,011	227	67.52	6,059	7.32	225.8	34.42	17.8	5,070	83.68	153	134
10.00 to <100.00	4,157	139	65.48	4,099	21.34	175.8	34.01	17.2	4,923	120.10	300	219
10 to <20	2,276	87	68.21	2,273	13.31	91.6	32.92	17.2	2,441	107.42	100	79
20 to <30	816	20	58.93	788	22.07	32.6	35.71	16.5	1,031	130.81	63	52
30.00 to <100.00	1,066	32	62.17	1,038	38.36	51.7	35.12	17.6	1,451	139.72	137	88
100.00 (Default)	3,888	77	55.81	3,750	100.00	207.5	49.76	9.2	1,399	37.30	1,957	1,866
<b>Sub-total</b>	<b>209,136</b>	<b>31,655</b>	<b>59.88</b>	<b>227,992</b>	<b>2.86</b>	<b>8,371.7</b>	<b>26.77</b>	<b>19.9</b>	<b>56,729</b>	<b>24.88</b>	<b>2,882</b>	<b>2,552</b>
<b>of which:</b>												
Secured by real estate property SMEs												
0.00 to <0.15	3,199	267	59.48	3,358	0.07	14.8	13.44	15.5	74	2.20	0	0
0.00 to <0.10	2,265	200	60.37	2,386	0.06	10.6	13.14	15.5	42	1.77	0	0
0.10 to <0.15	935	67	56.82	973	0.11	4.3	14.16	15.7	32	3.25	0	0
0.15 to <0.25	1,114	72	55.59	1,154	0.18	5.0	13.86	15.7	50	4.37	0	0
0.25 to <0.50	1,684	93	57.80	1,737	0.36	8.3	14.60	15.6	136	7.82	1	1
0.50 to <0.75	289	30	85.39	302	0.56	0.7	16.28	16.5	36	11.93	0	0
0.75 to <2.50	1,375	65	58.58	1,398	1.28	5.5	14.97	15.7	262	18.75	3	4
0.75 to <1.75	1,053	54	59.18	1,080	1.02	4.3	14.79	15.7	176	16.25	2	2
1.75 to <2.5	323	12	55.84	318	2.16	1.2	15.58	15.7	87	27.26	1	2
2.50 to <10.00	330	16	60.94	333	5.04	1.4	16.12	15.4	147	44.26	3	4
2.50 to <5	197	11	67.78	198	3.64	0.8	16.38	15.7	77	38.67	1	2
5 to <10	133	5	46.77	134	7.11	0.6	15.74	14.9	71	52.54	1	2
10.00 to <100.00	59	1	41.14	58	22.16	0.3	15.26	14.3	42	72.36	2	2
10 to <20	32	1	40.87	32	13.89	0.2	15.44	15.7	21	66.45	1	1
20 to <30	11	0	32.36	11	25.39	0.1	13.42	10.5	8	71.15	0	0
30.00 to <100.00	16	0	50.80	16	37.13	0.1	16.15	14.1	13	85.47	1	1
100.00 (Default)	91	1	58.50	84	100.00	0.4	27.50	11.8	41	48.77	23	23
<b>Sub-total</b>	<b>8,142</b>	<b>545</b>	<b>60.01</b>	<b>8,426</b>	<b>1.71</b>	<b>36.4</b>	<b>14.35</b>	<b>15.6</b>	<b>789</b>	<b>9.36</b>	<b>32</b>	<b>34</b>

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in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
Secured by real estate property non-SMEs												
0.00 to <0.15	35,854	959	55.02	36,381	0.08	268.7	16.60	19.3	1,283	3.53	6	4
0.00 to <0.10	22,495	622	54.58	22,834	0.06	166.8	16.42	19.0	645	2.82	3	2
0.10 to <0.15	13,359	337	55.84	13,546	0.11	101.9	16.91	19.8	638	4.71	3	2
0.15 to <0.25	25,646	724	80.61	26,229	0.19	188.5	17.07	24.6	1,895	7.23	9	8
0.25 to <0.50	37,787	1,413	87.66	39,022	0.37	239.8	18.67	24.7	4,940	12.66	27	19
0.50 to <0.75	29,880	1,503	99.31	31,367	0.69	181.1	21.38	26.7	7,040	22.45	47	32
0.75 to <2.50	26,794	1,237	92.00	27,916	1.33	191.4	22.16	26.6	10,477	37.53	104	61
0.75 to <1.75	18,917	906	91.59	19,737	1.02	145.1	21.59	28.3	6,402	32.44	64	35
1.75 to <2.5	7,877	331	93.14	8,179	2.07	46.3	23.52	22.5	4,075	49.82	40	26
2.50 to <10.00	7,430	191	90.80	7,584	5.24	51.5	19.82	26.9	5,336	70.36	79	76
2.50 to <5	4,311	119	92.11	4,410	3.74	31.4	20.14	26.3	2,702	61.28	33	33
5 to <10	3,119	71	88.60	3,174	7.32	20.2	19.37	27.7	2,634	82.99	45	44
10.00 to <100.00	2,329	47	90.96	2,356	21.66	14.8	21.29	25.4	2,850	120.96	109	62
10 to <20	1,285	28	95.63	1,308	13.34	8.1	20.95	25.3	1,482	113.29	36	24
20 to <30	432	6	95.43	434	21.97	2.9	21.28	25.3	565	130.00	20	13
30.00 to <100.00	612	13	78.50	613	39.22	3.9	22.01	25.7	802	130.93	53	25
100.00 (Default)	1,321	19	95.11	1,294	100.00	11.6	23.30	21.1	642	49.62	316	246
<b>Sub-total</b>	<b>167,040</b>	<b>6,091</b>	<b>85.59</b>	<b>172,148</b>	<b>1.75</b>	<b>1,147.4</b>	<b>19.17</b>	<b>24.3</b>	<b>34,464</b>	<b>20.02</b>	<b>696</b>	<b>507</b>
Qualifying Revolving												
0.00 to <0.15	47	9,370	68.86	6,499	0.07	2,141.6	67.35	0.0	215	3.31	3	1
0.00 to <0.10	26	7,290	68.75	5,038	0.06	1,630.2	68.00	0.0	140	2.77	2	1
0.10 to <0.15	21	2,079	69.26	1,461	0.12	511.5	65.10	0.0	76	5.18	1	0
0.15 to <0.25	44	1,705	67.40	1,193	0.19	471.9	64.26	0.0	88	7.39	1	0
0.25 to <0.50	109	1,125	66.87	861	0.35	392.4	65.14	0.0	104	12.05	2	1
0.50 to <0.75	71	375	61.71	302	0.57	135.7	60.21	0.0	52	17.17	1	0
0.75 to <2.50	252	583	65.88	636	1.33	395.1	65.19	0.0	214	33.63	6	3
0.75 to <1.75	172	463	66.67	481	1.05	281.0	65.48	0.0	138	28.71	3	2
1.75 to <2.5	80	120	62.83	155	2.19	114.1	64.28	0.0	76	48.86	2	1
2.50 to <10.00	133	126	63.82	213	5.20	144.2	63.68	0.0	184	86.60	7	5
2.50 to <5	72	78	62.67	121	3.76	82.2	62.95	0.1	85	70.09	3	2
5 to <10	61	47	65.71	92	7.08	62.0	64.64	0.0	100	108.33	4	3
10.00 to <100.00	94	28	68.82	113	24.16	54.3	61.34	0.0	203	179.91	17	9
10 to <20	43	20	69.02	57	14.02	28.5	60.97	0.0	88	153.62	5	3
20 to <30	10	3	61.44	12	23.67	6.3	66.75	0.0	24	202.98	2	1
30.00 to <100.00	40	4	73.49	43	37.72	19.5	60.36	0.0	91	208.34	10	5
100.00 (Default)	115	12	69.19	121	100.00	55.9	68.87	0	108	89.27	80	87
<b>Sub-total</b>	<b>865</b>	<b>13,322</b>	<b>68.13</b>	<b>9,939</b>	<b>1.81</b>	<b>3,791.1</b>	<b>66.30</b>	<b>0.0</b>	<b>1,169</b>	<b>11.76</b>	<b>117</b>	<b>107</b>

Jun 30, 2023

in € m. (unless stated otherwise)	a	b	c	d	e	f	g	h	i	j	k	l
Exposure class/ PD scale	On-balance sheet exposures	Off-balance- sheet exposures pre- CCF	Exposure weighted average CCF (in %)	Exposure post CCF and post CRM	Exposure weighted average PD (%)	Number of obligors (in 1,000s)	Exposure weighted average LGD (%)	Exposure weighted average maturity (in years)	Risk weighted exposure amount after supporting factors	Density of risk weighted exposure amount (in %)	Expected Loss amount	Value adjustments and Provisions
<b>Other retail SMEs</b>												
0.00 to <0.15	723	2,433	26.03	1,318	0.08	46.6	50.75	3.3	121	9.15	1	0
0.00 to <0.10	367	749	54.18	768	0.06	27.4	51.88	3.8	54	7.03	0	0
0.10 to <0.15	356	1,683	13.50	550	0.12	19.3	49.17	2.5	67	12.11	0	0
0.15 to <0.25	327	507	33.49	495	0.20	15.4	52.98	4.0	91	18.38	1	0
0.25 to <0.50	491	677	32.54	653	0.37	21.7	53.11	3.3	174	26.59	1	0
0.50 to <0.75	368	460	33.20	375	0.62	10.2	55.06	4.1	137	36.54	1	0
0.75 to <2.50	937	611	43.54	927	1.38	16.8	59.37	3.8	494	53.26	7	3
0.75 to <1.75	536	369	44.18	561	1.06	11.2	58.02	4.0	271	48.26	3	1
1.75 to <2.5	401	242	42.57	366	1.87	5.6	61.43	3.5	223	60.94	4	2
2.50 to <10.00	770	273	38.16	506	4.48	10.5	63.12	2.8	357	70.50	13	8
2.50 to <5	585	231	38.23	399	3.65	7.4	63.53	2.9	278	69.59	9	5
5 to <10	185	42	37.78	106	7.62	3.1	61.60	2.4	79	73.93	5	3
10.00 to <100.00	208	31	37.31	89	19.37	2.8	61.36	2.1	84	95.08	10	6
10 to <20	100	19	40.14	51	12.83	1.3	57.32	1.9	40	79.57	3	2
20 to <30	50	7	34.48	19	22.70	0.7	64.45	2.1	20	107.64	2	1
30.00 to <100.00	58	5	30.86	19	33.27	0.7	68.98	2.6	24	123.58	4	3
100.00 (Default)	355	22	35.95	256	100.00	4.0	67.20	1.9	128	49.93	175	218
<b>Sub-total</b>	<b>4,179</b>	<b>5,014</b>	<b>31.23</b>	<b>4,618</b>	<b>6.82</b>	<b>128.0</b>	<b>55.87</b>	<b>3.4</b>	<b>1,584</b>	<b>34.31</b>	<b>209</b>	<b>235</b>
<b>Other retail non-SMEs</b>												
0.00 to <0.15	1,921	3,410	29.02	3,526	0.08	662.8	45.04	3.6	349	9.91	1	1
0.00 to <0.10	909	1,269	51.93	2,165	0.05	451.3	42.07	3.4	153	7.07	1	0
0.10 to <0.15	1,013	2,141	15.44	1,361	0.11	211.5	49.77	4.0	196	14.42	1	0
0.15 to <0.25	1,558	702	51.81	2,223	0.19	268.7	50.24	8.2	468	21.06	2	1
0.25 to <0.50	2,938	896	55.34	3,609	0.37	333.4	57.93	9.0	1,349	37.38	8	4
0.50 to <0.75	1,663	509	57.91	2,013	0.67	233.8	42.54	9.9	771	38.33	6	5
0.75 to <2.50	9,567	808	52.54	10,047	1.51	975.7	56.88	5.9	6,997	69.65	85	62
0.75 to <1.75	4,700	524	51.58	5,023	1.10	506.4	57.72	6.3	3,202	63.75	31	22
1.75 to <2.5	4,867	284	54.32	5,024	1.92	469.3	56.05	5.6	3,795	75.55	54	39
2.50 to <10.00	7,788	302	59.53	7,964	4.78	555.1	53.09	6.2	6,563	82.41	200	165
2.50 to <5	5,275	242	57.74	5,412	3.58	415.1	53.65	5.9	4,376	80.85	103	82
5 to <10	2,513	61	66.67	2,552	7.32	140.0	51.89	6.8	2,187	85.70	97	83
10.00 to <100.00	1,467	32	53.44	1,484	20.70	103.6	51.25	6.4	1,744	117.54	162	140
10 to <20	814	18	55.70	824	13.23	53.5	49.17	6.6	809	98.18	55	49
20 to <30	313	4	44.12	313	21.99	22.6	53.61	6.0	415	132.59	38	36
30.00 to <100.00	340	10	53.17	347	37.26	27.5	54.07	6.3	521	149.96	69	55
100.00 (Default)	2,007	23	36.17	1,996	100.00	135.7	64.46	2.8	480	24.06	1,363	1,291
<b>Sub-total</b>	<b>28,909</b>	<b>6,682</b>	<b>41.51</b>	<b>32,861</b>	<b>8.73</b>	<b>3,268.8</b>	<b>53.68</b>	<b>6.3</b>	<b>18,723</b>	<b>56.97</b>	<b>1,828</b>	<b>1,669</b>
<b>All exposure classes</b>												
<b>Total</b>	<b>582,345</b>	<b>298,558</b>	<b>32.10</b>	<b>676,007</b>	<b>4.03</b>	<b>8,422.5</b>	<b>32.97</b>	<b>8.0</b>	<b>192,951</b>	<b>28.54</b>	<b>7,159</b>	<b>6,850</b>

## Total IRB exposure covered by credit derivatives

### Article 453 (j) CRR

The table below presents the Group's IRB exposures, split into FIRB and AIRB. The table shows the RWA by the relevant exposure classes prior and after the usage of CRM techniques in the form of credit derivatives, where the exposure is then assigned to the exposure class of the protection seller.

#### EU CR7 – IRB approach – Effect on the RWAs of credit derivatives used as CRM techniques

in € m.		Dec 31, 2023		Jun 30, 2023	
		a	b	a	b
		pre-credit derivatives RWA	Actual RWA	pre-credit derivatives RWA	Actual RWA
1	<b>Exposures under FIRB</b>				
2	Central governments and central banks	0	0	0	0
3	Institutions	5	5	16	16
3a	Corporates	1,488	1,488	1,690	1,690
	of which:				
4	SMEs	24	24	38	38
5	Specialized lending	474	474	530	530
	Others	990	990	1,122	1,122
6a	<b>Sub-total FIRB</b>	<b>1,494</b>	<b>1,494</b>	<b>1,706</b>	<b>1,706</b>
7	<b>Exposures under AIRB</b>				
8	Central governments and central banks	16,198	16,198	15,464	15,604
9	Institutions	4,596	4,652	3,836	3,886
9a	Corporates	114,986	114,312	118,000	116,733
	of which:				
10	SMEs	9,088	9,088	8,802	8,791
11	Specialized lending	15,383	15,383	12,115	12,125
	Others	90,515	89,841	97,084	95,816
12a	Retail	54,558	54,558	56,729	56,729
	of which:				
13	Secured by real estate property SMEs	1,233	1,233	789	789
14	Secured by real estate property non-SMEs	30,897	30,897	34,464	34,464
15	Qualifying revolving	998	998	1,169	1,169
16	Other retail SMEs	1,915	1,915	1,584	1,584
17	Other retail non-SMEs	19,515	19,515	18,723	18,723
19a	<b>Sub-total AIRB</b>	<b>190,338</b>	<b>189,721</b>	<b>194,029</b>	<b>192,951</b>
20	<b>Total</b>	<b>191,832</b>	<b>191,215</b>	<b>195,734</b>	<b>194,657</b>

Deutsche Bank's RWA for exposures under the IRB approach is € 191.2 billion as of December 31, 2023, in comparison to € 194.7 billion as of the prior period. The decrease of € 3.4 billion is predominantly driven by a decrease in RWA within the Group's AIRB for the exposure classes "corporates – others" and "retail – secured by real estate property non-SMEs". This decrease was partly offset by increases within the Group's AIRB for the exposure classes "corporates – specialized lending", "institutions", "retail – other non-SMEs", "central governments and central banks" and "retail – secured by real estate property SMEs". The RWA for corporate exposures mainly benefitted from the application of credit derivatives.

## Total IRB exposure covered by the use of CRM techniques

### Article 453 (g) CRR

The two tables below present the Group's FIRB and AIRB exposures and the extent of the use of CRM techniques broken down by exposure classes. The CRM techniques are separately shown for funded credit protection and unfunded credit protection. For funded credit protection the table also presents a split between the part of exposures covered by other eligible collateral and the part of exposures covered by other funded credit protection. Additionally, the RWA without substitution effects (reduction effects only) and the RWA with substitution effects (both reduction and substitution effects) are shown.

EU CR7-A – Foundation IRB approach – Extent of the use of CRM techniques

														Dec 31, 2023																																		
														m	n																																	
														Credit risk Mitigation methods in the calculation of RWEAs																																		
														Unfunded credit protection (UFCP)																																		
														Funded credit protection (FCP)																																		
														Part of exposures covered by Other eligible collaterals (%)		Part of exposures covered by Other funded credit protection (%)																																
														of which: Part of exposures covered by Immovable property		of which: Part of exposures covered by Receivables		of which: Part of exposures covered by Other physical collateral		of which: Part of exposures covered by Cash on deposit		of which: Part of exposures covered by Life insurance policies		of which: Part of exposures covered by Instruments held by a third party		Part of exposures covered by Guarantees		Part of exposures covered by Credit Derivatives		RWA without substitution effects (reduction effects only)		RWA with substitution effects (both reduction and substitution effects)																
in € m. (unless stated otherwise)	Total exposures	Part of exposures covered by Financial Collaterals (%)	Total	Collaterals (%)	Total	Collaterals (%)	Total	Collaterals (%)	Total	Collaterals (%)	Total	Collaterals (%)	Total	Collaterals (%)	Total	Collaterals (%)	Total	Collaterals (%)	Total	Collaterals (%)	Total	Collaterals (%)	Total	Collaterals (%)																								
1	Central governments and central banks																							0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	
2	Institutions																							47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5	5	
3	Corporates																							6,628	0.00	7.25	7.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,488	1,488	
3	of which:																																															
3.1	SME																							115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24	24	
3.2	Specialized lending																							735	0.00	65.35	65.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	474	474
3.3	Other																							5,778	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	990	990	
4	Total																							6,676	0.00	7.19	7.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,494	1,494	

														Jun 30, 2023																			
														m	n																		
														Credit risk Mitigation methods in the calculation of RWEAs																			
														Credit risk mitigation techniques																			
														Unfunded credit protection (UFCP)																			
														Funded credit protection (FCP)																			
														Part of exposures covered by Other eligible collateral (%)		Part of exposures covered by Other funded credit protection (%)																	
														of which: Part of exposures covered by Immovable property Collaterals (%)		of which: Part of exposures covered by Receivables (%)		of which: Part of exposures covered by Other physical collateral (%)		of which: Part of exposures covered by Cash on deposit (%)		of which: Part of exposures covered by Life insurance policies (%)		of which: Part of exposures covered by Instruments held by a third party (%)		Part of exposures covered by Guarantees (%)		Part of exposures covered by Credit Derivatives (%)		RWA without substitution effects (reduction effects only)		RWA with substitution effects (both reduction and substitution effects)	
in € m. (unless stated otherwise)	Total exposures	Part of exposures covered by Financial Collaterals (%)	Total	Collaterals (%)	of which: Part of exposures covered by Immovable property Collaterals (%)	of which: Part of exposures covered by Receivables (%)	of which: Part of exposures covered by Other physical collateral (%)	Total	Part of exposures covered by Cash on deposit (%)	Part of exposures covered by Life insurance policies (%)	Part of exposures covered by Instruments held by a third party (%)	Part of exposures covered by Guarantees (%)	Part of exposures covered by Credit Derivatives (%)	RWA without substitution effects (reduction effects only)	RWA with substitution effects (both reduction and substitution effects)																		
<b>Central governments and central banks</b>	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0																		
1																																	
2	Institutions	52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16	16																		
3	Corporates	6,114	0.00	9.48	9.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,689	1,690																		
3	of which:																																
3.1	SME	133	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38	38																		
3.2	Specialized lending	824	0.00	70.30	70.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	530	530																		
3.3	Other	5,157	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,122	1,122																		
4	<b>Total</b>	<b>6,186</b>	<b>0.00</b>	<b>9.37</b>	<b>9.37</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1,706</b>	<b>1,706</b>																		

EU CR7-A – Advanced IRB approach – Extent of the use of CRM techniques

														Dec 31, 2023																			
														m	n																		
														Credit risk Mitigation methods in the calculation of RWEAs																			
														Credit risk mitigation techniques																			
														Unfunded credit protection (UFCP)																			
														Funded credit protection (FCP)																			
														Part of exposures covered by Other eligible collateral (%)		Part of exposures covered by Other funded credit protection (%)																	
														of which: Part of exposures covered by Immovable property Collaterals (%)		of which: Part of exposures covered by Receivables (%)		of which: Part of exposures covered by Other physical collateral (%)		of which: Part of exposures covered by Cash on deposit (%)		of which: Part of exposures covered by Life insurance policies (%)		of which: Part of exposures covered by Instruments held by a third party (%)		Part of exposures covered by Guarantees (%)		Part of exposures covered by Credit Derivatives (%)		RWA without substitution effects (reduction effects only)		RWA with substitution effects (both reduction and substitution effects)	
in € m. (unless stated otherwise)	Total exposures	Part of exposures covered by Financial Collaterals (%)	Total	Collaterals (%)	of which: Part of exposures covered by Immovable property Collaterals (%)	of which: Part of exposures covered by Receivables (%)	of which: Part of exposures covered by Other physical collateral (%)	Total	Part of exposures covered by Cash on deposit (%)	Part of exposures covered by Life insurance policies (%)	Part of exposures covered by Instruments held by a third party (%)	Part of exposures covered by Guarantees (%)	Part of exposures covered by Credit Derivatives (%)	RWA without substitution effects (reduction effects only)	RWA with substitution effects (both reduction and substitution effects)																		
<b>Central governments and central banks</b>	128,836	0.01	0.00	0.00	0.00	0.00	0.00	0.11	0.11	0.00	0.00	0.00	0.00	17,164	16,198																		
1																																	
2	Institutions	17,606	14.74	1.23	0.72	0.00	0.51	0.63	0.62	0.01	0.00	0.00	0.00	4,418	4,652																		
3	Corporates	303,891	15.95	23.54	20.02	1.23	2.29	1.39	1.07	0.33	0.00	1.74	0.00	114,354	114,312																		
3	of which:																																
3.1	SME	22,881	12.44	27.80	23.50	0.08	4.22	0.28	0.12	0.16	0.00	10.20	0.00	9,190	9,088																		
3.2	Specialized lending	47,575	2.04	71.53	67.52	0.00	4.01	0.06	0.06	0.00	0.00	0.00	0.00	15,768	15,383																		
3.3	Other	233,436	19.13	13.34	10.00	1.59	1.75	1.78	1.37	0.41	0.00	1.26	0.00	89,397	89,841																		

Dec 31, 2023

	a	b	c	d	e	f	g	h	i	j	k	l	m	n
	Credit risk mitigation techniques												Credit risk Mitigation methods in the calculation of RWEAs	
	Funded credit protection (FCP)												Unfunded credit protection (UFCP)	
	Part of exposures covered by Other eligible collaterals (%)				Part of exposures covered by Other funded credit protection (%)									
				of which: Part of exposures covered by Immovable property Collaterals (%)	of which: Part of exposures covered by Receivables (%)	of which: Part of exposures covered by Other physical collateral (%)		of which: Part of exposures covered by Cash on deposit (%)	of which: Part of exposures covered by Life insurance policies (%)	of which: Part of exposures covered by Instruments held by a third party (%)	Part of exposures covered by Guarantees (%)	Part of exposures covered by Credit Derivatives (%)	RWA without substitution effects (reduction effects only)	RWA with substitution effects (both reduction and substitution effects)
in € m. (unless stated otherwise)	Total exposures	Part of exposures covered by Financial Collaterals (%)	Total				Total							
4 Retail	219,195	2.82	67.22	67.03	0.18	0.01	0.28	0.00	0.28	0.00	0.69	0.00	54,392	54,558
of which:														
4.1 Secured by real estate property SMEs	9,665	1.47	76.22	75.85	0.35	0.02	1.22	0.00	1.21	0.00	3.78	0.00	1,244	1,233
4.2 Secured by real estate property non-SMEs	166,616	2.45	83.88	83.73	0.16	0.00	0.26	0.00	0.25	0.00	0.20	0.00	30,923	30,897
4.3 Qualifying revolving	7,936	0.71	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.03	0.00	998	998
4.4 Other retail SMEs	5,302	4.09	2.01	0.15	1.52	0.34	0.65	0.00	0.65	0.00	11.60	0.00	1,840	1,915
4.5 Other retail non-SMEs	29,677	5.68	0.33	0.27	0.05	0.01	0.11	0.01	0.10	0.00	0.68	0.00	19,388	19,515
<b>5 Total</b>	<b>669,528</b>	<b>8.55</b>	<b>32.72</b>	<b>31.05</b>	<b>0.62</b>	<b>1.06</b>	<b>0.76</b>	<b>0.52</b>	<b>0.24</b>	<b>0.00</b>	<b>1.01</b>	<b>0.00</b>	<b>190,328</b>	<b>189,721</b>

Jun 30, 2023

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	
	Credit risk mitigation techniques												Credit risk Mitigation methods in the calculation of RWEAs		
	Funded credit protection (FCP)												Unfunded credit protection (UFCP)		
	in € m. (unless stated otherwise)	Total exposures	Part of exposures covered by Financial Collaterals (%)	Part of exposures covered by Other eligible collaterals (%)				Part of exposures covered by Other funded credit protection (%)					Part of exposures covered by Guarantees (%)	Part of exposures covered by Credit Derivatives (%)	RWA without substitution effects (reduction effects only)
Total				of which: Part of exposures covered by Immovable property Collaterals (%)	of which: Part of exposures covered by Receivables (%)	of which: Part of exposures covered by Other physical collateral (%)	Total	of which: Part of exposures covered by Cash on deposit (%)	of which: Part of exposures covered by Life insurance policies (%)	of which: Part of exposures covered by Instruments held by a third party (%)					
<b>Central governments and central banks</b>	134,209	0.02	0.07	0.07	0.00	0.00	0.11	0.11	0.00	0.00	0.00	0.00	16,705	15,604	
1 Institutions	17,119	12.44	0.87	0.87	0.00	0.00	0.95	0.94	0.01	0.00	0.00	0.00	3,782	3,886	
2 Corporates	298,477	16.43	19.98	19.34	0.49	0.16	1.29	1.02	0.35	0.00	1.91	0.00	116,999	116,733	
of which:															
3.1 SME	19,572	7.90	21.63	20.61	0.06	0.95	0.40	0.19	0.21	0.00	12.22	0.00	8,863	8,791	
3.2 Specialized lending	50,603	1.44	61.27	61.27	0.00	0.00	0.08	0.08	0.00	0.00	0.00	0.00	12,592	12,125	
3.3 Other	228,302	20.48	10.69	9.94	0.63	0.12	1.64	1.31	0.45	0.00	1.46	0.00	95,544	95,816	
4 Retail	227,992	2.77	56.91	56.73	0.18	0.01	0.28	0.00	0.28	0.00	0.70	0.00	56,485	56,729	
of which:															
4.1 Secured by real estate property SMEs	8,426	1.83	71.70	71.24	0.44	0.03	1.46	0.01	1.45	0.00	4.53	0.00	801	789	
4.2 Secured by real estate property non-SMEs	172,148	2.37	71.77	71.61	0.16	0.00	0.26	0.00	0.25	0.00	0.21	0.00	34,498	34,464	
4.3 Qualifying revolving	9,939	0.59	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.03	0.00	1,169	1,169	
4.4 Other retail SMEs	4,618	4.11	2.19	0.14	1.68	0.37	0.88	0.01	0.87	0.00	13.92	0.00	1,490	1,584	
4.5 Other retail non-SMEs	32,861	5.58	0.18	0.13	0.05	0.01	0.11	0.01	0.10	0.00	0.62	0.00	18,528	18,723	
<b>5 Total</b>	<b>677,797</b>	<b>8.48</b>	<b>27.98</b>	<b>27.64</b>	<b>0.27</b>	<b>0.07</b>	<b>0.71</b>	<b>0.50</b>	<b>0.25</b>	<b>0.00</b>	<b>1.08</b>	<b>0.00</b>	<b>193,971</b>	<b>192,951</b>	



## Development of credit risk RWA

### Article 438 (h) CRR

The following table provides an analysis of key drivers for RWA movements observed for credit risk, excluding counterparty credit risk, covered in the IRB approaches in the current and previous reporting period.

#### EU CR8 – RWA flow statement of credit risk exposures under the IRB approach

		Three months ended Dec 31, 2023	Three months ended Sep 30, 2023
		a	a
in € m.		RWA	RWA
1	Risk weighted exposure amount as at the end of the previous reporting period	<b>187,139</b>	<b>192,257</b>
2	Asset size	920	(2,703)
3	Asset quality	1,658	(5,644)
4	Model updates	775	(225)
5	Methodology and policy	1,471	2,801
6	Acquisitions and disposals	473	(974)
7	Foreign exchange movements	(2,432)	1,628
8	Other	0	0
9	Risk weighted exposure amount as at the end of the reporting period	<b>190,006</b>	<b>187,139</b>

Organic changes in the Group's portfolio size and composition are considered in the category "asset size". The category "asset quality" represents the effects from portfolio rating migrations, loss given default, model parameter recalibrations as well as collateral coverage and netting activities. "Model updates" include model refinements and further roll out of advanced internal models. RWA movements resulting from externally, regulatory-driven changes, e.g. applying new regulations, are considered in the "methodology and policy" section. "Acquisition and disposals" is relating to significant exposure movements which can be clearly assigned to acquisition or disposal related activities. Changes that cannot be attributed to the above categories are reflected in the category "other".

The increase in RWA for credit risk exposures under the IRB approach of € 2.9 billion or 1.5% since September 30, 2023, is resulting from all categories but "foreign exchange movements", which shows an offsetting impact. The increase in category "asset quality" is primarily driven by counterparty rating deteriorations. The category "methodology and policy" reflects impacts from the introduction of new models due to regulatory changes. The increase in category "asset size" is mainly stemming from business growth, partly offset by a relief from synthetic securitizations. Furthermore, credit risk RWA increased in the category "model updates", driven by refinements on Deutsche Bank's IRBA model. The category "acquisitions and disposals" reflects the acquisition of Numis Corporation Plc.

## Model validation results

### Article 452 (h) CRR

#### Foundation IRBA – Model validation results

Only for one portfolio at DB Private Bank the foundation IRBA approach is still applied. Respective model parameter was validated as appropriately conservative.

The below table EU CR9 aims at providing backtesting information for probabilities of default in comparing the PD used in the foundation IRB capital calculations with the effective obligors' default rates presented on a five year average by regulatory exposure classes. The conceptual design as well as the structural limitations to be considered are described in the introduction of the advanced IRB backtesting table further down below in this report.

EU CR9 IRB backtesting of PD per exposure class for Foundation IRBA

Dec 31, 2023

a/b Exposure class/ PD Range	c		d	e	f	g	h
	Total	Of which number of obligors which defaulted in the year	Number of obligors at the end of previous year	Observed average default rate (%)	Exposures weighted average PD (%)	Average PD (%)	Average historical annual default rate (%)
<b>Central governments and central banks</b>							
0.00 to <0.15	0	0	0	0.00%	0.05%	0.00%	0.00%
0.00 to <0.10	0	0	0	0.00%	0.05%	0.00%	0.00%
0.10 to <0.15	0	0	0	0.00%	0.00%	0.00%	0.00%
0.15 to <0.25	2	0	0	0.00%	0.00%	0.23%	0.00%
0.25 to <0.50	0	0	0	0.00%	0.38%	0.00%	0.00%
0.50 to <0.75	0	0	0	0.00%	0.00%	0.00%	0.00%
0.75 to <2.50	0	0	0	0.00%	0.00%	0.00%	0.00%
0.75 to <1.75	0	0	0	0.00%	0.00%	0.00%	0.00%
1.75 to <2.5	0	0	0	0.00%	0.00%	0.00%	0.00%
2.50 to <10.00	0	0	0	0.00%	0.00%	0.00%	0.00%
2.5 to <5	0	0	0	0.00%	0.00%	0.00%	0.00%
5 to <10	0	0	0	0.00%	0.00%	0.00%	0.00%
10.00 to <100.00	0	0	0	0.00%	0.00%	0.00%	0.00%
10 to <20	0	0	0	0.00%	0.00%	0.00%	0.00%
20 to <30	0	0	0	0.00%	0.00%	0.00%	0.00%
30.00 to <100.00	0	0	0	0.00%	0.00%	0.00%	0.00%
100.00 (Default)	0	0	0	N/M	0.00%	100.00%	N/M
<b>Sub-total</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0.00%</b>	<b>0.11%</b>	<b>0.23%</b>	<b>0.00%</b>
<b>Institutions</b>							
0.00 to <0.15	15	0	0	0.00%	0.06%	0.06%	0.00%
0.00 to <0.10	13	0	0	0.00%	0.05%	0.05%	0.00%
0.10 to <0.15	2	0	0	0.00%	0.13%	0.11%	0.00%
0.15 to <0.25	4	0	0	0.00%	0.19%	0.15%	0.00%
0.25 to <0.50	2	0	0	0.00%	0.28%	0.38%	0.00%
0.50 to <0.75	2	0	0	0.00%	0.66%	0.63%	0.00%
0.75 to <2.50	0	0	0	0.00%	0.00%	0.00%	0.00%
0.75 to <1.75	0	0	0	0.00%	0.00%	0.00%	0.00%
1.75 to <2.5	0	0	0	0.00%	0.00%	0.00%	0.00%
2.50 to <10.00	0	0	0	0.00%	0.00%	0.00%	0.00%
2.5 to <5	0	0	0	0.00%	0.00%	0.00%	0.00%
5 to <10	0	0	0	0.00%	0.00%	0.00%	0.00%
10.00 to <100.00	14	0	0	0.00%	0.00%	20.00%	0.00%
10 to <20	0	0	0	0.00%	0.00%	0.00%	0.00%
20 to <30	14	0	0	0.00%	0.00%	20.00%	0.00%
30.00 to <100.00	0	0	0	0.00%	0.00%	0.00%	0.00%
100.00 (Default)	0	0	0	N/M	0.00%	100.00%	N/M
<b>Sub-total</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>0.00%</b>	<b>0.18%</b>	<b>7.66%</b>	<b>0.00%</b>
<b>Corporates</b>							
0.00 to <0.15	815	1	1	0.12%	0.09%	0.08%	0.12%
0.00 to <0.10	557	1	1	0.18%	0.07%	0.07%	0.10%
0.10 to <0.15	258	0	0	0.00%	0.12%	0.11%	0.12%
0.15 to <0.25	1,909	1	1	0.05%	0.19%	0.21%	0.18%
0.25 to <0.50	2,417	5	5	0.21%	0.32%	0.37%	0.24%
0.50 to <0.75	1,490	8	8	0.54%	0.55%	0.67%	0.32%
0.75 to <2.50	877	14	14	1.60%	1.33%	1.32%	1.20%
0.75 to <1.75	738	12	12	1.63%	1.05%	1.18%	1.04%
1.75 to <2.5	139	2	2	1.44%	2.12%	2.07%	1.91%
2.50 to <10.00	144	8	8	5.56%	5.14%	4.49%	2.92%
2.5 to <5	106	8	8	7.55%	3.82%	3.51%	3.55%
5 to <10	38	0	0	0.00%	6.30%	7.21%	1.30%
10.00 to <100.00	1,869	823	823	44.03%	21.38%	20.14%	9.79%
10 to <20	12	0	0	0.00%	12.87%	13.16%	5.01%
20 to <30	1,848	823	823	44.53%	20.01%	20.07%	9.39%
30.00 to <100.00	9	0	0	0.00%	40.61%	44.51%	3.13%
100.00 (Default)	4,818	0	0	N/M	100.00%	100.00%	N/M
<b>Sub-total</b>	<b>14,339</b>	<b>860</b>	<b>860</b>	<b>6.00%</b>	<b>0.72%</b>	<b>36.52%</b>	<b>1.56%</b>

							Dec 31, 2023
a/b	c		d	e	f	g	h
Exposure class/ PD Range	Number of obligors at the end of previous year		Of which number of obligors which defaulted in the year	Observed average default rate (%)	Exposures weighted average PD (%)	Average PD (%)	Average historical annual default rate (%)
	Total						
<b>of which:</b>							
<b>SMEs</b>							
0.00 to <0.15	51	0		0.00%	0.07%	0.08%	0.00%
0.00 to <0.10	28	0		0.00%	0.04%	0.06%	0.00%
0.10 to <0.15	23	0		0.00%	0.10%	0.11%	0.00%
0.15 to <0.25	83	0		0.00%	0.16%	0.19%	0.00%
0.25 to <0.50	139	0		0.00%	0.38%	0.37%	0.39%
0.50 to <0.75	109	0		0.00%	0.65%	0.70%	1.20%
0.75 to <2.50	80	1		1.25%	1.30%	1.50%	2.22%
0.75 to <1.75	51	1		1.96%	1.01%	1.20%	2.18%
1.75 to <2.5	29	0		0.00%	2.22%	2.03%	2.50%
2.50 to <10.00	38	1		2.63%	4.35%	4.48%	9.79%
2.5 to <5	27	1		3.70%	3.84%	3.40%	14.91%
5 to <10	11	0		0.00%	6.83%	7.12%	3.33%
10.00 to <100.00	47	1		2.13%	18.01%	20.95%	3.20%
10 to <20	4	0		0.00%	17.31%	13.92%	15.67%
20 to <30	40	1		2.50%	0.00%	20.54%	1.14%
30.00 to <100.00	3	0		0.00%	36.16%	35.81%	8.33%
100.00 (Default)	11	0		N/M	100.00%	100.00%	N/M
<b>Sub-total</b>	<b>558</b>	<b>3</b>		<b>0.54%</b>	<b>1.79%</b>	<b>4.52%</b>	<b>1.85%</b>
<b>Specialized lending</b>							
0.00 to <0.15	0	0		0.00%	0.00%	0.00%	0.00%
0.00 to <0.10	0	0		0.00%	0.00%	0.00%	0.00%
0.10 to <0.15	0	0		0.00%	0.00%	0.00%	0.00%
0.15 to <0.25	0	0		0.00%	0.00%	0.00%	0.00%
0.25 to <0.50	0	0		0.00%	0.00%	0.00%	0.00%
0.50 to <0.75	0	0		0.00%	0.00%	0.00%	0.00%
0.75 to <2.50	0	0		0.00%	0.00%	0.00%	0.00%
0.75 to <1.75	0	0		0.00%	0.00%	0.00%	0.00%
1.75 to <2.5	0	0		0.00%	0.00%	0.00%	0.00%
2.50 to <10.00	0	0		0.00%	0.00%	0.00%	0.00%
2.5 to <5	0	0		0.00%	0.00%	0.00%	0.00%
5 to <10	0	0		0.00%	0.00%	0.00%	0.00%
10.00 to <100.00	0	0		0.00%	0.00%	0.00%	0.00%
10 to <20	0	0		0.00%	0.00%	0.00%	0.00%
20 to <30	0	0		0.00%	0.00%	0.00%	0.00%
30.00 to <100.00	0	0		0.00%	0.00%	0.00%	0.00%
100.00 (Default)	0	0		N/M	0.00%	0.00%	N/M
<b>Sub-total</b>	<b>0</b>	<b>0</b>		<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>
<b>Other</b>							
0.00 to <0.15	765	1		0.13%	0.09%	0.09%	0.12%
0.00 to <0.10	530	1		0.19%	0.07%	0.07%	0.11%
0.10 to <0.15	235	0		0.00%	0.12%	0.11%	0.12%
0.15 to <0.25	1,826	1		0.05%	0.19%	0.21%	0.18%
0.25 to <0.50	2,278	5		0.22%	0.32%	0.37%	0.23%
0.50 to <0.75	1,381	8		0.58%	0.55%	0.67%	0.30%
0.75 to <2.50	797	13		1.63%	1.34%	1.30%	1.18%
0.75 to <1.75	687	11		1.60%	1.05%	1.18%	1.00%
1.75 to <2.5	110	2		1.82%	2.11%	2.09%	2.10%
2.50 to <10.00	106	7		6.60%	5.19%	4.49%	2.43%
2.5 to <5	79	7		8.86%	3.82%	3.55%	3.08%
5 to <10	27	0		0.00%	6.29%	7.24%	0.76%
10.00 to <100.00	1,822	822		45.12%	21.74%	20.12%	9.70%
10 to <20	8	0		0.00%	11.52%	12.77%	2.58%
20 to <30	1,808	822		45.46%	20.01%	20.06%	9.53%
30.00 to <100.00	6	0		0.00%	40.68%	48.86%	0.00%
100.00 (Default)	4,807	0		N/M	100.00%	100.00%	N/M
<b>Sub-total</b>	<b>13,782</b>	<b>857</b>		<b>6.22%</b>	<b>0.70%</b>	<b>37.81%</b>	<b>1.55%</b>
<b>Total</b>	<b>14,378</b>	<b>860</b>		<b>5.98%</b>	<b>0.71%</b>	<b>36.44%</b>	<b>1.81%</b>

							Dec 31, 2022
a/b	c	d	e	f	g	h	
Exposure class/ PD Range	Number of obligors at the end of previous year		Observed average default rate (%)	Exposures weighted average PD (%)	Average PD (%)	Average historical annual default rate (%)	
	Total	Of which number of obligors which defaulted in the year					
<b>Central governments and central banks</b>							
0.00 to <0.15	0	0	0.00%	0.00%	0.00%	0.00%	
0.00 to <0.10	0	0	0.00%	0.00%	0.00%	0.00%	
0.10 to <0.15	0	0	0.00%	0.00%	0.00%	0.00%	
0.15 to <0.25	2	0	0.00%	0.23%	0.19%	0.00%	
0.25 to <0.50	0	0	0.00%	0.00%	0.00%	0.00%	
0.50 to <0.75	0	0	0.00%	0.00%	0.00%	0.00%	
0.75 to <2.50	0	0	0.00%	0.00%	0.00%	0.00%	
0.75 to <1.75	0	0	0.00%	0.00%	0.00%	0.00%	
1.75 to <2.5	0	0	0.00%	0.00%	0.00%	0.00%	
2.50 to <10.00	0	0	0.00%	0.00%	0.00%	0.00%	
2.5 to <5	0	0	0.00%	0.00%	0.00%	0.00%	
5 to <10	0	0	0.00%	0.00%	0.00%	0.00%	
10.00 to <100.00	0	0	0.00%	0.00%	0.00%	0.00%	
10 to <20	0	0	0.00%	0.00%	0.00%	0.00%	
20 to <30	0	0	0.00%	0.00%	0.00%	0.00%	
30.00 to <100.00	0	0	0.00%	0.00%	0.00%	0.00%	
100.00 (Default)	0	N/M	N/M	0.00%	100.00%	N/M	
<b>Sub-total</b>	<b>2</b>	<b>0</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.19%</b>	<b>0.00%</b>	
<b>Institutions</b>							
0.00 to <0.15	14	0	0.00%	0.05%	0.05%	0.00%	
0.00 to <0.10	12	0	0.00%	0.05%	0.04%	0.00%	
0.10 to <0.15	2	0	0.00%	0.11%	0.11%	0.00%	
0.15 to <0.25	2	0	0.00%	0.15%	0.19%	0.00%	
0.25 to <0.50	3	0	0.00%	0.38%	0.34%	0.00%	
0.50 to <0.75	1	0	0.00%	0.64%	0.69%	0.00%	
0.75 to <2.50	1	0	0.00%	0.00%	0.77%	0.00%	
0.75 to <1.75	1	0	0.00%	0.00%	0.77%	0.00%	
1.75 to <2.5	0	0	0.00%	0.00%	0.00%	0.00%	
2.50 to <10.00	0	0	0.00%	0.00%	0.00%	0.00%	
2.5 to <5	0	0	0.00%	0.00%	0.00%	0.00%	
5 to <10	0	0	0.00%	0.00%	0.00%	0.00%	
10.00 to <100.00	11	0	0.00%	20.00%	20.00%	0.00%	
10 to <20	0	0	0.00%	0.00%	0.00%	0.00%	
20 to <30	11	0	0.00%	20.00%	20.00%	0.00%	
30.00 to <100.00	0	0	0.00%	0.00%	0.00%	0.00%	
100.00 (Default)	0	N/M	N/M	0.00%	100.00%	N/M	
<b>Sub-total</b>	<b>32</b>	<b>0</b>	<b>0.00%</b>	<b>9.97%</b>	<b>6.99%</b>	<b>0.00%</b>	
<b>Corporates</b>							
0.00 to <0.15	760	1	0.13%	0.07%	0.09%	0.10%	
0.00 to <0.10	505	0	0.00%	0.06%	0.07%	0.07%	
0.10 to <0.15	255	1	0.39%	0.11%	0.11%	0.12%	
0.15 to <0.25	1,917	2	0.10%	0.17%	0.21%	0.21%	
0.25 to <0.50	2,854	9	0.32%	0.31%	0.36%	0.23%	
0.50 to <0.75	1,609	9	0.56%	0.66%	0.69%	0.22%	
0.75 to <2.50	973	16	1.64%	1.30%	1.32%	0.91%	
0.75 to <1.75	808	13	1.61%	1.15%	1.16%	0.75%	
1.75 to <2.5	165	3	1.82%	1.94%	2.10%	1.62%	
2.50 to <10.00	176	3	1.70%	4.68%	5.37%	2.70%	
2.5 to <5	99	0	0.00%	3.56%	3.87%	2.04%	
5 to <10	77	3	3.90%	7.48%	7.30%	3.30%	
10.00 to <100.00	970	11	1.13%	23.71%	20.10%	1.22%	
10 to <20	22	1	4.55%	13.83%	14.21%	5.01%	
20 to <30	940	9	0.96%	20.85%	20.02%	0.48%	
30.00 to <100.00	8	1	12.50%	35.68%	45.03%	11.46%	
100.00 (Default)	117	N/M	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>9,376</b>	<b>51</b>	<b>0.54%</b>	<b>0.83%</b>	<b>3.84%</b>	<b>0.38%</b>	

of which:

							Dec 31, 2022
a/b	c		d	e	f	g	h
Exposure class/ PD Range	Number of obligors at the end of previous year		Of which number of obligors which defaulted in the year	Observed average default rate (%)	Exposures weighted average PD (%)	Average PD (%)	Average historical annual default rate (%)
	Total						
<b>SMEs</b>							
0.00 to <0.15	16	0		0.00%	0.05%	0.11%	0.00%
0.00 to <0.10	2	0		0.00%	0.04%	0.06%	0.00%
0.10 to <0.15	14	0		0.00%	0.11%	0.12%	0.00%
0.15 to <0.25	84	0		0.00%	0.21%	0.20%	0.00%
0.25 to <0.50	160	2		1.25%	0.35%	0.36%	0.39%
0.50 to <0.75	93	2		2.15%	0.72%	0.69%	1.20%
0.75 to <2.50	105	1		0.95%	1.59%	1.37%	1.97%
0.75 to <1.75	82	1		1.22%	1.27%	1.12%	1.79%
1.75 to <2.5	23	0		0.00%	1.94%	2.25%	2.50%
2.50 to <10.00	43	2		4.65%	5.00%	5.86%	12.12%
2.5 to <5	19	0		0.00%	3.35%	3.65%	14.17%
5 to <10	24	2		8.33%	7.03%	7.62%	10.00%
10.00 to <100.00	134	6		4.48%	20.03%	20.95%	2.78%
10 to <20	5	1		20.00%	14.18%	15.98%	15.67%
20 to <30	125	4		3.20%	20.15%	20.08%	0.64%
30.00 to <100.00	4	1		25.00%	35.81%	54.37%	12.50%
100.00 (Default)	14	N/M		N/M	100.00%	100.00%	N/M
<b>Sub-total</b>	<b>649</b>	<b>13</b>		<b>2.00%</b>	<b>4.74%</b>	<b>7.31%</b>	<b>1.85%</b>
<b>Specialized lending</b>							
0.00 to <0.15	0	0		0.00%	0.00%	0.00%	0.00%
0.00 to <0.10	0	0		0.00%	0.00%	0.00%	0.00%
0.10 to <0.15	0	0		0.00%	0.00%	0.00%	0.00%
0.15 to <0.25	0	0		0.00%	0.00%	0.00%	0.00%
0.25 to <0.50	0	0		0.00%	0.00%	0.00%	0.00%
0.50 to <0.75	0	0		0.00%	0.00%	0.00%	0.00%
0.75 to <2.50	0	0		0.00%	0.00%	0.00%	0.00%
0.75 to <1.75	0	0		0.00%	0.00%	0.00%	0.00%
1.75 to <2.5	0	0		0.00%	0.00%	0.00%	0.00%
2.50 to <10.00	0	0		0.00%	0.00%	0.00%	0.00%
2.5 to <5	0	0		0.00%	0.00%	0.00%	0.00%
5 to <10	0	0		0.00%	0.00%	0.00%	0.00%
10.00 to <100.00	0	0		0.00%	0.00%	0.00%	0.00%
10 to <20	0	0		0.00%	0.00%	0.00%	0.00%
20 to <30	0	0		0.00%	0.00%	0.00%	0.00%
30.00 to <100.00	0	0		0.00%	0.00%	0.00%	0.00%
100.00 (Default)	0	N/M		N/M	0.00%	0.00%	N/M
<b>Sub-total</b>	<b>0</b>	<b>0</b>		<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>
<b>Other</b>							
0.00 to <0.15	745	1		0.13%	0.07%	0.09%	0.10%
0.00 to <0.10	504	0		0.00%	0.06%	0.07%	0.07%
0.10 to <0.15	241	1		0.41%	0.11%	0.11%	0.12%
0.15 to <0.25	1,833	2		0.11%	0.17%	0.21%	0.22%
0.25 to <0.50	2,661	7		0.26%	0.31%	0.36%	0.21%
0.50 to <0.75	1,514	7		0.46%	0.66%	0.69%	0.19%
0.75 to <2.50	825	15		1.82%	1.29%	1.29%	0.89%
0.75 to <1.75	720	12		1.67%	1.15%	1.17%	0.72%
1.75 to <2.5	105	3		2.86%	1.94%	2.09%	1.74%
2.50 to <10.00	133	1		0.75%	4.61%	5.21%	1.64%
2.5 to <5	80	0		0.00%	3.60%	3.92%	1.30%
5 to <10	53	1		1.89%	7.67%	7.16%	1.94%
10.00 to <100.00	836	5		0.60%	24.74%	20.06%	0.96%
10 to <20	17	0		0.00%	13.04%	13.69%	2.58%
20 to <30	814	5		0.61%	21.01%	20.02%	0.44%
30.00 to <100.00	5	0		0.00%	35.66%	48.32%	8.33%
100.00 (Default)	101	N/M		N/M	100.00%	100.00%	N/M
<b>Sub-total</b>	<b>8,648</b>	<b>38</b>		<b>0.44%</b>	<b>0.74%</b>	<b>3.59%</b>	<b>0.33%</b>
				<b>0.55</b>		<b>3.85</b>	
<b>Total</b>	<b>9,327</b>	<b>51</b>	<b>%</b>	<b>0.83%</b>	<b>%</b>	<b>0.34%</b>	

## Advanced IRBA – Model validation results

The validation reviews conducted in 2023 for advanced IRBA credit models led to the assessments shown below. The model definition is aligned with DB's IRBA model map as reported to ECB on a quarterly basis. The assessment categories follow the ECB validation reporting requirements where following definitions apply:

Adequate with no deficiencies:	No deficiencies detected by the validation function, i.e. no follow-up needed.
Adequate with minor deficiencies:	Minor deficiencies detected that do not lead to any significant bias of risk estimates.
Major deficiencies identified:	Identified deficiencies indicate a significant bias of risk parameter estimates, such as a potential quantitative impact of +/-5% or more on RWEA, but below +/-10% in the application of the model.
Severe deficiencies identified:	Identified deficiencies indicate a severe bias of risk parameter estimates, such as a potential quantitative impact of +/-10% or more on RWEA in the application of the model.

### Validation results for risk parameters used in our advanced IRBA credit models

	2023					
	PD		LGD		EAD	
	Count	EAD in %	Count	EAD in %	Count	EAD in %
Adequate with no deficiencies	11	10.9	12	44.6	0	0.0
Adequate with minor deficiencies	10	37.2	18	55.2	5	100.0
Major deficiencies identified	12	50.7	1	0.2	0	0.0
Severe deficiencies	2	1.2	0	0.0	0	0.0
<b>Total</b>	<b>35</b>	<b>100.0</b>	<b>31</b>	<b>100.0</b>	<b>5</b>	<b>100.0</b>

	2022					
	PD		LGD		EAD	
	Count	EAD in %	Count	EAD in %	Count	EAD in %
Adequate with no deficiencies	12	29.0	14	47.1	1	0.0
Adequate with minor deficiencies	23	70.8	16	52.9	4	100.0
Major deficiencies identified	0	0.0	0	0.0	0	0.0
Severe deficiencies	1	0.2	0	0.0	0	0.0
<b>Total</b>	<b>36</b>	<b>100.0</b>	<b>30</b>	<b>100.0</b>	<b>5</b>	<b>100.0</b>

For models not validated as 'adequate with no deficiencies' the identified weaknesses were raised as validation findings. The breakdown for PD, LGD and EAD is showing the number of respective models as well as their relative EAD as of December 31, 2023 and December 31, 2022, respectively.

The validations during 2023 detected various major or severe deficiencies which were already materially mitigated by end of 2023. Two validations resulting in assessment with severe deficiencies affect legacy PD models with low materiality. Successor models addressing the shortcomings were already developed and internally approved. Go-live of those successor models is expected to happen in first half of 2024 after receipt of supervisory approval. PD models assessed as 'major deficiencies identified' were identified early 2023 and the respective EBA guideline compliant successor models already went live for the majority of models thus fully replacing legacy models with completion of the full annual re-rating cycle.

The below table EU CR9 aims at providing backtesting information for probabilities of default (PD). It compares the PD used in the advanced IRB capital calculations with the effective obligors' default rates presented on a five year average by regulatory exposure classes. It has to be noted that the below table reflects credit risk as well as counterparty credit risk information simultaneously in line with the bank's internal rating model validation practice where ratings are validated on a counterparty level across all exposure types. Moreover, some limitations have to be considered when comparing the below backtesting results with the above presented PD model validation results: Whilst in line with the bank's internal procedures model validation is conducted on the level of the rating model and the model validation results provided above reflect this practice, for the below presentation by regulatory exposure classes the underlying ratings models have been assigned subsequently to the relevant regulatory exposure class. This different way of aggregation applied for the below backtesting information may result in some bias for the below backtesting results in contrast to the above model validation results.

EU CR9 IRB backtesting of PD per exposure class for Advanced IRBA

Dec 31, 2023

a/b Exposure class/ PD Range	c		d	e	f	g	h
	Number of obligors at the end of previous year		Of which number of obligors which defaulted in the year	Observed average default rate (%)	Exposures weighted average PD (%)	Average PD (%)	Average historical annual default rate (%)
	Total						
<b>Central governments and central banks</b>							
0.00 to <0.15	144	0	0.00%	0.00%	0.04%	0.00%	
0.00 to <0.10	131	0	0.00%	0.00%	0.03%	0.00%	
0.10 to <0.15	13	0	0.00%	0.13%	0.13%	0.00%	
0.15 to <0.25	19	0	0.00%	0.23%	0.22%	0.00%	
0.25 to <0.50	19	0	0.00%	0.39%	0.34%	0.00%	
0.50 to <0.75	20	0	0.00%	0.64%	0.60%	0.00%	
0.75 to <2.50	25	0	0.00%	1.76%	1.44%	0.00%	
0.75 to <1.75	12	0	0.00%	1.07%	1.03%	0.00%	
1.75 to <2.5	13	0	0.00%	1.76%	1.82%	0.00%	
2.50 to <10.00	31	1	3.23%	4.54%	5.80%	7.75%	
2.5 to <5	17	0	0.00%	3.55%	4.10%	6.56%	
5 to <10	14	1	7.14%	7.95%	7.87%	9.76%	
10.00 to <100.00	5	0	0.00%	16.07%	14.81%	3.33%	
10 to <20	4	0	0.00%	12.87%	13.01%	4.00%	
20 to <30	1	0	0.00%	22.01%	22.01%	0.00%	
30.00 to <100.00	0	0	0.00%	31.01%	0.00%	0.00%	
100.00 (Default)	10	0	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>273</b>	<b>1</b>	<b>0.37%</b>	<b>0.24%</b>	<b>4.83%</b>	<b>1.04%</b>	
<b>Institutions</b>							
0.00 to <0.15	471	1	0.21%	0.05%	0.07%	0.08%	
0.00 to <0.10	443	1	0.23%	0.05%	0.06%	0.05%	
0.10 to <0.15	28	0	0.00%	0.13%	0.13%	0.22%	
0.15 to <0.25	90	0	0.00%	0.20%	0.17%	0.34%	
0.25 to <0.50	160	1	0.63%	0.34%	0.34%	0.13%	
0.50 to <0.75	60	0	0.00%	0.63%	0.66%	0.00%	
0.75 to <2.50	83	0	0.00%	1.43%	1.55%	0.54%	
0.75 to <1.75	38	0	0.00%	1.10%	1.13%	0.00%	
1.75 to <2.5	45	0	0.00%	1.76%	1.91%	1.34%	
2.50 to <10.00	46	0	0.00%	2.96%	4.43%	0.50%	
2.5 to <5	27	0	0.00%	2.94%	3.25%	0.74%	
5 to <10	19	0	0.00%	6.55%	6.12%	0.00%	
10.00 to <100.00	9	0	0.00%	10.99%	13.87%	1.05%	
10 to <20	9	0	0.00%	10.98%	13.87%	1.25%	
20 to <30	0	0	0.00%	0.00%	0.00%	0.00%	
30.00 to <100.00	0	0	0.00%	40.32%	0.00%	0.00%	
100.00 (Default)	9	0	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>928</b>	<b>2</b>	<b>0.22%</b>	<b>0.88%</b>	<b>1.61%</b>	<b>0.21%</b>	
<b>Corporates</b>							
0.00 to <0.15	20,192	30	0.15%	0.07%	0.06%	0.07%	
0.00 to <0.10	16,939	23	0.14%	0.06%	0.05%	0.05%	
0.10 to <0.15	3,253	7	0.22%	0.12%	0.12%	0.13%	
0.15 to <0.25	5,901	14	0.24%	0.19%	0.18%	0.15%	
0.25 to <0.50	9,827	38	0.39%	0.36%	0.35%	0.22%	
0.50 to <0.75	5,289	42	0.79%	0.60%	0.65%	0.50%	
0.75 to <2.50	8,171	110	1.35%	1.45%	1.43%	1.15%	
0.75 to <1.75	5,082	47	0.92%	1.12%	1.12%	0.84%	
1.75 to <2.5	3,089	63	2.04%	1.98%	1.92%	1.64%	
2.50 to <10.00	3,886	167	4.30%	4.65%	4.59%	3.12%	
2.5 to <5	2,762	109	3.95%	3.52%	3.57%	2.76%	
5 to <10	1,124	58	5.16%	6.93%	7.10%	4.13%	
10.00 to <100.00	631	57	9.03%	17.79%	22.24%	8.85%	
10 to <20	296	32	10.81%	13.61%	13.47%	8.94%	
20 to <30	136	10	7.35%	24.11%	22.61%	7.83%	
30.00 to <100.00	199	15	7.54%	40.40%	35.01%	10.05%	
100.00 (Default)	2,966	0	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>56,863</b>	<b>458</b>	<b>0.81%</b>	<b>4.59%</b>	<b>6.14%</b>	<b>0.64%</b>	

		Dec 31, 2023					
a/b	c	d	e	f	g	h	
Exposure class/ PD Range	Number of obligors at the end of previous year		Observed average default rate (%)	Exposures weighted average PD (%)	Average PD (%)	Average historical annual default rate (%)	
	Total	Of which number of obligors which defaulted in the year					
<b>of which:</b>							
<b>SMEs</b>							
0.00 to <0.15	5,058	6	0.12%	0.07%	0.08%	0.05%	
0.00 to <0.10	3,286	1	0.03%	0.05%	0.06%	0.02%	
0.10 to <0.15	1,772	5	0.28%	0.12%	0.11%	0.13%	
0.15 to <0.25	2,514	5	0.20%	0.20%	0.17%	0.09%	
0.25 to <0.50	4,254	13	0.31%	0.36%	0.35%	0.26%	
0.50 to <0.75	1,911	15	0.78%	0.65%	0.70%	0.42%	
0.75 to <2.50	2,767	49	1.77%	1.37%	1.47%	1.22%	
0.75 to <1.75	1,630	21	1.29%	1.08%	1.15%	0.91%	
1.75 to <2.5	1,137	28	2.46%	2.03%	1.93%	1.81%	
2.50 to <10.00	1,356	54	3.98%	4.85%	4.62%	3.27%	
2.5 to <5	938	29	3.09%	3.67%	3.56%	2.80%	
5 to <10	418	25	5.98%	7.13%	7.00%	4.75%	
10.00 to <100.00	294	28	9.52%	20.40%	23.16%	10.03%	
10 to <20	121	12	9.92%	14.77%	13.63%	8.92%	
20 to <30	67	6	8.96%	23.29%	22.49%	8.76%	
30.00 to <100.00	106	10	9.43%	33.84%	34.47%	15.14%	
100.00 (Default)	1,852	0	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>20,006</b>	<b>170</b>	<b>0.85%</b>	<b>3.75%</b>	<b>10.30%</b>	<b>0.71%</b>	
<b>Specialized lending</b>							
0.00 to <0.15	91	0	0.00%	0.11%	0.10%	0.16%	
0.00 to <0.10	45	0	0.00%	0.06%	0.07%	0.27%	
0.10 to <0.15	46	0	0.00%	0.12%	0.13%	0.00%	
0.15 to <0.25	100	1	1.00%	0.18%	0.20%	0.20%	
0.25 to <0.50	132	1	0.76%	0.37%	0.39%	0.34%	
0.50 to <0.75	170	3	1.76%	0.68%	0.66%	1.01%	
0.75 to <2.50	306	8	2.61%	1.57%	1.52%	1.56%	
0.75 to <1.75	143	2	1.40%	1.22%	1.11%	1.06%	
1.75 to <2.5	163	6	3.68%	1.97%	1.87%	1.97%	
2.50 to <10.00	426	21	4.93%	4.43%	5.08%	2.87%	
2.5 to <5	272	13	4.78%	3.46%	3.56%	2.46%	
5 to <10	154	8	5.19%	6.85%	7.76%	3.72%	
10.00 to <100.00	37	2	5.41%	16.59%	18.89%	7.14%	
10 to <20	23	1	4.35%	13.29%	12.95%	7.82%	
20 to <30	7	0	0.00%	25.87%	22.01%	4.64%	
30.00 to <100.00	7	1	14.29%	49.19%	35.29%	7.71%	
100.00 (Default)	124	0	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>1,386</b>	<b>36</b>	<b>2.60%</b>	<b>10.95%</b>	<b>11.49%</b>	<b>2.13%</b>	
<b>Other</b>							
0.00 to <0.15	15,075	24	0.16%	0.07%	0.06%	0.09%	
0.00 to <0.10	13,634	22	0.16%	0.06%	0.05%	0.08%	
0.10 to <0.15	1,441	2	0.14%	0.12%	0.13%	0.16%	
0.15 to <0.25	3,293	8	0.24%	0.19%	0.19%	0.20%	
0.25 to <0.50	5,451	24	0.44%	0.35%	0.35%	0.27%	
0.50 to <0.75	3,212	24	0.75%	0.58%	0.62%	0.51%	
0.75 to <2.50	5,112	53	1.04%	1.41%	1.40%	1.06%	
0.75 to <1.75	3,312	24	0.72%	1.09%	1.11%	0.77%	
1.75 to <2.5	1,800	29	1.61%	1.97%	1.92%	1.53%	
2.50 to <10.00	2,113	93	4.40%	4.85%	4.47%	3.02%	
2.5 to <5	1,558	68	4.36%	3.56%	3.57%	2.70%	
5 to <10	555	25	4.50%	6.96%	6.99%	3.89%	
10.00 to <100.00	300	27	9.00%	18.36%	21.74%	8.34%	
10 to <20	152	19	12.50%	13.76%	13.43%	9.00%	
20 to <30	62	4	6.45%	23.54%	22.82%	8.25%	
30.00 to <100.00	86	4	4.65%	38.36%	35.66%	7.11%	
100.00 (Default)	990	0	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>35,546</b>	<b>253</b>	<b>0.71%</b>	<b>3.36%</b>	<b>3.59%</b>	<b>0.55%</b>	



		Dec 31, 2023					
a/b	c	d	e	f	g	h	
Exposure class/ PD Range	Number of obligors at the end of previous year		Observed average default rate (%)	Exposures weighted average PD (%)	Average PD (%)	Average historical annual default rate (%)	
	Total	Of which number of obligors which defaulted in the year					
<b>Retail</b>							
0.00 to <0.15	2,713,145	1,066	0.04%	0.08%	0.07%	0.04%	
0.00 to <0.10	2,092,951	544	0.03%	0.06%	0.05%	0.03%	
0.10 to <0.15	620,194	522	0.08%	0.12%	0.11%	0.08%	
0.15 to <0.25	958,865	1,487	0.16%	0.19%	0.19%	0.13%	
0.25 to <0.50	791,486	3,126	0.39%	0.36%	0.37%	0.28%	
0.50 to <0.75	487,966	2,657	0.54%	0.62%	0.68%	0.44%	
0.75 to <2.50	1,340,151	18,225	1.36%	1.42%	1.45%	1.04%	
0.75 to <1.75	759,902	8,545	1.12%	1.12%	1.10%	0.80%	
1.75 to <2.5	580,249	9,680	1.67%	2.47%	1.91%	1.34%	
2.50 to <10.00	716,175	29,119	4.07%	4.89%	4.65%	3.59%	
2.5 to <5	509,282	16,069	3.16%	3.81%	3.57%	2.90%	
5 to <10	206,893	13,050	6.31%	7.08%	7.32%	5.26%	
10.00 to <100.00	141,144	29,993	21.25%	27.18%	20.97%	20.13%	
10 to <20	74,892	7,931	10.59%	13.95%	13.33%	12.27%	
20 to <30	31,830	6,484	20.37%	24.73%	22.16%	18.82%	
30.00 to <100.00	34,422	15,578	45.26%	38.44%	36.49%	40.93%	
100.00 (Default)	181,696	0	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>7,330,628</b>	<b>85,673</b>	<b>1.17%</b>	<b>3.17%</b>	<b>3.74%</b>	<b>1.15%</b>	
<b>of which:</b>							
Secured by real estate property - SME							
0.00 to <0.15	15,827	14	0.09%	0.08%	0.07%	0.05%	
0.00 to <0.10	11,364	7	0.06%	0.06%	0.06%	0.06%	
0.10 to <0.15	4,463	7	0.16%	0.11%	0.11%	0.06%	
0.15 to <0.25	5,208	10	0.19%	0.18%	0.17%	0.12%	
0.25 to <0.50	8,477	32	0.38%	0.36%	0.36%	0.18%	
0.50 to <0.75	671	7	1.04%	0.54%	0.58%	0.40%	
0.75 to <2.50	5,362	62	1.16%	1.27%	1.23%	0.62%	
0.75 to <1.75	4,262	38	0.89%	1.01%	1.00%	0.49%	
1.75 to <2.5	1,100	24	2.18%	2.15%	2.12%	0.97%	
2.50 to <10.00	1,313	60	4.57%	5.20%	5.09%	2.67%	
2.5 to <5	771	26	3.37%	3.62%	3.62%	2.03%	
5 to <10	542	34	6.27%	7.14%	7.17%	4.69%	
10.00 to <100.00	300	76	25.33%	24.48%	21.88%	18.19%	
10 to <20	164	35	21.34%	14.71%	14.66%	10.46%	
20 to <30	71	18	25.35%	26.36%	25.41%	16.03%	
30.00 to <100.00	65	23	35.38%	37.20%	36.25%	36.94%	
100.00 (Default)	376	0	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>37,534</b>	<b>261</b>	<b>0.70%</b>	<b>2.17%</b>	<b>1.68%</b>	<b>0.62%</b>	
Secured by real estate property - Non-SME							
0.00 to <0.15	281,381	328	0.12%	0.08%	0.08%	0.11%	
0.00 to <0.10	175,538	138	0.08%	0.06%	0.06%	0.08%	
0.10 to <0.15	105,843	190	0.18%	0.12%	0.11%	0.17%	
0.15 to <0.25	193,759	478	0.25%	0.19%	0.19%	0.19%	
0.25 to <0.50	246,008	812	0.33%	0.36%	0.37%	0.25%	
0.50 to <0.75	182,726	1,005	0.55%	0.62%	0.69%	0.34%	
0.75 to <2.50	196,214	1,345	0.69%	1.38%	1.36%	0.60%	
0.75 to <1.75	148,683	890	0.60%	1.13%	1.13%	0.50%	
1.75 to <2.5	47,531	455	0.96%	3.11%	2.05%	0.79%	
2.50 to <10.00	52,193	1,401	2.68%	4.98%	5.11%	2.15%	
2.5 to <5	32,356	573	1.77%	3.92%	3.75%	1.65%	
5 to <10	19,837	828	4.17%	7.12%	7.34%	3.25%	
10.00 to <100.00	13,974	2,116	15.14%	34.75%	21.24%	14.49%	
10 to <20	7,948	628	7.90%	16.68%	13.46%	8.58%	
20 to <30	2,666	451	16.92%	24.29%	22.66%	15.95%	
30.00 to <100.00	3,360	1,037	30.86%	39.08%	38.49%	32.20%	
100.00 (Default)	11,606	0	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>1,177,861</b>	<b>7,485</b>	<b>0.64%</b>	<b>2.01%</b>	<b>1.93%</b>	<b>0.68%</b>	

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a/b Exposure class/ PD Range	c		d	e	f	g	h
	Number of obligors at the end of previous year		Of which number of obligors which defaulted in the year	Observed average default rate (%)	Exposures weighted average PD (%)	Average PD (%)	Average historical annual default rate (%)
	Total						
<b>Qualifying revolving</b>							
0.00 to <0.15	2,126,717	618	0.03%	0.07%	0.06%	0.03%	
0.00 to <0.10	1,710,459	358	0.02%	0.05%	0.05%	0.03%	
0.10 to <0.15	416,258	260	0.06%	0.12%	0.11%	0.07%	
0.15 to <0.25	622,435	840	0.13%	0.19%	0.19%	0.09%	
0.25 to <0.50	344,034	1,608	0.47%	0.34%	0.37%	0.27%	
0.50 to <0.75	142,172	1,020	0.72%	0.54%	0.68%	0.53%	
0.75 to <2.50	344,242	9,291	2.70%	1.35%	1.43%	1.34%	
0.75 to <1.75	224,683	4,653	2.07%	1.06%	1.09%	1.04%	
1.75 to <2.5	119,559	4,638	3.88%	2.27%	2.07%	1.91%	
2.50 to <10.00	166,086	11,929	7.18%	5.27%	5.17%	4.25%	
2.5 to <5	95,472	5,788	6.06%	3.82%	3.66%	3.49%	
5 to <10	70,614	6,141	8.70%	6.94%	7.22%	5.41%	
10.00 to <100.00	44,562	9,239	20.73%	23.41%	21.45%	16.29%	
10 to <20	23,429	2,656	11.34%	14.08%	13.48%	10.33%	
20 to <30	9,877	1,943	19.67%	26.41%	22.27%	15.11%	
30.00 to <100.00	11,256	4,640	41.22%	37.11%	37.33%	32.79%	
100.00 (Default)	51,798	0	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>3,842,046</b>	<b>34,545</b>	<b>0.90%</b>	<b>2.58%</b>	<b>2.07%</b>	<b>0.59%</b>	
<b>Other - SME</b>							
0.00 to <0.15	46,827	42	0.09%	0.09%	0.08%	0.05%	
0.00 to <0.10	28,736	18	0.06%	0.06%	0.05%	0.05%	
0.10 to <0.15	18,091	24	0.13%	0.12%	0.11%	0.06%	
0.15 to <0.25	15,705	32	0.20%	0.19%	0.20%	0.11%	
0.25 to <0.50	22,510	74	0.33%	0.37%	0.37%	0.19%	
0.50 to <0.75	10,377	55	0.53%	0.60%	0.65%	0.39%	
0.75 to <2.50	17,990	261	1.45%	1.36%	1.33%	1.01%	
0.75 to <1.75	12,142	139	1.14%	1.05%	1.06%	0.79%	
1.75 to <2.5	5,848	122	2.09%	1.96%	1.88%	1.40%	
2.50 to <10.00	10,486	374	3.57%	4.69%	4.82%	3.01%	
2.5 to <5	7,596	204	2.69%	3.71%	3.74%	2.47%	
5 to <10	2,890	170	5.88%	7.60%	7.65%	4.29%	
10.00 to <100.00	2,587	502	19.40%	21.15%	20.64%	17.85%	
10 to <20	1,261	135	10.71%	13.70%	13.27%	9.10%	
20 to <30	643	113	17.57%	24.75%	22.59%	15.34%	
30.00 to <100.00	683	254	37.19%	35.26%	32.40%	36.34%	
100.00 (Default)	3,565	0	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>130,047</b>	<b>1,340</b>	<b>1.03%</b>	<b>6.22%</b>	<b>3.89%</b>	<b>0.88%</b>	
<b>Other - Non-SME</b>							
0.00 to <0.15	628,453	277	0.04%	0.08%	0.07%	0.05%	
0.00 to <0.10	459,652	139	0.03%	0.05%	0.06%	0.03%	
0.10 to <0.15	168,801	138	0.08%	0.12%	0.11%	0.09%	
0.15 to <0.25	281,064	437	0.16%	0.19%	0.19%	0.17%	
0.25 to <0.50	310,135	1,122	0.36%	0.37%	0.38%	0.33%	
0.50 to <0.75	221,841	1,039	0.47%	0.60%	0.66%	0.50%	
0.75 to <2.50	932,198	9,299	1.00%	1.59%	1.47%	1.06%	
0.75 to <1.75	474,535	3,874	0.82%	1.13%	1.09%	0.82%	
1.75 to <2.5	457,663	5,425	1.19%	2.05%	1.87%	1.31%	
2.50 to <10.00	556,349	18,424	3.31%	4.72%	4.51%	3.68%	
2.5 to <5	414,489	10,821	2.61%	3.65%	3.54%	2.97%	
5 to <10	141,860	7,603	5.36%	6.98%	7.35%	5.79%	
10.00 to <100.00	100,587	22,248	22.12%	20.94%	20.84%	22.76%	
10 to <20	53,047	5,655	10.66%	13.55%	13.28%	14.45%	
20 to <30	23,176	4,831	20.84%	25.14%	22.09%	20.46%	
30.00 to <100.00	24,364	11,762	48.28%	37.22%	36.12%	45.84%	
100.00 (Default)	129,765	0	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>3,160,392</b>	<b>52,846</b>	<b>1.67%</b>	<b>9.59%</b>	<b>6.11%</b>	<b>2.10%</b>	
<b>Total</b>	<b>7,388,216</b>	<b>86,128</b>	<b>1.17%</b>	<b>3.18%</b>	<b>3.76%</b>	<b>1.15%</b>	

							Dec 31, 2022
a/b	c		d	e	f	g	h
Exposure class/ PD Range	Number of obligors at the end of previous year		Of which number of obligors which defaulted in the year	Observed average default rate (%)	Exposures weighted average PD (%)	Average PD (%)	Average historical annual default rate (%)
	Total						
<b>Central governments and central banks</b>							
0.00 to <0.15	130	0		0.00%	0.00%	0.04%	0.00%
0.00 to <0.10	121	0		0.00%	0.00%	0.03%	0.00%
0.10 to <0.15	9	0		0.00%	0.14%	0.14%	0.00%
0.15 to <0.25	19	0		0.00%	0.23%	0.23%	0.00%
0.25 to <0.50	12	0		0.00%	0.39%	0.40%	0.00%
0.50 to <0.75	28	0		0.00%	0.64%	0.65%	0.00%
0.75 to <2.50	20	0		0.00%	1.76%	1.36%	0.00%
0.75 to <1.75	12	0		0.00%	0.99%	1.08%	0.00%
1.75 to <2.5	8	0		0.00%	1.76%	1.78%	0.00%
2.50 to <10.00	34	6		17.65%	6.47%	5.54%	7.10%
2.5 to <5	22	3		13.64%	4.69%	4.22%	6.56%
5 to <10	12	3		25.00%	7.95%	7.95%	8.33%
10.00 to <100.00	5	0		0.00%	13.01%	13.01%	3.33%
10 to <20	5	0		0.00%	13.01%	13.01%	4.00%
20 to <30	0	0		0.00%	22.01%	0.00%	0.00%
30.00 to <100.00	0	0		0.00%	0.00%	0.00%	0.00%
100.00 (Default)	7	N/M		N/M	100.00%	100.00%	N/M
<b>Sub-total</b>	<b>255</b>	<b>6</b>		<b>2.35%</b>	<b>0.37%</b>	<b>3.97%</b>	<b>0.97%</b>
<b>Institutions</b>							
0.00 to <0.15	887	0		0.00%	0.05%	0.05%	0.03%
0.00 to <0.10	855	0		0.00%	0.05%	0.05%	0.00%
0.10 to <0.15	32	0		0.00%	0.13%	0.13%	0.22%
0.15 to <0.25	114	0		0.00%	0.16%	0.18%	0.34%
0.25 to <0.50	160	0		0.00%	0.33%	0.36%	0.16%
0.50 to <0.75	67	0		0.00%	0.69%	0.68%	0.00%
0.75 to <2.50	85	1		1.18%	1.82%	1.44%	0.54%
0.75 to <1.75	53	0		0.00%	1.13%	1.15%	0.00%
1.75 to <2.5	32	1		3.13%	1.93%	1.90%	1.34%
2.50 to <10.00	45	0		0.00%	3.59%	4.47%	0.50%
2.5 to <5	32	0		0.00%	3.22%	3.38%	0.74%
5 to <10	13	0		0.00%	7.00%	7.17%	0.00%
10.00 to <100.00	19	1		5.26%	13.21%	15.33%	2.39%
10 to <20	16	1		6.25%	13.21%	14.06%	1.25%
20 to <30	3	0		0.00%	0.00%	22.07%	5.00%
30.00 to <100.00	0	0		0.00%	0.00%	0.00%	0.00%
100.00 (Default)	5	N/M		N/M	100.00%	100.00%	N/M
<b>Sub-total</b>	<b>1,382</b>	<b>2</b>		<b>0.14%</b>	<b>12.40%</b>	<b>0.93%</b>	<b>0.21%</b>
<b>Corporates</b>							
0.00 to <0.15	22,552	34		0.15%	0.07%	0.07%	0.03%
0.00 to <0.10	18,751	27		0.14%	0.06%	0.05%	0.02%
0.10 to <0.15	3,801	7		0.18%	0.13%	0.14%	0.08%
0.15 to <0.25	5,861	11		0.19%	0.20%	0.21%	0.11%
0.25 to <0.50	7,427	35		0.47%	0.36%	0.36%	0.18%
0.50 to <0.75	4,875	21		0.43%	0.64%	0.65%	0.40%
0.75 to <2.50	7,208	77		1.07%	1.47%	1.37%	1.01%
0.75 to <1.75	4,924	40		0.81%	1.11%	1.15%	0.78%
1.75 to <2.5	2,284	37		1.62%	1.83%	1.85%	1.43%
2.50 to <10.00	4,049	116		2.86%	5.02%	4.93%	2.68%
2.5 to <5	2,650	64		2.42%	3.70%	3.64%	2.34%
5 to <10	1,399	52		3.72%	7.58%	7.39%	3.71%
10.00 to <100.00	759	52		6.85%	16.76%	20.34%	8.47%
10 to <20	394	23		5.84%	13.13%	13.58%	7.91%
20 to <30	215	15		6.98%	22.22%	21.88%	7.60%
30.00 to <100.00	150	14		9.33%	32.26%	35.88%	10.90%
100.00 (Default)	3,633	N/M		N/M	100.00%	100.00%	N/M
<b>Sub-total</b>	<b>56,364</b>	<b>346</b>		<b>0.61%</b>	<b>6.56%</b>	<b>7.40%</b>	<b>0.56%</b>

		Dec 31, 2022					
a/b	c	d	e	f	g	h	
Exposure class/ PD Range	Number of obligors at the end of previous year		Observed average default rate (%)	Exposures weighted average PD (%)	Average PD (%)	Average historical annual default rate (%)	
	Total	Of which number of obligors which defaulted in the year					
<b>of which:</b>							
<b>SMEs</b>							
0.00 to <0.15	5,720	2	0.03%	0.07%	0.08%	0.03%	
0.00 to <0.10	3,731	1	0.03%	0.06%	0.05%	0.01%	
0.10 to <0.15	1,989	1	0.05%	0.12%	0.13%	0.07%	
0.15 to <0.25	2,090	2	0.10%	0.20%	0.21%	0.07%	
0.25 to <0.50	2,675	12	0.45%	0.36%	0.37%	0.22%	
0.50 to <0.75	1,951	3	0.15%	0.66%	0.64%	0.33%	
0.75 to <2.50	3,077	32	1.04%	1.42%	1.36%	1.05%	
0.75 to <1.75	2,355	18	0.76%	1.11%	1.20%	0.84%	
1.75 to <2.5	722	14	1.94%	1.92%	1.90%	1.50%	
2.50 to <10.00	1,489	49	3.29%	4.82%	4.57%	3.05%	
2.5 to <5	1,062	31	2.92%	3.62%	3.46%	2.73%	
5 to <10	427	18	4.22%	7.49%	7.31%	4.25%	
10.00 to <100.00	296	32	10.81%	20.31%	20.06%	10.20%	
10 to <20	153	11	7.19%	13.95%	13.82%	8.57%	
20 to <30	93	11	11.83%	21.52%	22.10%	8.51%	
30.00 to <100.00	50	10	20.00%	32.36%	35.37%	16.92%	
100.00 (Default)	1,073	N/M	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>18,371</b>	<b>132</b>	<b>0.72%</b>	<b>12.64%</b>	<b>6.93%</b>	<b>0.66%</b>	
<b>Specialized lending</b>							
0.00 to <0.15	126	1	0.79%	0.11%	0.10%	0.16%	
0.00 to <0.10	73	1	1.37%	0.08%	0.08%	0.27%	
0.10 to <0.15	53	0	0.00%	0.13%	0.13%	0.00%	
0.15 to <0.25	119	0	0.00%	0.21%	0.21%	0.00%	
0.25 to <0.50	113	0	0.00%	0.39%	0.39%	0.19%	
0.50 to <0.75	126	1	0.79%	0.66%	0.66%	0.65%	
0.75 to <2.50	287	2	0.70%	1.49%	1.33%	1.04%	
0.75 to <1.75	188	2	1.06%	1.13%	1.09%	0.78%	
1.75 to <2.5	99	0	0.00%	1.87%	1.80%	1.23%	
2.50 to <10.00	324	8	2.47%	5.47%	5.88%	2.49%	
2.5 to <5	171	4	2.34%	3.90%	4.07%	1.92%	
5 to <10	153	4	2.61%	7.79%	7.91%	3.81%	
10.00 to <100.00	68	6	8.82%	14.89%	18.34%	7.06%	
10 to <20	48	5	10.42%	12.97%	13.00%	7.18%	
20 to <30	15	1	6.67%	22.01%	22.01%	6.11%	
30.00 to <100.00	5	0	0.00%	39.77%	58.61%	7.58%	
100.00 (Default)	155	N/M	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>1,318</b>	<b>18</b>	<b>1.37%</b>	<b>10.15%</b>	<b>14.57%</b>	<b>2.02%</b>	
<b>Other</b>							
0.00 to <0.15	16,776	32	0.19%	0.07%	0.06%	0.07%	
0.00 to <0.10	14,997	25	0.17%	0.06%	0.05%	0.05%	
0.10 to <0.15	1,779	7	0.39%	0.14%	0.14%	0.14%	
0.15 to <0.25	3,670	9	0.25%	0.19%	0.20%	0.16%	
0.25 to <0.50	4,657	23	0.49%	0.35%	0.36%	0.24%	
0.50 to <0.75	2,816	17	0.60%	0.62%	0.66%	0.45%	
0.75 to <2.50	3,854	43	1.12%	1.47%	1.38%	1.01%	
0.75 to <1.75	2,389	20	0.84%	1.10%	1.10%	0.73%	
1.75 to <2.5	1,465	23	1.57%	1.82%	1.84%	1.44%	
2.50 to <10.00	2,245	59	2.63%	4.64%	5.04%	2.44%	
2.5 to <5	1,421	29	2.04%	3.55%	3.71%	2.09%	
5 to <10	824	30	3.64%	7.32%	7.33%	3.44%	
10.00 to <100.00	395	14	3.54%	17.63%	20.89%	7.70%	
10 to <20	193	7	3.63%	13.20%	13.54%	7.74%	
20 to <30	107	3	2.80%	22.36%	21.67%	7.79%	
30.00 to <100.00	95	4	4.21%	30.62%	34.95%	7.54%	
100.00 (Default)	2,405	N/M	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>36,818</b>	<b>197</b>	<b>0.54%</b>	<b>5.25%</b>	<b>7.35%</b>	<b>0.47%</b>	

							Dec 31, 2022
a/b	c		d	e	f	g	h
Exposure class/ PD Range	Number of obligors at the end of previous year		Observed average default rate (%)	Exposures weighted average PD (%)	Average PD (%)	Average historical annual default rate (%)	
	Total	Of which number of obligors which defaulted in the year					
<b>Retail</b>							
0.00 to <0.15	2,538,713	1,187	0.05%	0.08%	0.07%	0.04%	
0.00 to <0.10	2,109,833	758	0.04%	0.06%	0.06%	0.03%	
0.10 to <0.15	428,880	429	0.10%	0.11%	0.12%	0.07%	
0.15 to <0.25	686,541	1,066	0.16%	0.19%	0.18%	0.11%	
0.25 to <0.50	1,218,814	3,608	0.30%	0.37%	0.34%	0.23%	
0.50 to <0.75	395,342	1,982	0.50%	0.69%	0.70%	0.39%	
0.75 to <2.50	1,619,642	18,364	1.13%	1.38%	1.44%	0.90%	
0.75 to <1.75	996,605	8,142	0.82%	1.02%	1.08%	0.67%	
1.75 to <2.5	623,037	10,222	1.64%	1.83%	2.01%	1.19%	
2.50 to <10.00	752,185	31,950	4.25%	4.98%	4.83%	3.22%	
2.5 to <5	485,417	16,677	3.44%	3.67%	3.60%	2.66%	
5 to <10	266,768	15,273	5.73%	7.31%	7.06%	4.60%	
10.00 to <100.00	173,869	29,855	17.17%	11.65%	21.40%	18.60%	
10 to <20	72,201	8,283	11.47%	13.30%	14.12%	11.99%	
20 to <30	69,578	6,392	9.19%	22.13%	21.38%	17.16%	
30.00 to <100.00	32,090	15,180	47.30%	35.83%	37.86%	37.23%	
100.00 (Default)	198,871	N/M	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>7,583,977</b>	<b>88,012</b>	<b>1.16%</b>	<b>2.57%</b>	<b>4.03%</b>	<b>1.06%</b>	
<b>of which:</b>							
Secured by real estate property - SME							
0.00 to <0.15	7,360	1	0.01%	0.07%	0.12%	0.04%	
0.00 to <0.10	3,129	1	0.03%	0.06%	0.08%	0.06%	
0.10 to <0.15	4,231	0	0.00%	0.11%	0.14%	0.04%	
0.15 to <0.25	7,140	7	0.10%	0.18%	0.22%	0.09%	
0.25 to <0.50	8,196	16	0.20%	0.36%	0.38%	0.13%	
0.50 to <0.75	6,214	24	0.39%	0.56%	0.65%	0.22%	
0.75 to <2.50	7,035	32	0.45%	1.27%	1.36%	0.46%	
0.75 to <1.75	4,485	21	0.47%	1.03%	1.10%	0.38%	
1.75 to <2.5	2,550	11	0.43%	2.15%	1.81%	0.59%	
2.50 to <10.00	2,640	58	2.20%	5.01%	4.38%	2.02%	
2.5 to <5	2,029	38	1.87%	3.67%	3.54%	1.56%	
5 to <10	611	20	3.27%	7.13%	7.15%	3.97%	
10.00 to <100.00	410	73	17.80%	21.35%	20.08%	15.67%	
10 to <20	229	20	8.73%	14.71%	13.33%	7.36%	
20 to <30	87	12	13.79%	26.13%	22.62%	13.44%	
30.00 to <100.00	94	41	43.62%	36.43%	34.18%	35.38%	
100.00 (Default)	374	N/M	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>39,369</b>	<b>211</b>	<b>0.54%</b>	<b>1.52%</b>	<b>1.94%</b>	<b>0.61%</b>	
Secured by real estate property - Non-SME							
0.00 to <0.15	162,809	242	0.15%	0.08%	0.09%	0.09%	
0.00 to <0.10	117,804	135	0.11%	0.06%	0.08%	0.06%	
0.10 to <0.15	45,005	107	0.24%	0.11%	0.12%	0.14%	
0.15 to <0.25	158,151	396	0.25%	0.19%	0.19%	0.15%	
0.25 to <0.50	337,440	905	0.27%	0.37%	0.36%	0.20%	
0.50 to <0.75	124,929	294	0.24%	0.69%	0.70%	0.27%	
0.75 to <2.50	335,643	2,032	0.61%	1.34%	1.23%	0.52%	
0.75 to <1.75	272,137	1,617	0.59%	1.00%	1.03%	0.43%	
1.75 to <2.5	63,506	415	0.65%	1.76%	2.08%	0.69%	
2.50 to <10.00	61,157	1,270	2.08%	5.17%	4.96%	1.79%	
2.5 to <5	39,214	608	1.55%	3.75%	3.68%	1.44%	
5 to <10	21,943	662	3.02%	7.30%	7.24%	2.70%	
10.00 to <100.00	13,969	1,783	12.76%	5.00%	21.58%	13.34%	
10 to <20	7,928	492	6.21%	13.33%	13.97%	8.38%	
20 to <30	2,800	358	12.79%	22.14%	22.90%	14.07%	
30.00 to <100.00	3,241	933	28.79%	35.04%	39.05%	29.81%	
100.00 (Default)	12,101	N/M	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>1,206,199</b>	<b>6,922</b>	<b>0.57%</b>	<b>1.48%</b>	<b>2.06%</b>	<b>0.63%</b>	

		Dec 31, 2022					
a/b	c	d	e	f	g	h	
Exposure class/ PD Range	Number of obligors at the end of previous year		Observed average default rate (%)	Exposures weighted average PD (%)	Average PD (%)	Average historical annual default rate (%)	
	Total	Of which number of obligors which defaulted in the year					
<b>Qualifying revolving</b>							
0.00 to <0.15	2,097,553	852	0.04%	0.06%	0.07%	0.03%	
0.00 to <0.10	1,800,212	577	0.03%	0.05%	0.06%	0.02%	
0.10 to <0.15	297,341	275	0.09%	0.11%	0.12%	0.06%	
0.15 to <0.25	407,438	467	0.11%	0.18%	0.17%	0.07%	
0.25 to <0.50	636,726	2,074	0.33%	0.37%	0.33%	0.18%	
0.50 to <0.75	110,008	972	0.88%	0.69%	0.70%	0.40%	
0.75 to <2.50	417,448	6,114	1.46%	1.42%	1.33%	0.86%	
0.75 to <1.75	298,958	3,342	1.12%	1.10%	1.04%	0.67%	
1.75 to <2.5	118,490	2,772	2.34%	2.06%	2.08%	1.21%	
2.50 to <10.00	170,198	8,917	5.24%	5.36%	5.19%	3.11%	
2.5 to <5	102,179	4,238	4.15%	3.72%	3.77%	2.56%	
5 to <10	68,019	4,679	6.88%	7.27%	7.32%	4.00%	
10.00 to <100.00	40,245	8,381	20.82%	21.05%	21.29%	13.33%	
10 to <20	22,377	2,716	12.14%	13.19%	14.05%	8.74%	
20 to <30	9,116	1,799	19.73%	21.59%	22.65%	12.40%	
30.00 to <100.00	8,752	3,866	44.17%	37.59%	38.40%	27.14%	
100.00 (Default)	60,185	N/M	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>3,939,801</b>	<b>27,777</b>	<b>0.71%</b>	<b>1.63%</b>	<b>2.24%</b>	<b>0.45%</b>	
<b>Other - SME</b>							
0.00 to <0.15	35,752	18	0.05%	0.08%	0.11%	0.04%	
0.00 to <0.10	14,048	3	0.02%	0.06%	0.08%	0.04%	
0.10 to <0.15	21,704	15	0.07%	0.12%	0.13%	0.05%	
0.15 to <0.25	24,342	22	0.09%	0.20%	0.22%	0.08%	
0.25 to <0.50	29,000	65	0.22%	0.37%	0.38%	0.14%	
0.50 to <0.75	17,619	81	0.46%	0.62%	0.67%	0.33%	
0.75 to <2.50	20,656	188	0.91%	1.35%	1.39%	0.86%	
0.75 to <1.75	12,930	86	0.67%	1.06%	1.12%	0.66%	
1.75 to <2.5	7,726	102	1.32%	1.86%	1.84%	1.17%	
2.50 to <10.00	11,834	367	3.10%	4.50%	4.82%	2.80%	
2.5 to <5	7,441	188	2.53%	3.63%	3.51%	2.36%	
5 to <10	4,393	179	4.07%	7.56%	7.04%	3.92%	
10.00 to <100.00	2,789	508	18.21%	19.85%	20.78%	16.93%	
10 to <20	1,272	127	9.98%	13.17%	13.68%	8.41%	
20 to <30	823	106	12.88%	22.53%	22.31%	14.70%	
30.00 to <100.00	694	275	39.63%	33.02%	31.96%	34.58%	
100.00 (Default)	3,453	N/M	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>145,445</b>	<b>1,249</b>	<b>0.86%</b>	<b>6.51%</b>	<b>3.58%</b>	<b>0.83%</b>	
<b>Other - Non-SME</b>							
0.00 to <0.15	559,921	284	0.05%	0.08%	0.08%	0.05%	
0.00 to <0.10	441,950	172	0.04%	0.06%	0.07%	0.03%	
0.10 to <0.15	117,971	112	0.09%	0.11%	0.12%	0.09%	
0.15 to <0.25	205,566	336	0.16%	0.19%	0.18%	0.17%	
0.25 to <0.50	443,998	1,243	0.28%	0.38%	0.35%	0.32%	
0.50 to <0.75	193,176	850	0.44%	0.68%	0.70%	0.50%	
0.75 to <2.50	1,055,696	12,641	1.20%	1.51%	1.53%	1.04%	
0.75 to <1.75	562,532	4,580	0.81%	1.10%	1.12%	0.78%	
1.75 to <2.5	493,164	8,061	1.63%	1.92%	2.01%	1.31%	
2.50 to <10.00	584,882	25,016	4.28%	4.81%	4.75%	3.61%	
2.5 to <5	383,573	13,323	3.47%	3.60%	3.57%	2.96%	
5 to <10	201,309	11,693	5.81%	7.32%	6.99%	5.59%	
10.00 to <100.00	134,458	22,776	16.94%	19.92%	21.49%	21.75%	
10 to <20	50,183	6,043	12.04%	13.22%	14.18%	14.77%	
20 to <30	60,679	4,844	7.98%	21.97%	21.20%	19.11%	
30.00 to <100.00	23,596	11,889	50.39%	37.01%	37.78%	42.87%	
100.00 (Default)	137,235	N/M	N/M	100.00%	100.00%	N/M	
<b>Sub-total</b>	<b>3,314,932</b>	<b>63,146</b>	<b>1.90%</b>	<b>8.38%</b>	<b>6.45%</b>	<b>2.08%</b>	
<b>Total</b>	<b>7,639,654</b>	<b>88,355</b>	<b>1.16%</b>	<b>4.22%</b>	<b>4.06%</b>	<b>1.06%</b>	

The vast majority of the bank's exposures facing non-sovereign counterparties (institutions, corporates and retail) is calculated based on the IRB (above 95 % coverage within internal models). The total number of obligors with short-term contracts at the

disclosure date for foundation and advanced approach is 6.4 million with the majority of customers in the exposure class “retail - qualifying revolving and other retail non-SMEs”.

## Specialized lending and equity exposures in the banking book

### Article 438 (e) CRR

The table below summarizes the foundation approach exposure for specialized lending where a former Postbank portfolio is part of the “income-producing real estate and high volatility commercial real estate” slotting category. Deutsche Bank does not treat any further exposures under the slotting approach as they are covered under the AIRB. Consequently, Deutsche Bank does not disclose tables for “Project finance”, “Object finance” and “Commodities finance”. For the calculation of minimum capital requirements regulatory risk weights are applied where potential risk mitigating factors are already considered in the assignment of the risk weight. The table presents the on- and off-balance-sheet exposures, the EAD and RWA as well as the associated regulatory expected losses.

### EU CR10.02 – Specialized lending: Income-producing real estate and high volatility commercial real estate (Slotting approach)

in € m.

(unless stated otherwise)

Dec 31, 2023

Regulatory categories	Specialized lending Remaining maturity	a	b	c	d	e	f
		On-balance sheet amount	Off-balance sheet amount	Risk weight	Exposure amount	RWA	Expected losses
Category 1	Less than 2.5 years	207	25	50%	226	113	0
	Equal to or more than 2.5 years	404	1	70%	405	284	2
Category 2	Less than 2.5 years	46	19	70%	60	42	0
	Equal to or more than 2.5 years	54	0	90%	54	48	0
Category 3	Less than 2.5 years	0	0	115%	0	0	0
	Equal to or more than 2.5 years	0	0	115%	0	0	0
Category 4	Less than 2.5 years	0	0	250%	0	0	0
	Equal to or more than 2.5 years	0	0	250%	0	0	0
Category 5	Less than 2.5 years	0	0	–	0	0	0
	Equal to or more than 2.5 years	9	1	–	10	0	5
Total	Less than 2.5 years	252	44	–	286	155	0
	Equal to or more than 2.5 years	467	2	–	469	332	7

in € m.

(unless stated otherwise)

Jun 30, 2023

Regulatory categories	Specialized lending Remaining maturity	a	b	c	d	e	f
		On-balance sheet amount	Off-balance sheet amount	Risk weight	Exposure amount	RWA	Expected losses
Category 1	Less than 2.5 years	215	33	50%	240	120	0
	Equal to or more than 2.5 years	521	7	70%	527	369	2
Category 2	Less than 2.5 years	46	31	70%	69	48	0
	Equal to or more than 2.5 years	4	0	90%	4	4	0
Category 3	Less than 2.5 years	0	0	115%	0	0	0
	Equal to or more than 2.5 years	0	0	115%	0	0	0
Category 4	Less than 2.5 years	0	0	250%	0	0	0
	Equal to or more than 2.5 years	0	0	250%	0	0	0
Category 5	Less than 2.5 years	0	0	–	0	0	0
	Equal to or more than 2.5 years	1	0	–	1	0	2
Total	Less than 2.5 years	261	64	–	309	168	0
	Equal to or more than 2.5 years	527	7	–	532	372	4

As part of the advanced IRBA Deutsche Bank uses supervisory defined risk weights according to the simple risk weight approach for the Group’s equity positions. The table below presents the on- and off-balance-sheet exposures, the EAD, RWA and capital requirements for the categories of equity exposures as set out in Article 155 (2) CRR. For all these positions no credit risk mitigation techniques have been applied.

### EU CR10.05 – Equity exposures under the simple risk-weighted approach

in € m.

(unless stated otherwise)

Dec 31, 2023

Categories	Equities under the simple risk-weighted approach					
	a	b	c	d	e	f
	On-balance sheet amount	Off-balance sheet amount	Risk weight	Exposure amount	RWA	Capital requirements
Private equity exposures sufficiently diversified	1,725	5	190%	1,730	3,287	14
Exchange-traded equity exposures	95	1,560	290%	1,655	4,801	13
All other equity exposures	180	7	370%	187	693	4
<b>Total</b>	<b>2,000</b>	<b>1,573</b>	<b>–</b>	<b>3,573</b>	<b>8,781</b>	<b>32</b>

in € m.

(unless stated otherwise)

Jun 30, 2023

Categories	Equities under the simple risk-weighted approach					
	a	b	c	d	e	f
	On-balance sheet amount	Off-balance sheet amount	Risk weight	Exposure amount	RWA	Capital requirements
Private equity exposures sufficiently diversified	552	0	190%	552	1,049	4
Exchange-traded equity exposures	44	1,556	290%	1,600	4,640	13
All other equity exposures	1,478	9	370%	1,487	5,502	36
<b>Total</b>	<b>2,074</b>	<b>1,565</b>	<b>–</b>	<b>3,639</b>	<b>11,191</b>	<b>53</b>

Deutsche Bank's RWA for equity exposures under the simple risk-weighted approach were at € 8.8 billion as of December 31, 2023, in comparison to € 11.2 billion in the prior period. The decrease of € 2.4 billion is predominantly driven by an updated treatment of strategic investments.



# Counterparty credit risk (CCR)

## Internal capital and credit limits for counterparty credit risk exposures

### **Article 439 (a) CRR (EU CCRA)**

Counterparty credit exposure (CCR) arises from business activities in derivatives and securities financing transactions (SFT) and is the risk that the counterparty to a transaction may default before completing the satisfactory settlement of the transaction. The exposure to CCR is calculated by using the internal model method (IMM) and the standardized approach for counterparty credit risk (SA-CCR) for derivatives and the financial collateral comprehensive method for SFT respectively.

As the replacement values of derivatives portfolios fluctuate with movements in market rates and with changes in the transactions in the portfolios, the potential future replacement costs of the portfolios are estimated over their lifetimes or, in case of collateralized portfolios, over appropriate unwind periods. The potential future exposure is measured against a limit set for the counterparty for this type of transactions.

Limits for CCR exposures are established based on the principles for assigning credit limits as described in the sections "General qualitative information on credit risk" and "General qualitative information on credit risk mitigation". For the purpose of limit setting, CCR exposures are also considered in the context of the overall credit exposure to the obligor and the group of borrowers under the one obligor principle.

The potential future exposure analysis is supplemented with stress tests to estimate the immediate impact of extreme market events on the exposures (such as event risk in our Emerging Markets portfolio).

For the majority of derivative counterparty exposures as well as for SFT (excluding former Postbank, now part of Deutsche Bank AG, exposures), the internal model method is used in accordance with Article 283 et seq. CRR. In this respect SFT encompass repurchase transactions, securities or commodities lending and borrowing as well as margin lending transactions. By applying this approach, the EAD calculations are based on a Monte Carlo simulation of the transactions' future market values. Within this simulation process, interest and foreign exchange rates, credit spreads, equity and commodity prices are modeled by stochastic processes and each derivative and securities financing transaction is revalued at each point of a pre-defined time grid. As a result of this process, a distribution of future market values for each transaction at each time grid point is generated. From these distributions, by considering the appropriate netting and collateral agreements, the exposure measures potential future exposure, average expected exposure, expected positive exposure and effective expected positive exposure are derived.

The potential future exposure measure which Deutsche Bank uses is generally given by a time profile of simulated positive market values of each counterparty's derivatives portfolio, for which netting and collateralization are considered. For limit monitoring the 95th quantile of the resulting distribution of market values is employed, internally referred to as potential future exposure. The average exposure profiles generated by the same calculation process are used to derive the so-called average expected exposure measure, which Deutsche Bank uses to reflect expected future replacement costs within the credit risk economic capital, and the expected positive exposure measure driving Deutsche Bank's regulatory capital requirements. While average expected exposure and expected positive exposure are generally calculated with respect to a time horizon of one year, the potential future exposure is measured over the entire lifetime of a transaction or netting set for uncollateralized portfolios and over an appropriate unwind period for collateralized portfolios, respectively. The aforementioned calculation process is employed to derive stressed exposure results for input into the credit portfolio stress testing.

The potential future exposure profile of each counterparty is compared daily to the potential future exposure limit profile set by the respective credit officer. Potential future exposure limits are an integral part of the overall counterparty credit exposure management in line with other limit types. Breaches of potential future exposure limits at any one profile time point are highlighted for action within the credit risk management process. The expected positive exposure is an input to the Pillar 1 capital requirement, whereas average expected exposure feeds as a loan equivalent into the Group's credit portfolio model (economic capital, applied under Pillar 2) where it is combined with all other credit exposure to a counterparty.

## Collateral and credit reserves for counterparty credit risk

### Article 439 (b) CRR (EU CCRA)

To reduce the credit risk resulting from OTC derivative transactions, where clearing via a central counterparty is not available, Deutsche Bank regularly seeks the execution of standard master agreements (such as master agreements for derivatives published by the International Swaps and Derivatives Association, Inc. (ISDA) or the German Master Agreement for Financial Derivative Transactions) with the counterparties. A master agreement allows for the close-out netting of rights and obligations arising under derivative transactions that have been entered into under such a master agreement upon the counterparty's default, resulting in a single net claim owed by or to the counterparty. For certain parts of the derivatives business (e.g., foreign exchange transactions), Deutsche Bank also enters into master agreements under which payment netting applies with respect to transactions covered by such master agreements, reducing settlement risk. The risk measurement and risk assessment processes apply close-out netting only to the extent it is believed that the master agreement is legally valid and enforceable in all relevant jurisdictions.

ISDA Master Agreements are generally accompanied by credit support annexes (CSAs) to master agreements in order to further reduce the derivatives-related credit risk. These annexes generally provide risk mitigation through periodic, usually daily, margining of the covered exposure. The CSAs also provide for the right to terminate the related derivative transactions upon the counterparty's failure to honor a margin call. As with netting, when Deutsche Bank believes the annex is enforceable, it is reflected in the exposure measurement.

Deutsche Bank also establishes counterparty credit valuation adjustments (CVA) for OTC derivative transactions to cover expected credit losses. The adjustment amount is determined by assessing the potential credit exposure to a given counterparty and taking into account any collateral held, the effect of any relevant netting arrangements, expected loss given default and the credit risk, based on available market information, including CDS spreads.

## Management of wrong-way risk exposures

### Article 439 (c) CRR (EU CCRA)

Wrong-way risk occurs when exposure to a counterparty is adversely correlated with the credit quality of that counterparty. In compliance with Article 291(2) and (4) CRR Deutsche Bank has a monthly process to monitor several layers of wrong-way risk (specific wrong-way risk, general explicit wrong-way risk at country/industry/region levels and general implicit wrong-way risk), whereby relevant exposures arising from transactions subject to wrong-way risk are automatically selected and presented for comment to the responsible credit officer. A wrong-way risk report is then sent to credit risk senior management on a monthly basis. In addition, the bank utilizes its established process for calibrating its own alpha factor (as defined in Article 284 (9) CRR) to estimate the overall wrong-way risk in the bank's derivatives and securities financing transactions portfolio.

## Collateral in the event of a rating downgrade

### Article 439 (d) CRR (EU CCRA)

Certain CSAs to master agreements provide for rating-dependent triggers, where additional collateral must be pledged if a party's rating is downgraded. The Group also enters into master agreements that provide for an additional termination event upon a party's rating downgrade. These downgrade provisions in CSAs and master agreements usually apply to both parties but in some agreements may apply only to Deutsche Bank. The Group analyzes and monitors its potential contingent payment obligations resulting from a rating downgrade in the bank's stress testing and liquidity coverage ratio approach for liquidity risk on an ongoing basis.

The following table presents the amount needed to meet collateral requirements from contractual obligations in the event of a one- or two-notch downgrade by rating agencies for all currencies.

#### Contractual Obligations

in € m.	Dec 31, 2023		Dec 31, 2022	
	One-notch downgrade	Two-notch downgrade	One-notch downgrade	Two-notch downgrade
Contractual derivatives funding or margin requirements	402	526	389	434
Other contractual funding or margin requirements	0	0	0	0

## Estimate of alpha factor

### Article 439 (k) CRR

Under the IMM approach the EAD is calculated as the product of the effective expected positive exposure and a multiplier 'alpha' ( $\alpha$ ). The scaling factor alpha is applied in order to correct for correlations between counterparties, concentration risk, and to account for the level of volatility/correlation that might coincide with a downturn. Deutsche Bank received regulatory approval to use its own calibrated alpha factor. For its regulatory capital calculation, however, a regulatory minimum level of 1.25 needs to be applied.

## CCR exposures by model approach and development

### Article 439 (f, g, k) CRR

The following table shows the methods used for calculating the regulatory requirements for CCR exposure including the main parameters for each method. Exposures relevant for CVA charges and exposures cleared through a central counterparty are presented separately in table EU CCR2 and EU CCR8, respectively. Deutsche Bank does not make use of the original exposure method for derivatives nor the financial collateral simple method for SFTs. Deutsche Bank also uses the new SA-CCR to calculate the exposure at default for derivatives. This approach still consists of a replacement cost and a potential future exposure but also considers a multiplier. The multiplier differentiates between margined and non-margined trades and recognizes netting and hedging benefits as well as collateralization. Under the IMM only the effective expected positive exposure and the exposure at default are presented. For the calculation of the Group's CCR RWA the higher of the stressed effective expected positive exposure and the unstressed effective expected positive exposure is taken into consideration. The simulation process of future market values in the internal model also includes the impact from regulatory netting and collateralization across all asset classes.

### EU CCR1 – Analysis of CCR exposure by approach

		Dec 31, 2023							
		a	b	c	d	e	f	g	h
in € m. (unless stated otherwise)		Replacement cost (RC)	Potential future exposure (PFE)	EEPE	Alpha used for computing regulatory exposure value	Exposure value pre-CRM	Exposure value post-CRM	Exposure value	RWA
EU1	EU - Original Exposure Method (for derivatives)	0	0	–	1.4	0	0	0	0
EU2	EU - Simplified SA-CCR (for derivatives)	0	0	–	1.4	0	0	0	0
1	SA-CCR (for derivatives)	2,024	1,476	–	1.4	6,846	4,900	4,900	1,351
2	IMM (for derivatives and SFTs)	–	–	51,129	1.25	710,004	63,911	63,722	15,467
	of which:								
2a	Securities financing transactions netting sets	–	–	24,363	–	615,297	30,454	30,454	2,451
2b	Derivatives and long settlement transactions netting sets	–	–	26,766	–	94,707	33,457	33,268	13,016
2c	from Contractual cross-product netting sets	–	–	0	–	0	0	0	0
3	Financial collateral simple method (for SFTs)	–	–	–	–	0	0	0	0
4	Financial collateral comprehensive method (for SFTs)	–	–	–	–	34,983	26,226	26,226	1,514
5	VaR for SFTs	–	–	–	–	0	0	0	0
6	Total	–	–	–	–	751,833	95,038	94,848	18,332

		Jun 30, 2023							
		a	b	c	d	e	f	g	h
in € m. (unless stated otherwise)		Replacement cost (RC)	Potential future exposure (PFE)	EEPE	Alpha used for computing regulatory exposure value	Exposure value pre-CRM	Exposure value post- CRM	Exposure value	RWA
	EU - Original Exposure								
EU1	Method (for derivatives)	0	0	–	1.4	0	0	0	0
	EU - Simplified SA-CCR (for derivatives)	0	0	–	1.4	0	0	0	0
EU2	SA-CCR (for derivatives)	1,710	1,980	–	1.4	8,170	5,166	5,166	1,991
	IMM (for derivatives and SFTs)	–	–	48,229	1.25	670,642	60,492	60,286	18,698
	of which:								
2a	Securities financing transactions netting sets	–	–	21,240	–	573,371	26,551	26,551	2,340
2b	Derivatives and long settlement transactions netting sets	–	–	26,989	–	97,271	33,942	33,736	16,358
2c	from Contractual cross- product netting sets	–	–	0	–	0	0	0	0
3	Financial collateral simple method (for SFTs)	–	–	–	–	0	0	0	0
4	Financial collateral comprehensive method (for SFTs)	–	–	–	–	52,264	24,086	24,086	1,755
5	VaR for SFTs	–	–	–	–	0	0	0	0
6	Total	–	–	–	–	731,077	89,745	89,539	22,444

The size of Deutsche Bank's on- and off-balance-sheet derivative business is at € 527.4 billion as of December 31, 2023 (€ 533.1 billion as of June 30, 2023), which makes around 38% of its total assets.

Deutsche Bank's CCR RWA stands at € 18.3 billion as of December 31, 2023, reflecting a decrease of € 4.1 billion from June 30, 2023. The decrease reflects predominantly reduced exposures along with lower risk weights for new positions for derivatives under IMM as well as SA-CCR.

## CCR exposures development

### Article 438 (h) CRR

The following table provides an analysis of key drivers for RWA movements observed for counterparty credit risk exposures calculated under the internal model method (IMM) in the current and previous reporting period.

#### EU CCR7 – RWA flow statement of counterparty credit risk exposures under the internal model method

		Three months ended Dec 31, 2023	Three months ended Sep 30, 2023
		a	a
in € m.		RWA	RWA
1	Counterparty credit risk RWA under the IMM opening balance	16,918	19,000
2	Asset size	(1,112)	(2,509)
3	Credit quality of counterparties	746	39
4	Model updates (IMM only)	0	0
5	Methodology and policy (IMM only)	144	88
6	Acquisitions and disposals	0	0
7	Foreign exchange movements	(374)	299
8	Other	0	0
9	Counterparty credit risk RWA under the IMM closing balance	16,322	16,918

Organic changes in portfolio size and composition are considered in the category "asset size". The category "credit quality of counterparties" represents the effects from portfolio rating migrations, loss given default, model parameter recalibrations as well as collateral coverage and netting activities. "Model updates (IMM only)" include model refinements and further roll out of advanced internal models. RWA movements resulting from externally, regulatory-driven changes, e.g. applying new regulations, are considered in the "methodology and policy (IMM only)" section. "Acquisition and disposals" is relating to significant exposure movements which can be clearly assigned to acquisition or disposal related activities. Changes that cannot be attributed to the above categories are reflected in the category "other".

The RWA for counterparty credit risk exposures under the IMM decreased by € 0.6 billion or 3.5% since September 30, 2023, and is primarily driven by the category “asset size”, reflecting lower exposures for derivatives along with lower risk weights for new positions as well as a reduction in category “foreign exchange movements”. These decreases were partially offset by an increase in the category “credit quality of counterparties”, particularly stemming from counterparty rating deteriorations. Additionally, the increase in category “methodology and policy (IMM only)” reflects impacts from the introduction of new models due to regulatory changes.

## CCR CVA capital charge

### Article 439 (h) CRR

The table below provides a breakdown of the credit valuation adjustment (CVA) RWA into advanced and standardized approaches. In addition, the incremental contributions from the VaR and stressed VaR components are highlighted. We calculate the majority of the CVA based on our own internal model as approved by the competent supervisory authority, which is consistent with the advanced method, driving the reported CVA RWA of € 5.2 billion (98%), whilst the standardized method covers only € 79 million (2%) of the total CVA RWA. The stressed VaR component is the main driver of advanced CVA RWA, which results from the stressed period volatilities considered. The overall RWA decrease of € 1.3 billion is driven by model updates, market data changes and better processing.

### EU CCR2 – CVA capital charge

	Dec 31, 2023		Jun 30, 2023		
	a	b	a	b	
in € m.	Exposure value	RWA	Exposure value	RWA	
1	Total portfolios subject to the Advanced Method	65,541	5,197	56,715	6,449
2	(i) VaR component (including the 3x multiplier)	0	835	0	1,169
3	(ii) Stressed VaR component (including the 3x multiplier)	0	4,362	0	5,280
4	Transactions subject to the Standardised method	468	79	680	136
	Transactions subject to the Alternative approach (Based on the Original Exposure Method)	0	0	0	0
EU4	Total transactions subject to own funds requirements for CVA risk	66,009	5,276	57,395	6,585

1. Comparatives aligned to current presentation

## CCR exposures to central counterparties

### Article 439 (i) CRR

The table below presents an overview of Deutsche Bank’s exposures and RWA to central counterparties arising from transactions, margins and contributions to default funds. As of December 31, 2023, Deutsche Bank mainly reported exposures to qualifying central counterparties (QCCP) as defined in Article 4 (88) CRR.

## EU CCR8 – Exposures to CCPs

in € m.	Dec 31, 2023		Jun 30, 2023	
	a	b	a	b
	Exposure value	RWA	Exposure value	RWA
1 Exposures to QCCPs (total)	-	795	-	664
Exposures for trades at QCCPs (excluding initial margin and default fund contributions)	6,687	134	6,613	132
of which:				
3 (i) OTC derivatives	3,567	71	1,756	35
4 (ii) Exchange-traded derivatives	729	15	1,516	30
5 (iii) Securities financing transactions	2,391	48	3,341	67
6 (iv) Netting sets where cross-product netting has been approved	0	0	0	0
7 Segregated initial margin	8,456	-	6,290	-
8 Non-segregated initial margin	2,507	50	2,571	51
9 Pre-funded default fund contributions	1,460	611	1,265	481
10 Unfunded default fund contributions	2,099	0	1,986	0
11 Exposures to non-QCCPs (total)	-	3,344	-	333
Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions)	764	779	142	212
of which:				
13 (i) OTC derivatives	670	684	94	142
14 (ii) Exchange-traded derivatives	1	2	0	0
15 (iii) Securities financing transactions	93	93	47	71
16 (iv) Netting sets where cross-product netting has been approved	0	0	0	0
17 Segregated initial margin	0	-	0	-
18 Non-segregated initial margin	0	0	0	0
19 Prefunded default fund contributions	38	478	10	121
20 Unfunded default fund contributions	167	2,088	0	0

Deutsche Bank's RWA for central counterparties are at € 4.1 billion as of December 31, 2023, reflecting an increase of € 3.1 billion from June 30, 2023. The increase is predominantly driven by a central counterparty which is no longer recognized as qualifying as defined in Article 4 (88) CRR.

## CCR exposures in the standardized approach

### Article 444 (e) CRR

The following table provides the counterparty credit risk exposures in the standardized approach broken down by risk weights and regulatory exposure classes. This table excludes risk weighted exposure amounts derived from own funds requirements for CVA risk but includes exposures cleared through a CCP.

### EU CCR3 – Standardized approach – CCR exposures by regulatory portfolio and risk

in € m.	Dec 31, 2023						
	Risk Weight						
	a	b	c	d	e	f	g
Exposure classes	0%	2%	4%	10%	20%	50%	70%
1 Central governments or central banks	2,730	0	0	0	0	0	0
2 Regional governments or local authorities	129	0	0	0	0	0	0
3 Public sector entities	188	0	0	0	0	0	0
4 Multilateral development banks	205	0	0	0	0	0	0
5 International organizations	0	0	0	0	0	0	0
6 Institutions	10	9,193	3	0	125	122	0
7 Corporates	35	0	0	0	275	1	0
8 Retail	0	0	0	0	0	0	0
Institutions and corporates with a short-term credit assessment	0	0	0	0	0	0	0
10 Other items	0	0	0	0	0	0	0
11 Total	3,296	9,193	3	0	400	123	0

		Dec 31, 2023				
in € m.		Risk Weight				
		h	i	j	k	l
Exposure classes		75%	100%	150%	Others	Total
1	Central governments or central banks	0	11	0	0	2,741
2	Regional governments or local authorities	0	0	0	0	129
3	Public sector entities	0	0	0	0	188
4	Multilateral development banks	0	0	0	0	205
5	International organizations	0	0	0	0	0
6	Institutions	0	0	0	0	9,452
7	Corporates	0	1,639	0	0	1,951
8	Retail	1	0	0	0	1
9	Institutions and corporates with a short-term credit assessment	0	0	0	0	0
10	Other items	0	0	32	0	32
11	<b>Total</b>	<b>1</b>	<b>1,650</b>	<b>32</b>	<b>0</b>	<b>14,699</b>

		Jun 30, 2023						
in € m.		Risk Weight						
		a	b	c	d	e	f	g
Exposure classes		0%	2%	4%	10%	20%	50%	70%
1	Central governments or central banks	2,925	0	0	0	0	0	0
2	Regional governments or local authorities	141	0	0	0	0	0	0
3	Public sector entities	229	0	0	0	1	0	0
4	Multilateral development banks	64	0	0	0	0	0	0
5	International organizations	0	0	0	0	0	0	0
6	Institutions	8	9,184	2	0	195	0	0
7	Corporates	77	0	0	0	256	6	0
8	Retail	0	0	0	0	0	0	0
9	Institutions and corporates with a short-term credit assessment	0	0	0	0	0	0	0
10	Other items	0	0	0	0	0	0	0
11	<b>Total</b>	<b>3,444</b>	<b>9,184</b>	<b>2</b>	<b>0</b>	<b>453</b>	<b>6</b>	<b>0</b>

		Jun 30, 2023				
in € m.		Risk Weight				
		h	i	j	k	l
Exposure classes		75%	100%	150%	Others	Total
1	Central governments or central banks	0	0	0	0	2,925
2	Regional governments or local authorities	0	0	0	0	141
3	Public sector entities	0	0	0	0	231
4	Multilateral development banks	0	0	0	0	64
5	International organizations	0	0	0	0	0
6	Institutions	0	19	0	0	9,407
7	Corporates	0	967	0	0	1,306
8	Retail	1	0	0	0	1
9	Institutions and corporates with a short-term credit assessment	0	0	0	0	0
10	Other items	0	30	144	0	174
11	<b>Total</b>	<b>1</b>	<b>1,016</b>	<b>144</b>	<b>0</b>	<b>14,248</b>

## CCR exposures within the foundation IRBA

### Article 452 (g) CRR

The following tables disclose Deutsche Bank's foundation IRBA counterparty credit risk exposures, i.e., derivatives and securities financing transactions, distributed on its internal rating scale for exposure classes central governments and central banks, institutions as well as corporates with its relevant subcategories. CVA charges or exposures cleared through a CCP are excluded.

Deutsche Bank discloses the exposure after CCF and CRM, where exposures covered by guarantees or credit derivatives are assigned to the protection seller.

The exposure after CCF and CRM is presented in conjunction with exposures-weighted average PD, RWAs, the average risk weight and the number of obligors. In addition, it provides the average LGD and average maturity, which is regulatory pre-defined in the foundation IRB. The tables provide the defaulted exposure separately.

EU CCR4 – FIRB approach – CCR exposures by portfolio and PD scale

in € m. (unless stated otherwise)							Dec 31, 2023
Exposure class/ PD scale	a	b	c	d	e	f	g
	Exposure value	Average PD (in %)	Number of obligors (in 1,000)	Average LGD (in %)	Average maturity (in years)	RWA	Density of risk weighted exposure amounts
<b>Central governments and central banks</b>							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0	0	0	0	0	0
0.50 to <0.75	0	0	0	0	0	0	0
0.75 to <2.50	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Institutions</b>							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0	0	0	0	0	0
0.50 to <0.75	0	0	0	0	0	0	0
0.75 to <2.50	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Corporates</b>							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0.38	0.0	45.00	2.5	0	70.00
0.50 to <0.75	18	0.69	0.0	45.00	2.5	13	69.71
0.75 to <2.50	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	1	100.00	0.0	45.00	2.5	0	0
<b>Sub-total</b>	<b>20</b>	<b>7.40</b>	<b>0.0</b>	<b>45.00</b>	<b>2.5</b>	<b>13</b>	<b>65.00</b>
<b>of which:</b>							
<b>SMEs</b>							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0	0	0	0	0	0
0.50 to <0.75	0	0	0	0	0	0	0
0.75 to <2.50	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Specialized Lending</b>							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0.38	0.0	45.00	2.5	0	70.00
0.50 to <0.75	18	0.69	0.0	45.00	2.5	13	69.71
0.75 to <2.50	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	1	100.00	0.0	45.00	2.5	0	0
<b>Sub-total</b>	<b>20</b>	<b>7.40</b>	<b>0.0</b>	<b>45.00</b>	<b>2.5</b>	<b>13</b>	<b>65.00</b>
<b>Other</b>							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0	0	0	0	0	0
0.50 to <0.75	0	0	0	0	0	0	0
0.75 to <2.50	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total</b>	<b>20</b>	<b>7.40</b>	<b>0.0</b>	<b>45.00</b>	<b>2.5</b>	<b>13</b>	<b>65.00</b>



							Jun 30, 2023
in € m.							
(unless stated otherwise)							
	a	b	c	d	e	f	g
Exposure class/ PD scale	Exposure value	Average PD (in %)	Number of obligors (in 1,000)	Average LGD (in %)	Average maturity (in years)	RWA	Density of risk weighted exposure amounts
<b>Central governments and central banks</b>							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0	0	0	0	0	0
0.50 to <0.75	0	0	0	0	0	0	0
0.75 to <2.50	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Institutions</b>							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0	0	0	0	0	0
0.50 to <0.75	0	0	0	0	0	0	0
0.75 to <2.50	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Corporates</b>							
0.00 to <0.15	0	N/M	0	N/M	N/M	0	0
0.15 to <0.25	0	N/M	0	N/M	N/M	0	0
0.25 to <0.50	0	0.38	0.0	45.00	2.5	0	70.00
0.50 to <0.75	15	0.69	0.0	45.00	2.5	11	70.00
0.75 to <2.50	0	1.23	0.0	45.00	2.5	0	50.00
2.50 to <10.00	0	N/M	0	N/M	N/M	0	0
10.00 to <100.00	0	N/M	0	N/M	N/M	0	0
100.00 (Default)	1	100.00	0.0	45.00	2.5	0	0
<b>Sub-total<sup>1</sup></b>	<b>17</b>	<b>7.17</b>	<b>0.0</b>	<b>45.00</b>	<b>2.5</b>	<b>11</b>	<b>65.42</b>
<b>of which:</b>							
<b>SMEs</b>							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0	0	0	0	0	0
0.50 to <0.75	0	0	0	0	0	0	0
0.75 to <2.50	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Specialized Lending</b>							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0.38	0.0	45.00	2.5	0	70.00
0.50 to <0.75	15	0.69	0.0	45.00	2.5	11	70.00
0.75 to <2.50	0	1.23	0.0	45.00	2.5	0	50.00
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	1	100.00	0.0	45.00	2.5	0	0
<b>Sub-total<sup>1</sup></b>	<b>17</b>	<b>7.17</b>	<b>0.0</b>	<b>45.00</b>	<b>2.5</b>	<b>11</b>	<b>65.42</b>
<b>Other</b>							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0	0	0	0	0	0
0.50 to <0.75	0	0	0	0	0	0	0
0.75 to <2.50	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total</b>	<b>17</b>	<b>7.17</b>	<b>0.0</b>	<b>45.00</b>	<b>2.5</b>	<b>11</b>	<b>65.42</b>

## CCR exposures within the advanced IRBA

### **Article 452 (g) CRR**

The following tables disclose Deutsche Bank's advanced IRBA counterparty credit risk exposures, i.e. derivatives and securities financing transactions, distributed on its internal rating scale for exposure classes central governments and central banks, institutions as well as corporates with its relevant subcategories. CVA charges or exposures cleared through a CCP are excluded.

Deutsche Bank discloses the exposure after CCF and CRM, where exposures covered by guarantees or credit derivatives are assigned to the protection seller.

The exposure after CCF and CRM is presented in conjunction with exposure-weighted average PD, LGD, and maturity as well as the RWA, the average risk weight (RW) and the number of obligors. The effect of double default, as far as applicable to exposures outside of former Postbank, is considered in the average RW. It implies that for a guaranteed exposure a loss only occurs if the primary obligor and the guarantor fail to meet their obligations at the same time. The tables provide the defaulted exposure separately, where Deutsche Bank applies an LGD estimate already incorporating potential unexpected losses in the loss rate estimate as required by Article 181 (1)(h) CRR.

EU CCR4 – AIRB approach – CCR exposures by portfolio and PD scale

Dec 31, 2023

in € m. (unless stated otherwise)							
	a	b	c	d	e	f	g
Exposure class/ PD scale	Exposure value	Average PD (in %)	Number of obligors (in 1,000)	Average LGD (in %)	Average maturity (in years) <sup>1</sup>	RWA	Density of risk weighted exposure amounts
<b>Central governments and central banks</b>							
0.00 to <0.15	10,920	0.02	0.1	47.39	0.7	513	4.70
0.15 to <0.25	338	0.22	0.0	59.94	1.3	165	48.78
0.25 to <0.50	8	0.30	0.0	36.61	3.4	4	53.07
0.50 to <0.75	6	0.64	0.0	66.56	1.5	6	101.87
0.75 to <2.50	49	0.88	0.0	37.18	4.9	51	103.95
2.50 to <10.00	434	4.89	0.0	30.06	1.6	423	97.50
10.00 to <100.00	18	22.01	0.0	66.56	1.0	63	357.01
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>11,772</b>	<b>0.24</b>	<b>0.1</b>	<b>47.10</b>	<b>0.8</b>	<b>1,225</b>	<b>10.41</b>
<b>Institutions</b>							
0.00 to <0.15	13,224	0.06	0.3	32.55	1.0	1,854	14.02
0.15 to <0.25	961	0.21	0.1	33.35	0.8	280	29.17
0.25 to <0.50	343	0.37	0.1	44.80	2.3	236	68.83
0.50 to <0.75	850	0.64	0.0	20.13	0.9	296	34.82
0.75 to <2.50	123	1.65	0.0	45.07	1.4	89	72.87
2.50 to <10.00	219	2.98	0.0	12.22	0.6	93	42.72
10.00 to <100.00	0	13.01	0.0	51.20	1.0	0	235.26
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>15,719</b>	<b>0.16</b>	<b>0.5</b>	<b>32.02</b>	<b>1.0</b>	<b>2,849</b>	<b>18.12</b>
<b>Corporates</b>							
0.00 to <0.15	45,350	0.05	6.3	17.58	0.9	3,349	7.39
0.15 to <0.25	3,745	0.20	1.4	30.97	2.2	732	19.54
0.25 to <0.50	5,040	0.35	1.3	38.55	2.2	2,777	55.10
0.50 to <0.75	2,943	0.60	1.1	36.52	1.6	1,811	61.55
0.75 to <2.50	3,388	1.30	1.4	40.45	2.1	2,873	84.79
2.50 to <10.00	1,916	5.40	0.4	23.58	2.0	1,470	76.68
10.00 to <100.00	136	61.60	0.1	48.89	1.3	93	68.18
100.00 (Default)	53	100.00	0.1	46.80	1.6	69	131.39
<b>Sub-total</b>	<b>62,571</b>	<b>0.53</b>	<b>12.0</b>	<b>22.26</b>	<b>1.2</b>	<b>13,173</b>	<b>21.05</b>
<b>of which:</b>							
<b>SMEs</b>							
0.00 to <0.15	4,270	0.04	0.2	12.30	0.5	76	1.78
0.15 to <0.25	182	0.17	0.1	22.99	2.6	30	16.42
0.25 to <0.50	213	0.38	0.2	47.62	1.0	72	33.61
0.50 to <0.75	221	0.64	0.2	48.78	1.0	128	57.97
0.75 to <2.50	440	1.40	0.3	69.24	1.5	366	83.00
2.50 to <10.00	181	4.27	0.1	39.59	1.6	151	83.08
10.00 to <100.00	9	43.75	0.0	80.23	1.1	20	230.68
100.00 (Default)	15	100.00	0.0	45.46	1.1	24	156.98
<b>Sub-total</b>	<b>5,532</b>	<b>0.67</b>	<b>1.2</b>	<b>21.09</b>	<b>0.7</b>	<b>866</b>	<b>15.65</b>
<b>Specialized Lending</b>							
0.00 to <0.15	11	0.06	0.0	20.54	3.5	1	9.87
0.15 to <0.25	7	0.21	0.0	13.47	2.4	1	19.46
0.25 to <0.50	65	0.42	0.0	21.26	3.6	25	38.65
0.50 to <0.75	21	0.63	0.0	17.43	2.9	7	34.07
0.75 to <2.50	155	1.40	0.1	16.33	3.0	59	38.26
2.50 to <10.00	184	5.29	0.1	33.58	4.1	194	105.38
10.00 to <100.00	1	59.05	0.0	18.60	4.9	1	84.35
100.00 (Default)	1	100.00	0.0	25.94	5.0	1	61.22
<b>Sub-total</b>	<b>445</b>	<b>3.19</b>	<b>0.2</b>	<b>24.34</b>	<b>3.6</b>	<b>290</b>	<b>65.08</b>
<b>Other</b>							
0.00 to <0.15	41,069	0.05	6.0	18.13	1.0	3,272	7.97
0.15 to <0.25	3,555	0.20	1.3	31.42	2.2	700	19.70
0.25 to <0.50	4,762	0.35	1.1	38.37	2.3	2,681	56.29
0.50 to <0.75	2,701	0.60	0.9	35.67	1.6	1,676	62.05
0.75 to <2.50	2,792	1.28	1.1	37.26	2.1	2,448	87.66
2.50 to <10.00	1,551	5.55	0.2	20.52	1.8	1,125	72.52
10.00 to <100.00	127	62.83	0.0	46.90	1.3	72	57.02
100.00 (Default)	36	100.00	0.0	48.23	1.6	44	123.43
<b>Sub-total</b>	<b>56,594</b>	<b>0.50</b>	<b>10.6</b>	<b>22.36</b>	<b>1.2</b>	<b>12,018</b>	<b>21.24</b>

Dec 31, 2023

in € m. (unless stated otherwise)	a	b	c	d	e	f	g
Exposure class/ PD scale	Exposure value	Average PD (in %)	Number of obligors (in 1,000)	Average LGD (in %)	Average maturity (in years) <sup>1</sup>	RWA	Density of risk weighted exposure amounts
<b>Retail</b>							
0.00 to <0.15	6	0.09	0.2	12.18	-	0	2.99
0.15 to <0.25	2	0.20	0.0	30.69	-	0	13.15
0.25 to <0.50	2	0.35	0.1	54.06	-	1	33.53
0.50 to <0.75	2	0.58	0.0	58.70	-	1	45.59
0.75 to <2.50	7	1.56	0.1	68.18	-	5	70.15
2.50 to <10.00	5	5.71	0.1	80.85	-	5	106.28
10.00 to <100.00	1	37.46	0.0	80.98	-	1	125.00
100.00 (Default)	2	100.00	0.0	16.50	-	4	206.25
<b>Sub-total</b>	<b>27</b>	<b>9.12</b>	<b>0.5</b>	<b>49.97</b>	<b>-</b>	<b>17</b>	<b>63.23</b>
<b>of which:</b>							
Secured by real estate property SMEs							
0.00 to <0.15	0	0	0	0	-	0	0
0.15 to <0.25	0	0	0	0	-	0	0
0.25 to <0.50	0	0	0	0	-	0	0
0.50 to <0.75	0	0	0	0	-	0	0
0.75 to <2.50	0	0	0	0	-	0	0
2.50 to <10.00	0	0	0	0	-	0	0
10.00 to <100.00	0	0	0	0	-	0	0
100.00 (Default)	0	0	0	0	-	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>0</b>
Secured by real estate property non-SMEs							
0.00 to <0.15	0	0	0	0	-	0	0
0.15 to <0.25	0	0	0	0	-	0	0
0.25 to <0.50	0	0	0	0	-	0	0
0.50 to <0.75	0	0	0	0	-	0	0
0.75 to <2.50	0	0	0	0	-	0	0
2.50 to <10.00	0	0	0	0	-	0	0
10.00 to <100.00	0	0	0	0	-	0	0
100.00 (Default)	0	0	0	0	-	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>0</b>
Qualifying Revolving							
0.00 to <0.15	0	0	0	0	-	0	0
0.15 to <0.25	0	0	0	0	-	0	0
0.25 to <0.50	0	0	0	0	-	0	0
0.50 to <0.75	0	0	0	0	-	0	0
0.75 to <2.50	0	0	0	0	-	0	0
2.50 to <10.00	0	0	0	0	-	0	0
10.00 to <100.00	0	0	0	0	-	0	0
100.00 (Default)	0	0	0	0	-	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>0</b>
Other retail SMEs							
0.00 to <0.15	0	0.09	0.0	31.45	-	0	6.04
0.15 to <0.25	0	0.19	0.0	30.23	-	0	9.42
0.25 to <0.50	0	0.36	0.0	67.71	-	0	33.28
0.50 to <0.75	1	0.60	0.0	65.71	-	0	42.88
0.75 to <2.50	5	1.62	0.0	77.53	-	3	75.55
2.50 to <10.00	4	6.45	0.0	82.46	-	4	101.47
10.00 to <100.00	0	50.33	0.0	81.10	-	0	94.33
100.00 (Default)	2	100.00	0.0	16.50	-	4	206.25
<b>Sub-total</b>	<b>11</b>	<b>20.14</b>	<b>0.1</b>	<b>67.62</b>	<b>-</b>	<b>11</b>	<b>101.06</b>
Other retail non-SMEs							
0.00 to <0.15	6	0.09	0.1	11.70	-	0	2.92
0.15 to <0.25	2	0.20	0.0	30.72	-	0	13.35
0.25 to <0.50	2	0.35	0.1	52.72	-	1	33.56
0.50 to <0.75	1	0.58	0.0	55.51	-	1	46.83
0.75 to <2.50	3	1.45	0.1	52.41	-	2	61.05
2.50 to <10.00	2	3.99	0.0	77.14	-	2	117.38

Dec 31, 2023

in € m. (unless stated otherwise)		a	b	c	d	e	f	g
Exposure class/ PD scale	Exposure value	Average PD (in %)	Number of obligors (in 1,000)	Average LGD (in %)	Average maturity (in years) <sup>1</sup>		RWA	Density of risk weighted exposure amounts
10.00 to <100.00	0	16.60	0.0	80.77	-		0	174.70
100.00 (Default)	0	0	0	0	-		0	0
<b>Sub-total</b>	<b>15</b>	<b>1.03</b>	<b>0.4</b>	<b>37.02</b>	<b>-</b>		<b>5</b>	<b>35.47</b>
<b>Total (all exposure classes)</b>	<b>90,088</b>	<b>0.43</b>	<b>13.1</b>	<b>27.22</b>	<b>1.1</b>		<b>17,264</b>	<b>19.16</b>

<sup>1</sup> Starting with December 31, 2023, exposure weighted average maturity for retail exposures are no longer disclosed, which is in line with the implementation technical standards

Jun 30, 2023

in € m. (unless stated otherwise)	a	b	c	d	e	f	g
Exposure class/ PD scale	Exposure value	Average PD (in %)	Number of obligors (in 1,000)	Average LGD (in %)	Average maturity (in years)	RWA	Average RW (in %)
<b>Central governments and central banks</b>							
0.00 to <0.15	12,912	0.02	0.1	42.70	0.6	407	3.15
0.15 to <0.25	135	0.22	0.0	41.69	1.9	58	42.84
0.25 to <0.50	10	0.32	0.0	31.33	3.0	4	42.53
0.50 to <0.75	8	0.64	0.0	45.05	2.7	6	81.95
0.75 to <2.50	55	0.88	0.0	26.27	5.0	40	73.85
2.50 to <10.00	705	4.68	0.0	18.91	1.7	420	59.61
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>13,824</b>	<b>0.26</b>	<b>0.1</b>	<b>41.40</b>	<b>0.7</b>	<b>936</b>	<b>6.77</b>
<b>Institutions</b>							
0.00 to <0.15	11,819	0.06	0.3	36.75	1.2	1,930	16.33
0.15 to <0.25	1,081	0.16	0.1	45.25	1.1	354	32.71
0.25 to <0.50	859	0.33	0.1	38.85	1.2	449	52.25
0.50 to <0.75	876	0.70	0.0	39.88	0.6	620	70.79
0.75 to <2.50	103	1.78	0.0	57.61	1.8	114	110.45
2.50 to <10.00	1,025	3.18	0.0	5.97	0.5	213	20.74
10.00 to <100.00	0	14.31	0.0	45.00	1.0	0	214.43
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>15,764</b>	<b>0.32</b>	<b>0.5</b>	<b>35.78</b>	<b>1.1</b>	<b>3,679</b>	<b>23.34</b>
<b>Corporates</b>							
0.00 to <0.15	40,461	0.05	6.7	33.93	1.1	5,125	12.67
0.15 to <0.25	2,816	0.18	1.0	50.97	2.6	1,553	55.15
0.25 to <0.50	4,999	0.35	1.3	49.23	2.4	3,150	63.02
0.50 to <0.75	2,187	0.66	0.9	51.69	1.8	1,995	91.23
0.75 to <2.50	3,393	1.42	1.5	40.39	1.9	3,251	95.80
2.50 to <10.00	988	4.07	0.5	48.15	2.4	1,436	145.35
10.00 to <100.00	40	23.94	0.0	27.79	1.3	57	144.27
100.00 (Default)	104	100.00	0.1	23.04	1.3	152	146.75
<b>Sub-total</b>	<b>54,988</b>	<b>0.46</b>	<b>12.1</b>	<b>37.43</b>	<b>1.4</b>	<b>16,720</b>	<b>30.41</b>
<b>of which:</b>							
<b>SMEs</b>							
0.00 to <0.15	2,895	0.04	0.3	31.76	0.5	143	4.95
0.15 to <0.25	37	0.21	0.1	37.58	2.9	13	34.09
0.25 to <0.50	245	0.38	0.2	51.02	0.8	95	38.57
0.50 to <0.75	201	0.64	0.2	70.05	0.7	150	74.70
0.75 to <2.50	312	1.50	0.3	45.86	1.7	252	80.90
2.50 to <10.00	103	3.94	0.1	63.85	2.5	134	129.80
10.00 to <100.00	3	20.75	0.0	80.90	1.2	10	308.95
100.00 (Default)	45	100.00	0.0	38.23	1.1	84	185.72
<b>Sub-total</b>	<b>3,841</b>	<b>1.50</b>	<b>1.1</b>	<b>37.16</b>	<b>0.7</b>	<b>880</b>	<b>22.90</b>
<b>Specialized Lending</b>							
0.00 to <0.15	3	0.06	0.0	49.66	3.9	38	1,223.94
0.15 to <0.25	1	0.22	0.0	48.36	3.2	0	59.67
0.25 to <0.50	12	0.39	0.0	44.90	3.6	9	77.31
0.50 to <0.75	251	0.70	0.0	9.89	3.7	45	17.96
0.75 to <2.50	22	1.50	0.1	40.03	2.7	21	97.22
2.50 to <10.00	121	5.61	0.0	26.58	4.3	129	106.93
10.00 to <100.00	0	13.00	0.0	49.38	1.5	0	233.55
100.00 (Default)	1	100.00	0.0	13.48	4.9	0	35.98
<b>Sub-total</b>	<b>411</b>	<b>2.45</b>	<b>0.2</b>	<b>17.82</b>	<b>3.8</b>	<b>244</b>	<b>59.41</b>
<b>Other</b>							
0.00 to <0.15	37,563	0.05	6.4	34.09	1.2	4,944	13.16
0.15 to <0.25	2,778	0.18	0.9	51.15	2.6	1,540	55.43
0.25 to <0.50	4,742	0.35	1.2	49.15	2.5	3,046	64.24
0.50 to <0.75	1,736	0.65	0.7	55.60	1.7	1,801	103.73
0.75 to <2.50	3,060	1.41	1.1	39.84	1.9	2,977	97.31
2.50 to <10.00	764	3.85	0.4	49.45	2.1	1,173	153.54
10.00 to <100.00	36	24.27	0.0	23.16	1.3	47	129.77
100.00 (Default)	58	100.00	0.0	11.38	1.4	68	118.55
<b>Sub-total</b>	<b>50,736</b>	<b>0.37</b>	<b>10.8</b>	<b>37.61</b>	<b>1.4</b>	<b>15,596</b>	<b>30.74</b>

Jun 30, 2023

in € m. (unless stated otherwise)	a	b	c	d	e	f	g
Exposure class/ PD scale	Exposure value	Average PD (in %)	Number of obligors (in 1,000)	Average LGD (in %)	Average maturity (in years)	RWA	Average RW (in %)
<b>Retail</b>							
0.00 to <0.15	5	0.08	0.2	13.94	1.8	0	3.05
0.15 to <0.25	2	0.19	0.1	36.34	5.0	0	13.96
0.25 to <0.50	2	0.35	0.1	53.67	3.5	1	31.41
0.50 to <0.75	3	0.60	0.1	62.80	2.6	1	46.31
0.75 to <2.50	6	1.42	0.1	72.59	1.7	5	79.82
2.50 to <10.00	7	3.93	0.1	79.65	1.3	7	109.16
10.00 to <100.00	1	21.26	0.0	79.78	1.4	1	174.99
100.00 (Default)	1	100.00	0.0	16.50	1.0	1	206.25
<b>Sub-total</b>	<b>24</b>	<b>4.44</b>	<b>0.6</b>	<b>57.28</b>	<b>2.0</b>	<b>16</b>	<b>66.41</b>
<b>of which:</b>							
Secured by real estate property SMEs							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0	0	0	0	0	0
0.50 to <0.75	0	0	0	0	0	0	0
0.75 to <2.50	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Secured by real estate property non-SMEs							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0	0	0	0	0	0
0.50 to <0.75	0	0	0	0	0	0	0
0.75 to <2.50	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Qualifying Revolving							
0.00 to <0.15	0	0	0	0	0	0	0
0.15 to <0.25	0	0	0	0	0	0	0
0.25 to <0.50	0	0	0	0	0	0	0
0.50 to <0.75	0	0	0	0	0	0	0
0.75 to <2.50	0	0	0	0	0	0	0
2.50 to <10.00	0	0	0	0	0	0	0
10.00 to <100.00	0	0	0	0	0	0	0
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Other retail SMEs							
0.00 to <0.15	0	0.08	0.0	27.58	1.5	0	5.15
0.15 to <0.25	0	0.22	0.0	73.79	1.3	0	26.23
0.25 to <0.50	0	0.37	0.0	72.40	2.3	0	35.91
0.50 to <0.75	2	0.62	0.0	72.89	1.3	1	47.98
0.75 to <2.50	2	1.33	0.0	76.83	1.3	2	69.15
2.50 to <10.00	3	4.96	0.0	80.86	1.3	2	96.21
10.00 to <100.00	0	20.89	0.0	77.30	0.9	0	142.64
100.00 (Default)	1	100.00	0.0	16.50	1.0	1	206.25
<b>Sub-total</b>	<b>8</b>	<b>10.04</b>	<b>0.1</b>	<b>71.37</b>	<b>1.3</b>	<b>7</b>	<b>80.42</b>
Other retail non-SMEs							
0.00 to <0.15	4	0.08	0.2	13.38	1.9	0	2.97
0.15 to <0.25	1	0.19	0.0	24.82	6.2	0	10.19
0.25 to <0.50	1	0.34	0.1	47.10	3.9	0	29.83
0.50 to <0.75	2	0.58	0.0	52.61	4.0	1	44.62
0.75 to <2.50	4	1.47	0.1	69.87	1.9	3	86.66
2.50 to <10.00	4	3.29	0.0	78.88	1.2	5	117.37
10.00 to <100.00	0	21.52	0.0	81.57	1.7	1	198.39
100.00 (Default)	0	0	0	0	0	0	0
<b>Sub-total</b>	<b>16</b>	<b>1.63</b>	<b>0.5</b>	<b>50.21</b>	<b>2.4</b>	<b>10</b>	<b>59.38</b>
<b>Total (all exposure classes)</b>	<b>84,600</b>	<b>0.40</b>	<b>13.4</b>	<b>37.78</b>	<b>1.2</b>	<b>21,352</b>	<b>25.24</b>

## CCR exposures after credit risk mitigation

### Article 439 (e) CRR

The following table presents information on Deutsche Bank's counterparty credit risk (CCR) exposure and the composition of collateral used in both derivatives transactions and securities financing transactions (SFTs).

Table EU CCR5 discloses a breakdown of all types of collateral posted or received to support or reduce CCR exposures related to derivatives and SFTs. For SFTs, collateral refers to both legs of the transaction as collateral received and collateral posted.

### EU CCR5 – Composition of collateral for exposures to CCR

		Dec 31, 2023							
		Collateral used in derivative transactions				Collateral used in SFTs			
		Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received		Fair value of posted collateral	
in € m.		Segregated	Unsegregated	Segregated	Unsegregated	Segregated	Unsegregated	Segregated	Unsegregated
1	Cash – domestic currency	1,939	31,083	0	25,663	997	94,981	0	108,330
2	Cash – other currencies	3,318	36,538	7	24,613	24,297	153,615	0	227,076
3	Domestic sovereign debt	104	174	0	1,568	0	3,811	0	1,046
4	Other Sovereign debt	0	0	0	0	11	3,460	23	9,754
5	Government agency debt	0	0	0	0	0	0	0	0
6	Corporate bonds	1,954	22,475	99	9,996	1,116	297,504	4,779	288,744
7	Equity securities	1	2,760	0	0	327	64,217	35,656	39,493
8	Other collateral	3,226	2,616	8,433	2,005	3	4,173	0	3,285
9	<b>Total</b>	<b>10,542</b>	<b>95,646</b>	<b>8,538</b>	<b>63,845</b>	<b>26,751</b>	<b>621,760</b>	<b>40,458</b>	<b>677,728</b>

		Jun 30, 2023							
		Collateral used in derivative transactions				Collateral used in SFTs			
		Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received		Fair value of posted collateral	
in € m.		Segregated	Unsegregated	Segregated	Unsegregated	Segregated	Unsegregated	Segregated	Unsegregated
1	Cash – domestic currency	0	42,460	0	33,507	862	95,974	0	111,709
2	Cash – other currencies	471	41,131	2	26,384	26,368	137,448	0	204,563
3	Domestic sovereign debt	101	151	0	342	0	2,718	0	1,246
4	Other Sovereign debt	0	0	0	0	31	4,668	21	6,349
5	Government agency debt	0	0	0	0	0	0	0	0
6	Corporate bonds	1,698	26,489	17	11,743	1,402	272,338	7,281	268,670
7	Equity securities	386	2,934	0	0	528	64,584	30,189	36,356
8	Other collateral	5,787	3,479	6,316	2,429	0	3,818	0	3,554
9	<b>Total</b>	<b>8,444</b>	<b>116,644</b>	<b>6,336</b>	<b>74,407</b>	<b>29,192</b>	<b>581,548</b>	<b>37,491</b>	<b>632,446</b>

## Credit derivatives exposures

### Article 439 (j) CRR

The table below discloses the exposure of the credit derivative transactions split into protection bought and sold, as well as a split into product types.

### EU CCR6 – Credit derivatives exposures

		Dec 31, 2023		Jun 30, 2023	
		a	b	a	b
in € m.		Protection bought	Protection sold	Protection bought	Protection sold
<b>Notionals</b>					
1	Single-name credit default swaps	9,887	226	9,291	190
2	Index credit default swaps	143	2	349	93
3	Total return swaps	1,000	0	1,029	0
4	Credit options	0	0	0	0
5	Other credit derivatives	576,031	539,771	648,628	614,883
6	<b>Total notionals</b>	<b>587,060</b>	<b>539,999</b>	<b>659,298</b>	<b>615,166</b>
<b>Fair values</b>					
7	Positive fair value (asset)	2,325	11,546	3,198	7,612
8	Negative fair value (liability)	(11,472)	(1,860)	(7,467)	(2,248)



Deutsche Bank's total notionals for credit derivative exposures are at € 1,127.1 billion as of December 31, 2023, reflecting a decrease of € 147.4 billion from June 30, 2023, which was predominately driven by other credit derivatives in the trading book.

## Exposure to securitization positions

### Objectives in relation to securitization activity

#### **Article 449 (a) CRR (EU SECA)**

Deutsche Bank engages in various business activities that use securitization structures. The main purposes are to provide investor clients with access to risk and returns related to specific portfolios of assets, to provide borrowing clients with access to funding and to manage its own credit risk exposure. In order to achieve its business objectives, Deutsche Bank acts as originator, sponsor and investor on the securitization markets.

Article 4(1)(61) CRR defines which types of transactions and positions must be classified as securitization transactions and securitization positions for regulatory reporting.

Securitization transactions are basically defined as transactions in which the credit risk of a securitized portfolio is divided into at least two securitization tranches and where the payments to the holders of the tranches depend on the performance of the securitized portfolio. The different tranches are in a subordinate relationship that determines the order and the amount of payments or losses assigned to the holders of the tranches (waterfall). Loss allocations to a junior tranche will not already lead to a termination of the entire securitization transaction, i.e., senior tranches survive loss allocations to subordinate tranches.

Securitization positions can be acquired in various forms including investments in securitization tranches, derivative transactions for hedging interest rate and currency risks included in the waterfall, liquidity facilities, credit enhancements, unfunded credit protection or collateral for securitization tranches.

In the banking book, Deutsche Bank acts as originator, sponsor and investor. As an originator the Group uses securitizations primarily as a strategy to reduce credit risk, mainly through the Strategic Corporate Lending. Strategic Corporate Lending uses, among other means, synthetic securitizations to manage the credit risk of loans and lending-related commitments of the Institutional Corporate Credit portfolio (primarily unsecured, investment grade corporates), Leveraged Debt Capital Markets portfolio (primarily secured, non-investment grade corporates) and the Corporate Bank Cash Lending MidCap portfolio, primarily domiciled in Germany and the Netherlands. In addition, the Corporate Bank, through the Global Transaction Banking division, also manages some of its risk on trade finance exposures separately through synthetic securitizations. For all of the above portfolios, the credit risk is predominantly transferred to counterparties through synthetic securitizations, which may be in form of a simple transparent and standardized securitization (Article 18 of Regulation (EU) 2017/2402), principally through the issuance of credit linked notes providing first loss protection.

Additionally, on a limited basis Deutsche Bank has entered into securitization transactions as part of an active liquidity risk management strategy. These transactions do not transfer credit risk and are therefore not included in the quantitative part of this section.

Within its existing role as sponsor, the Group continues to establish and manage securitization schemes in which special purpose entities purchase exposures from third-party entities on behalf of investors. In these transactions, the Group has substantial influence on the selection of the purchased exposures and ultimate composition of the securitized portfolios.

Furthermore, Deutsche Bank acts as an investor in third party securitizations through the purchase of tranches from third party-issued securitizations including simple transparent and standardized securitizations (as part of the Treasury SLR program), or by providing liquidity, credit support or other form of financing. Additionally, the Group assists third party securitizations by providing derivatives related to securitization structures. These include currency, interest rate and credit derivatives.

Primary recourse for securitization exposures lies with the underlying assets. The related risk is mitigated by credit enhancement typically in the form of overcollateralization, subordination, reserve accounts, excess interest, or other support arrangements. Additional protection features include performance triggers, financial covenants and events of default stipulated in the legal documentation which, when breached, provide for the acceleration of repayment, rights of foreclosure and/or other remediation.

The initial due diligence for new banking book exposures usually includes any or all of the following, depending on the specifics of the transaction: (a) the review of the relevant documents including term sheets, servicer reports or other historical

performance data, third-party assessment reports such as rating agency analysis (if externally rated), etc., (b) modeling of base and downside scenarios through asset-class specific cash-flow models, (c) servicer reviews to assess the robustness of the servicer's processes and financial strength. The result of this due diligence is summarized in a credit and rating review which requires approval by an appropriate level of credit authority, depending on the size of exposure and internal rating assigned.

In compliance with the regulatory requirements for risk retention, due diligence and monitoring according to the applicable regulatory requirements is part of the Group's credit review process and the relevant data is gathered for reporting purposes with the support of the IT systems used for the credit review process and the process for financial reporting

Ongoing regular performance reviews include checks of the periodic servicer reports against any performance triggers/covenants in the loan documentation, as well as the overall performance trend in the context of economic, geographic, sector and servicer developments. Monitoring of the re-securitization subset takes into consideration the performance of the securitized tranches' underlying assets, to the extent available.

For lending-related commitments an internal rating review is required at least annually. Significant negative or positive changes in asset performance can trigger an earlier review date. Full credit reviews are also required annually, or, for highly rated exposures, every other year. Furthermore, there is a separate, usually quarterly, watch list process for exposures identified to be at a higher risk of loss, which requires a separate assessment of asset and servicer performance. It includes a review of the exposure strategy and identifies next steps to be taken to mitigate loss potential. There is no difference in approach for re-securitization transactions.

Evaluation of structural integrity is another important component of risk management for securitization, focusing on the structural protection of a securitization as defined in the legal documentation (i.e., perfection of security interest, segregation of payment flows, and rights to audit). The evaluation for each securitization is performed by a dedicated team who engages third-party auditors, determines audit scopes, and reviews the results of such external audits. The results of these risk reviews and assessments complement the credit and rating review process performed by Credit Risk Management.

In the trading book, Deutsche Bank acts as originator, sponsor and investor. In the role of investor, its main objective is to serve as a market maker in the secondary market. The market making function consists of providing liquidity for its customers and providing two way markets (buy and sell) to generate flow trading revenues. In the role of originator, the Group finances loans to be securitized, predominantly in the commercial real estate business. Trading book activities where the Group has the role of a sponsor (excluding activities derived from multi-seller originator transactions) as described above are minimal.

Its Market Risk Management Governance Framework applies to all securitization positions held within the trading book. The Risk Governance Framework applied to securitization includes policies and procedures with respect to new product approvals, new transaction approvals, risk models and measurements, as well as inventory management systems and trade entry. All securitization positions held within the trading book are captured, reported and limited within the Risk Governance Framework at the global, regional and product levels. Any changes in credit and market risks are also reported.

The limit structure includes value-at-risk and product specific thresholds. Asset class market value limits are based on seniority/rating and liquidity, where lower rated positions or positions in less liquid asset class are given a lower trading threshold. The limit monitoring system captures exposures and flags any threshold breaches. Market Risk Management approval is required for any trades over the limit or threshold.

The Market Risk Management Governance Framework also captures issuer (credit) risk for securitization positions in the trading book. MRM's process manages concentration risks and sets thresholds at the position level. The limit structure is based on asset class and rating where less liquid positions and those with lower ratings are assigned lower trading thresholds. When the limit monitoring system captures positions that exceed their respective market value thresholds on a global basis, MRM approval is required. Further due diligence is performed on positions that require trade approval. This includes analyzing the credit performance of the security and evaluating risks of the trade. In addition, collateral level stress testing and performance monitoring is incorporated into the risk management process. The process covers both securitizations and re-securitizations.

In compliance with Article 5 of Regulation (EU) 2017/2402, pre-trade due diligence is performed on all relevant positions. It is the responsibility of the respective trading desk to perform the pre-trade due diligence and then record the appropriate data records at trade execution to indicate whether relevant due diligence items have been performed. The pre-trade due diligence items include confirmations of deal structural features, performance monitoring of the underlying portfolio, and any related retention disclosures.

Product Control group within Finance then reviews trade inputs for errors or flag changes, distributes regulatory control reports and serves as the subject matter escalation contact. Upon validation of flag changes or trading desk errors, the Product Control group within Finance will then communicate and action the changes accordingly. Further pre-trade due diligence is performed

by Market Risk Management for CRR, as applicable for relevant positions exceeding predefined limits (process as described above).

Assets originated or acquired with the intent to securitize follow the general approach for the assignment to the regulatory banking or trading book. Further details are described in chapter "Trading book allocation and prudent valuation", section "Allocation of positions to the regulatory trading book" in this report.

## Nature of other risks in securitized assets

### Article 449 (b) CRR (EU SECA)

Overall, the securitization positions are exposed to the performance of diverse asset classes, including primarily corporate senior secured loans or unsecured debt, consumer debt such as auto loans or student loans, as well as residential or commercial first and second lien mortgages. Deutsche Bank is active across the entire capital structure with an emphasis on the more senior tranches. The subset of re-securitization is predominantly backed by securitizations with corporate obligations in the underlying pools. However, the subset of re-securitization is not part of an active investment strategy anymore and is only representing a very marginal part of the overall securitization portfolio.

The Group's securitization desks trade assets across all capital structures, from senior bonds with large subordination to first loss subordinate tranches. Securitization positions consist mostly of residential mortgage backed securities and commercial mortgage backed securities backed by first and second lien loans, collateralized loan obligations backed by corporate senior secured loans and unsecured debt and consumer asset backed securities, backed by secured and unsecured credit.

Similar to other fixed income and credit assets, securitized trading volume is linked to global growth and geopolitical events which affect liquidity and can lead to lower trading volumes, as observed during the crisis. Current and proposed changes to regulation and uncertainty over final implementation may lead to increased volatility and decreased liquidity/trading volumes across securitized products. Other potential risks that exist in securitized assets are prepayment, default, loss severity and servicer performance. Note that trading book assets are marked-to-market and the previous mentioned risks are reflected in the position's price. Securitization activities have an impact on Deutsche Bank's liquidity activity. For example, the Group enters into securitization transactions as part of an active liquidity risk management strategy. However, the Group also faces risk of potential drawdown under the revolving commitments provided under certain securitization facilities. This liquidity risk is monitored by its Treasury department and is included in its liquidity planning and regular stress testing.

## RWA calculation approaches for securitization positions

### Article 449 (c) CRR (EU SECA)

The approach for the calculation of the regulatory capital requirements for banking book and trading book securitization positions is prescribed by the CRR.

The securitization framework determines the regulatory capital requirements for the credit risk of banking book securitizations pursuant to Articles 242 to 270e CRR and distinguishes between the Securitization Internal Ratings-Based Approach (SEC-IRBA), the Securitization Standardized Approach (SEC-SA) and the Securitization External Ratings-Based Approach (SEC-ERBA). These rules also provide a specific framework for Simple, Transparent and Standardized (STS) securitizations, which are defined in Regulation (EU) 2017/2402 and are subject to a beneficial capital treatment in the CRR.

The SEC-IRBA is applied for securitization positions, where at least 95% of the securitized portfolio is in scope of an IRBA rating model and where sufficient information in relation to the securitized portfolio is available to calculate the risk-weighted exposure amounts under the IRB approach. Note that the ECB may preclude the application of the SEC-IRBA on a case-by-case basis as per Article 258 CRR. Currently, there are no securitization positions for which the ECB has precluded the application of the SEC-IRBA.

In general, the SEC-SA must be applied to all re-securitizations and for all securitizations for which the SEC-IRBA must not or cannot be applied, but the information required to apply the SEC-SA is available. Note, however, that instead of the SEC-SA, the SEC-ERBA must be applied for securitization positions with at least one eligible external rating or where a rating might be inferred:

- Where the application of the SEC-SA would result in a risk weight higher than 25 %, or
- Where, for positions not qualifying as positions in a STS securitization, the application of the SEC-ERBA would result in a risk weight higher than 75 %, or
- For securitization transactions backed by pools of auto loans, auto leases and equipment leases.

Where the SEC-SA may not be used, the SEC-ERBA must be applied for securitization positions with at least one eligible external rating or where an external rating can be inferred. External ratings must satisfy certain eligibility criteria for being used in the risk weight calculation. If more than one eligible rating is available for a specific securitization position, the relevant external rating is determined as the second best eligible rating in accordance with the provisions set forth in Article 270d CRR.

Deutsche Bank does not make use of the option provided in Article 254 (3) CRR to consistently apply the SEC-ERBA instead of the SEC-SA for all securitization positions for which an eligible external rating is available or for positions for which such a rating can be inferred.

In addition to the above approaches to determine capital requirements, Article 267 CRR specifies a risk weight cap for senior securitization positions based on the average risk weight of the securitized portfolio. Article 268 CRR provides a maximum capital requirement for all securitization positions of a specific securitization transaction based on the capital requirement applicable to the securitized portfolio.

Based on Article 254 (5) CRR, an Internal Assessment Approach may be applied for unrated positions in ABCP programs. As the Group ceased the use of ABCP programs in 2015, there are no securitizations positions subject to the Internal Assessment Approach as of December 31, 2023.

As of year end 2023, the whole portfolio has been assessed based on the new securitization framework, due to the decommissioning of the grandfathered securitization framework already by beginning of 2020. Approved rating agencies include Standard & Poor's, Moody's, Fitch Ratings, DBRS Morningstar and Kroll.

More than half of the total banking book securitization exposure was subject to SEC-IRBA. This approach was predominantly used to assess positions backed by corporate loans, auto-related receivables and commercial and residential real estate loans. The risk weight of securitization positions subject to the SEC-IRBA is determined based on a formula, which takes as input the capital requirement of the securitized portfolio and the seniority of the securitization position in the waterfall, amongst others. When applying the SEC-IRBA, Deutsche Bank estimates the risk parameters PD and LGD for the assets included in the securitized portfolio, by using internally developed rating systems approved for such assets. The rating systems are based on historical default and loss information from comparable assets. The risk parameters PD and LGD are derived on risk pool level.

The approach SEC-SA was used in most cases in absence of SEC-IRBA, and it was used for positions backed by a variety of asset classes including corporate loans, real estate loans and diverse ABS positions such as backed by aircraft leasing, credit card loans and consumer loans. The approach SEC-ERBA was only applied to a minority of securitization exposures. The great majority of securitization positions with an eligible external or inferred external credit assessment were securitization positions held as investor backed by residential mortgages. The rest of the securitization exposures were treated by getting assigned a risk weight of 1,250 % as none of the other approaches qualified.

## Calculation of regulatory capital requirements for trading book securitizations

Overall, the regulatory capital requirements for the market risk of trading book securitizations consist of a general and specific market risk component. The capital requirement for the general market risk of trading book securitization positions is determined as the sum of (i) the value-at-risk based capital requirement for market risk and (ii) the stressed value-at-risk based capital requirement for market risk. The capital requirement for specific market risk is principally calculated based on the market risk standardized approach pursuant to Article 337 CRR. For this, the market risk standardized approach risk weight for trading book securitization positions is calculated by using the same methodologies, which apply to banking book securitization positions. The market risk standardized approach based capital requirement for specific risk is determined as the sum of the capital requirements for all net long and all net short securitization positions. The securitization positions included in the market risk standardized approach calculations for specific risk are additionally included in the value-at-risk and stressed value-at-risk calculations for general risk.

Trading book securitizations subject to MRSA treatment include various asset classes differentiated by the respective underlying collateral types:

- Residential mortgage backed securities (RMBS)
- Commercial mortgage backed securities (CMBS)
- Collateralized loan obligations (CLO)
- Collateralized debt obligations (CDO)
- Asset backed securities (incl. credit cards, auto loans and leases, student loans, equipment loans and leases, dealer floorplan loans, etc.)

They also include synthetic credit derivatives and commonly-traded indices based on the above listed instruments.

Please refer to section “Characteristics of the market risk models” of this Pillar 3 report for general information on the Group’s market risk quantification approaches.

Principally all the same methods for assessing the own funds requirements for securitizations, which are used in the non-trading book, are also available in the trading book. The predominantly used method for assessing risk-weighted assets in the trading book was the SEC-ERBA. To a lesser extent the SEC-SA was used. The method SEC-IRBA was only used for a minority of exposure. Another minor part of the exposure values were assigned directly a risk-weight of 1,250 % as no other approach qualified.

## SSPE-related activities

### **Article 449 (d+f) CRR (EU SECA)**

Where Deutsche Bank acts as originator and uses a securitization special purpose entity (SSPE) for transferring securitized assets it occasionally retains exposure to the securitization special purpose entities. The types of exposure to the securitization special purpose entities were either liquidity facilities or derivatives, and in that case foremost interest rate swaps.

Deutsche Bank occasionally uses securitization special purpose entities to securitize third-party exposures in which the Group acts as a sponsor. In certain cases Deutsche Bank also retains some of the securitized exposures. Most of these positions are secured by mortgages on residential properties. The Group also retains occasionally exposures to securitization special purpose entities where it acts as sponsor. The exposure types of such positions were liquidity facilities or derivative positions.

As of December 31, 2023, the portion of retained exposures to securitization special purpose entities is only a very minor part of all retained positions where Deutsche Bank was originator or sponsor.

When Deutsche Bank acts as originator or sponsor of a securitization transaction, it sells securitization tranches (or arranges for such sale through mandated market making institutions) solely on an “execution only” basis and only to sophisticated operative corporate clients that rely on their own risk assessment. In the ordinary course of business, the Group does not offer such tranches to operative corporate clients to which, at the same time, the Group offers investment advisory services.

Deutsche Bank’s business division Asset Management provides asset management services to undertakings for collective investments, including mutual funds and alternative investment funds, and private individuals offering access to traditional and alternative investments across all major asset classes, including securitization positions. As of December 31, 2023 only a small minority of those positions consisted of tranches in securitization transactions where Deutsche Bank acted as originator or sponsor.

Deutsche Bank generally does not provide securitization related services to securitization special purpose entities which are out of its regulatory scope of consolidation and for which the Group claims risk transfer or where the Group acts as sponsor.

For the purpose of regulatory reporting and as of December 31, 2023, there were no securitization special purpose entities, which were in Deutsche Bank’s regulatory scope of consolidation.

### **Article 449 (e) CRR**

Deutsche Bank has not provided any implicit support to its securitization vehicles. In consequence, as of December 31, 2023 there was no need to report any positions according to article 250 3. CRR.

## Accounting policies for securitizations

### **Article 449 (g) CRR (EU SECA)**

The most relevant accounting policies for the securitization programs originated by the Group, and where it holds assets purchased with the intent to securitize, are “Principles of consolidation”, “Financial assets”, “Financial liabilities” and “Derecognition of financial assets and liabilities” below.

For measurement and quantification of both banking and trading book securitizations of Deutsche Bank, please refer to section “Banking and trading book securitization exposures” further below in this report.

## Principles of consolidation

The Group's subsidiaries are those entities which it directly or indirectly controls. Control over an entity is evidenced by the Group's ability to exercise its power in order to affect any variable returns that the Group is exposed to through its involvement with the entity.

The Group sponsors the formation of structured entities and interacts with structured entities sponsored by third parties for a variety of reasons, including allowing clients to hold investments in separate legal entities, allowing clients to invest jointly in alternative assets, for asset securitization transactions, and for buying or selling credit protection.

## Financial assets

The Group classifies financial assets in line with the classification and measurement requirements of IFRS 9, where financial assets are classified based on both the business model used for managing the financial assets and the contractual cash flow characteristics of the financial asset (known as Solely Payments of Principal and Interest or "SPPI"). There are three business models available:

- Hold to Collect - Financial assets held with the objective to collect contractual cash flows; they are subsequently measured at amortized cost and are recorded in multiple lines on the Group's consolidated balance sheet.
- Hold to Collect and Sell - Financial assets held with the objective of both collecting contractual cash flows and selling financial assets; they are recorded as financial assets at Fair Value through Other Comprehensive Income on the Group's consolidated balance sheet.
- Other - Financial assets that do not meet the criteria of either "Hold to Collect" or "Hold to Collect and Sell"; they are recorded as Financial Assets at Fair Value through Profit or Loss on the Group's consolidated balance sheet.

The assessment of business model requires judgment based on facts and circumstances upon initial recognition. If the Group holds a financial asset either in a Hold to Collect or a Hold to Collect and Sell business model, then an assessment at initial recognition to determine whether the contractual cash flows of the financial asset are Solely Payments of Principal and Interest on the principal amount outstanding at initial recognition is required to determine the business model classification. Contractual cash flows, that are SPPI on the principal amount outstanding, are consistent with a basic lending arrangement.

- Financial assets are classified at fair value through profit or loss if they are held in the other business model because they are either held for trading or because they do not meet the criteria for Hold to Collect or Hold to Collect and Sell; financial assets classified as financial assets at fair value through profit or loss are measured at fair value with realized and unrealized gains and losses included in Net gains (losses) on financial assets/liabilities at fair value through profit or loss.
- A financial asset shall be classified and measured at Fair Value through Other Comprehensive Income ("FVOCI"), if the financial asset is held in a Hold to Collect and Sell business model and the contractual cash flows are SPPI, unless designated under the fair value option; under FVOCI, a financial asset is measured at its fair value with any changes being recognized in Other Comprehensive Income ("OCI") and is assessed for impairment under the IFRS 9 expected credit loss model where provisions are recorded through profit or loss (recognized based on expectations of potential credit losses).
- A financial asset is classified and subsequently measured at amortized cost if the financial asset is held in a Hold to Collect business model and the contractual cash flows are SPPI; under this measurement category, the financial asset is measured at fair value at initial recognition; subsequently the carrying amount is reduced for principal payments, plus or minus the cumulative amortization using the effective interest method; the financial asset is assessed for impairment under the IFRS 9 expected credit loss model where provisions are recognized based on expectations of potential credit losses.

## Financial liabilities

Under IFRS 9 financial liabilities are measured at amortized cost using the effective interest method, except for financial liabilities at fair value through profit or loss.

Financial liabilities at fair value through profit or loss include Trading Liabilities, Financial Liabilities Designated at Fair Value through Profit or Loss and Non-Participating Investment Contracts. Financial liabilities classified at fair value through profit or loss are recognized or derecognized on trade date. Trade date is the date on which the Group commits to issue or repurchase the financial liability. Trading liabilities consist primarily of derivative liabilities (including certain loan commitments) and short positions. This also includes loan commitments where the resulting loan upon funding is allocated to the other business model such that the undrawn loan commitment is classified as derivatives held for trading.

## Derecognition of financial assets and liabilities

### Financial asset derecognition

A financial asset is considered for derecognition when the contractual rights to the cash flows from the financial asset expire, or the Group has either transferred the contractual right to receive the cash flows from that asset, or has assumed an obligation to pay those cash flows to one or more recipients, subject to certain criteria. The Group derecognizes a transferred financial asset if it transfers substantially all the risks and rewards of ownership. The Group enters into transactions in which it transfers previously recognized financial assets but retains substantially all the associated risks and rewards of those assets.

In transactions in which substantially all the risks and rewards of ownership of a financial asset are neither retained nor transferred, the Group derecognizes the transferred asset if control over that asset is not retained, i.e., if the transferee has the practical ability to sell the transferred asset. The rights and obligations retained in the transfer are recognized separately as assets and liabilities, as appropriate. If control over the asset is retained, the Group continues to recognize the asset to the extent of its continuing involvement, which is determined by the extent to which it remains exposed to changes in the value of the transferred asset.

### Securitization

The Group securitizes various consumer and commercial financial assets, which is achieved via the transfer of these assets to a structured entity, which issues securities to investors to finance the acquisition of the assets. Financial assets awaiting securitization are classified and measured as appropriate under the policies in the "Financial Assets" and "Financial Liabilities" sections. If the structured entity is not consolidated then the transferred assets may qualify for derecognition in full or in part, under the policy on derecognition of financial assets. Synthetic securitization structures typically involve derivative financial instruments. Those transfers that do not qualify for derecognition may be reported as secured financing or result in the recognition of continuing involvement liabilities. The investors and the securitization vehicles generally have no recourse to the Group's other assets in cases where the issuers of the financial assets fail to perform under the original terms of those assets.

Interests in the securitized financial assets may be retained in the form of senior or subordinated tranches, interest only strips or other residual interests (collectively referred to as "retained interests"). Provided the Group's retained interests do not result in consolidation of a structured entity, nor in continued recognition of the transferred assets, these interests are typically recorded in financial assets at fair value through profit or loss and carried at fair value. Consistent with the valuation of similar financial instruments, the fair value of retained tranches or the financial assets is initially and subsequently determined using market price quotations where available or internal pricing models that utilize variables such as yield curves, prepayment speeds, default rates, loss severity, interest rate volatilities and spreads. The assumptions used for pricing are based on observable transactions in similar securities and are verified by external pricing sources, where available. Where observable transactions in similar securities and other external pricing sources are not available, management judgment must be used to determine fair value. The Group may also periodically hold interests in securitized financial assets and record them at amortized cost.

In situations where the Group has a present obligation (either legal or constructive) to provide financial support to an unconsolidated securitization entity a provision will be created if the obligation can be reliably measured and it is probable that there will be an outflow of economic resources required to settle it.

## External rating agencies used for securitizations and internal Assessment Approach

### Article 449 (h-i) CRR (EU SECA)

According to Article 270 (d) CRR the Group has nominated the following list of external credit assessment institutes (ECAIs), whose ratings are used in determining risk weights in line with Articles 263 and 264 CRR:

- DBRS Morningstar
- Fitch Ratings
- Kroll Bond Rating Agency
- Moody's Investors Service
- Standard & Poor's Ratings Services

All the rating information received from above listed external credit assessment institutes is used indiscriminately for all securitization positions to which they apply, and there is no preference of external credit assessment institutes per exposure type imposed by the Group.

As the Group ceased to use asset backed commercial paper ("ABCP") programs in 2015, there were no securitizations positions subject to the Internal Assessment Approach as of December 31, 2023. For a description of the RWA calculation approaches used for securitization positions please refer to the section "Approaches to calculation of RWA for securitizations mapped to types of exposures" in this Pillar 3 report.

## Banking and trading book securitization exposures

### Article 449 (j) CRR

The amounts reported in the following two tables provide details of the Group's securitization exposures separately for the regulatory non-trading and trading book. The details of the Group's trading book securitization positions subject to the market risk standardized approach (MRSA) are included in this chapter.

The table EU SEC1 details the total non-trading book securitization exposure split by exposure type that the Group has securitized in its capacity as either originator or sponsor and finally positions which have been purchased through investment activities as investor. Each table provides a break-down by traditional and synthetic as well as simple, transparent and standardized ('simple, transparent and standardised securitisation' or 'STS securitisation' means a securitisation that meets the requirements set out in Article 18 of Regulation (EU) 2017/2402) securitization transactions. The originator and sponsor columns (a-k) also contain retained positions, even where the Group does not achieve significant risk transfer (SRT) and shows the current retention of its contribution to the originated or sponsored amount. The amounts reported are the securitized principal notional amounts where no significant risk transfer is achieved. If significant risk transfer is achieved, then the EAD is shown. As the Group ceased the use of asset backed commercial paper programs in 2015, there are no securitization positions subject to the internal assessment approach as of December 31, 2023.

The table EU SEC2 provides the total purchased or retained securitization exposure held in the Group's regulatory trading book separately for originator, sponsor and investor activities split by exposure type of the securitized assets and also further broken down into traditional and synthetic transactions as well as simple transparent and standardized securitizations. The amounts reported are the EAD.



EU SEC1 – Securitization exposures in the non-trading book

																Dec 31, 2023
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	
	Institution acts as originator							Institution acts as sponsor				Institution acts as investor				
	Traditional			Synthetic				Traditional		Synthetic		Traditional		Synthetic		
in € m.	STS	of which: SRT	Non-STS	of which: SRT	Total	of which: SRT	Subtotal	STS	Non-STS		Subtotal	STS	Non-STS		Subtotal	
<b>Total exposures</b>	214	0	95	95	27,428	27,428	27,737	0	2,545	0	2,545	510	47,776	83	48,369	
Retail	214	0	40	40	2,307	2,307	2,561	0	1,690	0	1,690	415	13,123	0	13,538	
of which:																
Residential Mortgage	0	0	40	40	0	0	40	0	1,690	0	1,690	407	4,515	0	4,922	
Credit Card	0	0	0	0	0	0	0	0	0	0	0	0	250	0	250	
Other retail exposures	214	0	0	0	2,307	2,307	2,521	0	0	0	0	8	8,358	0	8,366	
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Wholesale	0	0	55	55	25,121	25,121	25,176	0	854	0	854	95	34,652	83	34,830	
of which:																
Loans to corporates	0	0	0	0	25,121	25,121	25,121	0	655	0	655	0	24,770	83	24,853	
Commercial Mortgage	0	0	55	55	0	0	55	0	71	0	71	0	145	0	145	
Lease and receivables	0	0	0	0	0	0	0	0	129	0	129	93	3,249	0	3,342	
Other wholesale	0	0	0	0	0	0	0	0	0	0	0	2	6,488	0	6,490	
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

																Jun 30, 2023
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	
	Institution acts as originator							Institution acts as sponsor				Institution acts as investor				
	Traditional			Synthetic				Traditional		Synthetic		Traditional		Synthetic		
in € m.	STS	of which: SRT	Non-STS	of which: SRT	Total	of which: SRT	Subtotal	STS	Non-STS	Synthetic	Subtotal	STS	Non-STS		Subtotal	
<b>Total exposures</b>	214	0	67	67	24,903	24,903	25,184	0	2,048	0	2,048	463	45,587	0	46,050	
Retail	214	0	40	40	0	0	254	0	1,440	0	1,440	451	13,077	0	13,527	
of which:																
Residential Mortgage	0	0	40	40	0	0	40	0	1,423	0	1,423	444	4,870	0	5,314	
Credit Card	0	0	0	0	0	0	0	0	0	0	0	0	201	0	201	
Other retail exposures	214	0	0	0	0	0	214	0	17	0	17	7	8,005	0	8,012	
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Wholesale	0	0	27	27	24,903	24,903	24,930	0	608	0	608	12	32,511	0	32,523	
of which:																
Loans to corporates	0	0	0	0	24,903	24,903	24,903	0	418	0	418	0	23,582	0	23,582	
Commercial Mortgage	0	0	27	27	0	0	27	0	85	0	85	0	269	0	269	
Lease and receivables	0	0	0	0	0	0	0	0	105	0	105	0	2,907	0	2,907	
Other wholesale	0	0	0	0	0	0	0	0	0	0	0	12	5,752	0	5,765	
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

EU SEC2 – Securitization exposures in the trading book

												Dec 31, 2023		
	a	b	c		d	e	f	g		h	i	j	k	l
	Institution acts as originator				Institution acts as sponsor				Institution acts as investor					
	Traditional		Synthetic		Traditional		Synthetic		Traditional		Synthetic			
in € m.	STS	Non-STS		Subtotal	STS	Non-STS		Subtotal	STS	Non-STS		Subtotal		
<b>Total exposures</b>	0	153	0	153	0	0	0	0	35	1,840	0	1,875		
Retail	0	0	0	0	0	0	0	0	21	687	0	708		
of which:														
Residential Mortgage	0	0	0	0	0	0	0	0	13	604	0	617		
Credit Card	0	0	0	0	0	0	0	0	0	9	0	9		
Other retail exposures	0	0	0	0	0	0	0	0	7	75	0	82		
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0		
Wholesale	0	153	0	153	0	0	0	0	15	1,153	0	1,167		
of which:														
Loans to corporates	0	0	0	0	0	0	0	0	0	622	0	622		
Commercial Mortgage	0	153	0	153	0	0	0	0	0	420	0	420		
Lease and receivables	0	0	0	0	0	0	0	0	4	25	0	29		
Other wholesale	0	0	0	0	0	0	0	0	10	85	0	96		
Re-securitization	0	1	0	1	0	0	0	0	0	0	0	0		

...

												Jun 30, 2023		
	a	b	c		d	e	f	g		h	i	j	k	l
	Institution acts as originator				Institution acts as sponsor				Institution acts as investor					
	Traditional		Synthetic		Traditional		Synthetic		Traditional		Synthetic			
in € m.	STS	Non-STS		Subtotal	STS	Non-STS		Subtotal	STS	Non-STS		Subtotal		
<b>Total exposures</b>	0	189	0	189	0	0	0	0	4	1,940	0	1,945		
Retail	0	0	0	0	0	0	0	0	3	617	0	620		
of which:														
Residential Mortgage	0	0	0	0	0	0	0	0	3	512	0	514		
Credit Card	0	0	0	0	0	0	0	0	0	10	0	10		
Other retail exposures	0	0	0	0	0	0	0	0	1	95	0	95		
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0		
Wholesale	0	189	0	189	0	0	0	0	1	1,323	0	1,324		
of which:														
Loans to corporates	0	0	0	0	0	0	0	0	0	730	0	730		
Commercial Mortgage	0	188	0	188	0	0	0	0	0	378	0	378		
Lease and receivables	0	0	0	0	0	0	0	0	0	70	0	70		
Other wholesale	0	0	0	0	0	0	0	0	1	146	0	146		
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0		

Overall, the aggregate exposure volume generated by the securitization business was at about € 80.7 billion as of December 31, 2023, which was an increase of € 5.3 billion compared to June 30, 2023. A large majority of the exposure resided in the non-trading book with € 78.7 billion, whereas the trading book portion represented only a minor contribution of € 2.0 billion aggregate exposure value. There was an increase of € 5.4 billion in the non-trading book mainly driven by new originator synthetic positions and new investor traditional positions while in the trading book, the exposure volume has remained stable compared to June 30, 2023.

As of December 31, 2023, in the non-trading book there were two dominant contributions, which together covered € 75.7 billion of the total € 78.7 billion aggregate exposure volume of that book. One dominant part consisted of the traditional securitizations with a volume of € 48.3 billion, where the Group acted as investor by purchasing securitization investments. The other dominant part was composed of the synthetic securitization transactions with a volume of € 27.4 billion, where the Group acted as originator. Compared to June 30, 2023, this was a net increase of € 2.5 billion, which shows the Group's increased activity in issuing new synthetic originator securitizations.

From a securitized asset perspective, the dominant asset types were loans to corporates and retail exposures in the non-trading book, and mortgages (commercial mortgages and residential mortgages) and loans to corporates in the trading book. In the non-trading book the loans to corporates represented € 50.6, or 64% of the exposure volume, the retail exposures covered € 10.9 billion, representing 14% of the exposure volume, and the mortgages covered € 6.9 billion, representing 9% of the exposure volume. In the trading book the mortgages represented the dominant part with € 1.2 billion out of € 2.0 billion, representing 59% of the exposure volume and the loans to corporates covered € 0.6 billion, representing 31% of the total exposure volume of that book. Together, the securitized asset types "Loans to corporates", "Retail exposures" and "Mortgage", represented around € 70.3 billion of € 80.7 billion overall securitization position exposure, which represented 87% of that volume.

Of the overall volume of securitization business of € 80.7 billion only a minority of € 0.8 billion was classified as simple, transparent and standardized (STS). This represented 0.9% of the overall exposure volume in securitizations.

## Securitization exposures in the non-trading book and associated regulatory capital requirements - institution acting as originator or as sponsor

### Article 449 (k)(i) CRR

The table EU SEC3 presents the retained or purchased non-trading book securitizations, where the Group acts as originator or sponsor.

Firstly, the exposure values are broken down by risk-weight bands (columns a-e). Additionally, the Group presents the exposure values, risk weighted exposure amounts and capital requirements separately for each regulatory RWA calculation approach (columns f-q). All just mentioned values are vertically broken down by traditional and synthetic transactions, securitization and re-securitization, as well as by retail or wholesale and a specific row for STS traditional transactions.

For the meaning of the names used in the following sections for the regulatory calculation approaches of the securitization framework (SEC-IRBA, SEC-SA and SEC-ERBA), please see the short description below.

- SEC-IRBA (Articles 259 and 260 CRR): Approach to be used in case the securitized assets would be treated under the IRBA approach if not securitized and reside on the Group's books; at least 95 % of the exposure value of the securitized assets need to be treated under the IRBA approaches in order to apply this approach; there are a number of additional requirements in order to apply this approach (see Article 258 CRR).
- SEC-SA (Articles 261 and 262 CRR): In case SEC-IRBA is not applicable, the SEC-SA is generally to be applied; for this the capital requirement ratio under the SA approach (KSA) of the pool of securitized assets needs to be calculated as if it was not securitized and as if it was on the Group's book; in addition, the delinquent asset ratio on the pool level needs to be determined.
- SEC-ERBA (Articles 263 and 264 CRR): This can be applied, if an eligible external or inferred rating is available; the risk weight is determined by a lookup table from the rating letter and the maturity of the position; in case the SEC-ERBA is available there are certain rules to determine when the SEC-ERBA is to be used instead of the SEC-SA (for details see Article 254 CRR).
- 1,250 %: In all other cases, a risk weight of 1,250 % is applied.

EU SEC3 – Securitization exposures in the non-trading book and associated regulatory capital requirements - institution acting as originator or as sponsor

																		Dec 31, 2023
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	
	Exposure values (by RW bands/deductions)					Exposure values (by regulatory approach)					RWA (by regulatory approach)					Capital charge after cap		
in € m.	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW/ deductions	SEC-IRBA	SEC-ERBA(incl uding IAA)	SEC-SA	1250% / deductions	SEC-IRBA	SEC-ERBA(incl uding IAA)	SEC-SA	1250% / deductions	SEC-IRBA	SEC-ERBA(incl uding IAA)	SEC-SA	1250% / deductions	
<b>Total exposures</b>	29,871	0	89	53	54	29,741	39	234	54	4,256	201	142	677	336	10	10	54	
Traditional transactions	2,497	0	89	53	0	2,366	39	234	0	407	201	142	2	28	10	10	0	
Securitization	2,497	0	89	53	0	2,366	39	234	0	407	201	142	2	28	10	10	0	
Retail underlying	1,703	0	0	27	0	1,685	21	24	0	253	99	36	0	16	2	3	0	
of which:																		
STS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Wholesale	794	0	89	25	0	682	18	209	0	155	101	106	2	12	8	8	0	
of which:																		
STS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Synthetic transactions	27,374	0	0	0	54	27,374	0	0	54	3,849	0	0	675	308	0	0	54	
Securitization	27,374	0	0	0	54	27,374	0	0	54	3,849	0	0	675	308	0	0	54	
Retail underlying	2,262	0	0	0	45	2,262	0	0	45	281	0	0	563	22	0	0	45	
Wholesale	25,112	0	0	0	9	25,112	0	0	9	3,568	0	0	112	285	0	0	9	
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

																		Jun 30, 2023
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	
	Exposure values (by RW bands/deductions)					Exposure values (by regulatory approach)					RWA (by regulatory approach)					Capital charge after cap		
in € m.	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW/ deductions	SEC-IRBA	SEC-ERBA(incl uding IAA)	SEC-SA	1250% / deductions	SEC-IRBA	SEC-ERBA(incl uding IAA)	SEC-SA	1250% / deductions	SEC-IRBA	SEC-ERBA(incl uding IAA)	SEC-SA	1250% / deductions	
<b>Total exposures</b>	26,462	0	508	42	6	26,895	30	88	6	4,363	128	45	70	371	4	4	6	
Traditional transactions	2,081	0	0	34	0	1,997	30	88	0	304	128	45	0	21	4	4	0	
Securitization	2,081	0	0	34	0	1,997	30	88	0	304	128	45	0	21	4	4	0	
Retail underlying	1,453	0	0	27	0	1,434	21	25	0	215	100	36	0	14	2	3	0	
of which:																		
STS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Wholesale	628	0	0	6	0	563	8	63	0	88	28	9	0	7	2	1	0	
of which:																		
STS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Synthetic transactions	24,382	0	508	8	6	24,898	0	0	6	4,059	0	0	69	350	0	0	6	
Securitization	24,382	0	508	8	6	24,898	0	0	6	4,059	0	0	69	350	0	0	6	
Retail underlying	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Wholesale	24,382	0	508	8	6	24,898	0	0	6	4,059	0	0	69	350	0	0	6	
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

The overall exposure volume of the securitization exposures in the non-trading book was € 78.4 billion by December 31, 2023, of which € 30.1 billion were represented by positions for which the Group acted as originator or sponsor, which was an increase of € 3.1 billion compared to June 30, 2023. The securitization exposures for these two roles were concentrated in the lowest risk-weight band, with risk-weights equal to or lower than 20%. These positions were almost exclusively treated by the SEC-IRBA method of the securitization framework of CRR. This reflected first and foremost the way the own synthetic on-balance sheet securitizations, which covered € 27.4 billion or 91% of the € 30.1 billion of exposure volume, were structured, namely such that the senior tranche, which attracts a minimal risk-weight, was kept, while subordinated tranches were transferred to third parties. Consequently, the RWA before capping and the capital requirements were also concentrated under the method of SEC-IRBA. Accordingly, the overall capital requirements for originators and sponsors increased by € 25.7 million from € 385 million as of June 30, 2023 to € 411 million by December 31, 2023, of which € 336 million or around 82% were treated under SEC-IRBA. Compared to June 30, 2023, there was by December 31, 2023 a 10% increase in exposure levels and a 6% increase of capital requirements due to the increased activity in issuing new synthetic transactions by Deutsche Bank.

## Securitization exposures in the non-trading book and associated regulatory capital requirements - institution acting as investor

### Article 449 (k)(ii) CRR

The table EU SEC4 presents the purchased non-trading book securitizations, where the Group acts as investor, i.e. wherever the Group is not acting as originator or sponsor.

Firstly, the exposure values are broken down by risk-weight bands (columns a-e). Additionally, the Group presents the exposure values, risk weighted exposure amounts and capital requirements for securitization positions provided separately for each regulatory RWA calculation approach (columns f-q). All these values are vertically broken down by traditional and synthetic transactions, securitization and re-securitization, as well as by retail or wholesale and a specific row for STS for traditional transactions.

EU SEC4 – Securitization exposures in the non-trading book and associated regulatory capital requirements - institution acting as investor

																		Dec 31, 2023
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	
	Exposure values (by RW bands/deductions)					Exposure values (by regulatory approach)					RWA (by regulatory approach)					Capital charge after cap		
in € m.	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW/ deductions	SEC-IRBA	SEC-ERBA(incl uding IAA)	SEC-SA	1250% / deductions	SEC-IRBA	SEC-ERBA(incl uding IAA)	SEC-SA	1250% / deductions	SEC-IRBA	SEC-ERBA(incl uding IAA)	SEC-SA	1250% / deductions	
<b>Total exposures</b>	45,437	1,470	1,262	181	19	19,830	594	27,926	19	3,419	543	5,700	236	247	38	425	19	
Traditional transactions	45,353	1,470	1,262	181	19	19,830	594	27,842	19	3,419	543	5,688	236	247	38	424	19	
Securitization	45,353	1,470	1,262	181	19	19,830	594	27,842	19	3,419	543	5,688	233	247	38	424	19	
Retail underlying	11,613	1,006	810	102	7	7,811	371	5,350	7	1,575	276	1,572	84	104	18	105	7	
of which:																		
STS	415	0	0	0	0	0	53	362	0	0	6	36	0	0	0	3	0	
Wholesale	33,740	464	452	78	12	12,019	223	22,492	12	1,844	267	4,116	150	143	20	318	12	
of which:																		
STS	94	0	0	1	0	0	2	93	0	0	3	9	0	0	0	1	0	
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	
Synthetic transactions	83	0	0	0	0	0	0	83	0	0	0	12	0	0	0	1	0	
Securitization	83	0	0	0	0	0	0	83	0	0	0	12	0	0	0	1	0	
Retail underlying	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Wholesale	83	0	0	0	0	0	0	83	0	0	0	12	0	0	0	1	0	
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

																		Jun 30, 2023
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	
	Exposure values (by RW bands/deductions)					Exposure values (by regulatory approach)					RWA (by regulatory approach)					Capital charge after cap		
in € m.	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW/ deductions	SEC-IRBA	SEC-ERBA(incl uding IAA)	SEC-SA	1250% / deductions	SEC-IRBA	SEC-ERBA(incl uding IAA)	SEC-SA	1250% / deductions	SEC-IRBA	SEC-ERBA(incl uding IAA)	SEC-SA	1250% / deductions	
<b>Total exposures</b>	42,284	1,960	1,481	316	9	19,292	766	25,983	9	3,509	1,120	5,570	112	251	58	403	9	
Traditional transactions	42,284	1,960	1,481	316	9	19,292	766	25,983	9	3,509	1,120	5,570	112	251	58	403	9	
Securitization	42,284	1,960	1,481	316	9	19,292	766	25,983	9	3,509	1,120	5,570	108	251	58	403	9	
Retail underlying	11,272	1,195	899	157	4	8,368	486	4,669	4	1,807	746	1,559	51	119	30	94	4	
of which:																		
STS	451	0	0	0	0	0	66	384	0	0	7	38	0	0	1	3	0	
Wholesale	31,013	765	582	158	5	10,924	281	21,314	5	1,702	373	4,010	56	132	28	310	5	
of which:																		
STS	11	0	0	1	0	0	12	0	0	0	4	0	0	0	0	0	0	
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	
Synthetic transactions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Retail underlying	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Wholesale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

The overall exposure volume of the securitization exposures in the non-trading book was € 78.4 billion by December 31, 2023, for € 48.4 billion or 62% of which the Group acts as investor, which was an increase of € 2.3 billion compared with June 30, 2023. With € 45.4 billion, or 94% of the exposure volume, the majority of the exposure volume of the investor portfolio was concentrated in the lowest risk-weight bucket, with risk-weights below or equal to 20%. A minor portion of € 1.5 billion or 3% is allocated to the second lowest risk-weight bucket of risk-weights greater than 20% and lower than or equal to 50%. The two most important methods applied to the investor portfolio were the SEC-IRBA and the SEC-SA. The SEC-SA was applied to an exposure volume of € 27.9 billion or 58% and the SEC-IRBA was applied to € 19.8 billion or 41% of the full investor exposure amount. A minority portion of € 0.6 billion was covered by the SEC-ERBA. The least beneficial approach resulting in 1250% risk-weight had to be applied only to € 19 million exposure volume of this portfolio. Consequently, also with respect to capital requirements after the cap, the two approaches SEC-IRBA and SEC-SA covered the major part, namely € 672 million or 92% of the investor portfolio capital requirements. The SEC-SA covered € 425 million or 58% and the SEC-IRBA covered € 247 million or 34% of the investor portfolio capital requirements of € 729 million, which was an increase of € 7.6 million compared to June 30, 2023 with an amount of € 721 million.

Compared to June 30, 2023 there was an increase of € 5.4 billion in the overall securitisation exposure volume in the non-trading book. That movement was mainly resulting from an increase of € 2.3 billion in the investor activities and an increase of € 3.1 billion in the originator and sponsor business, which was mainly due to new synthetic originator transactions. The two main components of that € 5.4 billion movement were an increase of € 6.6 billion within the lowest risk-weight bucket, with risk-weights below or equal to 20% and a decrease of € 0.6 billion within the risk-weight bucket with risk-weights greater than 50% and lower than or equal to 100%. As a result, the overall capital requirements of the non-trading book increased by 3.0% from € 1,106 million as of June 30, 2023, to € 1,139 million by December 31, 2023.

## Exposures securitized by the institution - Exposures in default and specific credit risk adjustments

### Article 449 (I) CRR

The table EU SEC5 presents the outstanding nominal amounts where the Group acts as originator or sponsor along with exposures which have been classified as defaulted according to Article 178 CRR and its relating specific credit risk adjustments in accordance with Article 110 CRR. The amounts are broken down by the exposure type of the securitized exposures. The outstanding nominal amounts shown correspond to the share of the Group's contribution to the securitized assets.

#### EU SEC5 – Article 449 (I) CRR - Exposures securitized by the institution - Exposures in default and specific credit risk adjustments

	Dec 31, 2023		
	a	b	c
	Exposures securitized by the institution - Institution acts as originator or as sponsor		
	Total outstanding nominal amount		Total amount of specific credit risk adjustments made during the period
in € m.	Total	of which exposures in default	
<b>Total exposures</b>	129,816	4,849	183
<b>Retail (total)</b>	39,775	1,905	35
Residential mortgage	32,759	1,818	23
Credit card	0	0	0
Other retail exposures	6,900	87	12
Re-securitization	116	0	0
<b>Wholesale (total)</b>	90,041	2,944	148
Loans to corporates	30,098	267	148
Commercial mortgage	59,659	2,676	0
Lease and receivables	268	0	0
Other wholesale	0	0	0
Re-securitization	17	1	0

in € m.	Jun 30, 2023		
	a	b	c
	Exposures securitized by the institution - Institution acts as originator or as sponsor		
	Total outstanding nominal amount		Total amount of specific credit risk adjustments made during the period
	Total	of which exposures in default	
<b>Total exposures</b>	129,388	4,004	280
<b>Retail (total)</b>	37,943	2,052	0
Residential mortgage	33,315	1,998	0
Credit card	0	0	0
Other retail exposures	4,505	54	0
Re-securitization	123	0	0
<b>Wholesale (total)</b>	91,445	1,952	280
Loans to corporates	29,838	263	280
Commercial mortgage	61,395	1,687	0
Lease and receivables	194	1	0
Other wholesale	0	0	0
Re-securitization	18	1	0

The total outstanding nominal amount of securitized assets where the Group acted as originator or sponsor was € 129.8 billion as of December 31, 2023, which was an increase of € 0.4 billion compared with June 30, 2023. The relevant drivers were an increase of other retail exposures by € 2.4 billion and a decrease of € 1.7 billion in commercial mortgages. The outstanding nominal amount where the Group acted as originator contributed € 126.5 billion or 97% of the total outstanding nominal amount. The outstanding nominal amount where the Group acted as sponsor was represented by € 3.4 billion or 3% of the total outstanding amount. The total outstanding nominal amount of securitized assets consisted of € 59.7 billion commercial mortgages, € 32.8 billion residential mortgages and € 30.1 billion loans to corporates. In relative terms mortgages contributed 71% and loans to corporates 23% of the total outstanding nominal amount.

Securitized assets flagged as defaulted by December 31, 2023 added up to a total of € 4.8 billion, which were split into € 2.7 billion commercial mortgages, € 1.8 billion residential mortgages and € 0.3 billion loans to corporates. In relative terms the defaulted asset ratios were 4.5% for commercial mortgages, 5.5% for residential mortgages and 0.9% for loans to corporates. Overall, the ratio of defaulted assets in the pools of these securitizations was at 3.7%, which is an increase of 0.6 percentage points compared to June 30, 2023.



# Market risk

## Risk management objectives and policies

### Market risk management strategies and processes

#### **Article 435 (1)(a) CRR (EU OVA & EU MRA)**

The vast majority of the Group's businesses are subject to market risk, defined as the potential for change in the market value of the trading and invested positions. Risk can arise from changes in interest rates, credit spreads, foreign exchange rates, equity prices, commodity prices and other relevant parameters, such as market volatility and market implied default probabilities. The market risk can affect accounting, economic and regulatory views of the exposure.

Market Risk Management governance is designed and established to promote oversight of all market risks, effective decision making and timely escalation to senior management. Market Risk Management defines and implements a framework to systematically identify, assess, monitor and report the market risk. Market risk managers identify market risks through active portfolio analysis and engagement with the business units.

### Market risk management structure and organization

#### **Article 435 (1)(b) CRR (EU OVA & EU MRA)**

##### Market Risk framework

Market Risk Management is part of the Group's independent Risk function and sits within the Market and Valuations Risk Management group. One of the primary objectives of Market Risk Management is to ensure that the business units' risk exposure is within the approved risk appetite commensurate with its defined strategy. To achieve this objective, Market Risk Management works closely together with risk takers ("the business units") and other control and support groups.

The market risk can be distinguished between three substantially different types:

- Trading market risk arises primarily through the market-making and client facilitation activities of the Investment Bank and Corporate Bank divisions. This involves taking positions in debt, equity, foreign exchange, other securities and commodities as well as in equivalent derivatives.
- Traded default risk arising from defaults and rating migrations relating to trading instruments.
- Nontrading market risk arises from market movements, primarily outside the activities of the trading units, in the banking book and from off-balance sheet items. This includes interest rate risk, credit spread risk, investment risk and foreign exchange risk as well as market risk arising from the Group's pension schemes, guaranteed funds and equity compensation. Nontrading market risk also includes risk from the modeling of client deposits as well as savings and loan products.

The aim is to accurately measure all types of market risks by a comprehensive set of risk metrics embedding accounting, economic and regulatory considerations.

Market risks are measured by several internally developed key risk metrics and regulatory defined market risk approaches.

#### Trading Market Risk

The primary mechanism to manage trading market risk is the application of the Group's risk appetite framework of which the limit framework is a key component. The Management Board, supported by Market Risk Management, sets group-wide value-at-risk, economic capital and portfolio stress testing limits for market risk in the trading book. Market Risk Management allocates this overall appetite to the Corporate Divisions and their individual business units based on established and agreed business plans. The business aligned heads within Market Risk Management also establish business unit limits, by allocating the limit down to individual portfolios, geographical regions and types of market risks.

Value-at-risk, economic capital and portfolio stress testing limits are used for managing all types of market risk at an overall portfolio level. As an additional and important complementary tool for managing certain portfolios or risk types, Market Risk Management performs risk analysis and business specific stress testing. Limits are also set on sensitivity and concentration/liquidity, exposure, business-level stress testing and event risk scenarios, taking into consideration business plans and the risk versus return assessment.

The business units are responsible for adhering to the limits against which exposures are monitored and reported. The market risk limits set by Market Risk Management are monitored on a daily, weekly and monthly basis, dependent on the risk management tool being used.

## Nontrading Market Risk

Nontrading market risk arises primarily from activities outside of the bank's trading units, in its banking book, and from certain off-balance sheet items, embedding considerations of different accounting treatment of transactions. Significant market risk factors the Group is exposed to and are overseen by risk management groups in that area are:

- Interest rate risk (including risk from embedded optionality and changes in behavioral patterns for certain product types), credit spread risk, foreign exchange risk, equity risk (including investments in public and private equity as well as real estate, infrastructure and fund assets).
- Market risks from off-balance sheet items, such as pension schemes and guarantees, as well as structural foreign exchange risk and equity compensation risk.

As for trading market risks the risk appetite and limit framework is also applied to manage the Group's exposure to nontrading market risk. At Group level those are captured by the management board set limits for market risk economic capital capturing exposures to all market risks across asset classes as well as earnings and economic value based limits for interest rate risk in the banking books. Those limits are cascaded down by market risk management to the divisional or portfolio level. The limit framework for nontrading market risk exposure is further complemented by a set of business specific stress tests, value-at-risk and sensitivity limits monitored on a daily or monthly basis dependent on the risk measure being used.

## Scope and nature of market risk measurement and reporting systems

### Article 435 (1)(c) CRR (EU OVA & EU MRA)

The scope and nature of the market risk measurement and reporting systems are described in the section "Risk management objectives and policies – Enterprise Risk - Scope and nature of risk measurement and reporting systems" of this document.

## Policies for hedging and mitigating market risk

### Article 435 (1)(d) CRR (EU OVA & EU MRA)

The approach to hedging and managing market risk is governed by policies explicitly designed to ensure that all hedging activities are risk reducing, not proprietary in nature and are documented prior to trade execution. Hedging activities are reviewed by the relevant business control forum. Further description of the hedging approach for specific areas in the banking book are outlined below.

#### Nontrading Market Risk

Nontrading market risk arises primarily from activities outside of the bank's trading units, in its banking book, and from certain off-balance sheet items, embedding considerations of different accounting treatment of transactions. Significant market risk factors the Group is exposed to and are overseen by risk management groups in this area have been outlined above in Section Article 435 (1)(b).

#### Interest Rate Risk in the Banking Book

Interest rate risk in the banking book (IRRBB) is the current or prospective risk, to both the Group's capital and earnings, arising from movements in interest rates, which affect the Group's non-trading book exposures. This includes gap risk, which arises from the term structure of banking book instruments, basis risk, which describes the impact of relative changes in interest rates for financial instruments that are priced using different interest rate curves, as well as option risk, which arises from option derivative positions or from optional elements embedded in financial instruments.

The Group manages its IRRBB exposures using economic value as well as earnings based measures. The Group Treasury function is mandated to manage the interest rate risk centrally, with Market Risk Management acting as "2nd LoD" independently assessing and challenging the implementation of the framework and adherence to the risk appetite. Group Audit in its role as the "3rd LoD" is accountable for providing independent and objective assurance on the adequacy of the design, operating effectiveness and efficiency of the risk management system and systems of internal control. The Group Asset & Liability Committee ("ALCo") oversees and steers the Group's structural interest risk position with particular focus on banking book risks and the management of the net interest income. The ALCo monitors the sensitivity of financial resources and associated metrics to key market parameters such as interest rate curves and oversees adherence to divisional/business financial resource limits.

Economic value based measures look at the change in economic value of banking book assets, liabilities and off-balance sheet exposures resulting from interest rate movements, independent of the accounting treatment. Thereby the Group

measures the change in economic value of equity ( $\Delta$ EVE) as the maximum decrease of the banking book economic value under the six standard scenarios defined by the EBA in addition to internal stress scenarios for risk steering purposes. For the reporting of internal stress scenarios and risk appetite the Group applies a few different modelling assumptions as used in this disclosure. When aggregating the economic value of equity  $\Delta$ EVE across different currencies, DB adds up negative and positive changes without applying weight factors for positive changes. Furthermore, the Group is using behavioral model assumptions about the interest rate duration of own equity capital as well as non-maturity deposits from financial institutions.

Earnings-based measures look at the expected change in net interest income (NII) resulting from interest rate movements over a defined time horizon, compared to a defined benchmark scenario. Thereby the Group measures net interest income  $\Delta$ NII as the maximum reduction under the six standard scenarios defined by the EBA in addition to internal stress scenarios for risk steering purposes, compared to a market implied curve scenario, over a period of 12 months.

The Group employs mitigation techniques to hedge the interest rate risk arising from nontrading positions within given limits. The interest rate risk arising from nontrading asset and liability positions is managed through Treasury Markets & Investments. Thereby the Group uses derivatives and applies different hedge accounting techniques such as fair value hedge accounting or cash flow hedge accounting. For fair value hedges, the Group uses interest rate swaps and options contracts to manage the fair value movements of fixed rate financial instruments due to changes in benchmark interest. For hedges in the context of the cash flow hedge accounting, the Group uses interest rate swaps to manage the exposure to cash flow variability of the variable rate instruments as a result of changes in benchmark interest rates.

The Group assesses and measures hedge effectiveness of a hedging relationship based on the change in the fair value or cash flows of the derivative hedging instrument relative to the change in the fair value or cash flows of the hedged item attributable to the hedged risk.

The "Model Risk Management" function performs independent validation of models used for IRRBB measurement, as per all market risk models, in line with Deutsche Bank's group-wide risk governance framework.

The calculation of VaR and sensitivities of interest rate risk is performed daily, whereas the measurement and reporting of economic value interest rate and earnings risk is performed on a monthly basis. The Group generally uses the same metrics in its internal management systems as it applies for the disclosure in this report.

Deutsche Bank's key modelling assumptions are applied to the positions in the Private Bank and Corporate Bank divisions. Those positions are subject to risk of changes in client's behavior with regard to their deposits as well as loan products. The Group regularly tests the assumptions and updates them where appropriate following a defined governance process. In particular, the Group has made changes to its assumptions during the early phase of rising interest rates where a slower repricing in deposits was observed than it was anticipated.

The Group manages the interest rate risk exposure of its non-maturity deposits through a replicating portfolio approach to determine the average repricing maturity of the portfolio. For the purpose of constructing the replicating portfolio, the portfolio of non-maturity deposits is clustered by dimensions such as business unit, currency, product and geographical location. The main dimensions influencing the repricing maturity are elasticity of deposit rates to market interest rates, volatility of deposit balances and observable client behavior. For the reporting period the average repricing maturity assigned across all such replicating portfolios is 1.98 years and Deutsche Bank uses 15 years as the longest repricing maturity.

In the loan and some of the term deposit products Deutsche Bank considers early prepayment/withdrawal behavior of its customers. The parameters are based on historical observations, statistical analyses and expert assessments.

Furthermore, the Group generally calculates IRRBB related metrics in contractual currencies and aggregates the resulting metrics for reporting purposes. When calculating economic value based metrics the commercial margin is excluded for material parts of the balance sheet.

#### Credit Spread Risk in the Banking Book

Deutsche Bank is exposed to credit spread risk of bonds held in the banking book, mainly as part of the Treasury Liquidity Reserves portfolio. The credit spread risk in the banking book is managed by the businesses, with Market Risk Management acting as an independent oversight function ensuring that the exposure is within the approved risk appetite. This risk category is closely associated with interest rate risk in the banking book as changes in the perceived credit quality of individual instruments may result in fluctuations in spreads relative to underlying interest rates. The calculation of credit spread sensitivities and value-at-risk for credit spread exposure is in general performed on a daily basis, the measurement and reporting of economic capital and stress tests are performed on a monthly basis.

#### Foreign exchange risk

Foreign exchange risk arises from the bank's nontrading asset and liability positions that are denominated in currencies other than the functional currency of the respective entity. The majority of this foreign exchange risk is transferred through internal

hedged to trading books within the Investment Bank division and is therefore reflected and managed via the value-at-risk figures in the trading books. The remaining foreign exchange risks that have not been transferred are mitigated through match funding the investment in the same currency, so that only residual risk remains in the portfolios. Small exceptions to the above approach follow the general Market Risk Management monitoring and reporting process, as outlined for the trading portfolio.

The bulk of nontrading foreign exchange risk is related to unhedged structural foreign exchange exposure, mainly in the U.S., U.K. and China entities. Structural foreign exchange exposure arises from local capital (including retained earnings) held in the Group's consolidated subsidiaries and branches and from investments accounted for at equity. Change in foreign exchange rates of the underlying functional currencies are booked as Currency Translation Adjustments (CTA).

The primary objective for managing the structural foreign exchange exposure is to stabilize consolidated capital ratios from the effects of fluctuations in exchange rates. Therefore, the exposure remains unhedged or partially hedged for a number of currencies with considerable amounts of risk-weighted assets denominated in that currency in order to avoid volatility in the capital ratio for the specific entity and the Group as a whole.

#### Equity and investment risk

Nontrading equity risk arises predominantly from the non-consolidated investment holdings in the banking book and from the equity compensation plans.

The Group's non-consolidated equity investment holdings in the banking book are categorized into strategic and alternative investment assets. Strategic investments typically relate to acquisitions made to support the business franchise and are undertaken with a medium to long-term investment horizon. Alternative assets are comprised of principal investments and other non-strategic investment assets. Principal investments are direct investments in private equity, real estate, venture capital, hedge or mutual funds whereas assets recovered in the workout of distressed positions or other legacy investment assets in private equity and real estate are of a non-strategic nature.

Investment proposals for strategic investments as well as monitoring of progress and performance against committed targets are evaluated by the Group Investment Committee. Depending on size, strategic investments may require approval from the Group Investment Committee, the Management Board or the Supervisory Board.

CRM Principal Investments is responsible for the risk-related governance and monitoring of the Group's alternative asset activities. The review of new or increased principal investment commitments is the task of the Principal Investment Commitment Approval Group, established by the Enterprise Risk Committee as a risk management forum for alternative asset investments. The Principal Investment Commitment Approval Group approves investments under its authority or recommends decisions above its authority to the Management Board for approval. The Management Board also sets investment limits for business divisions and various portfolios of risk upon recommendation by the Enterprise Risk Committee.

The equity investment holdings are included in regular group wide stress tests and the monthly market risk economic capital calculations.

#### Pension risk

The Group is exposed to market risks from defined benefit pension schemes for past and current employees. Market risks in pension plans materialize due to a potential decline in the market value of plan assets or an increase in the present value of the pension liability of each of the pension plans. Market Risk Management is responsible for a regular measurement, monitoring, reporting and control of market risks of the asset and liability side of the defined benefit pension plans. Thereby, market risks in pension plans include but are not restricted to interest rate risk, inflation risk, credit spread risk, equity risk, and longevity risk.

#### Other risks in the Banking Book

Market risks in Asset Management business division primarily result from principal guaranteed funds or accounts, but also from co-investments in the Group's funds.

## Own funds requirements under the Market Risk Standardized Approach

### Article 445 CRR

As of December 31, 2023, the securitization positions, for which the specific interest rate risk is calculated using the market risk standardized approach, generated capital requirements of € 197 million corresponding to risk weighted-assets of € 2.5 billion. As of June 30, 2023 these positions generated capital requirements of € 200 million corresponding to risk weighted-assets of € 2.5 billion.

The capital requirement for Collective Investment Undertakings under the market risk standardized approach was € 14 million corresponding to risk weighted-assets of € 179 million as of December 31, 2023, compared with € 18 million and € 220 million, respectively, as of June 30, 2023.

## EU MR1 – Market risk under the standardized approach

in € m.	Dec 31, 2023	Jun 30, 2023
	a	a
	RWA	RWA
<b>Outright products</b>		
1 Interest rate risk (general and specific) <sup>1</sup>	148	137
2 Equity risk (general and specific) <sup>2</sup>	55	87
3 Foreign exchange risk <sup>3</sup>	149	177
4 Commodity risk	0	0
<b>Options</b>		
5 Simplified approach	0	0
6 Delta-plus method	0	0
7 Scenario approach	0	0
8 Securitization (specific risk)	2,468	2,503
9 Total	<b>2,819</b>	<b>2,904</b>

<sup>1</sup> Interest Rate risk RWA includes € 96 million from collective investment undertakings and € 51 million as per Article 325b of CRR which relates to consolidation of exposures of certain legal entities for own funds requirements

<sup>2</sup> Equity risk RWA of € 55 million is from collective investment undertakings

<sup>3</sup> Foreign Exchange risk RWA includes € 28 million from collective investment undertakings and € 121 million related to placeholders for foreign exchange exposures

# Qualitative information on the internal model approach

## Characteristics of the market risk models

### Article 455 (a)(i) CRR (EU MRB)

Market Risk Management aims to accurately measure all types of market risks by a comprehensive set of risk metrics reflecting economic and regulatory requirements. In accordance with economic and regulatory requirements, the Group measures market and related risks using several key risk metrics listed below:

#### Internally developed market risk models

- Value-at-risk (“VaR”) and stressed value-at-risk (“SVaR”), including CVA VaR and SVaR
- Incremental risk charge

#### Market risk standardized approaches

- Market Risk Standardized Approach (MRSA), applied to investment funds with no look through, MRSA-eligible securitizations and positions subject to longevity risk

#### Stress testing measures

- Portfolio stress testing
- Business-level stress testing
- Event risk scenarios

#### Economic capital measures

- Market risk economic capital, including traded default risk

#### Other model derived and market observable metrics

- Sensitivities
- Market value/notional (concentration risk)
- Loss given default

These measures are viewed as complementary to each other and in aggregate define the market risk framework, by which all businesses can be measured and monitored.

## Value-at-Risk (VaR) at Deutsche Bank Group

VaR is a quantitative measure of the potential loss (in value) of Fair Value positions due to market movements that should not be exceeded in a defined period of time and with a defined confidence level.

The Group’s value-at-risk for the trading businesses is based on internal model approach. Further details about the regulatory model approval are outlined in Article 455 (b).

The historical simulation approach provides more accurate modelling of the risks, enhances the Group’s analysis capabilities and provides a more effective tool for risk management. Aside from enabling a more accurate view of market risk, the

implementation of historical simulation VaR has brought about an even closer alignment of the market risk systems and models to the end of day pricing.

Risk management VaR is calibrated to a 99 % confidence level and a one day holding period. This indicates a 1 in 100 chance that a mark-to-market loss from the trading positions will be at least as large as the reported VaR. For regulatory capital purposes, the VaR model is calibrated to a 99 % confidence interval and a ten day holding period.

The calculation employs a historical simulation technique that uses one year of historical market data as input and observed correlations between the risk factors during this one year period.

The VaR model is designed to take into account a comprehensive set of risk factors across all asset classes. Key risk factors are swap/government curves, index and issuer-specific credit curves, single equity and index prices, foreign exchange rates, commodity prices as well as their implied volatilities. To help ensure completeness in the risk coverage, second order risk factors, e.g. money market basis, implied dividends, option-adjusted spreads and precious metals lease rates are also considered in the VaR calculation. The list of risk factors included in the VaR model is reviewed regularly and enhanced as part of ongoing model performance reviews.

The model incorporates both linear and, especially for derivatives, nonlinear impacts predominantly through a full revaluation approach but it also utilizes a sensitivity-based approach for certain portfolios. The full revaluation approach uses the historical changes to risk factors as input to pricing functions. The sensitivity based approach uses sensitivities to underlying risk factors in combination with historical changes to those risk factors.

For each business unit a separate VaR is calculated for each risk type, e.g. interest rate risk, credit spread risk, equity risk, foreign exchange risk and commodity risk. "Diversification effect" reflects the fact that the total VaR on a given day will be lower than the sum of the VaR relating to the individual risk types. Simply adding the VaR figures of the individual risk types to arrive at an aggregate VaR would imply the assumption that the losses in all risk types occur simultaneously.

The VaR enables the Group to apply a consistent measure across the fair value exposures. It allows a comparison of risk in different businesses, and also provides a means of aggregating and netting positions within a portfolio to reflect correlations and offsets between different asset classes. Furthermore, it facilitates comparisons of the market risk both over time and against the daily trading results.

When using VaR results a number of considerations should be taken into account. These include:

- The use of historical market data may not be a good indicator of potential future events, particularly those that are extreme in nature; this "backward-looking" limitation can cause VaR to understate future potential losses (as in 2008), but can also cause it to be overstated immediately following a period of significant stress (as in post COVID-19)
- The one day holding period does not fully capture the market risk arising during periods of illiquidity, when positions cannot be closed out or hedged within one day
- VaR does not indicate the potential loss beyond the 99th quantile
- Intra-day risk is not reflected in the end of day VaR calculation
- There may be risks in the trading or banking book that are partially or not captured by the VaR model

The process of systematically capturing and evaluating risks currently not captured in the VaR model has been further developed and improved. An assessment is made to determine the level of materiality of these risks and material items are prioritized for inclusion in the internal model. Risks not in VaR are monitored and assessed on a regular basis through the Risk Not In VaR (RNIV) framework. This framework has also undergone a significant overhaul in 2020.

The bank is committed to the ongoing development of the internal risk models, and allocates substantial resources to reviewing, validating and improving them.

## Stressed Value-at-Risk (SVaR)

Stressed Value-at-Risk (SVaR) calculates a stressed value-at-risk measure based on a one year period of significant market stress. The Group calculates a stressed value-at-risk measure using a 99 % confidence level. Stressed VaR is calculated with a holding period of ten days. The SVaR calculation utilizes the same systems, trade information and processes as those used for the calculation of value-at-risk. The only difference is that historical market data and observed correlations from a period of significant financial stress (i.e., characterized by high volatilities) is used as an input for the historical simulation.

The stress period selection process for the stressed value-at-risk calculation is based on the comparison of VaR calculated using historical time windows compared to the current SVaR. If a historical window produces a VaR which is higher than the current SVaR, it is further investigated and the SVaR window can then subsequently be updated accordingly. This process runs on a quarterly basis.

During 2022, the stress period selection process for DB Group was conducted as outlined above. As a result, the SVaR window used at various periods in 2022 included the Financial credit crisis of 2008/09 and the more recent COVID-19 stress period of 2020.

## CVA Value-at-Risk/ Stressed Value-at-Risk

The advanced approach CVA risk capital charge is determined by applying the VaR model. First, the exposure profiles are determined based on the internal model method (IMM) or the mark-to-market method. The next step consists in determining the synthetic CVA position based on the exposure profile and other risk parameters such as credit spreads. Based on this information the credit spread sensitivity is then calculated. Eligible CVA hedges are also incorporated and the CVA risk capital charge is determined based on the internal market risk models VaR and Stressed VaR using a 99 % confidence level and a 10-day holding period.

## Incremental risk charge

### Article 455 (a)(ii),(f) CRR and EU MRB

The incremental risk charge (IRC) is based on the bank's internal model and is intended to complement the value-at-risk modeling framework. The bank uses a Monte Carlo Simulation for calculating incremental risk charge as the 99.9 % quantile of the portfolio loss distribution for allocating contributory incremental risk charge to individual positions. The assessment is performed over a one year capital horizon under a constant position approach which corresponds to applying a 12 months liquidity horizon to all instruments. The model captures the default and migration risk in an accurate and consistent quantitative approach for all portfolios. Important parameters for the incremental risk charge calculation are exposures, recovery rates, maturity, ratings with corresponding default and migration probabilities and parameters specifying issuer correlations.

The incremental risk charge is calculated on a weekly basis. For regulatory reporting purposes, the charge is determined as the higher of the most recent 12 week average of incremental risk charge and the most recent incremental risk charge.

The contributory incremental risk charge of individual positions, which is calculated by expected shortfall allocation, provides the basis for identifying risk concentrations in the portfolio.

Default and rating migration probabilities are defined by rating migration matrices which are calibrated on historical external rating data. Taking into account the trade-off between granularity of matrices and their stability, the model applies a global corporate matrix and a sovereign matrix comprising the seven main rating non-default states and one default state. Accordingly, issue or issuer ratings from the rating agencies Moody's, S&P and Fitch are assigned to each position.

To quantify a loss due to rating migration, a revaluation of a position is performed under the new rating. The probability of joint rating downgrades and defaults is determined by the migration and rating correlations of the incremental risk charge model. These correlations are specified through systematic factors that represent geographical regions and industries and are calibrated on historical rating migration and equity time series. The simulation is based on the assumption of a constant position approach where differences in maturities of long and short positions are taken into account. As the default state is absorbing, defaulted positions do not generate any further losses from rating migrations. The price risk of defaulted debt is modeled by stochastic recoveries.

Direct validation of the incremental risk charge through back-testing methods is not possible. The charge is subject to validation principles such as the evaluation of conceptual soundness, ongoing monitoring and process and outcome analysis. Model validation relies more on indirect methods including stress tests and sensitivity analyses. Relevant parameters are included in the annual validation cycle established in the current regulatory framework.

## Market risk stress testing

### Article 455 (a)(iii) CRR (EU MRB)

Stress testing is a key risk management technique, which evaluates the potential effects of extreme market events and extreme movements in individual risk factors. It is one of the core quantitative tools used to assess the market risk of Deutsche Bank's positions and complements VaR and Economic Capital. Market Risk Management performs several types of stress testing to capture a variety of risks: portfolio stress testing, individual specific stress tests, event risk scenarios, and also contributes to group wide stress testing. These are set at varying severities ranging from mild for earning stability purposes to extreme for capital adequacy assessment.

Portfolio stress testing measures the profit and loss impact of potential market events based on a broad range of historical or hypothetical macro-economic scenarios considered to be severe and plausible. It is used to manage systemic tail risk and informs on earnings stability and capital resilience.

For individual specific stress tests, market risk managers identify relevant idiosyncratic risk factors and develop stress scenarios relating either to macro-economic or business-specific developments. Event risk scenario measures the impact of historically observable events or hypothetical situations on trading positions for specific emerging market countries and regions.

In addition, Market Risk Management participates in the group wide stress test process, where macro-economic scenarios are defined by Enterprise Risk Management Risk Research and each risk department translates that same scenario to the relevant shocks required to apply to their portfolio. This includes credit, market, operational and liquidity risks.

## Methodology for backtesting and model validation

### Article 455 (a)(iv) CRR (EU MRB)

The Group continually analyzes potential weaknesses of the value-at-risk model using statistical techniques, such as backtesting, and also rely on risk management experience.

Backtesting is a procedure used to assess the predictive accuracy of the value-at-risk calculations involving the comparison of hypothetical daily profits and losses under the buy-and-hold assumption ('daily buy-and hold income') to the daily value-at-risk. Under this assumption, the P&L impact on a portfolio for a trading day valued with current market prices and parameters assuming it had been left untouched for that day is estimated and compared with the estimates from the value-at-risk model from the preceding day. The calculation of hypothetical daily profits and losses (buy & hold income) excludes gains and losses from intraday trading, fees and commissions, carry (including net interest margins), reserves and other miscellaneous revenues. An outlier is a hypothetical buy-and-hold trading loss that exceeds the value-at-risk from the preceding day. On average, 99% confidence level should give rise to two to three outliers representing 1% of approximately 260 trading days in any one year. Market risk analyzes and documents underlying reasons for outliers and classifies them either as due to market movements, risks not included in the value-at-risk model, model or process shortcomings. The results are used for further enhancement of the value-at-risk methodology. Formal communications explaining the reasons behind any outlier on Group level are provided to the BaFin and the ECB.

In addition to the standard backtesting analysis at the value-at-risk quantile, the value-at-risk model performance is further verified by analyzing the distributional fit across the whole of the distribution (full distribution backtesting). Regular backtesting is also undertaken on hypothetical portfolios to test value-at-risk performance of particular products and their hedges.

There are various Backtesting forums, with participation from Market Risk Management, Market Risk Analysis and Control, Model Validation, and Finance, that regularly review backtesting results as a whole and of individual businesses. They analyze performance fluctuations and assess the predictive power of the value-at-risk model, which allows the bank to improve and adjust the risk estimation process accordingly.

A model validation team reviews all quantitative aspects of the Value-at-Risk model on a regular basis. The review covers, but is not limited to, model assumptions, calibration approaches for risk parameters, and model performance.

## Regulatory approval for market risk models

### Article 455 (b) CRR (EU MRB)

The Group's value-at-risk for the trading businesses is based on the Group's own internal model. In October 1998, the German Banking Supervisory Authority (now the BaFin) approved the internal model for calculating the regulatory market risk capital for the general and specific market risks based on a sensitivity based Monte Carlo approach. In October 2020, the ECB approved a significant change to the VaR model, now a Historical Simulation approach predominantly utilizing full revaluation, although some portfolios remain on a sensitivity based approach. This model is now used for regulatory capital calculations for VaR and SVaR (including CVA VaR and SVaR).

The Group also has approval to use the internally-developed models described above in the calculation of regulatory capital for the Incremental Risk Charge.

## Trading book allocation and prudent valuation

### Article 455 (c) CRR (EU MRB)

For regulatory purposes all our positions must be assigned to either the trading book or the banking book. This classification of a position impacts its regulatory treatment, in particular the calculation of the regulatory capital charges for the position. We define the criteria for the allocation of positions to either the trading book or banking book in internal policy documents, which are based on the respective requirements applicable to the Group contained in Articles 102 to 106 of the CRR. In line with the Opinion of the EBA on the application of the provisions relating to the boundary between trading book and banking book, and on the internal risk transfer between books as referred to in Article 3 (6) of Regulation (EU) No 2019/876 (EBA/Op/2023/02)



we continue to apply the rules on reclassifications and internal hedges as defined by Regulation (EU) No 575/2013 prior to the amendments introduced by Regulation (EU) No 2019/876. A central function in Finance is responsible for the policy guidance and is the center of competence with regard to questions concerning its application. The Finance functions for the individual business areas are responsible for the classification of positions in line with the policy requirements.

We include positions in the trading book that are financial instruments or commodities which are held with trading intent or which are held for the purpose of hedging other trading book positions. Positions included in the trading book must be free of any restrictive covenants regarding their transferability or able to be hedged. Moreover, positions assigned to the trading book must be revalued daily and changes in the value of those positions must be reported in the profit and loss account. Further information on the valuation methodology that we use is provided below.

As part of the ongoing procedures to confirm that the inclusion of positions in the trading book continues to be in line with the above referenced internal policy guidance, the Finance functions for our trading businesses carry out a global review of the classification of positions on a quarterly basis. The results of the review are documented and presented to the respective Divisional Control Forums with representatives from Finance and Legal.

Re-allocations of positions between the trading book and the banking book may only be carried out in line with the internal policy guidance. They must be documented and are subject to approval by the heads of the Finance functions for the respective business areas.

## Prudent valuation

The Group has an established valuation control framework which governs internal control standards, methodologies, and procedures over the valuation process.

**Prices Quoted in Active Markets** – The fair value of instruments that are quoted in active markets are determined using the quoted prices where they represent prices at which regularly and recently occurring transactions take place.

**Valuation Techniques** – The Group uses valuation techniques to establish the fair value of instruments where prices, quoted in active markets, are not available. Valuation techniques used for financial instruments include modelling techniques, the use of indicative quotes for proxy instruments, quotes from recent and less regular transactions and broker quotes.

For some financial instruments a rate or other parameter, rather than a price, is quoted. Where this is the case then the market rate or parameter is used as an input to a valuation model to determine fair value. For some instruments, modelling techniques follow industry standard models, for example, discounted cash flow analysis and standard option pricing models. These models are dependent upon estimated future cash flows, discount factors and volatility levels. For more complex or unique instruments, more sophisticated modelling techniques are required, and may rely upon assumptions or more complex parameters such as correlations, prepayment speeds, default rates and loss severity.

Frequently, valuation models require multiple parameter inputs. Where possible, parameter inputs are based on observable data or are derived from the prices of relevant instruments traded in active markets. Where observable data is not available for parameter inputs, then other market information is considered. For example, indicative broker quotes and consensus pricing information are used to support parameter inputs where they are available. Where no observable information is available to support parameter inputs then they are based on other relevant sources of information such as prices for similar transactions, historic data, economic fundamentals, and research information, with appropriate adjustment to reflect the terms of the actual instrument being valued and current market conditions.

**Valuation Adjustments** – Valuation adjustments are an integral part of the valuation process. In making appropriate valuation adjustments, the Group follows methodologies that consider factors such as bid-offer spreads, counterparty/own credit and funding risk. Bid-offer spread valuation adjustments are required to adjust mid-market valuations to the appropriate bid or offer valuation. The bid or offer valuation is the best representation of the fair value for an instrument, and therefore its fair value. The carrying value of a long position is adjusted from mid to bid, and the carrying value of a short position is adjusted from mid to offer. Bid-offer valuation adjustments are determined from bid-offer prices observed in relevant trading activity and in quotes from other broker-dealers or other knowledgeable counterparties. Where the quoted price for the instrument is already a bid-offer price then no additional bid-offer valuation adjustment is necessary. Where the fair value of financial instruments is derived from a modelling technique, then the parameter inputs into that model are normally at a mid-market level. Such instruments are generally managed on a portfolio basis and, when specified criteria are met, valuation adjustments are taken to reflect the cost of closing out the net exposure the Bank has to individual market or counterparty risks. These adjustments are determined from bid-offer prices observed in relevant trading activity and quotes from other broker-dealers.

Where complex valuation models are used, or where less-liquid positions are being valued, then bid-offer levels for those positions may not be available directly from the market, and therefore for the close-out cost of these positions, models and parameters must be estimated. When these adjustments are designed, the Group closely examines the valuation risks

associated with the model as well as the positions themselves, and the resulting adjustments are closely monitored on an ongoing basis.

CVAs are required to cover expected credit losses to the extent that the valuation technique does not already include an expected credit loss factor relating to the non-performance risk of the counterparty. The CVA amount is applied to all relevant over-the-counter (OTC) derivatives, and is determined by assessing the potential credit exposure to a given counterparty and taking into account any collateral held, the effect of any relevant netting arrangements, expected loss given default and the probability of default, based on available market information, including CDS spreads. Where counterparty CDS spreads are not available, relevant proxies are used.

The fair value of the Group's financial liabilities at fair value through profit or loss (i.e., OTC derivative liabilities and issued note liabilities designated at fair value through profit or loss) incorporates valuation adjustments to measure the change in the Group's own credit risk (i.e. debt valuation adjustments (DVA) for derivatives and own credit adjustment (OCA) for structured notes). For derivative liabilities the Group considers its own creditworthiness by assessing all counterparties' expected future exposure to the Group, taking into account any collateral posted by the Group, the effect of relevant netting arrangements, the probability of default of the Group, based on the Group's market CDS level and the expected loss given default, taking into account the seniority of derivative claims under resolution (statutory subordination). Issued note liabilities are discounted utilizing the spread at which similar instruments would be issued or bought back at the measurement date as this reflects the value from the perspective of a market participant who holds the identical item as an asset. This spread is further parameterized into a market level of funding component and an idiosyncratic own credit component. Under IFRS 9 the change in the own credit component is reported under Other Comprehensive Income (OCI).

When determining CVA and DVA, additional adjustments are made where appropriate to achieve fair value, due to the expected loss estimate of a particular arrangement, or where the credit risk being assessed differs in nature to that described by the available CDS instrument.

Funding valuation adjustments (FVA) are required to incorporate the market implied funding costs into the fair value of derivative positions. The FVA reflects a discounting spread applied to uncollateralized and partially collateralized derivatives and is determined by assessing the market-implied funding costs on both assets and liabilities.

Where there is uncertainty in the assumptions used within a modelling technique, an additional adjustment is taken to calibrate the model price to the expected market price of the financial instrument. Typically, such transactions have bid-offer levels which are less observable, and these adjustments aim to estimate the bid-offer by computing the liquidity-premium associated with the transaction. Where a financial instrument is of sufficient complexity that the cost of closing it out would be higher than the cost of closing out its component risks, then an additional adjustment is taken to reflect this.

**Valuation Control** – The Group has an independent specialized valuation control group within the Risk function which governs and develops the valuation control framework and manages the valuation control processes. The mandate of this specialist function includes the performance of the independent valuation control process for all businesses, the continued development of valuation control methodologies and techniques, as well as devising and governing the formal valuation control policy framework. Special attention of this independent valuation control group is directed to areas where management judgment forms part of the valuation process.

Results of the valuation control process are collected and analyzed as part of a standard monthly reporting cycle. Variances of differences outside of preset and approved tolerance levels are escalated both within the Finance function and with Senior Business Management for review, resolution and, if required, adjustment.

For instruments where fair value is determined from valuation models, the assumptions and techniques used within the models are independently validated by an independent specialist model validation group that is part of the Group's Risk Management function.

Quotes for transactions and parameter inputs are obtained from a number of third party sources including exchanges, pricing service providers, firm broker quotes and consensus pricing services. Price sources are examined and assessed to determine the quality of fair value information they represent, with greater emphasis given to those possessing greater valuation certainty and relevance. The results are compared against actual transactions in the market to ensure the model valuations are calibrated to market prices.

Price and parameter inputs to models, assumptions and valuation adjustments are verified against independent sources. Where they cannot be verified to independent sources due to lack of observable information, the estimate of fair value is subject to procedures to assess its reasonableness. Such procedures include performing revaluation using independently generated models (including where existing models are independently recalibrated), assessing the valuations against appropriate proxy instruments and other benchmarks, and performing extrapolation techniques. Assessment is made as to

whether the valuation techniques produce fair value estimates that are reflective of market levels by calibrating the results of the valuation models against market transactions where possible.

## Regulatory prudent valuation of assets carried at fair value

Pursuant to Article 34 CRR institutions shall apply the prudent valuation requirements of Article 105 CRR to all assets measured at fair value and shall deduct from CET 1 capital the amount of any additional value adjustments necessary.

We determined the amount of the additional value adjustments based on the methodology defined in the Commission Delegated Regulation (EU) 2016/101.

As of December 31, 2022 the amount of the additional value adjustments was € 2 billion. The December 31, 2021 amount was € 1.8 billion. The increase was predominantly due to widening price dispersions across multiple asset classes as a result of the broader market volatility observed in 2022.

As of December 31, 2022 the reduction of the expected loss from subtracting the additional value adjustments was € 123 million, which partly mitigated the negative impact of the additional value adjustments on our CET 1 capital

# Own funds requirements for market risk under the IMA

## Regulatory capital requirements for market risk

### Article 455 (e) CRR

The table below presents all internal model-related components relevant for the capital requirement calculation for market risk.

#### EU MR2-A – Market Risk under the internal models approach (IMA)

in € m.	Dec 31, 2023		Jun 30, 2023	
	a	b	a	b
	RWA	Capital requirements	RWA	Capital requirements
1 VaR (higher of values a and b)	3,750	300	5,653	452
a) Previous day's VaR (Article 365(1) (VaRt-1))	–	107	–	144
b) Multiplication factor (mc) x average of previous 60 working days (VaRavg)	–	300	–	452
2 SVaR (higher of values a and b)	7,090	567	6,000	480
a) Latest SVaR (sVaRt-1)	–	172	–	141
b) Multiplication factor (ms) x average of previous 60 working days (sVaRavg)	–	567	–	480
3 Incremental risk charge -IRC (higher of values a and b)	7,129	570	7,653	612
a) Most recent IRC value	–	553	–	612
b) 12 weeks average IRC measure	–	570	–	587
4 Comprehensive Risk Measure – CRM (higher of values a, b and c)	–	–	–	–
a) Most recent risk measure of comprehensive risk measure	–	–	–	–
b) 12 weeks average of comprehensive risk measure	–	–	–	–
c) Comprehensive risk measure Floor	–	–	–	–
5 Other	722	58	241	19
6 Total	18,691	1,495	19,548	1,564

<sup>1</sup> Includes Risk not in VaR

As of December 31, 2023, the Internal Models Approach (IMA) components for market risk totaled € 18.7 billion, which was a decrease of € 0.9 billion since June 30, 2023. The decrease was driven by reduction in value-at-risk and stressed value-at-risk capital multiplier from 3.90 to 3.50 on account of backtesting outliers moving out of the 250 day window. Additionally, average value-at-risk RWA further reduced due to roll-off of market data from the rolling 1yr period of value-at-risk model. This reduction was offset by increase in average stressed value-at-risk driven by increase in bond inventory for facilitating market making in Credit Trading business.

## Development of market risk RWA

### Article 438 (h) CRR

The following table provides an analysis of key drivers for movements observed for market risk RWA covered by internal models (i.e. value-at-risk, stressed value-at-risk, incremental risk charge and comprehensive risk measure) in the current and previous reporting period. It also shows the corresponding movements in capital requirements, derived from RWA with an 8% capital ratio.

EU MR2-B – RWA flow statements of market risk exposures under the IMA

		Three months ended Dec 31, 2023						
		a	b	c	d	e	f	g
in € m.		VaR	SVaR	IRC	Compre- hensive risk measure	Other <sup>2</sup>	Total RWA	Total capital requirements
<b>1</b>	Market Risk RWA opening balance	<b>5,605</b>	<b>7,440</b>	<b>7,082</b>	–	<b>16</b>	<b>20,143</b>	<b>1,611</b>
1a	Regulatory adjustment <sup>1</sup>	(4,137)	(4,800)	(66)	–	0	(9,002)	(720)
1b	RWA at the previous quarter-end (end of the day)	1,469	2,640	7,016	–	16	11,141	891
2	Movement in risk levels	813	(300)	(108)	–	(16)	389	31
3	Model updates/changes	22	(189)	0	–	0	(168)	(13)
4	Methodology and policy	0	0	0	–	722	722	58
5	Acquisitions and disposals	0	0	0	–	0	0	0
6	Foreign exchange movements	0	0	0	–	0	0	0
6a	Market data changes and recalibrations	(966)	0	0	–	0	(966)	(77)
7	Other	0	0	0	–	0	0	0
8a	RWA at the end of the reporting period (end of the day)	1,337	2,151	6,908	–	722	11,118	889
8b	Regulatory adjustment <sup>1</sup>	2,413	4,939	221	–	0	7,572	606
<b>8</b>	Market Risk RWA closing balance	<b>3,750</b>	<b>7,090</b>	<b>7,129</b>	–	<b>722</b>	<b>18,691</b>	<b>1,495</b>

<sup>1</sup> Indicates the difference between reported RWA (based on 60day average) and RWA (based on VaR / SVaR as of quarter-end) at the beginning (1b) and end (8a) of the reporting period.

<sup>2</sup> Includes Risk not in VaR

		Three months ended Sep 30, 2023						
		a	b	c	d	e	f	g
in € m.		VaR	SVaR	IRC	Compre- hensive risk measure	Other <sup>2</sup>	Total RWA	Total capital requirements
<b>1</b>	Market Risk RWA opening balance	<b>5,653</b>	<b>6,000</b>	<b>7,653</b>	–	<b>241</b>	<b>19,548</b>	<b>1,564</b>
1a	Regulatory adjustment <sup>1</sup>	(3,857)	(4,236)	0	–	0	(8,093)	(647)
1b	RWA at the previous quarter-end (end of the day)	1,797	1,764	7,653	–	241	11,455	916
2	Movement in risk levels	(328)	877	(638)	–	(225)	(314)	(25)
3	Model updates/changes	0	0	0	–	0	0	0
4	Methodology and policy	0	0	0	–	0	0	0
5	Acquisitions and disposals	0	0	0	–	0	0	0
6	Foreign exchange movements	0	0	0	–	0	0	0
6a	Market data changes and recalibrations	0	0	0	–	0	0	0
7	Other	0	0	0	–	0	0	0
8a	RWA at the end of the reporting period (end of the day)	1,469	2,640	7,016	–	16	11,141	891
8b	Regulatory adjustment <sup>1</sup>	4,137	4,800	66	–	0	9,002	720
<b>8</b>	Market Risk RWA closing balance	<b>5,605</b>	<b>7,440</b>	<b>7,082</b>	–	<b>16</b>	<b>20,143</b>	<b>1,611</b>

<sup>1</sup> Indicates the difference between reported RWA (based on 60day average) and RWA (based on VaR / SVaR as of quarter-end) at the beginning (1b) and end (8b) of the reporting period.

The market risk RWA movements due to position changes are represented in line “Movement in risk levels”. Changes to the Group’s market risk RWA internal models, such as methodology enhancements or risk scope extensions, are included in the category of “Model updates/changes”. In the “Methodology and policy” category the Group reflects regulatory driven changes to its market risk RWA models and calculations. Significant acquisitions and disposals would be assigned to the line item “Acquisition and disposals”. The impacts of “Foreign exchange movements” are not calculated for IMA (Internal Models Approach) components. Changes in market data levels, return assumptions for negative market levels, volatilities, correlations, liquidity and ratings are included under the “Market data changes and recalibrations” category.

As of December 31, 2023, the IMA components for market risk totaled € 18.7 billion, a decrease of € 1.5 billion since September 30, 2023. The decrease in RWA was driven by roll-off of market data from the rolling 1yr period of value-at-risk model. This was offset by increase in Methodology and policy component driven by increase in capitalization of Risk not in value-at-risk mainly from Global Rates business.

## Other quantitative information for market risk under the internal models approach

### Overview of Value-at-Risk Metrics

#### Article 455 (d) CRR

The following table, EU MR3, displays the maximum, minimum, average and the ending for the reporting period values resulting from the different types of models. This table is based on the spot values of the metrics as opposed to the regulatory defined calculation (e.g. not considering any comparisons between spot and average values used in the actual RWA calculations). The VaR and SVaR are both based on ten day holding periods.

#### EU MR3 – IMA values for trading portfolios<sup>1</sup>

in € m.		Dec 31, 2023	Jun 30, 2023
		a	a
<b>VaR (10 day 99 %)</b>			
1	Maximum value	172.9	183.9
2	Average value	109.6	120.5
3	Minimum value	52.6	71.4
4	Period end	115.5	159.1
<b>SVaR (10 day 99 %)</b>			
5	Maximum value	358.7	326.8
6	Average value	167.9	146.9
7	Minimum value	82.8	80.4
8	Period end	180.8	120.0
<b>IRC (99.9 %)</b>			
9	Maximum value	705.9	904.6
10	Average value	568.4	516.6
11	Minimum value	488.1	291.7
12	Period end	552.6	612.3
<b>Comprehensive risk capital charge (99.9 %)</b>			
13	Maximum value	–	–
14	Average value	–	–
15	Minimum value	–	–
16	Period end	–	–

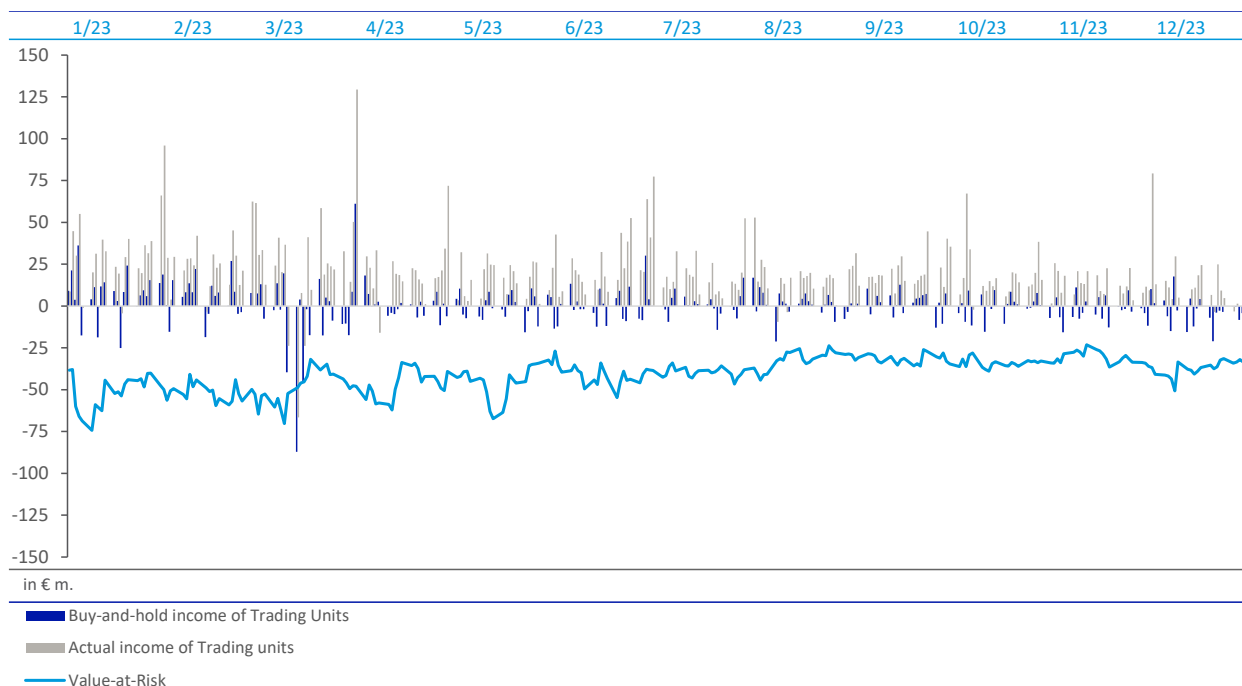
<sup>1</sup> Amounts show the maximum, average and minimum for the preceding six-month period.

### Comparison of end-of-day VaR measures with one-day changes in portfolio's value

#### Article 455 (g) CRR

The following graph shows the trading units daily buy-and-hold and actual income in comparison to the value-at-risk (1 day holding period) as of the close of the previous business day for the trading days of the reporting period. The value-at-risk is presented in negative amounts to visually compare the estimated potential loss of the trading positions with the buy and hold income given buy-and-hold is the relevant portion of daily profit and loss for comparison against the previous day's value at risk which excludes new trades, reserves, and any carry profit and loss ordinarily part of Actual income.

## EU MR4 – Comparison of VaR estimates with gains and losses



During the reporting period (January 2023 – December 2023), the Group observed one outlier where the Group's loss on a buy-and-hold and actual basis exceeded the value-at-risk of the Trading books. This was driven by an increase in market volatility following the Silicon Valley Bank crisis in the first quarter of 2023. The market volatility led to moves in interest rates that were larger than those within the preceding one-year period used in the value-at-risk calculation.

## Prudent valuation adjustments

### Article 436 (e) CRR

Deutsche Bank determines the amount of the Prudent Valuation Adjustment based on the methodology defined in the CRR for exposures from the trading book and the non-trading book that are adjusted in accordance with Article 34 and Article 105, a breakdown of the amounts of the constituent elements of an institution's prudent valuation adjustment, by type of risks, and the total of constituent elements separately for the trading book and non-trading book positions.

### EU PV1 – Prudent valuation adjustments (PVA)

in € m.		Dec 31, 2023				
		a	b	c	d	e
		Risk Category				
Category level AVA		Equity	Interest Rates	Foreign Exchange	Credit	Commodities
1	Market price uncertainty	315	875	110	555	1
3	Close-out cost	126	338	62	113	0
4	Concentrated positions	20	155	3	85	0
5	Early termination	0	0	0	0	0
6	Model risk	2	21	3	1	0
7	Operational risk	0	0	0	0	0
10	Future administrative costs	5	19	1	22	0
12	<b>Total Additional Valuation Adjustments (AVAs)</b>	<b>468</b>	<b>1,409</b>	<b>177</b>	<b>775</b>	<b>1</b>

		Dec 31, 2023				
		EU e1	EU e2	f	g	h
in € m.		Category level AVA - Valuation uncertainty		Total category level post-diversification		
Category level AVA		Unearned credit spreads AVA	Investment and funding costs AVA	Total	Of which: Total core approach in the trading book	Of which: Total core approach in the banking book
1	Market price uncertainty	112	10	1,004	936	69
3	Close-out cost	9	3	327	305	22
4	Concentrated positions	0	0	263	245	18
5	Early termination	0	0	0	0	0
6	Model risk	115	6	87	81	6
7	Operational risk	0	0	0	0	0
10	Future administrative costs	0	0	46	43	3
<b>12</b>	<b>Total Additional Valuation Adjustments (AVAs)</b>	<b>236</b>	<b>19</b>	<b>1,727</b>	<b>1,609</b>	<b>118</b>

# Operational risk

## Risk management objectives and policies

### Operational risk management strategies and processes

#### **Article 435 (1)(a) CRR (EU OVA & EU ORA)**

Deutsche Bank applies the European Banking Authority's Single Rulebook definition of operational risk: "Operational risk means the risk of losses stemming from inadequate or failed internal processes, people and systems or from external events. Operational risk includes legal risks but excludes business and reputational risk and is embedded in all banking products and activities." Operational risk forms a subset of the bank's non-financial risks.

Deutsche Bank's operational risk appetite sets out the amount of operational risk it is willing to accept as a consequence of doing business. The bank takes on operational risks consciously, both strategically as well as in day-to-day business. While the bank may have no appetite for certain types of operational risk events (such as violations of laws or regulations and misconduct), in other cases a certain amount of operational risk must be accepted if the bank is to achieve its business objectives. In case a residual risk is assessed to be outside risk appetite, risk reducing actions must be undertaken, including remediating the risks, insuring risks or ceasing business.

The Operational Risk Management Framework is a set of interrelated tools and processes that are used to identify, assess, mitigate and monitor the bank's operational risks. Its components have been designed to operate together to provide a comprehensive, risk-based approach to managing the bank's most material operational risks. Operational Risk Management Framework components include the Group's approach to setting and adhering to operational risk appetite, the operational risk type and control taxonomies, the policies and procedures for operational risk management processes including the respective tools, and the bank's operational risk capital model.

Operational risk is a risk type on the Group's Risk Type Taxonomy. Together with Reputational Risk it forms Non-Financial risk. The Operational Risk Management Framework is a set of interrelated tools and processes that are used to identify, assess, measure, monitor and mitigate Deutsche Bank Group's operational risks according to regulatory and industry-established definition of operational risk. It applies to the operational sub-risk types on a more granular level and enables the bank to aggregate and monitor its operational risk profile. These operational sub-risk types are controlled by various infrastructure functions and include the following:

- The Compliance department performs an independent 2nd level control function that protects the bank's license to operate by promoting and enforcing compliance with the law and driving a culture of compliance and ethical conduct in the bank; the Compliance department assists and challenges the business divisions and works with other infrastructure functions and regulators to establish and maintain a risk-based approach to the management of the bank's compliance risks in accordance with the bank's risk appetite and to help the bank detect, mitigate and prevent breaches of laws and regulations; the Compliance department performs the following principal activities: the identification, assessment, mitigation, monitoring and reporting on compliance risk; performs second level controls; the results of these assessments and controls are regularly reported to the Management Board and Supervisory Board; the Compliance department also assists the Regulatory Management team with regulatory engagement
- Financial crime risks are managed by the Anti-Financial Crime (AFC) function via maintenance and development of a dedicated program; the AFC program is based on regulatory and supervisory requirements; AFC has defined roles and responsibilities and established dedicated functions for the identification and management of financial crime risks resulting from money laundering, terrorism financing, compliance with sanctions and embargoes, the facilitation of tax evasion as well as other criminal activities including fraud, bribery and corruption and other crimes; AFC updates its strategy for financial crime prevention via regular development of internal policies processes and controls, institution-specific risk assessment and staff training
- The Legal department is a fully independent infrastructure function, mandated to provide legal advice to the Management Board, the Supervisory Board (restricted to matters that do not give rise to conflict of interest), corporate divisions and infrastructure functions, and to support the Management Board in setting up and guarding the bank's corporate governance framework and manage the bank's legal corporate governance framework, anti trust legal and data privacy risk.  
The Legal Department carries out its mandate through the following responsibilities:
  - Advising the Management Board and Supervisory Board on legal aspects of their activities
  - Providing legal advice to all Deutsche Bank units to facilitate adherence to legal and regulatory requirements in relation to their activities respectively



- Supporting other bank units managing Deutsche Bank Group's interactions with regulatory authorities
  - Engaging and managing external lawyers used by Deutsche Bank Group in conjunction with the Outside Counsel Management team in Regulatory & Exam Management
  - Managing Deutsche Bank Group's litigation and contentious regulatory matters, (including contentious HR matters), and managing Deutsche Bank Group's response to external regulatory enforcement investigations
  - Establishing appropriate processes for the preparation, review and execution of transactional documentation
  - Preserving documents in connection with the management of Continuous Matters by issuing Legal Holds
  - Advising on legal aspects of internal investigations
  - Setting the global governance framework for Deutsche Bank Group, facilitating its cross-unit application and assessing its implementation
  - Developing and safeguarding efficient internal corporate governance structures suitable to support efficient decision-making, to align risk and accountability based on clear and consistent roles and responsibilities
  - Maintaining Deutsche Bank Group's framework for policies, procedures, framework and key operating documents and serving in particular as guardian for the same
  - Setting the framework for the establishment, composition and functioning of joint decision-making bodies, ensuring its consistent implementation and providing a framework and platforms for sustainable, and auditable documentation of decision-making events, allowing for central swift retrieval of information
  - Setting the framework for and facilitate the legal entity approval processes
  - Advising on internal corporate governance topics to ensure the implementation of the governance frameworks, including the analysis of corporate governance specific laws and regulations, interaction with supervisors on internal corporate governance-related topics and the ongoing development of solutions for organizational/structural topics of Deutsche Bank Group
  - Advising on data privacy laws, rules and regulation and maintaining Deutsche Bank Group's data privacy risk and control framework
  - Ensuring appropriate quality assurance in relation to all of the above
- Deutsche Bank's New Product Approval and Systematic Product Review processes form a control framework designed to manage the risks associated with new products and services and their lifecycle management. These processes are overseen by Product Governance, within the Non-Financial Risk function. Existing products and services are reviewed in one- to three year cycles designed to assess whether they remain fit for purpose and consistent with their respective target markets' characteristics and objectives. Each product or service must be sponsored by a business Managing Director who bears ultimate accountability for it. Breaches of the New Product Approval requirements are in scope of the bank's Red Flag consequence management process
- NFRM is the Risk Type Controller for a number of operational resilience risks; its mandate includes second line oversight of controls over transaction processing activities, as well as infrastructure risks to prevent technology or process disruption, maintain the confidentiality, integrity and availability of data, records and information security, and ensure business divisions and infrastructure functions have robust plans in place to recover critical business processes and functions in the event of disruption including technical or building outage, or the effects of cyber-attack or natural disaster as well as any physical security or safety risk; NFRM Risk Type Controller also manages the risks arising from the bank's internal and external vendor engagements via the provision of a comprehensive third party risk management framework

## Operational risk management structure and organization

### **Article 435 (1)(b) CRR (EU OVA & EU ORA)**

While the day-to-day management of operational risk is the primary responsibility of business divisions and infrastructure functions, where these risks are generated, Non-Financial Risk Management (NFRM) oversees the Group-wide management of operational risks, identifies and reports risk concentrations, and promotes a consistent application of the Operational Risk Management Framework across the bank. NFRM is part of the Group's risk function, the Chief Risk Office, which is headed by the Chief Risk Officer.

The Chief Risk Officer appoints the Head of NFRM, who is accountable for the design, oversight and maintenance of an effective, efficient and regulatory compliant Operational Risk Management Framework, including the operational risk capital model. The Head of NFRM monitors and challenges the Operational Risk Management Framework's Group wide implementation and monitors overall risk levels against the bank's operational risk appetite.

The Non-Financial Risk Committee, which is chaired by the Chief Risk Officer, is responsible for the oversight, governance and coordination of the management of operational risk in the Group on behalf of the Management Board, by establishing a cross-risk and holistic perspective of the key operational risks of the Group. Its decision-making and policy related authorities include the review, advice and management of all operational risk issues that may impact the risk profile of business divisions and infrastructure functions. Several sub-fora with attendees from both the 1st LoD and 2nd LoD support the Non-Financial Risk Committee to effectively fulfil its mandate. In addition to the Group level Non-Financial Risk Committee, business divisions

have established 1st LoD non-financial risk (NFR) fora for the oversight and management of operational risks on various levels of the organization.

The governance of operational risks follows the bank's 3LoD approach to managing all of its financial and non-financial risks. The Operational Risk Management Framework establishes the operational risk governance standards including the core 1st and 2nd LoD roles and their responsibilities, to ensure effective risk management and appropriate independent challenge.

Operational risk requirements for the 1st LoD: Risk owners as the 1st LoD have full accountability for their operational risks and manage these against a defined risk appetite.

Risk owners are those roles in the bank whose activities generate - or who are exposed to - operational risks. As heads of business divisions and infrastructure functions, they must determine the appropriate organizational structure to identify their operational risk profile, actively manage these risks within their organization, take business decisions on the mitigation or acceptance of operational risks to ensure they remain within risk appetite, and establish and maintain 1st LoD controls.

Operational risk requirements for the 2nd LoD: Risk Type Controllers act as the 2nd LoD control functions for all sub-risk types under the overarching risk type "Operational Risk".

Risk Type Controllers establish the framework and define Group level risk appetite statements for the specific operational risk type they oversee. Risk Type Controllers define the minimum risk management and control standards and independently monitor and challenge risk owners' implementation of these standards in their day-to-day processes, as well as their risk-taking and risk management activities. Risk Type Controllers provide independent operational risk oversight and prepare aggregated risk type profile reporting. Risk Type Controllers monitor the risk type's profile against risk appetite and have a right to veto risk decisions leading to foreseeable risk appetite breaches. As risk type experts, Risk Type Controllers define the risk type and its taxonomy and support and facilitate the implementation of the risk type framework in the 1st LoD. To maintain their independence, Risk Type Controller roles are located only in infrastructure functions.

Operational risk requirements for NFRM as the Risk Type Controller for the overarching risk type "Operational Risk": As the Risk Type Controller / risk control function for operational risk, NFRM establishes and maintains the overarching Operational Risk Management Framework and determines the appropriate level of capital to underpin the Group's operational risk.

- As the 2nd LoD risk control function, NFRM defines the bank's approach to operational risk appetite and monitors its adherence, breaches and consequences; NFRM is the independent reviewer and challenger of the 1st LoD's risk and control assessments and risk management activities relating to the holistic operational risk profile of a unit (while Risk Type Controllers monitor and challenge activities related to their specific risk types). NFRM provides the oversight of risk and control mitigation plans to return the bank's operational risk to its risk appetite, where required; it also establishes and regularly reports the bank's operational risk profile and operational top risks, i.e. the bank's material operational risks which are outside of risk appetite
- As the subject matter expert for operational risk, NFRM provides independent risk views to facilitate forward-looking management of operational risks, actively engages with risk owners (1st LoD) and facilitates the implementation of risk management and control standards across the bank
- NFRM is accountable for the design, implementation and maintenance of the approach to determine the adequate level of capital required for operational risk, for recommendation to the Management Board; This includes the calculation and allocation of operational risk capital demand and expected loss under the Advanced Measurement Approach (AMA)

## Scope and nature of Operational Risk measurement and reporting systems

### Article 435 (1)(c) CRR (EU OVA & EU ORA)

To manage the broad range of sub-risk types underlying operational risk, the Operational Risk Management Framework provides a set of tools and processes that apply to all operational risk types across the bank. These enable the bank to determine its operational risk profile in relation to risk appetite for operational risk, to systematically identify operational risk themes and concentrations, and to define risk mitigating measures and priorities.

In 2023, the bank continued to mature the management of operational risk by further integrating and simplifying the risk management process. This was achieved through enhancement of the bank's central controls inventory; upgrading the application used to analyze operational risk loss events by integrating 'lessons learned' functionality; introduction of residual risk tolerance zones in the risk appetite framework and by extending framework adherence monitoring to also cover 2LoD activities

Loss data collection: Data on internal and relevant external operational risk events (with a P&L impact  $\geq$  €10,000) is independently validated in a timely manner. Material operational risk events trigger clearly defined lessons learned and read-across analyses, which are performed in the 1st LoD in close collaboration between business partners, risk control and other infrastructure functions. Lessons learned reviews analyze the reasons for significant operational risk events, identify their root causes, and document appropriate remediation actions to reduce the likelihood of their reoccurrence. Read across reviews take the conclusions of the lessons learned process and seek to analyze whether similar risks and control weaknesses identified in a lessons learned review exist in other areas of the bank, even if they have not yet resulted in problems. This allows preventative actions to be undertaken. In 2023, lesson learned documentation functionality was integrated into the operational risk event management application (EMApp), allowing for direct technical linkage to the underlying operational risk event and enhanced lessons learned monitoring, governance and reporting.

Scenario analysis: The operational risk profile is complemented and further substantiated by incorporating exploratory scenario analysis into day-to-day risk management activities. Scenario analysis is used as a risk identification and management tool that enables risk owners and Risk Type Controllers to explore potential exposure to risk as the basis for identifying potential gaps in the bank's existing operational risk profile. Furthermore, it is used as an input into the calculation of the operational risk capital for the bank. Scenario storylines build on internal losses, emerging risk reviews, top risks and risk concentrations, and findings, as well as the review of external peer operational risk loss events. Information from actual and potential future loss events are systematically utilized to identify thematic susceptibilities and actively seek to reduce the likelihood of similar incidents, for example through deep dive analyses or risk profile reviews. In 2023, the scenario analysis process has been strengthened by further tightening the roles and responsibilities within the 1st LoD and 2nd LoD in executing scenarios and scenario analysis continues to play an important role in operational resilience exercises, particularly in assessing impacts of emerging risk themes. Additionally, work has started which will allow scenario analysis to be performed in the event management application in order to automate the capture, governance and reporting.

Risk & Control Assessment: The risk and control assessment process comprises of a series of bottom-up assessments of the risks generated by business divisions and infrastructure functions, the effectiveness of the controls in place to manage them, and the remediation actions required to bring the risks within the risk appetite perimeter. The Risk & Control Assessment is performed at a global business level and as such covers all jurisdictions. It is designed to assist Senior Management to determine whether operational risks are being managed and controlled adequately via a dynamic assessment approach which covers all applicable Risk Types from the Group's Non-Financial Risk Type Taxonomy (NFRTT). The Risk & Control Assessment puts a greater emphasis on assessing and mitigating risks that are outside of appetite and risks that drive unethical and inappropriate market conduct within the bank.

Top risks: The Top Risk process is a regular process to identify the risks which pose greatest concern across Group and divisions, in addition to ensuring there is commensurate remediation activity associated to mitigate the risk. The associated Top Risk reporting provides a forward-looking perspective on the impact of top risk reduction programmes, comprising of planned remediation and control enhancements, indicating the expected timeframe for reduction. The reporting also contains emerging risks and themes that have the potential to influence the top risk population in the future. The top risk identification process is closely connected to both the risk and control assessment and risk appetite, consuming the risk exposure from the former and the appetite levels from the latter to help inform the top risk population.

Transformation Risk Assessment: To identify and appropriately manage risks from material change initiatives within the bank, a transformation risk assessment process is in place to assess the impact of transformation on the bank's risk profile and control environment. This assessment considers impacts to financial and non-financial risk types and is mandatory for a subset of initiatives, categorized as key deliverables (typically includes regulatory initiatives, technology migrations, remediation initiatives, strategy and organizational changes). In 2023 the scope of the transformation risk assessment was expanded to cover to bank's future joint ventures and strategic investments, to implement requirements of the bank's updated Joint Venture and Strategic Investment Policy.

Risk appetite: Non-financial risk appetite reflects the amount of non-financial risk the bank is willing to accept in pursuit of its strategy. The non-financial risk appetite framework provides a common approach to define the level of risk appetite across the firm and monitor exposure against this appetite. NFR appetite metrics are used to monitor the operational risk profile against the bank's defined risk appetite, and to alert the organization to impending problems in a timely fashion. In 2023, design amendments have been made resulting in the introduction of residual risk tolerance zones which allow for a more precise articulation of tolerance for residual risk assessed by the risk and control assessment process. This introduces defined consequences for combinations of likelihood and severity of impact for a given risk type,

Findings and issue management: The findings and issue management process facilitates the bank in mitigating the risks associated with known control weaknesses and deficiencies, and enables management to make risk-based decisions over the need for further remediation or risk acceptance. Outputs from the findings management process must be able to demonstrate to internal and external stakeholders that the bank is actively identifying its control weaknesses and taking steps to manage associated risks within acceptable levels of risk appetite. In 2023, Group Audit's review and approval role in the

lifecycle of Self-Identified Issues was enhanced. Additionally, the scope of the 'Findings to Control' linkage was expanded to cover all Risk Types and integrated in the Findings management tool.

Framework Adherence: Operational Risk Framework Adherence is a key activity to oversee, monitor and test the conformity to NFR Framework component requirements by key stakeholders. Operational Risk Framework Adherence results aim to proactively identify implementation improvements required of users of the NFR Framework and highlight potential Framework design improvements. In 2023, Operational Risk Framework Adherence monitoring was expanded to also cover 2<sup>nd</sup> LoD activities.

## Operational risk measurement

### Article 446 CRR

Deutsche Bank calculates and measures the regulatory and economic capital requirements for operational risk using the Advanced Measurement Approach (AMA) methodology. The AMA capital calculation is based upon the loss distribution approach. Gross losses from historical internal and external loss data (Operational Riskdata eXchange Association consortium data) complemented by scenario data are used to estimate the risk profile (i.e., a loss frequency and a loss severity distribution). The loss distribution approach model includes conservatism by recognizing losses on events that arise over multiple years as single events in the historical loss profile.

Within the loss distribution approach model, the frequency and severity distributions are combined in a Monte Carlo simulation to generate potential losses over a one-year time horizon. Finally, the risk mitigating benefits of insurance are applied to each loss generated in the Monte Carlo simulation. Correlation and diversification benefits are applied to the net losses in a manner compatible with regulatory requirements to arrive at a net loss distribution at Group level, covering expected and unexpected losses. Capital is then allocated to each of the business divisions considering qualitative adjustments after deducting expected loss.

The regulatory and economic capital requirements for operational risk is derived from the 99.9 % percentile; see the section "Internal Capital Adequacy" for details. Both regulatory and economic capital requirements are calculated for a time horizon of one year.

The regulatory and economic capital demand calculations are performed on a quarterly basis. NFRM establishes and maintains the approach for capital demand quantification and ensures that appropriate development, validation and change governance processes are in place, whereby the validation is performed by an independent validation function and in line with the Group's model risk management process.

### Drivers for operational risk capital development

By design of the AMA capital calculation, Deutsche Bank's operational risk capital demand is predominantly driven by historical internal loss events. In view of the relevance of legal risks within the bank's operational risk profile, specific attention is dedicated to the management and measurement of open civil litigation and regulatory enforcement matters where the bank relies both on information from internal as well as external data sources to consider developments in legal matters that affect the bank specifically but also the banking industry as a whole. Reflecting the multi-year nature of legal proceedings the measurement of these risks furthermore takes into account changing levels of certainty by capturing the risks at various stages throughout the lifecycle of a legal matter.

Conceptually, the bank measures operational risk including legal risk by determining the annual operational risk loss that will not be exceeded with a given probability. This loss amount is driven by a component that due to the IFRS criteria is reflected in the bank's financial statements and a component beyond the amount reflected as provisions within the bank's financial statements.

The legal losses which the bank expects with a likelihood of more than 50 % are already reflected in the IFRS group financial statements. These losses include net changes in provisions for existing and new cases in a specific period where the loss is deemed probable and is reliably measurable in accordance with IAS 37.

Uncertain legal losses which are not reflected in the bank's financial statements as provisions because they do not meet the recognition criteria under IAS 37 are considered within regulatory or economic capital demand.

To quantify the litigation losses in the AMA model, the bank takes into account historical losses, provisions, contingent liabilities and legal forecasts. Legal forecasts generally comprise ranges of potential losses covering risks of outflows greater than the provision and topside adjustments which are deemed remote or relate to yet unknown matters. Such forecasts may result from ongoing and new legal matters which are reviewed at least quarterly by the attorneys handling the legal matters.

The legal forecasts are included in the “relevant loss data” used in the AMA model. The projection range of the legal forecasts is not restricted to the one year capital time horizon but goes beyond and conservatively assumes early settlement of the underlying losses in the reporting period - thus considering the multi-year nature of legal matters.

## AMA model validation and quality control concept

All AMA model components are independently validated. The results of the validations are summarized in validation reports and identified issues are followed up for resolution. For example, the validation activities in the past years detected areas of improvement required of the AMA model regarding the selection of non-financial risk appetite metrics and the methodology driving its forward-looking component, which are now included in the model.

The model's input sources such as loss data, scenario analyses, risk & control assessments, and expected loss are subject to comprehensive quality controls in the business divisions and the control functions..

## Operational risk management stress testing concept

Stress testing is conducted on a regular basis to complement the AMA methodology, to analyze the impact of extreme stress scenarios on capital and the profit-and-loss account. It also contains reputational impacts. In 2023, the stress testing methodology and process were overhauled. While maintaining the overall concept and alignment with EBA stress testing, a number of details were enhanced. Specific features were closer alignment with unstressed capital calculation and planning, refinements of methodology details, and better reflection of reputational and emerging risks via idiosyncratic scenarios. The overall impact was moderately higher stress testing results with improved analysis and management reporting.

In 2023, NFRM took part in all firm-wide stress test scenarios and assessed and contributed the impact of operational risk to the various stress levels of the scenarios. The impact of operational risk on Group-wide stress test scenarios has been moderate and remained in the expected range in regards to capital, which is due to the fact that the AMA model already applies a conservative multi-year view on loss sizes (including legal forecasts) even in non-stress mode.

## Operational risk exposure

### Article 446 CRR

The regulatory and economic capital requirements for operational risk are calculated and measured using the Advanced Measurement Approach (AMA) methodology for the entire Group. No combined use of different approaches is in place. The relevant indicator for non-AMA approaches is shown in the table below for information purposes only. This size indicator is not relevant for the calculation of the own funds requirements (EC/RC) or risk exposure amount (RWA) as these are calculated using the AMA in place for the entire Deutsche Bank group.

### EU OR1 - Operational risk own funds requirements and risk-weighted exposure amounts

in € m.	Dec 31, 2023				
	a	b	c	d	e
	Relevant indicator			Own funds requirements secured by financial guarantees	Risk exposure amount secured by credit derivatives
Banking activities	2021	2022	2023		
1 Banking activities subject to Basic Indicator Approach (BIA)	0	0	0	0	0
2 Banking activities subject to Standardized (TSA) / Alternative Standardized (ASA) Approaches	0	0	0	0	0
3 Subject to TSA:	0	0	0	-	-
4 Subject to ASA:	0	0	0	-	-
5 Banking activities subject to Advanced Measurement Approaches AMA	25,072	27,163	28,803	4,572	57,153

### Operational Risk losses by event type (profit and loss view)

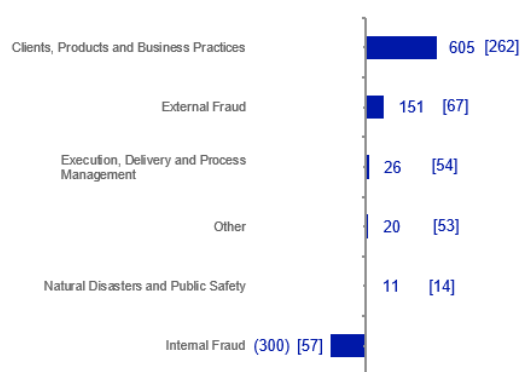
in € m.	2023	2022 <sup>1</sup>
Clients, Products and Business Practices	605	278
Others	151	65
Execution, Delivery and Process Management	128	81
External Fraud	20	157
Natural Disasters and Public Safety	11	6
Internal Fraud	(333)	16
<b>Group</b>	<b>582</b>	<b>602</b>

<sup>1</sup> Prior year's comparatives aligned to presentation in the current year. Losses are reported after offsetting insurance.

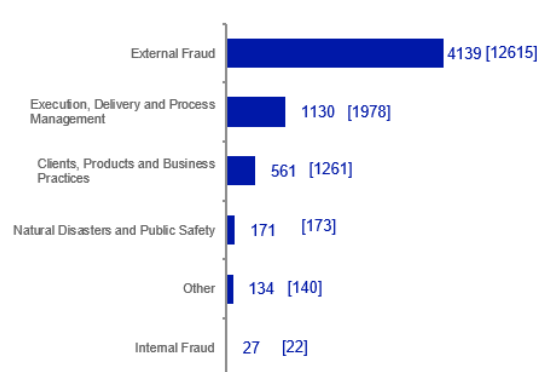
As of December 31, 2023, operational risk losses decreased by €20 million, or 3%, to €582 million. This was primarily driven by a gain of €333 million related to the event type "Internal Fraud", which reflects a release of litigation provisions. Losses under Clients, Products and Business Practices" increased year on year due to increased provisions from civil litigation. Legal losses are broadly stable when aggregating settled matters and changes in litigation reserves for unsettled matters across categories.

### Operational risk losses by event type occurred in the period 2023 (2018 - 2022)<sup>1</sup>

Distribution of Operational Losses (posting date)<sup>2</sup>



Frequency of Operational Losses (first posting date)<sup>3</sup>



<sup>1</sup> Figures in square brackets are averages between 2018-2022. Prior year's comparatives aligned to presentation in the current year.

<sup>2</sup> Distribution of operational risk losses is based on posting date.

<sup>3</sup> Frequency of operational risk losses is based on first posting date.

The diagram "Distribution of Operational Risk Losses" summarizes the value of net operational risk loss postings by event type in 2023, against the average for the comparative five-year period 2018-2022 (in square brackets). The event type "Clients, Products and Business Practices" forms the most significant portion of operational risk losses with a share of €605m largely made up of settled matters and changes in litigation reserves for unsettled matters. The event type 'External Fraud' saw a substantial year on year increase, driven by two material litigation cases. The event type 'Execution, Delivery and Process Management' also significantly increased, primarily due to non-litigation losses. The reduction of losses in event type "Internal Fraud" is driven by a release of litigation provisions.

The diagram "Frequency of Operational Losses" summarizes the operational risk events by event type (based on a count of events where losses were first recognized in 2023), related to the average for the comparative five-year period 2018-2022 (in brackets). "External Fraud" remains the highest frequency event type although there has been a notable reduction versus the five year average.

Whilst the bank seeks to ensure the comprehensive capture of all operational risk loss events with a net operational risk loss impact of € 10,000 or greater, the totals shown in this section may be underestimated due to delayed detection and recording of loss events.

## Use of the Advanced Measurement Approaches to operational risk

### Article 454 CRR

#### Description of the use of insurance and other risk transfer mechanisms for the purpose of mitigation of this risk

The definition of insurance strategy and supporting insurance policy and guidelines is the responsibility of the specialized unit Corporate Insurance/Deukona. Corporate Insurance/Deukona is responsible for the global corporate insurance policy which is approved by the Management Board.

Corporate Insurance/Deukona is responsible for acquiring insurance coverage and for negotiating contract terms and premiums. Corporate Insurance/Deukona also has a role in the allocation of insurance premiums to the businesses. Corporate Insurance/Deukona specialists assist in devising the method for reflecting insurance in the capital calculations and in arriving at parameters to reflect the regulatory requirements. They validate the settings of insurance parameters used in the AMA model and provide respective updates. Corporate Insurance/Deukona is actively involved in industry efforts to reflect the effect of insurance in the results of the capital calculations.

Insurance is bought in order to protect against unexpected and substantial unforeseeable losses. The identification, definition of magnitude and estimation procedures used are based on the recognized insurance principles and methods. The maximum limit per insured risk takes into account the reliability of the insurer and a cost/benefit ratio, especially in cases in which the insurance market tries to reduce coverage by restricted/limited policy wordings and specific exclusions.

Two insurance companies are maintained. However, insurance contracts provided are only considered in the modeling/calculation of insurance-related reductions of operational risk capital requirements where the risk is re-insured in the external insurance market.

The regulatory capital figure includes a deduction for insurance coverage amounting to €76 million as of December 31, 2023 compared with € 57 million as of December 31, 2022. Currently, no other risk transfer techniques beyond insurance are recognized in the AMA model.

Corporate Insurance/Deukona selects insurance partners in strict compliance with the regulatory requirements specified in the CRR and based on recommendations of the respective subject matter experts on the recognition of insurance in advanced measurement approaches. The insurance portfolio, as well as Corporate Insurance/Deukona activities, is audited by Group Audit on a risk-based approach.

## Exposure to interest rate risk in the banking book

### Qualitative information on interest rate risk in the banking book

#### Article 448 (1)(c-g) CRR (EU IRRBBA)

Interest rate risk in the banking book (IRRBB) is the current or prospective risk, to both the Group's capital and earnings, arising from movements in interest rates, which affect the Group's non-trading book exposures. This includes gap risk, which arises from the term structure of banking book instruments, basis risk, which describes the impact of relative changes in interest rates for financial instruments that are priced using different interest rate curves, as well as option risk, which arises from option derivative positions or from optional elements embedded in financial instruments.

The Group manages its IRRBB exposures using economic value as well as earnings based measures. The Group Treasury function is mandated to manage the interest rate risk centrally, with Market Risk Management acting as "2nd Line of Defense" (LoD) independently assessing and challenging the implementation of the framework and adherence to the risk appetite. Group Audit in its role as the "3rd LoD" is accountable for providing independent and objective assurance on the adequacy of the design, operating effectiveness and efficiency of the risk management system and systems of internal control. The Group Asset & Liability Committee ("ALCo") oversees and steers the Group's structural interest risk position with particular focus on banking book risks and the management of the net interest income. The ALCo monitors the sensitivity of financial resources and associated metrics to key market parameters such as interest rate curves and oversees adherence to divisional/business financial resource limits.

Economic value based measures look at the change in economic value of banking book assets, liabilities and off-balance sheet exposures resulting from interest rate movements, independent of the accounting treatment. Thereby the Group measures the change in economic value of equity ( $\Delta\text{EVE}$ ) as the maximum decrease of the banking book economic value under the six standard scenarios defined by the EBA in addition to internal stress scenarios for risk steering purposes. For the reporting of internal stress scenarios and risk appetite the Group applies a few different modelling assumptions as used in this disclosure. When aggregating the economic value of equity  $\Delta\text{EVE}$  across different currencies, DB adds up negative and positive changes without applying weight factors for positive changes. Furthermore, the Group is using behavioral model assumptions about the interest rate duration of own equity capital as well as non-maturity deposits from financial institutions.

Earnings-based measures look at the expected change in net interest income (NII) resulting from interest rate movements over a defined time horizon, compared to a defined benchmark scenario. Thereby the Group measures net interest income  $\Delta\text{NII}$  as the maximum reduction under the six standard scenarios defined by the EBA in addition to internal stress scenarios for risk steering purposes, compared to a market implied curve scenario, over a period of 12 months.

The Group employs mitigation techniques to hedge the interest rate risk arising from nontrading positions within given limits. The interest rate risk arising from nontrading asset and liability positions is managed through Treasury Markets & Investments. Thereby the Group uses derivatives and applies different hedge accounting techniques such as fair value hedge accounting or cash flow hedge accounting. For fair value hedges, the Group uses interest rate swaps and options contracts to manage the fair value movements of fixed rate financial instruments due to changes in benchmark interest. For hedges in the context of the cash flow hedge accounting, the Group uses interest rate swaps to manage the exposure to cash flow variability of the variable rate instruments as a result of changes in benchmark interest rates.

The Group assesses and measures hedge effectiveness of a hedging relationship based on the change in the fair value or cash flows of the derivative hedging instrument relative to the change in the fair value or cash flows of the hedged item attributable to the hedged risk.

The "Model Risk Management" function performs independent validation of models used for IRRBB measurement, as per all market risk models, in line with Deutsche Bank's group-wide risk governance framework.

The calculation of VaR and sensitivities of interest rate risk is performed daily, whereas the measurement and reporting of economic value interest rate and earnings risk is performed on a monthly basis. The Group generally uses the same metrics in its internal management systems as it applies for the disclosure in this report.

Deutsche Bank's key modelling assumptions are applied to the positions in the Private Bank and Corporate Bank divisions. Those positions are subject to risk of changes in client's behavior with regard to their deposits as well as loan products. The Group regularly tests the assumptions and updates them where appropriate following a defined governance process. In particular, the Group has made changes to its assumptions during the early phase of rising interest rates where a slower repricing in deposits was observed than it was anticipated.

The Group manages the interest rate risk exposure of its non-maturity deposits through a replicating portfolio approach to determine the average repricing maturity of the portfolio. For the purpose of constructing the replicating portfolio, the portfolio of non-maturity deposits is clustered by dimensions such as business unit, currency, product and geographical location. The main dimensions influencing the repricing maturity are elasticity of deposit rates to market interest rates, volatility of deposit balances and observable client behavior. For the reporting period the average repricing maturity assigned across all such replicating portfolios is 2.40 years and Deutsche Bank uses 15 years as the longest repricing maturity.

In the loan and some of the term deposit products Deutsche Bank considers early prepayment/withdrawal behavior of its customers. The parameters are based on historical observations, statistical analyses and expert assessments.

Furthermore, the Group generally calculates IRRBB related metrics in contractual currencies and aggregates the resulting metrics for reporting purposes. When calculating economic value based metrics the commercial margin is excluded for material parts of the balance sheet.

## Changes in the economic value of equity and net interest income

### Article 448 (a-b,d) CRR

The following table shows the impact on the Group's net interest income in the non-trading book as well as the change of the economic value for the banking book positions from interest rate changes under the six standard scenarios defined by the EBA.



### EU IRRBB1 - Changes in the economic value of equity and net interest income under six supervisory shock scenarios

in € bn.	Changes of the economic value of equity		Changes of the net interest income <sup>1</sup>	
	Dec 31, 2023	June 30, 2023	Dec 31, 2023	June 30, 2023
Parallel up	(5.1)	(4.1)	0.3	0.7
Parallel down	1.8	0.7	(0.3)	(0.5)
Steeper	(0.8)	(0.3)	0.1	(0.1)
Flattener	(0.3)	(1.1)	(0.1)	0.3
Short rates up	(1.6)	(2.3)	(0.0)	0.5
Short rates down	0.8	0.8	(0.1)	(0.2)
<b>Maximum</b>	<b>(5.1)</b>	<b>(4.1)</b>	<b>(0.3)</b>	<b>(0.5)</b>

<sup>1</sup> Changes of the net interest income (NII) reflects the difference between projected NII in the respective scenario with shifted rates vs. market implied rates. Sensitivities are based on a static balance sheet at constant exchange rates, excluding trading positions and DWS. Figures do not include Mark to Market (MtM) / Other Comprehensive Income (OCI) effects on centrally managed positions not eligible for hedge accounting

The maximum economic value of equity loss was € (5.1) billion as of December 2023, compared to € (4.1) billion as of June 2023. As per December 2023 the maximum EVE loss represents 9.0 % of Tier 1 Capital.

The change in economic value of equity loss for the “Parallel up” interest rate scenario was driven by rebalancing activities related to the interest rate risk position within the Bank’s Treasury portfolio. Deutsche Bank’s overall interest rate risk positioning remains largely unchanged and is managed via defined risk management as part of the IRRBB framework.

The maximum one-year loss in net interest income (NII) was € (0.3) billion as of December 2023, compared to € (0.5) billion as of June 2023.

The reduction in the maximum net interest income loss in the “Parallel down” scenario was mainly driven by a combination of methodology enhancements to better reflect client behaviour and changes of our interest rate risk position in Treasury in response to the change in interest rate environment.

## Environmental, social and governance (ESG) risks

### Article 449a CRR

ESG disclosures are included in accordance with Article 449a CRR and the EBA ITS 2022/01. ESG risks are the risks of current and future losses arising from any negative financial, operational and/or reputational impacts on Deutsche Bank’s clients, invested assets and/or operations as it relates to ESG factors.

Environmental risk includes both physical and transition risks related to climate change. Physical risks are the risks of losses arising from any negative impact on the bank from acute near-term risks such as extreme weather events or chronic longer-term impacts of rising temperatures. Transition risks are driven by policy, behavioral and technology changes required to foster the transition to a low carbon economy and can also impact the bank’s clients and invested assets. In addition, there are other environmental risks resulting from factors such as water stress, biodiversity loss, land erosion and depletion. All of these environmental risks can impact the bank’s assets, operations and its clients.

Social risks include losses arising from any negative financial impact on Deutsche Bank because of current or prospective impacts from social factors, such as matters related to human rights or workforce management: while governance risks are the risk of losses arising from governance factors such as anti-financial crime or non-compliance with policies or regulations. Both of these risks can impact the bank’s assets, operations and its clients.

As ESG disclosure requirements and its metrics are evolving and are being newly implemented in the banking industry, there remains uncertainty on how disclosure requirements could be interpreted and there are limitations on the amount and granularity of available data. As a result, Deutsche bank’s interpretations, methodologies, and availability of data will be further enhanced in the future as additional guidance and information becomes available.

## ESG risks

### ESG1-3

#### Governance

Deutsche Bank believes it is part of the Group’s responsibility to support and where possible, accelerate the transformation towards a more sustainable society and economy. Thus, the bank supports the European Commission’s Action Plan on sustainable finance as a crucial contribution toward the European Union’s achievement of its climate commitment under the Paris Agreement and its wider sustainability agenda.

The Group Sustainability Committee, chaired by the bank's Chief Executive Officer, acts as the senior decision-making body for sustainability-related matters at group level, including those related to ESG risks and the bank's net zero targets. Further key functions and elements of the bank's sustainability governance include the Chief Sustainability Officer and the Sustainability Strategy Steering Committee, responsible for monitoring the timely and complete implementation of the bank's sustainability transformation agenda and escalating material risks or issues to the Group Sustainability Committee. The bank also established the Net-Zero Forum responsible for the assessment of new transactions with a significant impact on the bank's financed emissions and/or net zero targets with representatives from business divisions, Risk, and the Chief Sustainability Office. Both groups are chaired by the Chief Sustainability Officer.

Each of Deutsche Bank's core business divisions integrates climate and broader ESG risks into its planning and risk appetite statements as part of the bank's annual strategic planning process, which approved by the Management Board.

Within the Chief Risk Office, the Group Risk Committee, chaired by the Chief Risk Officer, is established by the Management Board to serve as the central forum for review and decision making on matters related to risk, capital, and liquidity. This includes oversight of the Bank's climate and environmental risk management frameworks. A number of delegated fora of the Group Risk Committee are responsible for management and decision making in relation to specific elements of ESG risks, such as the Enterprise Risk Committee and the Non-Financial Risk Committee.

ESG topics are also regularly discussed in business unit risk councils and other committees and fora.

To closely and visibly link the bank's sustainability strategy and performance with the compensation of the Management Board, the bank's strategic sustainability goals are reflected in the compensation system, which forms the basis of the Management Board's total compensation.

Management Board members receive fixed and variable compensation components. The latter consists of two elements (Short-Term Award and Long-Term Award) and reflects the degree to which Group, divisional and individual objectives are achieved. Both awards are linked to several ESG objectives. The aim is to closely align compensation to the bank's sustainability strategy. The ESG objectives for the Short-Term Award are contained in individual and divisional balanced scorecards. They can also be part of a Management Board member's individual objectives agreed at the beginning of a financial year.

ESG objectives form a central performance assessment element in the Long-Term Award and have the highest percentage weighting as a result. They are related to impactful Group ESG focus topics that are the responsibility of the Management Board. The objectives, which are transparently disclosed in the Compensation Report section of the Annual Report, include targets such as the amount of sustainable financing and investments, the reduction of electricity consumption in the bank's buildings, along with concretely defined targets from the area of climate risk management as well as the improvement in gender diversity. In addition, the objectives include employee feedback culture, as well as achievements and positive developments regarding the bank's control environment and remediation activities. The targets are linked to measurable Key Performance Indicators (KPIs) to ensure an objective assessment of performance. Deutsche Bank has already published the corresponding targets and KPIs for the financial year in detail in the Outlook of the Compensation Report 2022, including target values, thresholds and caps, and it discloses the results in the Compensation Report 2023. The compensation policy and the compensation system based on it – following approval by the Supervisory Board – are implemented in individual but uniform and rule-compliant service contracts for all Management Board members in compliance with banking law pursuant to Section 10 (4) of the German Remuneration Ordinance for Institutions (InstitutsVergV).

Using contract templates and standardized annexes, the variable compensation components are directly linked to plan, rules, claw back and forfeiture conditions as well as shareholding obligations.

#### Strategy and processes

Deutsche Bank's Management Board made sustainability a management priority in 2019, Consequently, sustainability is a key element of the bank's "Global Hausbank" strategy. The bank is embedding sustainability into its policies, processes, and products, focusing on four pillars:

- Sustainable Finance
- Policies & Commitments
- People & Operations
- Thought Leadership & Stakeholder Engagement

The bank's business activities, own operations, relations with employees or suppliers, and respective processes are covered by these four pillars and address the ESG-related risk factors. Managing these risks and providing solutions to ESG-related challenges are part of the bank's sustainability strategy and risk management processes. Seizing business opportunities arising from ESG challenges, Deutsche Bank set the target of achieving a cumulative volume of € 500 billion in sustainable financing and investment, as defined in the bank's Sustainable Finance Framework, from the beginning of 2020 until the end

of 2025 (excluding DWS). The Sustainable Finance Framework outlines the methodology and associated procedures for classifying financial products and services offered by Deutsche Bank as sustainable. The framework specifies the classification logic, the eligibility parameter criteria, the applicable environmental and social due diligence requirements, as well as the verification and monitoring process. It is aligned to the extent possible with the requirements of the EU Taxonomy Regulation.

### Risk Management

Managing emerging ESG risks to the bank's balance sheet and operations is a key component of the Group's sustainability strategy. Deutsche Bank has set interim (2030) and final (2050) net zero aligned targets for seven carbon intensive sectors and has established frameworks and processes for enhanced due diligence in relation to sectors and clients identified as having elevated inherent environmental and social risks and/or elevated impacts on the bank's financed emissions and net zero pathways. In 2023, the bank updated its thermal coal policy and tightened criteria used to determine the scope of the policy. Moreover, the bank's Environmental and Social policy framework prohibits business activity in certain high impact areas. The bank's Reputational Risk Framework is utilized to discuss any counterparty concerns that are perceived to be in contradiction with Deutsche Bank's values and beliefs including those driven by ESG factors. Deutsche Bank's ESG risk management frameworks are discussed in more detail below. Deutsche Bank regularly performs a materiality assessment to determine the relevance of individual non-financial topics across ESG. The bank follows the Global Reporting Initiative (GRI) standard and applies the concept of double materiality (i.e., considering the potential positive and negative impacts Deutsche Bank may have on the environment and society and the potential financial impacts for Deutsche Bank arising from ESG topics). The results of the materiality assessment inform the bank's sustainability agenda and the selection of topics reported in its Non-Financial Report. For the financial year starting January 1, 2024, Deutsche Bank will be required by the CSRD to conduct its materiality assessment according to the ESRS. The bank runs a centrally managed CSRD/ESRS implementation project for the new sustainability disclosure requirements, including the implementation of the double materiality assessment under CSRD/ESRS.

The Chief Risk Office, in addition, conducts a comprehensive and granular materiality assessment of climate and other environmental risks to identify potential impacts across key impacted risk types in the short, medium, and long-term. Results are integrated into the Group's risk identification processes and risk inventory and reviewed against internal controls. The 2022 materiality assessment concluded that climate transition risk is the most material risk driver for the Group in the short-to-medium term (below five-year horizon). A new iteration of the exercise is currently ongoing and will be finalized before the end of Q1 2024.

## Environmental risk

### ESGT1

#### Governance

Overall governance and oversight of environmental risks are fully aligned and embedded in the ESG committees and frameworks described above Risks. To allow for the monitoring of climate risk metrics in the bank's portfolios, the Group Risk Committee, and the Group Sustainability Committee receive quarterly climate and environmental risk reports that include financed emissions, exposure to carbon-intensive sectors, alignment with portfolio decarbonization targets and other climate risk-related topics, including key industry and regulatory developments.

#### Business Strategy and processes

Deutsche Bank has now published net zero emission reduction targets for seven key carbon-intensive sectors in the bank's corporate lending portfolio:

- Oil and Gas (Upstream)
- Power Generation
- Automotives (Light Duty Vehicles)
- Steel production
- Coal mining
- Cement
- Shipping

Quantitative thresholds around these targets have been integrated into the Group's Risk Appetite Statement, together with a broader threshold on the overall carbon footprint of the bank's corporate loan commitments. New transactions or limit extensions with a significant impact on the bank's financed emissions and/or net zero targets are reviewed by a dedicated Net Zero Forum. The forum's review includes an assessment of client sustainability disclosures, transition strategies, decarbonization targets and governance.

Deutsche Bank publishes annually absolute emissions and progress towards net zero aligned targets following the standard from the Partnership for Carbon Accounting Financials, relevant international greenhouse gases emissions reporting protocols and emerging best-practice climate portfolio alignment methodologies.

In accordance with Article 8 of the EU Taxonomy Regulation and the related Disclosures Delegated Acts, starting from year end 2023, financial undertakings have to determine and disclose the proportion of exposures aligned to the EU Taxonomy in their covered assets (i.e., total assets less exposures toward central governments, central banks, supranational issuers and the trading portfolio) for the climate change mitigation and adaptation objectives. Following the adoption of the Delegated Act on the four remaining environmental objectives (water and marine resources, circular economy, pollution prevention and control, biodiversity and ecosystems) in 2023, Taxonomy alignment with the non-climate objectives will be reported starting from year end 2025.

The identification of the Taxonomy eligible and aligned economic activities for the climate change mitigation and adaptation objectives was performed for in-scope counterparties, primarily undertakings subject to the Non-Financial Reporting Directive (NFRD) disclosure obligations and households, as well as products defined in the Article 8 of the EU Taxonomy Regulation and the related Disclosures Delegated Acts.

#### [Policies and procedures relating to direct and indirect engagement with new or existing clients](#)

As disclosed in the Group's Initial Transition Plan, Deutsche Bank pursues three financing strategies for its corporate clients: green/sustainable, transition and phase out:

- Green/Sustainable strategies include providing financing to companies that enable emission reduction through their range of green products and services
- Transition strategies reflect the bank's commitment to support clients in their journey to decarbonize their business models
- Phase out strategies for industries with no viable decarbonisation pathways (such as thermal coal) or clients in carbon intensive industries not willing to align to the bank's transition pathway

The Group Sustainability team, within the Chief Sustainability Office, owns the policies regulating the bank's engagement with clients on environmental and social issues:

- The Sustainable Finance Framework, which outlines the methodology and associated procedures for classifying transactions and financial products and services offered by Deutsche Bank as sustainable. The framework assesses use of proceeds, company profiles and (transaction-specific) sustainability-linked KPIs
- The Environmental and Social (ES) Risk Framework, through which Deutsche Bank identifies transactions and/or clients that might expose it to potential environmental issues and mitigate / manages the related risks

In particular, through the Environmental and Social Risk framework the bank has defined sectors having an inherently elevated potential for negative environmental impacts and requires enhanced due diligence based on the provisions summarized in the bank's Environmental and Social Policy Framework. The bank reviews the scope of sectors as well as related due diligence requirements of the Environmental and Social Policy Framework annually or as events occur. For some sectors, the bank has made specific commitments. For example, since 2016 Deutsche Bank does not finance any new coal projects, be it in power or thermal coal mining.

As part of its oversight responsibility, Group Sustainability conducts transactional and client reviews pursuant to the bank's Environmental and Social and Sustainable Finance standards, engaging, where required, with clients, to understand risks and mitigants associated with a transaction or a counterparty.

In 2023, Deutsche Bank redefined the scope of the portfolio review of its coal clients to align with the 2023 updated scope of the thermal coal guideline, thereby increasing the number of clients covered by the review. The bank also updated the review questionnaires in line with the 2023 thermal coal guideline update and the related requirements for a credible transition plan. A similar review for coal power clients in the United States and Europe in 2021 led to insights into the clients' progress with regard to their carbon footprint and existing transition plans. Building on this, a process for a client transition dialogue has been developed to support clients on their way to a more sustainable business model.

In 2023, the bank also continued to perform the systematic review of its business activities in the oil and gas sector and continued the dialogue with its clients on their decarbonization strategies. These strategies along with clients' carbon footprint are important criteria for how the bank continues to engage in this sector. Details on this process as well as on Deutsche Bank's strategy, processes and progress as of year-end 2023 regarding its commitment to align the bank's portfolio with net

zero by 2050 are outlined in the “Strategy”, “Risk management strategy and processes” and “Risk management, metrics and targets” sections of the “Climate and other environmental risks” chapter.

### Risk management

Climate change and environmental degradation may lead to the emergence of new sources of financial and non-financial risks. Transition risks to the bank’s portfolios are increasingly likely to materialize in the short-to-medium term as governments introduce ambitious climate-related targets and policies, as society adapts its behavior and as investor appetite for carbon intensive clients / sectors becomes more selective. These risks include but are not limited to:

- Increased default risk and/or valuation losses on exposures to clients and assets that may be impacted by climate physical and/or transition risks, such as climate-related developments in policy and regulations, the emergence of disruptive technology or business models, shifting market sentiment, and societal preferences
- Reputational risks resulting from a failure to adapt to climate risks, which may also lead to litigation by parties seeking compensation after suffering loss or damage, and
- Business disruption risks to the bank’s offices, employees, and processes in locations facing physical climate risks, such as extreme weather events and/or disruptive longer-term increases in global temperatures

In addition, climate and other environmental risks are considered as risk drivers of all other main risk types of the bank: credit risk, non-financial risk, liquidity risk, and market risk) and is, incorporated into their respective management frameworks. The integration of climate and other environmental risks in the risk type frameworks of the bank is overseen by the Enterprise Risk Committee.

Deutsche Bank’s framework for the management of environmental risks has four key elements and each one considers the short, medium and long-term effects of environmental risks:

- Risk identification and materiality assessment
- Risk measurement, monitoring and mitigation, integration into risk type frameworks and processes
- Scenario analysis and stress testing, and
- Risk metrics, targets, and integration in appetite

Deutsche Bank relies on a number of different industry frameworks and standards for the management of climate and other environmental risks. The overall risk assessment and reporting framework reflects the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Estimation of financed emissions are based on the standard from the Partnership for Carbon Accounting Financials (PCAF). Methodologies for the bank’s sector decarbonization targets are proprietary, but these methodologies significantly apply the Paris Agreement Capital Transition Assessment (PACTA) approaches and are in line with those set by peers.

Deutsche Bank conducts comprehensive materiality assessments of climate and other environmental risks to identify key impacts across potentially affected risk types. The drivers considered in the materiality analysis are climate transition risks arising from policy, technology and behavioral changes, acute and chronic physical risks and other environmental risks. Material climate and environmental risk drivers are then managed through the relevant risk type frameworks of the bank (Strategic, Credit, Market, Liquidity, Operational and Reputational risks).

The impact assessment uses a combination of stress test results, other scenario and sensitivity analysis and qualitative expert judgement. The risk drivers covered in the materiality assessment are used to integrate climate risk considerations into the risk identification process, which functions as a basis for the group risk inventory, and the Internal Capital Adequacy Assessment Process.

Deutsche Bank is committed to align its loan portfolios with emission reduction pathways needed to achieve net zero by 2050. The bank’s decarbonization targets, together with the quantitative risk appetite thresholds integrated into the Group Risk Appetite Statement, are the main levers used to mitigate climate transition risks by progressively reducing the carbon intensity of the bank’s portfolio.

In addition, Deutsche Bank’s Environmental and Social Policy Framework, including the bank’s provisions for the fossil fuel sectors outlines specific restrictions and escalation requirements for sectors with inherently elevated potential for negative environmental impacts.

To support the bank’s materiality assessment, monitor portfolio alignment to decarbonization targets, and for risk management purposes, Deutsche Bank uses a number of complementary KPI and metrics such as:

- Upstream Oil & Gas: Scope 3 Absolute financed emissions (million tons of CO<sub>2</sub>)
- Coal mining (million tons of CO<sub>2</sub>)
- Power Generation: Physical emission intensity (kgCO<sub>2</sub>e per MWh)

- Automotive (Light Duty Vehicles) sector: Physical emission intensity (gCO<sub>2</sub>e per vehicle km)
- Steel production sector: Physical emission intensity (kgCO<sub>2</sub>e per ton of steel)
- Shipping (Poseidon Principles Portfolio alignment score, in %)
- Cement (kgCO<sub>2</sub>e/t cement)
- Corporate loan commitments: absolute financed emissions (scope 1 and 2, million tons of CO<sub>2</sub>e) and annual increase in financed emissions
- Corporate loan outstanding: absolute financed emissions (scope 1 and 2, million tons of CO<sub>2</sub>e)
- Sectors in scope of net-zero targets: Share of net-zero clients
- Relevant sectors in scope of net-zero targets: Technology mix
- Financed emissions for selected mortgage and commercial real estate portfolios (using proxies based on Energy Performance Certificate ratings and internal methodologies)
- Exposure to physical climate risk for uncollateralised loans and loans collateralised by Real Estate assets
- Facilitated emissions for DB Capital market activities in key carbon intensive sectors
- Corporate, Sovereign and FI portfolio: KPIs established to monitor portfolio exposure, quality and tenor to clients and sectors assessed as having higher vulnerability to climate transition, physical and nature-related risks

Furthermore, climate and broader environmental risk drivers are integrated into the frameworks and processes of Deutsche Bank's main risk types: Credit, Market, Liquidity and Non Financial (Operational / Reputational) risks.

- Credit risk - climate risk drivers are integrated across the different stages of the transaction lifecycle, including transaction approval / client onboarding, risk classification and credit ratings, portfolio analysis and monitoring, collateral valuation; the bank has now strengthened its processes by adding new climate risk assessment requirements at transaction credit approval (for newly onboarded and existing clients), and introducing climate risk triggers into its watchlist inclusion criteria.
- Market risk - As part of the Market Risk Identification process individual business lines are asked to consider forward-looking and/or idiosyncratic material risks including climate and other environmental risks; climate related risks are currently managed within the existing risk framework and treated as a price trigger, in the same way as market events such as central bank announcements or earnings announcements; furthermore, in the fourth quarter of 2023, a new Climate stress scenario used to assess transition and physical risks in the trading book portfolio was embedded into the bank's market risk appetite framework
- Liquidity risk - Deutsche Bank uses stress testing and pathway analysis to assess the impact of climate risk; in particular, the bank's stressed Net Liquidity Position scenarios, that are run on a daily basis, include climate disasters as possible triggers of stress
- Operational Risk Management Framework - climate risk identification takes place through analysis of past internal and external operational risk events; exploratory scenario analysis is also used to analyze potential event situations and the effectiveness of related controls to identify areas for further risk mitigation and strengthening of the control environment Business Continuity and Third Party Risk Management frameworks are in place to manage risks of disruption to processes and services taking an all-hazards approach
- Reputational risk - impacts arising from the bank's business activities in higher risk sectors are managed through its Environmental and Social Policy Framework, an integral part of the bank's Reputational Risk Framework which outlines specific restrictions, escalation and due diligence requirements for sectors with elevated environmental risks

Data and methodologies for measuring and assessing climate related risks for selected products and portfolios are still under development. Lack of availability of comprehensive and consistent climate and environmental risk disclosures by clients means that risk analysis is heavily reliant on proxy emission estimates and top down, sectoral/product-based taxonomies. In 2022 the bank migrated to strategic ESG data partners for transition risk data and onboarded new data to monitor transition pathways and physical risks.

Risk appetite for the four sectors in-scope of the de-carbonization targets is calibrated to science-based emission reduction pathways aligned with the International Energy Agency net zero scenario. Some deviation from net-zero pathway is allowed in earlier years given simplified assumption of linear reduction and potential for portfolio and economic volatility to impact alignment. In addition to sector-level appetite, a threshold on overall carbon footprint of corporate loan commitments is in place to avoid reputational risks associated with disclosure of large increases in financed emissions.

Risk appetite is monitored monthly via a dedicated Climate Report. Breaches in risk appetite are escalated to the Group Risk Committee and the Group Sustainability Committee.

## Social risk

### ESGT2

Deutsche Bank regards fundamental human rights to be universal, as these are recognized and defined in the Universal Declaration of Human Rights. Internationally recognised human rights, as they relate to business and human rights, at a minimum are those expressed in the International Bill of Human Rights and the principles concerning fundamental rights set out in the International Labour Organization's Declaration on Fundamental Principles and Rights at Work. In 2023, as part of its work on advancing its approach to human rights, Deutsche Bank reviewed the individual human rights identified within key international instruments and grouped them into 11 broader human rights clusters addressing among other things aspects such as conflict and governance risk, working conditions, freedom of association, occupational health and safety, discrimination, and child and forced labour. As human rights related risks are usually associated with the overall social risks in a business context Deutsche Bank uses the terms interchangeably for the purpose of this report.

In addition to its focus on human rights-related risks, Deutsche Bank acknowledges the relevance of social risks not directly connected to human right violations. Specifically, the bank recognizes that socio-economic developments, for example, climate change and the transition to a low carbon economy, have social impacts such as ending of certain jobs and skills. This risk is particularly relevant for countries heavily dependent on fossil-fuel industries as well as for those with limited means of funding the transformation to a more sustainable, climate-resilient economy. For this reason, the bank has committed itself to supporting a socially just transition as part of its Initial Transition Plan, published in October 2023. The overall concept of a just transition though rapidly evolving is still at a nascent stage and requires development of more context-specific guidance to enable broader integration across the bank's processes.

### Governance

As part of Deutsche Bank's overall sustainability strategy, the bank established a group-wide Human Rights Forum with a mandate to ensure oversight of the bank's human rights management across key stakeholders (i.e., the bank's employees, suppliers, and clients).

The Human Rights Forum is co-chaired by the Head of Group Sustainability and the Head of Human Rights and reports to the bank's Group Sustainability Committee chaired by the Chief Executive Officer. The Forum consists of senior representatives from the bank's business divisions and infrastructure functions and meets bi-monthly.

The Forum complements the bank's established risk management and due diligence processes within its business activities and operations. In line with the Group's reputational risk management processes, individual cases related to potential social challenges linked to a client profile or transaction may get escalated to one of the bank's Regional Reputational Risk Committees or referred to the Group Reputational Risk Committee co-chaired by the Chief Risk Officer and Head of the Corporate Bank.

Alongside the participation in the Human Rights Forum, the bank's business divisions and infrastructure functions are responsible for addressing human rights-related risks within their remits.

Further strengthening its human rights management and capacity, in 2023 Deutsche Bank appointed the aforementioned Head of Human Rights within its Group Sustainability function (hereafter "Group Sustainability"), which forms part of the bank's Chief Sustainability Office. The Head of Human Rights is responsible for advancing the integration of the topic across the bank. The role assumes responsibilities for overseeing Deutsche Bank's management of human rights and coordinating processes and communication channels to evaluate the effectiveness of the bank's human rights management approach. Further responsibilities of the Head of Human Rights include the development of overarching standards for human rights management; defining risk management standards in collaboration with risk management and other functions; coordination of strategic human rights projects; representation of Deutsche Bank in relevant networks; and acting as a point of escalation for human-rights-related incidents.

### Strategy and processes

While it remains the governments' legal obligation to protect against human rights abuses by third parties, including business enterprises, through appropriate policies, legislation, regulations, and adjudication, Deutsche Bank acknowledges its corporate responsibility pursuant to the "Protect, Respect and Remedy" framework of the UN Guiding Principles on Business and Human Rights.

This responsibility includes the need to respect human rights by avoiding causing or contributing to adverse human rights impacts from the bank's own activities and by seeking to prevent or mitigate adverse human rights impacts which are directly linked to Deutsche Bank's operations, products, or services. As such, the bank has established frameworks, and processes to ensure human rights are respected in its activities and across its operations. Deutsche Bank's Statement on Human Rights, Modern Slavery and Human Trafficking Statement 2022, and Policy Statement - Supply Chain Due Diligence Act have been signed off by the Management Board and are publicly available.

Deutsche Bank's objectives in terms of the bank's contribution to preventing, minimizing, or resolving human rights-related risks and social challenges cover:

- Understanding where the bank's business activities might trigger human rights impacts by identifying the bank's exposure to human rights risks across its upstream and downstream business as well as own operations
- Identifying sectors and jurisdictions having inherently higher risks of negatively impacting human rights
- Defining the bank's risk appetite in case potential negative human rights risks cannot be excluded
- Ensuring that the bank's frameworks and processes adequately address human rights risks based on the bank's exposure
- Offering financial solutions helping to address human rights-related and other social challenges
- Providing transparency on the bank's human rights management approach

To further enhance awareness on human rights and strengthen capacity, Deutsche Bank has undertaken several initiatives. In 2023, the bank conducted dedicated awareness sessions in cooperation with external partners. Furthermore, the bank conducted periodic trainings to reinforce employees' awareness of activities linked to potential human rights violations. One specific example is a 45-minute mandatory annual online course on anti-money laundering and the prevention of terrorist and proliferation financing, topics that have potential connections to human rights violation. The course explains what modern slavery and human trafficking is and presents a scenario showing how typical risks can be recognized.

An online mandatory Risk Awareness training has been deployed to all employees every other year. Since 2022, it includes a specific case on modern slavery in the private banking business as well as a question for learners on typical risk indicators. The training was also launched in non-English speaking locations in the course of 2023.

In February 2023, Deutsche Bank's Anti-Financial Crime department organized a "Fighting Financial Crime Week" to discuss what the bank and its partners are doing to battle financial crime. Industry experts were discussing a range of topics connected to financial crime including human trafficking. As such, the non-governmental organization Stop the Traffik presented the business of Modern Slavery and Human Trafficking and how Deutsche Bank can help mitigate these risks in the financial sector.

Deutsche Bank also benefits from the exchange of ideas and experiences, for example through its membership in the Thun Group of Banks, which Deutsche Bank joined in 2012. In 2023, the bank's Head of Human Rights joined the steering committee of the Thun Group.

### Risk Management

Deutsche Bank takes steps to prevent, minimize and/or resolve adverse human rights risks by understanding where its business activities and operations might trigger a negative impact on human rights. The bank's minimum standards relating to human rights-related and other social risks are:

- Deutsche Bank will not engage in business activities where the Group has substantiated evidence of material adverse human rights impacts and it is determined through its internal processes that such adverse human rights impacts cannot be avoided or appropriately mitigated
- Enhanced due diligence requirements for a determined set of sectors, across project finance and in instances where material controversies related to human rights have been identified
- Enhanced due diligence requirements in the defense sector with exclusions including controversial weapons, conflict countries, private military security companies, as well as civilian-use automatic and semi-automatic firearms and human-out-of-the-loop weapon systems
- Enhanced due diligence requirements with regards to adult entertainment with exclusion of any business directly associated with adult entertainment (commercial enterprises related to the sale or purchase of sex-related services, ranging from individual workers in prostitution to the pornographic entertainment industry), associated branded products or services or prostitution
- Enhanced due diligence required related to gambling with exclusion of online gambling Business-to-Consumer operators with exposure to markets where gambling is prohibited

Deutsche Bank has established enhanced due diligence requirements for clients active in sectors and geographies identified as being sensitive to negative human rights impacts. The bank's requirements build on international standards such as the UN Guiding Principles on Business and Human Rights and the International Labour Organization's Core Labor Standards and integrate human rights considerations such as child and labor rights, health and safety of workers and communities including indigenous peoples' rights. The respective social due diligence provisions are developed by the bank's central Group Sustainability function and are embedded into Deutsche Bank's reputational risk procedures.

While assessing its clients' human rights related practices, the bank expects as a minimum compliance with respective national laws and regulations and, where appropriate, the bank embeds industry specific internationally recognized best practices and standards.



As a signatory to the Equator Principles, the bank's due diligence for project financing in scope of the Equator Principles application follows the respective requirements, including the International Finance Corporation's Performance Standards 5 and 7, which specifically addresses social topics such as resettlement and indigenous rights.

If Deutsche Bank has concerns about a client with regards to human rights, it consults with relevant stakeholders. This might include direct engagement with the client as well as with civil society representatives that are familiar with the situation. Where appropriate, the bank obtains the advice of independent experts. Based on the available information and its assessment of the risks that have been identified, the bank decides on the further course of action, which may include termination of a business relationship.

### Know-Your-Client Process

As a global bank, Deutsche Bank operates in many jurisdictions across the world and supports many sectors with its financial services, which provide an opportunity to help addressing social challenges, but also might expose the bank to the risk of being linked to adverse social impacts. The bank's Know-Your-Client processes utilize a range of tools to identify adverse issues related to a client. For example, the bank considers media screening as part of its onboarding and regular client review processes. In case adverse social issues are being identified the client must be referred to the bank's Group Sustainability function for further assessment in line with the bank's requirements for enhanced due diligence. Being a global financial institution that provides a broad range of products and services also exposes Deutsche Bank to diverse financial crime risks, including modern slavery and human trafficking. Deutsche Bank's bank-wide framework for the prevention of financial crime is inter alia preventing, deterring, and detecting client activities that might be linked to potential human rights violations. The Principles for the Management of Financial Crime Risks outline the responsibilities and accountabilities of the AFC function and of all Deutsche Bank employees and describe the essential organizational requirements and relevant processes for the management of financial crime risks across the 1st and 2nd line of defense. Global AFC policies define minimum standards for managing financial crime risks, including those with implications for human rights. These bank-wide policies are supplemented by country-specific policies and procedures that reflect national laws and regulations.

Further to the policies and processes stipulating the due diligence requirements regarding social and human rights management practices of clients, Deutsche Bank policies and procedures also address potential sector-inherent adverse social risks associated with product offering by certain sectors. Especially the bank has established policies regarding the defense sector, gaming industry as well as adult entertainment sector, which are addressed in the bank's Reputational Risk Framework's minimum standards. In accordance with the Reputational Risk Framework matters linked to these industries must be reviewed by subject matter experts.

Deutsche Bank engages with stakeholders from broader society to understand their views on local and global environmental and social trends and challenges. In 2023, one important topic of this engagement was the mining industry and its impacts on human rights and local communities. In 2023, Deutsche Bank responded to written requests, surveys, or questionnaires, and repeatedly met non-governmental organizations in person to discuss the themes of their engagement. Group Sustainability is in charge of conducting this engagement and it reports to the Reputational Risk team on these engagement activities and topics on a monthly basis.

Externally Deutsche Bank reports on progress in implementing its human rights approach by publishing an annual Modern Slavery and Human Trafficking Statement and in the "Human Rights" chapter of the annual Non-Financial Report.

The Reputational Risk Team provides monthly updates on reputational risk topics to the Regional Reputational Risk Committee chairs and secretaries of the Unit Reputational Risk Assessment Process, as well as quarterly updates to the Group Reputational Risk Committee. The Risk and Capital Profile Report, which includes updates on reputational risks, is distributed to the Management Board on a monthly basis and to the Supervisory Board on a quarterly basis. It includes details such as the number of reputational risk issues assessed by the various committees and their decisions.

Externally Deutsche Bank reports on progress in implementing its human rights approach by publishing an annual Modern Slavery and Human Trafficking Statement and in the "Human Rights" chapter of its annual Non-Financial Report.

## Governance risk

### ESGT3

#### Governance

Types of governance risk include counterparties with issues such as transparency and inclusiveness, or clients involved in bribery and corruption scandals, or accused of tax avoidance or optimization. Deutsche Bank addresses these concerns via different frameworks and processes including those relating to reputational risk and AFC.

The Reputational Risk Framework is in place to manage the process through which active decisions are taken on matters which may pose a reputational risk, before the event, and in doing so to prevent damage to Deutsche Bank's reputation wherever possible. Along with other reputational risk matters, this Framework is used to assess any issues identified in relation to the governance performance of counterparties from a reputational risk management perspective. Such concerns can be driven by allegations of corruption and bribery, aggressive business practices and/or issues around transparent business dealings. The Framework is also utilized to discuss reputational risks arising from, but not limited to, counterparty concerns perceived to be in contradiction with Deutsche Bank's values and beliefs, and potential issues with the business purpose / economic substance of the transaction or product, high risk industries, environmental and social considerations, and the nature of the transaction or product or its structure and terms.

The Framework provides consistent standards for the identification, assessment, and management of reputational risk issues. Reputational impacts which may arise because of a failure from another risk type, control or process are addressed separately via the associated risk type framework and are therefore not addressed in this section. The Regional Reputational Risk Committees, which are 2nd LoD Committees, are responsible for ensuring the oversight, governance, and coordination of the management of reputational risk in the respective region of Deutsche Bank. The Regional Reputational Risk Committees meet, as a minimum, on a quarterly basis with ad hoc meetings as required. The Group Reputational Risk Committee is responsible for ensuring the oversight, governance, and coordination of the management of reputational risk at Deutsche Bank on behalf of the Group Risk Committee and the Management Board.

AFC acts as an independent function setting policies and minimum control standards for the management and mitigation of financial crime risks at Deutsche Bank, including those relating to clients or counterparties that may be the subject of allegations of bribery and corruption. Deutsche Bank's business divisions are responsible and accountable for the implementation and operationalization of these policies and standards. The Management Board ensures that AFC can execute its tasks independently and effectively.

#### Strategy and processes

Deutsche Bank has limited appetite for transactions or relationships with material reputational risk or in areas which inherently pose a higher reputational risk such as the defense, gaming, or adult entertainment sectors, where there are ethical concerns and potential concerns of corruption and bribery. Specifically, matters are deemed to pose material reputational risk if they are considered likely to: attract significant negative media attention; result in repeated criticism via various media channels, NGO letters or formal campaigns; be opposed by significant cross-sections of the public; result in regulatory criticism and / or may have a negative impact on DB's relationship with any supervisory authority; result in criticism at DB's annual general meeting; (6) trigger client attrition; or, result in employees questioning how the matter fits in with DB's values and beliefs. These cases are reviewed via the Reputational Risk Framework on a case-by-case basis considering views from a broad range of stakeholders. Reputational risk cannot be precluded as it can be driven by unforeseeable changes in perception of the Group's practices by various stakeholders (e.g., public, clients, shareholders and regulators).

Deutsche Bank has no tolerance for its employees or third parties acting on its behalf engaging in bribery or corruption. On an annual basis, Deutsche Bank undertakes an assessment of inherent bribery and corruption risks and corresponding controls across all its businesses. Deutsche Bank has continued to reduce its exposure to areas that present a higher inherent risk of bribery and corruption, such as the use of business development consultants. Deutsche Bank continues to implement new and further enhance its existing controls in these key risk areas. These controls are both preventative and detective and include enhanced due diligence on clients, vendors and other third parties, contractual representations, and warranties, monitoring of relevant payment flows, as well as the monitoring of client, vendor, and other third-party relationships. Potential instances of bribery or corruption are independently investigated, and any employee determined to be engaged in such behavior would be subject to disciplinary action, including red flags, up to and including termination of employment. All of Deutsche Bank's bribery and corruption policies and procedures also apply to all temporary/contract employees. Identified instances of bribery and corruption would be reported to senior management and relevant legal or regulatory authorities. See chapter on "Whistleblowing" for further information.

Deutsche Bank has policies, procedures and controls that cover those areas that present an increased risk of bribery and corruption, the cornerstone of which is the Anti-Bribery and Corruption Policy. These policies cover all key areas of Deutsche Bank's bribery and corruption risk exposure, including gifts and entertainment, charitable donations, hiring practices, joint ventures and strategic investments, vendor risk management, books and records, and political contributions.

Deutsche Bank has also implemented a holistic fraud risk management framework across all lines of defense, defining governance and minimum standards, and establishing key controls to mitigate the risk of fraud, such as mandatory time away and fraud transaction monitoring. The Anti-Fraud Policy also sets out the applicable minimum requirements and defines the prohibition of fraud including internal fraud by employees against Deutsche Bank, its clients and other third parties, fraud by external parties against Deutsche Bank, the understanding and assessment of fraud risk, as well as the escalation of internal and external fraud.

### Risk management

Under the Reputational Risk Framework, all employees are responsible for identifying potential reputational risks and reporting them by means of the Unit Reputational Risk Assessment Process (Unit RRAP). Each Business Division has an established process through which matters, which are deemed to be a moderate or greater reputational risk are assessed (Unit RRAP). The Framework is applicable across all Business Divisions and Regions. Whilst every employee has a responsibility to protect our reputation, the primary responsibility for the identification, assessment, management, monitoring and, if necessary, referring or reporting of reputational risk matters lies with Deutsche Bank's Business Divisions as the primary risk owners.

Through the Unit Reputational Risk Assessment Process relevant stakeholders are consulted for input, such as country management, key control functions, and other second-line subject matter experts. The Unit RRAP is chaired by a business division's relevant senior manager and applies to all matters deemed to pose moderate or greater reputational risk. If a matter is considered to pose a material reputational risk and/or meets one of the bank's mandatory referral criteria, it is referred for further review to the relevant Regional Reputational Risk Committee. In exceptional circumstances, matters are referred to the Group Reputational Risk Committee.

To the extent the bank engages with third parties either to act on its behalf or as part of a joint venture or strategic investment, AFC will conduct appropriate levels of due diligence before entering into such a relationship to gain comfort with regard to the counterparty's controls and whether engaging with the counterparty is within risk appetite. Equally, all new client adoptions are assessed for bribery and corruption concerns, and, where appropriate, will be reviewed as part of the reputational risk process described above.

## Climate change transition risk

Financed emissions are emissions that banks and investors finance through on-balance sheet lending and investing activities. Greenhouse gases (GHG) can be distinguished into three categories: Scope 1, 2 and 3.

- Scope 1: Direct GHG emissions occur from sources owned or controlled by the counterparty
- Scope 2: Indirect GHG emissions from generation of purchased or acquired electricity, steam, heating, or cooling consumed by the counterparty
- Scope 3: Other indirect GHG emissions not included in Scope 2 occurring in the value chain of the counterparty; it can be further broken down into upstream emissions i.e., life cycle of materials, products or services up to the point of sale and downstream emissions i.e., distribution, storage, use and end-of-life treatment of products and services

Deutsche Bank reports estimated financed emissions for the corporate lending portfolio in the Non-Financial Report and will start reporting its estimates of financed emissions for exposures in the banking book in the Pillar 3 Report in 2024. The Bank calculates its financed emissions based on the standard of the Partnership for Carbon Accounting Financials (PCAF) and plans to use the same standard for its Pillar 3 disclosures in the future.

Table ESG1 highlights potential transition risks the Group is exposed to on loans and advances, debt securities and equity instruments in the banking book as clients transition to a low-carbon and climate-resilient economy. Transition risk is deemed to be higher for those exposures not aligned with the EU Paris-Benchmark and exposures with a longer maturity, especially from clients operating in carbon-related sectors and highly contributing to climate change.

Determination of clients not aligned with the EU Paris-Benchmark is done on a best-efforts basis either based on available third-party data or relevant NACE codes. The coverage of available information on counterparty exposures is expected to improve over time and could result in further counterparties being identified as not aligned.

For those exposures excluded from the EU-Paris aligned Benchmarks, the bank manages these exposures within its risk management framework and in accordance with the bank's net zero targets and Environmental and Social Framework, and related sectoral policies, where applicable.

Exposures to financial corporates are included in "K - Financial and insurance activities" according to EBA Q&A 2022\_6600. The industry classification is based on the counterparty's NACE code. Determined exposures against holding companies have been re-allocated to a different NACE code based on their economic operating model.

Exposures which are environmentally sustainable are not shown for June 30, 2024 since the disclosure requirement is applicable starting December 31, 2023.

ESG1 – Banking book- Climate Change transition risk: Credit quality of exposures by sector, emissions and maturity

Dec 31, 2023

	a	b	c	d	e	f	g	h	i	m	n	o	p	
	Gross carrying amount					Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions								
	in € m.	of which: exposures towards companies excluded from EU Paris-aligned Benchmarks in accordance with points (d) to (g) of Article 12.1 and in accordance with Article 12.2 of Climate Benchmark Standards Regulation	of which: environmentally sustainable (CCM)	of which: stage 2 exposures	of which: non-performing exposures	of which: stage 2 exposures	of which: non-performing exposures	of which: non-performing exposures	<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity	
1	Exposures towards sectors that highly contribute to climate change*	151,184	6,948	3,492	24,664	6,607	2,030	219	1,698	125,671	11,801	8,134	5,578	3.5
2	A - Agriculture, forestry and fishing	731	77	1	88	20	7	1	5	533	101	75	22	4.0
3	B - Mining and quarrying	3,921	2,287	5	336	35	24	3	17	3,178	725	9	9	2.7
4	B.05 - Mining of coal and lignite	28	23	0	0	3	2	0	2	17	10	1	0	3.3
5	B.06 - Extraction of crude petroleum and natural gas	2,728	1,875	5	171	27	18	2	13	2,042	685	1	1	2.7
6	B.07 - Mining of metal ores	539	185	0	143	0	1	1	0	531	0	1	7	2.4
7	B.08 - Other mining and quarrying	114	71	0	22	5	2	0	2	93	14	5	2	3.4
8	B.09 - Mining support service activities	512	132	0	0	0	1	0	0	495	15	1	0	2.7
9	C - Manufacturing	38,084	2,633	1,800	5,151	1,591	580	62	485	34,595	2,488	879	123	2.0
10	C.10 - Manufacture of food products	3,379	8	6	468	79	44	5	36	3,077	234	54	14	1.8
11	C.11 - Manufacture of beverages	959	0	1	107	9	7	2	3	890	65	3	1	1.5
12	C.12 - Manufacture of tobacco products	398	346	0	0	1	1	0	1	388	10	0	0	2.5
13	C.13 - Manufacture of textiles	469	0	19	48	29	13	0	12	372	48	44	5	3.3
14	C.14 - Manufacture of wearing apparel	189	0	1	36	27	18	0	17	155	14	19	1	2.9
15	C.15 - Manufacture of leather and related products	107	0	0	26	9	2	0	2	87	11	8	1	2.9
16	C.16 - Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	276	0	2	40	14	12	0	11	230	29	13	4	3.8
17	C.17 - Manufacture of pulp, paper and paperboard	705	0	0	153	14	11	2	8	591	94	19	2	2.4
18	C.18 - Printing and service activities related to printing	199	0	0	36	8	4	0	3	151	24	20	4	4.4
19	C.19 - Manufacture of coke oven products	1,696	1,395	3	119	0	3	3	0	1,558	21	116	1	1.6
20	C.20 - Production of chemicals	3,646	84	10	525	233	24	6	15	3,124	431	84	8	2.2
21	C.21 - Manufacture of pharmaceutical preparations	1,738	33	0	189	53	6	2	3	1,558	166	13	0	2.0
22	C.22 - Manufacture of rubber products	1,561	1	57	527	45	37	6	29	1,355	185	20	1	2.1
23	C.23 - Manufacture of other non-metallic mineral products	691	0	1	112	29	24	1	22	595	76	14	5	2.8
24	C.24 - Manufacture of basic metals	1,888	32	47	307	188	43	3	37	1,783	65	38	2	1.5
25	C.25 - Manufacture of fabricated metal products, except machinery and equipment	1,934	5	58	325	103	59	4	53	1,605	228	82	19	3.0
26	C.26 - Manufacture of computer, electronic and optical products	2,754	0	31	216	24	14	1	10	2,616	82	53	2	1.7
27	C.27 - Manufacture of electrical equipment	2,973	0	71	272	245	56	3	51	2,791	134	43	6	1.7
28	C.28 - Manufacture of machinery and equipment n.e.c.	3,831	0	159	518	129	87	4	79	3,537	206	78	9	1.7

Dec 31, 2023

	a	b	c	d	e	f	g	h	i	m	n	o	p	
	Gross carrying amount					Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions								
	in € m.	of which: exposures towards companies excluded from EU Paris-aligned Benchmarks in accordance with points (d) to (g) of Article 12.1 and in accordance with Article 12.2 of Climate Benchmark Standards Regulation	of which: environmentally sustainable (CCM)	of which: stage 2 exposures	of which: non-performing exposures		of which: stage 2 exposures	of which: non-performing exposures	<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity	
29	C.29 - Manufacture of motor vehicles, trailers and semi-trailers	4,787	715	1,311	349	123	50	3	44	4,691	85	10	2	0.9
30	C.30 - Manufacture of other transport equipment	925	0	16	122	149	13	1	11	859	33	31	1	2.4
31	C.31 - Manufacture of furniture	268	0	0	50	20	15	1	14	215	34	12	7	3.3
32	C.32 - Other manufacturing	2,650	14	6	588	59	37	11	23	2,319	208	100	24	2.8
33	C.33 - Repair and installation of machinery and equipment	60	0	1	17	1	1	0	0	49	2	5	5	4.4
34	D - Electricity, gas, steam and air conditioning supply	6,258	466	539	486	97	28	7	16	4,667	1,171	394	26	3.4
35	D35.1 - Electric power generation, transmission and distribution	5,578	344	530	393	95	27	6	16	4,319	899	335	25	3.2
36	D35.11 - Production of electricity	3,495	280	400	162	95	21	3	16	2,726	590	157	22	3.3
37	D35.2 - Manufacture of gas; distribution of gaseous fuels through mains	638	123	8	93	0	1	1	0	335	249	54	0	4.5
38	D35.3 - Steam and air conditioning supply	42	0	2	0	1	0	0	0	13	23	5	1	6.8
39	E - Water supply; sewerage, waste management and remediation activities	517	0	14	21	5	5	0	3	378	90	43	5	4.0
40	F - Construction	5,300	0	107	1,000	268	110	11	94	3,653	484	667	496	6.7
41	F.41 - Construction of buildings	2,496	0	25	594	101	58	6	50	1,926	156	174	240	6.3
42	F.42 - Civil engineering	781	0	62	76	28	6	1	5	513	144	92	32	6.7
43	F.43 - Specialised construction activities	2,024	0	19	330	139	46	5	39	1,215	183	401	225	7.3
44	G - Wholesale and retail trade; repair of motor vehicles and motorcycles	24,367	1,406	300	3,731	879	533	33	481	21,582	1,051	1,332	402	2.3
45	H - Transportation and storage	6,981	80	332	1,324	292	65	11	45	5,690	611	615	65	3.3
46	H.49 - Land transport and transport via pipelines	1,609	80	69	430	49	21	7	13	1,376	183	22	29	2.8
47	H.50 - Water transport	1,310	0	55	647	56	10	3	6	865	24	420	1	5.4
48	H.51 - Air transport	822	0	54	42	112	14	0	12	628	137	57	1	4.1
49	H.52 - Warehousing and support activities for transportation	2,931	0	97	192	71	18	1	13	2,527	261	112	30	2.7
50	H.53 - Postal and courier activities	309	0	57	14	5	2	0	2	294	7	4	4	1.2
51	I - Accommodation and food service activities	1,869	0	0	320	79	31	3	26	894	562	266	147	6.9
52	L - Real estate activities	63,156	0	394	12,208	3,342	647	87	525	50,500	4,519	3,854	4,283	4.5
53	Exposures towards sectors other than those that highly contribute to climate change*	184,706	551	2,407	11,535	2,580	756	84	500	129,401	15,002	6,835	33,468	11.5
54	K - Financial and insurance activities <sup>1</sup>	133,282	0	2,101	6,401	1,196	334	13	213	91,779	8,186	3,041	30,276	14.0
55	Exposures to other sectors (NACE codes J, M - U)	51,424	551	306	5,134	1,384	421	72	287	37,621	6,816	3,795	3,192	5.0
56	Total	335,889	7,499	5,899	36,199	9,187	2,786	304	2,198	255,072	26,803	14,970	39,046	7.9

<sup>1</sup> Includes exposures to financial corporates as per EBA Q&A 2022\_6600

Jun 30, 2023

	a	b	c	d	e	f	g	h	i	m	n	o	p	
	Gross carrying amount					Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions								
	in € m.	of which: exposures towards companies excluded from EU Paris-aligned Benchmarks in accordance with points (d) to (g) of Article 12.1 and in accordance with Article 12.2 of Climate Benchmark Standards Regulation	of which: environmentally sustainable (CCM)	of which: stage 2 exposures	of which: non-performing exposures		of which: stage 2 exposures	of which: non-performing exposures	<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity	
1	Exposures towards sectors that highly contribute to climate change*	150,776	6,792	0	21,859	5,602	2,065	206	1,703	124,833	12,895	7,879	5,169	3.5
2	A - Agriculture, forestry and fishing	767	80	0	87	30	13	1	10	562	103	81	20	4.0
3	B - Mining and quarrying	3,224	2,128	0	120	88	75	2	65	2,633	579	10	2	2.5
4	B.05 - Mining of coal and lignite	31	26	0	8	3	2	0	2	11	19	1	0	5.0
5	B.06 - Extraction of crude petroleum and natural gas	1,423	1,297	0	13	0	3	1	0	1,004	418	1	1	3.1
6	B.07 - Mining of metal ores	316	316	0	24	6	4	0	2	314	0	2	0	1.5
7	B.08 - Other mining and quarrying	167	89	0	61	3	2	0	1	127	33	5	2	4.1
8	B.09 - Mining support service activities	477	135	0	0	30	19	0	18	462	14	2	0	2.6
9	C - Manufacturing	38,276	1,965	0	5,520	1,812	744	81	621	34,520	2,902	736	118	1.9
10	C.10 - Manufacture of food products	3,680	41	0	594	83	63	9	49	3,351	266	49	14	1.9
11	C.11 - Manufacture of beverages	901	16	0	64	12	4	0	3	825	70	5	1	1.3
12	C.12 - Manufacture of tobacco products <sup>2</sup>	432	353	0	0	23	15	0	15	429	3	0	0	2.6
13	C.13 - Manufacture of textiles	780	0	0	58	42	15	1	14	641	84	50	4	2.6
14	C.14 - Manufacture of wearing apparel	228	0	0	39	30	21	0	21	189	18	20	1	2.9
15	C.15 - Manufacture of leather and related products	111	0	0	19	8	6	0	5	92	10	9	0	2.6
16	C.16 - Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	262	0	0	28	17	14	0	14	221	19	17	5	3.8
17	C.17 - Manufacture of pulp, paper and paperboard	749	0	0	124	14	11	2	8	649	81	18	2	2.2
18	C.18 - Printing and service activities related to printing	206	0	0	37	9	4	1	3	159	21	21	5	4.5
19	C.19 - Manufacture of coke oven products	1,257	1,106	0	212	59	2	1	0	1,141	115	1	1	1.5
20	C.20 - Production of chemicals	3,147	207	0	468	80	41	6	31	2,733	371	39	3	2.1
21	C.21 - Manufacture of pharmaceutical preparations	1,534	23	0	185	53	9	4	3	1,318	203	13	0	2.3
22	C.22 - Manufacture of rubber products	1,789	1	0	374	55	48	9	38	1,562	199	26	1	2.1
23	C.23 - Manufacture of other non-metallic mineral products	766	0	0	113	25	20	1	18	648	102	11	4	2.3
24	C.24 - Manufacture of basic metals	2,059	119	0	372	238	64	5	56	1,940	76	41	2	1.6
25	C.25 - Manufacture of fabricated metal products, except machinery and equipment	2,135	1	0	387	93	62	4	55	1,758	278	83	16	2.9
26	C.26 - Manufacture of computer, electronic and optical products	2,652	0	0	260	14	20	5	11	2,466	138	46	2	1.9
27	C.27 - Manufacture of electrical equipment	2,893	0	0	376	458	124	6	115	2,686	154	47	6	1.4
28	C.28 - Manufacture of machinery and equipment n.e.c.	3,832	0	0	608	140	91	6	81	3,462	269	89	13	1.9

Jun 30, 2023

	a	b	c	d	e	f	g	h	i	m	n	o	p	
	Gross carrying amount					Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions								
	in € m.	of which: exposures towards companies excluded from EU Paris-aligned Benchmarks in accordance with points (d) to (g) of Article 12.1 and in accordance with Article 12.2 of Climate Benchmark Standards Regulation	of which: environmentally sustainable (CCM)	of which: stage 2 exposures	of which: non-performing exposures	of which: stage 2 exposures	of which: non-performing exposures	of which: stage 2 exposures	of which: non-performing exposures	<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity
29	C.29 - Manufacture of motor vehicles, trailers and semi-trailers	4,219	96	0	410	150	48	10	35	4,111	92	14	1	0.9
30	C.30 - Manufacture of other transport equipment	1,028	0	0	141	120	11	3	7	970	44	12	1	1.6
31	C.31 - Manufacture of furniture	313	0	0	82	18	16	1	14	247	44	14	7	3.4
32	C.32 - Other manufacturing	3,103	0	0	537	66	32	6	23	2,755	219	105	24	2.7
33	C.33 - Repair and installation of machinery and equipment	90	0	0	5	0	0	0	0	78	3	5	5	3.7
34	D - Electricity, gas, steam and air conditioning supply	6,719	1,487	0	376	94	26	4	14	5,091	1,230	393	5	3.4
35	D35.1 - Electric power generation, transmission and distribution	5,934	1,391	0	248	93	23	3	13	4,621	977	332	4	3.3
36	D35.11 - Production of electricity	3,637	966	0	168	92	19	2	13	2,759	658	217	3	3.4
37	D35.2 - Manufacture of gas; distribution of gaseous fuels through mains	687	94	0	88	0	2	1	0	402	228	56	0	4.9
38	D35.3 - Steam and air conditioning supply <sup>2</sup>	50	2	0	1	1	1	0	1	22	22	5	1	6.5
39	E - Water supply; sewerage, waste management and remediation activities	682	0	0	41	8	8	0	6	513	98	66	4	3.7
40	F - Construction	5,014	0	0	730	261	122	10	104	3,588	475	592	359	5.7
41	F.41 - Construction of buildings	2,360	0	0	272	135	68	2	62	1,886	188	143	143	4.9
42	F.42 - Civil engineering	642	0	0	96	15	11	1	9	439	103	92	8	5.1
43	F.43 - Specialised construction activities	1,935	0	0	362	110	43	6	33	1,188	184	354	209	7.2
44	G - Wholesale and retail trade; repair of motor vehicles and motorcycles	23,140	1,105	0	2,903	918	562	38	500	20,205	1,226	1,326	383	2.5
45	H - Transportation and storage	6,825	26	0	1,022	450	72	13	51	5,473	720	573	59	3.5
46	H.49 - Land transport and transport via pipelines	1,447	26	0	403	62	25	8	15	1,296	98	25	28	2.7
47	H.50 - Water transport	1,456	0	0	410	48	15	3	12	922	145	389	1	5.4
48	H.51 - Air transport	1,530	0	0	100	265	15	1	13	1,329	135	65	1	3.5
49	H.52 - Warehousing and support activities for transportation	2,066	0	0	105	72	16	1	11	1,622	330	88	26	3.2
50	H.53 - Postal and courier activities	325	0	0	4	3	1	0	1	304	13	6	3	1.0
51	I - Accommodation and food service activities	1,840	0	0	560	77	30	4	24	1,077	368	260	134	6.7
52	L - Real estate activities	64,289	0	0	10,499	1,865	414	52	308	51,169	5,193	3,842	4,084	4.5
53	Exposures towards sectors other than those that highly contribute to climate change*	186,427	759	0	13,378	2,565	1,042	134	732	132,549	14,485	6,231	33,162	11.3
54	K - Financial and insurance activities <sup>1</sup>	134,900	78	0	8,502	1,304	390	64	226	94,417	7,916	2,401	30,165	13.8
55	Exposures to other sectors (NACE codes J, M - U)	51,527	681	0	4,876	1,262	653	71	505	38,131	6,569	3,830	2,997	4.8
56	Total	337,203	7,550	0	35,237	8,167	3,107	340	2,435	257,381	27,380	14,110	38,331	7.8

<sup>1</sup> Includes exposures to financial corporates as per EBA Q&A 2022\_6600

<sup>2</sup> Prior year comparatives are aligned to presentation in the current year

## Energy efficiency of real estate collateral

Table ESG2 highlights the energy efficiency of commercial and residential real estate collateralizing loans on Deutsche Bank's balance sheet. The information includes energy efficiency measured in terms of kWh/m<sup>2</sup> energy consumption and Energy Performance Certificate (EPC) labels.

In general, energy efficiency data is not available for most collateral. While some local EPC data bases are available for Spain and Italy, a major part of the Group's portfolios is located in countries without any public source of EPC data. However, for a larger portion of the portfolio, the Deutsche Bank is able to estimate EPCs based on collateral information and external data bases such as PCAF and dena. If contracts are secured by multiple properties, the kWh/m<sup>2</sup> are allocated on a pro rata basis to each of the properties based on the weighted average lending value. In total, for 4% of the reported exposure Deutsche Bank uses the PCAF methodology.

Loans collateralized by immovable property are predominantly arising from the bank's German residential real estate portfolio (€ 158.1 billion) where Deutsche Bank has a good market coverage and energy efficiency can be estimated with a robust methodology. Due to the large amount of newly constructed properties in its' German mortgage portfolio, a high proportion of the gross carrying amount is shown with low energy efficiency levels. Deutsche Bank started collecting EPCs for new residential real estate loans for portfolios within the EU mid 2022. Yet due to data protection schemes, EPCs are not systematically collected from private households. Hence, a low amount of actual EPC labels is available for residential immovable properties. For all private household clients, Deutsche Bank collects EPC documentation where it's legally necessary for the client to have an EPC label for the property. A significant portion of the Deutsche Bank's reported numbers on collected EPC labels are linked to the Spanish mortgage portfolio. Processes for collecting energy efficiency labels for commercial immovable properties is in process of being developed. Loans collateralized with garages and plots (included in residential immovable property), do not have a kWh/m<sup>2</sup> estimate and are classified as 0 kWh/m<sup>2</sup> in column b. For loans where an EPC label is not available, these exposures are reported under column o. If an EPC label is available, yet kWh/m<sup>2</sup> is not included, a mismatch between column o and the amount stated in a5 occurs.

For portfolios outside of the EU there is a lack of comprehensive and consistent local energy-efficiency standards which are comparable to the EU. Deutsche Bank is in the process of collecting, but does not yet have systematic, reliable data to estimate kWh/m<sup>2</sup> for these portfolios. Hence, most non-EU portfolios are reported without kWh/m<sup>2</sup> or EPC information.



ESG2 – Banking book - Climate change transition risk: Loans collateralised by immovable property - Energy efficiency of the collateral

																	Dec 31, 2023
																	Total gross carrying amount
																	Without EPC label of collateral
																	of which: level of energy efficiency (EP score in kWh/m <sup>2</sup> of collateral) estimated (in %)
																	Level of energy efficiency (EP score in kWh/m <sup>2</sup> of collateral)
																	Level of energy efficiency (EPC label of collateral)
																	in € m.
																	0; <= 100
																	> 100; <= 200
																	> 200; <= 300
																	> 300; <= 400
																	> 400; <= 500
																	> 500
																	A
																	B
																	C
																	D
																	E
																	F
																	G
																	194,322
																	87
1	<b>Total EU area</b>	201,757	58,379	64,156	51,117	899	636	2,185	589	314	475	853	2,168	1,020	2,016	194,322	87
2	Of which Loans collateralized by commercial immovable property	29,153	840	1,837	1,122	12	403	1,781	0	3	1	12	8	2	277	28,848	20
3	Of which Loans collateralized by residential immovable property	172,593	57,538	62,319	49,995	887	233	392	588	311	473	840	2,160	1,018	1,739	165,463	99
4	Of which Collateral obtained by taking possession: residential and commercial immovable properties	12	0	0	0	0	0	12	-	-	-	-	-	-	-	12	0
5	Of which Level of energy efficiency (EP score in kWh/m <sup>2</sup> of collateral) estimated	170,442	57,029	61,547	49,285	273	464	1,844	-	-	-	-	-	-	-	169,556	100
6	<b>Total non-EU area</b>	44,771	154	199	70	3	1	19	-	1	2	2	12	2	4	44,749	1
7	Of which Loans collateralized by commercial immovable property	40,318	1	6	3	0	0	18	-	-	-	-	0	-	-	40,318	0
8	Of which Loans collateralized by residential immovable property	4,453	153	192	67	3	1	1	-	1	2	2	12	2	4	4,432	9
9	Of which Collateral obtained by taking possession: residential and commercial immovable properties	0	0	0	0	0	0	0	-	-	-	-	-	-	-	0	0
10	Of which Level of energy efficiency (EP score in kWh/m <sup>2</sup> of collateral) estimated	433	152	193	67	1	1	19	-	-	-	-	-	-	-	425	100

																Jun 30, 2023																
																Total gross carrying amount																
																Without EPC label of collateral of which: level of energy efficiency (EP score in kWh/m <sup>2</sup> of collateral) estimated (in %)																
																Level of energy efficiency (EP score in kWh/m <sup>2</sup> of collateral)	Level of energy efficiency (EPC label of collateral)															
																0; <= 100	> 100; <= 200	> 200; <= 300	> 300; <= 400	> 400; <= 500	> 500	A	B	C	D	E	F	G				
																in € m.																
1	<b>Total EU area</b>	204,039	58,238	63,166	52,009	698	658	175	235	237	353	626	1,646	755	1,215	198,971	83															
2	Of which Loans collateralized by commercial immovable property	28,035	694	4,965	153	4	40	4	4	3	4	6	5	7	7	28,000	21															
3	Of which Loans collateralized by residential immovable property	175,993	57,544	58,200	51,856	694	618	160	231	234	349	620	1,642	749	1,208	170,960	93															
4	Of which Collateral obtained by taking possession: residential and commercial immovable properties	11	0	0	0	0	0	11	-	-	-	-	0	-	-	11	0															
5	Of which Level of energy efficiency (EP score in kWh/m <sup>2</sup> of collateral) estimated	170,062	57,165	61,328	50,647	260	537	124	-	-	-	-	-	-	-	169,526	100															
6	<b>Total non-EU area</b>	42,947	148	246	62	3	1	1	-	1	2	1	11	1	5	42,927	1															
7	Of which Loans collateralized by commercial immovable property	37,581	1	25	0	0	0	0	-	-	-	-	0	-	-	37,581	0															
8	Of which Loans collateralized by residential immovable property	5,366	147	221	62	3	1	1	-	1	2	1	11	1	5	5,345	0															
9	Of which Collateral obtained by taking possession: residential and commercial immovable properties	0	0	0	0	0	0	0	-	-	-	-	-	-	-	0	0															
10	Of which Level of energy efficiency (EP score in kWh/m <sup>2</sup> of collateral) estimated	449	146	242	58	1	0	1	-	-	-	-	-	-	-	441	98															

## Exposures to Top 20 carbon-intensive firms

Table ESG4 highlights the aggregate exposure Deutsche Bank has towards the top 20 most carbon-intensive firms and its subsidiaries in the world by gross carrying amount (including loans and advances, debt securities and equity instruments) in the banking book and weighted average maturity. The underlying data source for identifying the top 20 most carbon-intensive firms is the publicly latest available list from the Carbon Majors Report 2020 with database as of 2018.

### ESG4 - Exposures in the banking book to the top 20 carbon-intensive firms in the world

						Dec 31, 2023
		a	b	c	d	e
		Gross carrying amount (aggregate)	Gross carrying amount towards the counterparties compared to total gross carrying amount (aggregate in %)	Of which environmentally sustainable (CCM)	Weighted average maturity	Number of top 20 polluting firms included
1	in € m.					
1	Top 20 polluting firms	3,221	0.51	8	1.4	16

						Jun 30, 2023
		a	b	c	d	e
		Gross carrying amount (aggregate)	Gross carrying amount towards the counterparties compared to total gross carrying amount (aggregate in %)	Of which environmentally sustainable (CCM)	Weighted average maturity	Number of top 20 polluting firms included
1	in € m.					
1	Top 20 polluting firms	2,931	0.46	-	1.5	16

Deutsche Bank's exposure increased towards the Top 20 firms by € 0.3 billion resulting in a higher but still low overall exposure ratio of 0.51%. The weighted average maturity decreased further to 1.4 years. Exposure which are environmentally sustainable are not shown for June 30, 2024 since the disclosure requirement is applicable starting December 31, 2023.

## Climate change - physical risk

Acute and chronic climate change events are defined as the likelihood of gradual changes in weather and climate conditions. These changes can have a potential impact on economic output and productivity, can cause sudden damage to properties, disruption of supply chains, and depreciation of assets, as well as additional cost related to operational downtime.

The bank utilizes data provided by Standard & Poor's (S&P) to map locations as having acute or chronic hazard scores. S&P's exposure scores forecast climate event probabilities for eight hazards and four climate scenarios. The exposure scores represent the likelihood of each climate hazard and scenario over the next eight decades.

For purposes of determining Deutsche Bank's physical risk, it has selected the exposure scores from the Representative Concentration Pathways 6 (RCP6) (2.0° – 3.7°) scenario projection for the decade 2020-2030 to determine if an exposure has an acute risk to climate change events. Acute risks are defined by seven S&P hazards (i.e., tropical cyclone, extreme heat, extreme cold, fluvial floods, coastal floods, wildfire and drought). An exposure is impacted by acute climate risk if the exposure scores are above a 98% confidence level for any one out of the seven S&P hazards.

A loan is reported as being impacted by chronic climate risk when the hazard exposure score is above the 98% confidence level for the 2040-2050 decade for either a tropical cyclone, fluvial floods, coastal floods, heat stress and drought in addition to water stress, reflecting the impacts of longer-term shifts in climate patterns on these hazards.

If the loan has real estate as collateral, the bank uses S&P exposure scores to map them against the property zip codes to determine the exposure score. For larger companies, with multiple, regionally diversified locations and loans not secured by real estate, S&P provides an exposure score from their internal asset and client database, which aggregates the risk based on the company's multiple locations and operations. If the borrower is not in S&P's database and does not have real estate as collateral, the bank will use the clients domiciled address to determine the appropriate exposure score based on similar locations with information available from S&P. As of December 31, 2023, the Group obtained exposure scores on 98% of the German Private Bank real estate loans and 80% across Private Bank (excl. German Private Bank), Corporate Bank and

Investment Bank. Continuous enhancement to processes, refinement of methodology and forward-looking information can result in changes to exposures subject to physical risk.

Table ESG5 provides information on exposures in the banking book (including loans and advances and debt securities) towards non-financial corporates with a geographical grouping in four regions: Europe, the Middle East and Africa (EMEA), Asia Pacific, North America and Latin America. The gross carrying amount of the loans do not consider any risk mitigation, adaption or resilience measures the bank may have taken to reduce the risk of physical loss or any costs related to climate change.



Jun 30, 2023

	b	c	d	e	f	g	h	i	j	k	l	m	n	o
	Total gross carrying amount													
	of which: exposures sensitive to impact from climate change physical events													
	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions													
	Breakdown by maturity bucket						of which: exposures sensitive to impact from chronic climate change events	of which: exposures sensitive to impact from acute climate change events	of which: exposures sensitive to impact both from chronic and acute climate change events	of which: Stage 2 exposures	of which: non- performin g exposures	of which: Stage 2 exposures	of which: non- performin g exposures	
in € m.	<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity	of which: exposures sensitive to impact from chronic climate change events	of which: exposures sensitive to impact from acute climate change events	of which: exposures sensitive to impact both from chronic and acute climate change events	of which: Stage 2 exposures	of which: non- performin g exposures	of which: Stage 2 exposures	of which: non- performin g exposures		
1 A - Agriculture, forestry and fishing	555	14	9	4	3	4.9	30	8	8	14	1	1	0	1
2 B - Mining and quarrying	1,890	133	502	261	1	3.4	897	232	232	13	0	3	0	0
3 C - Manufacturing	27,972	2,233	1,207	32	16	1.9	3,416	762	690	506	161	60	0	51
4 D - Electricity, gas, steam and air conditioning supply	3,545	195	492	156	0	5.6	843	70	70	68	0	2	0	0
5 E - Water supply; sewerage, waste management and remediation activities	465	6	6	0	1	0.0	13	4	4	5	1	1	0	1
6 F - Construction	3,869	123	447	141	44	0.0	450	371	62	59	30	15	0	12
7 G - Wholesale and retail trade; repair of motor vehicles and motorcycles	17,026	1,474	630	49	58	0.0	2,212	403	403	245	112	81	0	76
8 H - Transportation and storage	4,705	271	339	108	15	0.0	734	409	409	204	19	13	0	8
9 L - Real estate activities	28,742	1,184	647	221	97	0.0	2,149	680	680	542	181	61	0	57
10 Loans collateralised by residential immovable property	176,797	185	597	2,199	3,842	0.0	6,814	1,916	1,907	763	150	57	0	41
11 Loans collateralised by commercial immovable property	34,552	1,128	745	96	33	2.1	2,002	699	699	483	157	51	0	48
12 Repossessed collateral	11	1	0	1	1	0.0	3	1	1	0	3	7	0	7
13 Other relevant sectors (breakdown below where relevant)	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0

ESG5 – Banking book - Climate change physical risk: Exposures subject to physical risk – Asia Pacific

Dec 31, 2023

	b	c	d	e	f	g	h	i	j	k	l	m	n	o
	Total gross carrying amount													
	of which: exposures sensitive to impact from climate change physical events													
	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions													
	Breakdown by maturity bucket						of which: exposures sensitive to impact from chronic climate change events	of which: exposures sensitive to impact from acute climate change events	of which: exposures sensitive to impact both from chronic and acute climate change events	of which: Stage 2 exposures	of which: non- performin g exposures	of which: Stage 2 exposures	of which: non- performin g exposures	
in € m.	<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity	of which: exposures sensitive to impact from chronic climate change events	of which: exposures sensitive to impact from acute climate change events	of which: exposures sensitive to impact both from chronic and acute climate change events	of which: Stage 2 exposures	of which: non- performin g exposures	of which: Stage 2 exposures	of which: non- performin g exposures		
1 A - Agriculture, forestry and fishing	117	0	1	0	0.3	116	26	25	0	0	0	0	0	0
2 B - Mining and quarrying	620	92	3	0	3.4	96	29	27	43	1	1	0	0	0
3 C - Manufacturing	5,360	1,456	238	263	44	2.3	1,751	932	682	197	96	13	3	9
4 D - Electricity, gas, steam and air conditioning supply	1,440	419	1	133	20	4.3	546	278	252	115	26	3	1	2
5 E - Water supply; sewerage, waste management and remediation activities	18	1	0	1	0	7.9	2	2	2	0	1	0	0	0
6 F - Construction	974	517	192	13	0	2.1	422	435	134	76	4	1	0	0

Dec 31, 2023

	b	c	d	e	f	g	h	i	j	k	l	m	n	o														
Total gross carrying amount amount																												
	exposures sensitive to impact from climate change physical events													of which:														
Breakdown by maturity bucket							of which: exposures sensitive to impact from chronic climate change events	oh which: exposures sensitive to impact from acute climate change events	of which: exposures sensitive to impact both from chronic and acute climate change events	of which: Stage 2 exposures	of which: non- performin g exposures	Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions																
	<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity								of which: Stage 2 exposures	of which: non- performin g exposures														
in € m.																												
7	G - Wholesale and retail trade; repair of motor vehicles and motorcycles														3,424	1,254	280	155	6	1.5	1,537	1,096	939	79	88	14	2	11
8	H - Transportation and storage														991	171	354	54	0	3.7	565	100	86	159	41	3	1	2
9	L - Real estate activities														2,157	460	307	63	19	2.2	825	71	47	378	20	15	2	11
10	Loans collateralised by residential immovable property														1,350	123	125	481	20	8.5	491	411	154	5	98	16	0	16
11	Loans collateralised by commercial immovable property														2,261	279	284	14	0	1.9	530	61	14	79	63	0	0	0
12	Reposessed colaterals														0	0	0	0	0	0.0	0	0	0	0	0	0	0	0
13	Other relevant sectors (breakdown below where relevant)														0	0	0	0	0	0.0	0	0	0	0	0	0	0	0

														Jun 30, 2023																					
														b	c	d	e	f	g	h	i	j	k	l	m	n	o								
														Total gross carrying amount																					
														of which: exposures sensitive to impact from climate change physical events																					
														of which: exposures sensitive to impact from chronic climate change events										of which: exposures sensitive to impact from acute climate change events		of which: exposures sensitive to impact from both chronic and acute climate change events		of which: Stage 2 exposures		of which: Stage 2 exposures		of which: Stage 2 exposures		of which: Stage 2 exposures	
														Breakdown by maturity bucket										of which: exposures sensitive to impact from chronic climate change events		of which: exposures sensitive to impact from acute climate change events		of which: exposures sensitive to impact from both chronic and acute climate change events		of which: Stage 2 exposures		of which: Stage 2 exposures		of which: Stage 2 exposures	
														in € m.										of which: exposures sensitive to impact from chronic climate change events		of which: exposures sensitive to impact from acute climate change events		of which: exposures sensitive to impact from both chronic and acute climate change events		of which: Stage 2 exposures		of which: Stage 2 exposures		of which: Stage 2 exposures	
																								of which: exposures sensitive to impact from chronic climate change events		of which: exposures sensitive to impact from acute climate change events		of which: exposures sensitive to impact from both chronic and acute climate change events		of which: Stage 2 exposures		of which: Stage 2 exposures		of which: Stage 2 exposures	
1	A - Agriculture, forestry and fishing													204	163	0	1	0	0.6	164	1	1	0	0	0	0	0	0							
2	B - Mining and quarrying													413	7	0	0	0	0.0	5	3	1	0	1	0	0	0								
3	C - Manufacturing													5,456	1,603	143	135	43	1.3	1,769	502	347	46	92	8	0	6								
4	D - Electricity, gas, steam and air conditioning supply													1,337	166	32	56	7	0.0	249	49	37	46	14	6	1	5								
5	E - Water supply; sewerage, waste management and remediation activities													68	0	0	0	0	3.2	0	1	0	0	0	0	0	0								
6	F - Construction													605	56	69	10	0	3.7	131	37	33	0	3	1	0	0								
7	G - Wholesale and retail trade; repair of motor vehicles and motorcycles													3,253	1,020	255	271	0	2.6	1,432	1,043	928	49	73	11	4	6								
8	H - Transportation and storage													722	108	58	21	0	2.9	177	172	163	1	159	2	0	2								
9	L - Real estate activities													2,606	328	374	83	1	0.0	707	90	12	146	20	16	0	11								
10	Loans collateralised by residential immovable property													1,423	9	95	409	17	10.1	307	409	186	2	82	12	0	12								
11	Loans collateralised by commercial immovable property													2,674	119	60	56	0	4.0	181	53	0	146	0	0	0	0								
12	Repossessed collateral													0	0	0	0	0	0.0	0	0	0	0	0	0	0	0								
13	Other relevant sectors (breakdown below where relevant)													0	0	0	0	0	0.0	0	0	0	0	0	0	0	0								

ESG5 – Banking book - Climate change physical risk: Exposures subject to physical risk – North America

														Dec 31, 2023																			
														b	c	d	e	f	g	h	i	j	k	l	m	n	o						
														Total gross carrying amount																			
														of which: exposures sensitive to impact from climate change physical events																			
														of which: exposures sensitive to impact from chronic climate change events										of which: exposures sensitive to impact from acute climate change events		of which: exposures sensitive to impact from both chronic and acute climate change events		of which: Stage 2 exposures		of which: Stage 2 exposures			
														Breakdown by maturity bucket										of which: exposures sensitive to impact from chronic climate change events		of which: exposures sensitive to impact from acute climate change events		of which: exposures sensitive to impact from both chronic and acute climate change events		of which: Stage 2 exposures		of which: Stage 2 exposures	
														in € m.										of which: exposures sensitive to impact from chronic climate change events		of which: exposures sensitive to impact from acute climate change events		of which: exposures sensitive to impact from both chronic and acute climate change events		of which: Stage 2 exposures		of which: Stage 2 exposures	
																								of which: exposures sensitive to impact from chronic climate change events		of which: exposures sensitive to impact from acute climate change events		of which: exposures sensitive to impact from both chronic and acute climate change events		of which: Stage 2 exposures		of which: Stage 2 exposures	
1	A - Agriculture, forestry and fishing													6	6	0	0	0	1.2	6	0	0	0	0	0	0	0						
2	B - Mining and quarrying													437	241	23	0	7	3.3	271	96	96	24	0	0	0	0						
3	C - Manufacturing													4,200	940	592	0	0	1.6	1,531	195	194	123	107	5	1	3						
4	D - Electricity, gas, steam and air conditioning supply													1,470	748	166	0	0	1.6	914	223	223	4	0	1	0	0						
5	E - Water supply; sewerage, waste management and remediation activities													51	39	0	0	0	2.2	39	0	0	0	0	1	0	0						
6	F - Construction													597	106	192	0	0	2.2	298	100	100	75	0	0	0	0						



		Dec 31, 2023															
		b	c	d	e	f	g	h	i	j	k	l	m	n	o		
		Total gross carrying amount amount															
		of which:															
		exposures sensitive to impact from climate change physical events															
		Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions															
		Breakdown by maturity bucket						of which: exposures sensitive to impact from chronic climate change events			of which: exposures sensitive to impact from acute climate change events			of which: exposures sensitive to impact from both from chronic and acute climate change events		of which: non-performing exposures	
		in € m.	<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity	of which: exposures sensitive to impact from chronic climate change events	of which: exposures sensitive to impact from acute climate change events	of which: exposures sensitive to impact from both from chronic and acute climate change events	of which: Stage 2 exposures	of which: non-performing exposures	of which: Stage 2 exposures	of which: non-performing exposures			
7	G - Wholesale and retail trade; repair of motor vehicles and motorcycles	2,904	927	147	0	0	0.6	1,073	441	440	38	0	2	1	0		
8	H - Transportation and storage	1,149	142	245	0	0	2.9	387	290	290	14	3	1	0	0		
9	L - Real estate activities	32,787	10,182	2,326	665	736	3.3	13,794	4,271	4,157	3,082	1,082	71	24	41		
10	Loans collateralised by residential immovable property	2,106	170	28	196	1,219	21.4	1,604	1,413	1,404	331	43	2	1	0		
11	Loans collateralised by commercial immovable property	32,811	9,520	2,312	459	0	1.7	12,180	4,192	4,081	2,947	1,151	60	16	40		
12	Repossessed colaterals	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0		
13	Other relevant sectors (breakdown below where relevant)	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0		

														Jun 30, 2023																			
														b	c	d	e	f	g	h	i	j	k	l	m	n	o						
														Total gross carrying amount										of which:									
														exposures sensitive to impact from climate change physical events										Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions									
														Breakdown by maturity bucket						of which: exposures sensitive to impact from chronic climate change events		of which: exposures sensitive to impact from acute climate change events		of which: exposures sensitive to impact both from chronic and acute climate change events		of which: Stage 2 exposures		of which: non-performing exposures		of which: Stage 2 exposures		of which: non-performing exposures	
in € m.														<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity	of which: exposures sensitive to impact from chronic climate change events	of which: exposures sensitive to impact from acute climate change events	of which: exposures sensitive to impact both from chronic and acute climate change events	of which: Stage 2 exposures	of which: non-performing exposures	of which: Stage 2 exposures	of which: non-performing exposures	of which: Stage 2 exposures	of which: non-performing exposures						
1	A - Agriculture, forestry and fishing	7	3	0	0	0	0.2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
2	B - Mining and quarrying	456	180	62	0	0	1.9	242	153	153	0	0	1	0	0	0	0	0	0	0	0	0	0	0									
3	C - Manufacturing	3,852	671	326	0	0	1.3	987	59	49	80	56	3	1	0	0	0	0	0	0	0	0	0	0									
4	D - Electricity, gas, steam and air conditioning supply	1,671	507	264	0	0	2.6	771	11	11	13	0	1	0	0	0	0	0	0	0	0	0	0	0									
5	E - Water supply; sewerage, waste management and remediation activities	59	0	40	0	0	0.0	40	40	40	0	0	1	0	0	0	0	0	0	0	0	0	0	0									
6	F - Construction	460	22	40	0	0	2.3	62	27	27	21	0	1	1	0	0	0	0	0	0	0	0	0	0									
7	G - Wholesale and retail trade; repair of motor vehicles and motorcycles	2,425	404	119	0	0	0.0	524	158	158	83	0	2	1	0	0	0	0	0	0	0	0	0	0									
8	H - Transportation and storage	948	172	335	0	0	2.9	507	207	207	31	0	2	0	0	0	0	0	0	0	0	0	0	0									
9	L - Real estate activities	32,034	13,976	2,356	177	685	0.0	16,630	2,753	2,189	4,223	527	59	9	40	0	0	0	0	0	0	0	0	0									
10	Loans collateralised by residential immovable property	2,901	111	211	10	142	11.3	474	18	18	3	6	0	0	0	0	0	0	0	0	0	0	0	0									
11	Loans collateralised by commercial immovable property	29,820	12,713	2,464	29	0	0.0	15,154	2,059	2,008	4,088	543	73	4	61	0	0	0	0	0	0	0	0	0									
12	Reposessed colaterals	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
13	Other relevant sectors (breakdown below where relevant)	0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									

ESG5 – Banking book - Climate change physical risk: Exposures subject to physical risk – Latin America

														Dec 31, 2023																			
														b	c	d	e	f	g	h	i	j	k	l	m	n	o						
														Total gross carrying amount										of which:									
														exposures sensitive to impact from climate change physical events										Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions									
														Breakdown by maturity bucket						of which: exposures sensitive to impact from chronic climate change events		of which: exposures sensitive to impact from acute climate change events		of which: exposures sensitive to impact both from chronic and acute climate change events		of which: Stage 2 exposures		of which: non-performing exposures		of which: Stage 2 exposures		of which: non-performing exposures	
in € m.														<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity	of which: exposures sensitive to impact from chronic climate change events	of which: exposures sensitive to impact from acute climate change events	of which: exposures sensitive to impact both from chronic and acute climate change events	of which: Stage 2 exposures	of which: non-performing exposures	of which: Stage 2 exposures	of which: non-performing exposures	of which: Stage 2 exposures	of which: non-performing exposures						
1	A - Agriculture, forestry and fishing	57	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
2	B - Mining and quarrying	545	193	266	0	0	2.7	459	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
3	C - Manufacturing	1,068	441	1	0	0	0.9	438	28	24	2	5	0	0	0	0	0	0	0	0	0	0	0	0									
4	D - Electricity, gas, steam and air conditioning supply	354	51	28	0	0	1.7	79	51	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
5	E - Water supply; sewerage, waste management and remediation activities	91	0	0	0	0	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
6	F - Construction	68	0	33	0	0	3.5	33	33	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0									

														Dec 31, 2023															
														b	c	d	e	f	g	h	i	j	k	l	m	n	o		
														Total gross carrying amount amount															
														of which:															
														exposures sensitive to impact from climate change physical events															
														Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions															
														Breakdown by maturity bucket															
														of which: exposures sensitive to impact from chronic climate change events	of which: exposures sensitive to impact from acute climate change events	of which: exposures sensitive to impact both from chronic and acute climate change events			of which: non-performing exposures			of which: non-performing exposures							
														Average weighted maturity	of which: chronic climate change events	of which: acute climate change events	of which: chronic and acute climate change events	of which: Stage 2 exposures	of which: non-performing exposures	of which: Stage 2 exposures	of which: non-performing exposures								
														in € m.	<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years											
7	G - Wholesale and retail trade; repair of motor vehicles and motorcycles														390	120	23	0	0	1.1	143	124	124	65	0	0	0	0	
8	H - Transportation and storage														403	71	68	0	37	6.6	176	147	147	88	28	0	0	0	
9	L - Real estate activities														312	5	0	0	0	1.2	5	0	0	0	0	0	0	0	
10	Loans collateralised by residential immovable property														239	2	0	4	0	10.4	6	4	4	0	0	0	0	0	
11	Loans collateralised by commercial immovable property														603	5	0	0	0	1.2	5	0	0	0	0	0	0	0	
12	Repossessed colaterals														0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	
13	Other relevant sectors (breakdown below where relevant)														0	0	0	0	0	0.0	0	0	0	0	0	0	0	0	

Jun 30, 2023

	b	c	d	e	f	g	h	i	j	k	l	m	n	o	
Total gross carrying amount														o	
of which:															
exposures sensitive to impact from climate change physical events															
Breakdown by maturity bucket														Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions	
							of which: exposures sensitive to impact from chronic climate change events	of which: exposures sensitive to impact from acute climate change events	of which: exposures sensitive to impact both from chronic and acute climate change events	of which: Stage 2 exposures	of which: non-performing exposures		of which: Stage 2 exposures	of which: non-performing exposures	
in € m.		<= 5 years	> 5 year <= 10 years	> 10 year <= 20 years	> 20 years	Average weighted maturity									
1	A - Agriculture, forestry and fishing	1	0	0	0	0.0	0	0	0	0	0	0	0	0	
2	B - Mining and quarrying	466	9	32	0	3.9	41	3	3	0	0	0	0	0	
3	C - Manufacturing	995	354	69	3	1.4	427	22	22	27	8	1	0	0	
4	D - Electricity, gas, steam and air conditioning supply	167	0	30	0	3.7	30	0	0	0	0	0	0	0	
5	E - Water supply; sewerage, waste management and remediation activities	89	0	0	0	0.0	0	0	0	0	0	0	0	0	
6	F - Construction	80	11	0	0	0.0	11	0	0	0	0	0	0	0	
7	G - Wholesale and retail trade; repair of motor vehicles and motorcycles	437	131	24	0	1.1	155	131	131	69	0	0	0	0	
8	H - Transportation and storage	450	41	29	0	2.9	70	41	41	0	29	0	0	0	
9	L - Real estate activities	908	483	0	0	1.3	483	0	0	0	0	1	0	0	
10	Loans collateralised by residential immovable property	249	2	0	4	10.8	6	4	4	0	0	0	0	0	
11	Loans collateralised by commercial immovable property	696	5	0	0	1.7	5	0	0	0	0	0	0	0	
12	Repossessed colaterals	0	0	0	0	0.0	0	0	0	0	0	0	0	0	
13	Other relevant sectors (breakdown below where relevant)	0	0	0	0	0.0	0	0	0	0	0	0	0	0	

## Summary of key performance indicators on the Taxonomy-aligned exposures

In accordance with Article 8 of the EU Taxonomy Regulation and the related Disclosures Delegated Acts, starting from year end 2023, financial undertakings have to determine and disclose the proportion of exposures aligned to the EU Taxonomy in their covered assets (i.e., total assets less exposures toward central governments, central banks, supranational issuers and the trading portfolio) for the climate change mitigation and adaptation objectives.

The identification of the Taxonomy eligible and aligned economic activities for the climate change mitigation and adaptation objectives was performed for in-scope counterparties, primarily undertakings subject to the Non-Financial Reporting Directive (NFRD) disclosure obligations and households, as well as products defined in the Article 8 of the EU Taxonomy Regulation and the related Disclosures Delegated Acts. For lending to counterparties subject to NFRD disclosure obligations, the bank considers exposures weighted by the eligibility and alignment turnover key performance indicators (KPIs) disclosed by its clients. The turnover KPIs for climate change mitigation and climate change adaptation are collected via a vendor, MSCI, and mapped to relevant counterparties. In instances where the split of the total counterparty KPIs into climate change mitigation and climate change adaptation is not available, the exposures are assigned to the climate change mitigation objective. Identification of undertakings with obligation to report under the NFRD and their respective Taxonomy KPIs is performed in a data collection project based on the materiality of the in-scope exposures.

Within the exposures to households, residential real estate loans against households collateralized by residential immovable property, building renovation loans and motor vehicle loans are all considered Taxonomy eligible. Given the low level of energy performance certificate (EPC) coverage in the portfolio, Taxonomy alignment of the residential real estate loans has been additionally determined via KfW sponsoring programs and the respective KfW Efficiency House standards under which loans have been granted. Deutsche Bank has involved an external industry expert to determine which standards are compliant with the technical screening criteria for substantial contribution, as defined in the EU Taxonomy's climate change mitigation activities 7.1 "Construction of new buildings" and 7.7 "Acquisition and ownership of buildings". Based on that, buildings constructed until 31. December 2020 shall either have an EPC class A or belong to "the top 15% of the national or regional building stock expressed as operational Primary Energy Demand (PED)". It was concluded that buildings adhering to the criteria of KfW-70 or better are compliant with the "top 15% benchmark". For buildings constructed after 31. December 2020, the EU Taxonomy defines that the PED has to be "at least 10 % lower than the threshold set for the nearly zero-energy building (NZEB) requirements in national measures". Here, it was concluded that buildings adhering to the criteria of KfW-55 or better are compliant with the "at least 10% lower than NZEB"-benchmark. Furthermore, EPCs are already widely collected in new business and their availability for the residential property stock is to be systematically increased with proportionate measures. For consumer lending, the use of the proceeds information is currently not collected from customers. Accordingly, the information about Taxonomy alignment of the bank's motor vehicle loan portfolio is currently not available. Taxonomy alignment of the renovation loan portfolio currently cannot be established either.

The calculation of Deutsche Bank's KPIs presented in ESG6, ESG7 and ESG8 are based on the prudential consolidation circle and FINREP balance sheet.

ESG6 "Summary of KPIs on the Taxonomy-aligned exposures" summarizes Deutsche Bank's KPIs as of year-end 2023.

ESG7 "Assets for the calculation of GAR" highlight the composition of the ratio's numerator and denominator. Exposures are presented by counterparty type, e.g., financial undertakings, non-financial undertakings and households, and further split by product type, e.g., loans and advances, debt securities and equity instruments. Assets which are not considered in the GAR calculation i.e., exposures to central governments and supranational issuers, central banks exposures and trading book is also reported in this table. Taxonomy eligibility and alignment are assessed for exposures which are included in the GAR numerator.

ESG 8 "GAR (%)" includes "GAR KPI stock" which represents the summary GAR KPIs on the basis of data disclosed in the ESG7 and reflects the proportion of exposures related to Taxonomy eligible and aligned activities compared to the covered assets based on the turnover KPIs of the bank's counterparties for the lending exposures. "GAR KPI flow" highlight the GAR KPIs on flow of new Taxonomy eligible and aligned loans and advances, debt securities and equity instruments to NFRD-relevant undertakings and households in relation to the total flow of loans and advances, debt securities and equity instruments to financial and non-financial undertakings and households. The flow data is calculated using gross carrying amount of exposures (i.e. new loans and advances, debt securities, equity instruments) newly incurred between January and December 2023 based on the turnover KPIs of the bank's counterparties for lending exposures.

Due to the technical limitations in identifying new business flows for the year 2023, GAR flow KPIs as well as coverage percentages were calculated based on the total flow of loans and advances, debt securities and equity instruments to financial and non-financial undertakings and households.

ESG6 - Summary of key performance indicators (KPIs) on the Taxonomy-aligned exposures

		Dec 31, 2023			
		KPI			
in %		Climate change mitigation	Climate change adaptation	Total (Climate change mitigation + Climate change adaptation)	% coverage (over total assets)
GAR stock		1.3	0.0	1.3	18.0
GAR flow		0.3	0.0	0.3	14.0

ESG7 – Mitigating actions: Assets for the calculation of GAR

Dec 31, 2023																				
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p				
	Climate Change Mitigation (CCM)												Climate Change Adaptation (CCA)			TOTAL (CCM + CCA)				
	of which: towards taxonomy relevant sectors (Taxonomy-eligible)						of which: towards taxonomy relevant sectors (Taxonomy-eligible)						of which: towards taxonomy relevant sectors (Taxonomy-eligible)							
	of which: environmentally sustainable (Taxonomy-aligned)						of which: environmentally sustainable (Taxonomy-aligned)						of which: environmentally sustainable (Taxonomy-aligned)							
	Total gross carrying amount	of which: specialised lending			of which: transitional		of which: enabling		of which: specialised lending			of which: adaptation		of which: enabling		of which: specialised lending		of which: transitional/adaptation	of which: enabling	
in € m.																				
GAR - Covered assets in both numerator and denominator																				
1 Loans and advances, debt securities and equity instruments not HFT eligible for GAR calculation	236,209	172,463	7,493	74	68	405	64	53	0	0	12	172,527	7,546	75	68	418				
2 Financial corporations	13,012	2,308	57	0	0	55	5	3	0	0	1	2,312	60	0	0	55				
3 Credit institutions	10,102	1,582	0	0	0	0	0	0	0	0	0	1,582	0	0	0	0				
4 Loans and advances	9,244	1,581	0	0	0	0	0	0	0	0	0	1,581	0	0	0	0				
5 Debt securities, including UoP	858	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0				
6 Equity instruments	0	0	0	—	0	0	0	0	—	0	0	0	0	—	0	0				
7 Other financial corporations	2,910	726	57	0	0	55	5	3	0	0	1	730	60	0	0	55				
8 of which investment firms	924	616	56	0	0	54	5	3	0	0	1	621	60	0	0	55				
9 Loans and advances	924	616	56	0	0	54	5	3	0	0	1	621	60	0	0	55				
10 Debt securities, including UoP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11 Equity instruments	0	0	0	—	0	0	0	0	—	0	0	0	0	—	0	0				
12 of which management companies	911	45	0	0	0	0	0	0	0	0	0	45	0	0	0	0				
13 Loans and advances	911	45	0	0	0	0	0	0	0	0	0	45	0	0	0	0				
14 Debt securities, including UoP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
15 Equity instruments	0	0	0	—	0	0	0	0	—	0	0	0	0	—	0	0				
16 of which insurance undertakings	1,074	64	0	0	0	0	0	0	0	0	0	64	0	0	0	0				
17 Loans and advances	1,074	64	0	0	0	0	0	0	0	0	0	64	0	0	0	0				
18 Debt securities, including UoP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
19 Equity instruments	0	0	0	—	0	0	0	0	—	0	0	0	0	—	0	0				
20 Non-financial corporations (subject to NFRD disclosure obligations)	12,394	3,188	831	74	67	351	60	49	0	0	12	3,248	880	75	67	362				
21 Loans and advances	12,278	3,075	829	74	67	350	60	49	0	0	12	3,135	879	75	67	362				
22 Debt securities, including UoP	114	111	0	0	0	0	0	0	0	0	0	111	0	0	0	0				
23 Equity instruments	2	1	1	—	0	0	0	0	—	0	0	1	1	—	0	0				
24 Households	210,792	166,967	6,606	0	0	0	—	—	—	—	—	166,967	6,606	0	0	0				

Dec 31, 2023																	
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	
	Disclosure reference date: Dec 31, 2023																
	Climate Change Mitigation (CCM)						Climate Change Adaptation (CCA)						TOTAL (CCM + CCA)				
	of which: towards taxonomy relevant sectors (Taxonomy-eligible)						of which: towards taxonomy relevant sectors (Taxonomy-eligible)						of which: towards taxonomy relevant sectors (Taxonomy-eligible)				
	of which: environmentally sustainable (Taxonomy-aligned)						of which: environmentally sustainable (Taxonomy-aligned)						of which: environmentally sustainable (Taxonomy-aligned)				
	Total gross carrying amount	of which: specialised lending			of which: transitional	of which: enabling	of which: specialised lending			of which: adaption	of which: enabling	of which: specialised lending		of which: transitional/adaptation	of which: enabling		
	in € m.																
25	of which loans collateralised by residential immovable property	161,427	161,427	6,606	0	0	0	–	–	–	–	–	161,427	6,606	0	0	0
26	of which building renovation loans	2,562	2,562	0	0	0	0	–	–	–	–	–	2,562	0	0	0	0
27	of which motor vehicle loans	2,978	2,978	0	0	0	0	–	–	–	–	–	2,978	0	0	0	0
28	Local governments financing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	Housing financing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	Other local governments financing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	Collateral obtained by taking possession: residential and commercial immovable properties	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>32</b>	<b>TOTAL GAR ASSETS</b>	<b>236,209</b>	<b>172,463</b>	<b>7,493</b>	<b>74</b>	<b>68</b>	<b>405</b>	<b>64</b>	<b>53</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>172,527</b>	<b>7,546</b>	<b>75</b>	<b>68</b>	<b>418</b>
	Assets excluded from the numerator for GAR calculation (covered in the denominator)																
33	EU Non-financial corporations (not subject to NFRD disclosure obligations)	126,832	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
34	Loans and advances	123,015	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
35	Debt securities, including UoP	3,423	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
36	Equity instruments	393	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
37	Non-EU Non-financial corporations (not subject to NFRD disclosure obligations)	183,857	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
38	Loans and advances	175,400	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
39	Debt securities, including UoP	7,561	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
40	Equity instruments	896	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
41	Derivatives	1,225	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
42	On demand interbank loans	6,048	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
43	Cash and cash-related assets	1,774	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
44	Other assets (e.g. Goodwill, commodities etc.)	25,010	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
<b>45</b>	<b>TOTAL ASSETS IN THE DENOMINATOR (GAR)</b>	<b>580,955</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>



																Dec 31, 2023
																Disclosure reference date: Dec 31, 2023
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
	Climate Change Mitigation (CCM)						Climate Change Adaptation (CCA)						TOTAL (CCM + CCA)			
	of which: towards taxonomy relevant sectors (Taxonomy-eligible)						of which: towards taxonomy relevant sectors (Taxonomy-eligible)						of which: towards taxonomy relevant sectors (Taxonomy-eligible)			
	of which: environmentally sustainable (Taxonomy-aligned)						of which: environmentally sustainable (Taxonomy-aligned)						of which: environmentally sustainable (Taxonomy-aligned)			
	Total gross carrying amount		of which: specialised lending	of which: transitional	of which: enabling			of which: specialised lending	of which: adaption	of which: enabling			of which: specialised lending	of which: transitional/adaptation	of which: enabling	
	in € m.															
	Other assets excluded from both the numerator and denominator for GAR calculation															
46	Sovereigns	145,031	–	–	–	–	–	–	–	–	–	–	–	–	–	
47	Central banks exposure	186,930	–	–	–	–	–	–	–	–	–	–	–	–	–	
48	Trading book	401,315	–	–	–	–	–	–	–	–	–	–	–	–	–	
49	<b>TOTAL ASSETS EXCLUDED FROM NUMERATOR AND DENOMINATOR</b>	<b>733,277</b>	–	–	–	–	–	–	–	–	–	–	–	–	–	
50	<b>TOTAL ASSETS</b>	<b>1,314,232</b>	–	–	–	–	–	–	–	–	–	–	–	–	–	

ESG8 – GAR (%)

Dec 31, 2023																	
	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	
Disclosure reference date: Dec 31, 2023 KPIs on stock																	
	Climate Change Mitigation (CCM)					Climate Change Adaptation (CCA)					TOTAL (CCM + CCA)						
	Proportion of eligible assets funding taxonomy relevant sectors					Proportion of eligible assets funding taxonomy relevant sectors					Proportion of eligible assets funding taxonomy relevant sectors						
	of which: environmentally sustainable (Taxonomy-aligned)					of which: environmentally sustainable (Taxonomy-aligned)					of which: environmentally sustainable (Taxonomy-aligned)						
			of which: specialised lending	of which: transitional	of which: enabling			of which: specialised lending	of which: adaption	of which: enabling			of which: specialised lending	of which: transitional/adaptation	of which: enabling	Proportion of total assets covered	
in % (compared to total covered assets in the denominator)																	
1	GAR	29.7	1.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	29.7	1.3	0.0	0.0	0.1	18.0
2	Loans and advances, debt securities and equity instruments not HFT eligible for GAR calculation	29.7	1.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	29.7	1.3	0.0	0.0	0.1	18.0
3	Financial corporations	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	1.0
4	Credit institutions	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.8
5	Other financial corporations	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
6	of which investment firms	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
7	of which management companies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
8	of which insurance undertakings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
9	Non-financial corporations (subject to NFRD disclosure obligations)	0.5	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.6	0.2	0.0	0.0	0.1	0.9
10	Households	28.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.7	1.1	0.0	0.0	0.0	16.0
11	of which loans collateralised by residential immovable property	27.8	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.8	1.1	0.0	0.0	0.0	12.3
12	of which building renovation loans	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.2
13	of which motor vehicle loans	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.2
14	Local governments financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	Housing financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	Other local governments financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	Collateral obtained by taking possession: residential and commercial immovable properties	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

																	Dec 31, 2023	
																	Disclosure reference date: Dec 31, 2023 KPIs on flows	
																	TOTAL (CCM + CCA)	
Climate Change Mitigation (CCM)					Climate Change Adaptation (CCA)													
Proportion of new eligible assets funding taxonomy relevant sectors					Proportion of new eligible assets funding taxonomy relevant sectors					Proportion of new eligible assets funding taxonomy relevant sectors								
of which: environmentally sustainable (Taxonomy-aligned)					of which: environmentally sustainable (Taxonomy-aligned)					of which: environmentally sustainable (Taxonomy-aligned)								
of which: specialised lending					of which: transitional		of which: enabling		of which: specialised lending					of which: transitional/adaptation		of which: enabling		Proportion of total new assets covered
in % (compared to total covered assets in the denominator)																		
1	GAR	4.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	4.0	0.3	0.0	0.0	0.2	14.0	
	Loans and advances, debt securities and equity instruments not HFT eligible for GAR calculation	4.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	4.0	0.3	0.0	0.0	0.2	14.0	
2	Financial corporations	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	8.3	
3	Credit institutions	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	6.3	
4	Other financial corporations	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	2.0	
5	of which investment firms	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	1.5	
6	of which management companies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
7	of which insurance undertakings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	
8	Non-financial corporations (subject to NFRD disclosure obligations)	1.0	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.0	0.3	0.0	0.0	0.2	4.0	
9	Households	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	1.6	
10	of which loans collateralised by residential immovable property	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	1.5	
11	of which building renovation loans	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
12	of which motor vehicle loans	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
13	Local governments financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
14	Housing financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
15	Other local governments financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
16	Collateral obtained by taking possession: residential and commercial immovable properties	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
17		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

## Climate change mitigating actions not covered in EU Taxonomy

The following table ESG10 provides an overview of on balance-sheet loans and bonds as of December 31, 2023 that are supporting the transition toward sustainable growth and a low-carbon economy, but are not covered by or not aligned to the EU Taxonomy and therefore not included in by the Green Asset Ratio tables ESG7 and ESG8.

Loans aimed at climate change mitigation were assessed in accordance with Deutsche Bank Green Financing Framework. These loans support projects related to mitigation of climate change transition risk, such as generation of renewable energy, development and implementation of products or technology that reduce the use of energy, green buildings, clean transportation as well as development of energy-efficient data centers, hosting, and related activities. Bonds aimed at climate change mitigation were facilitated by Deutsche Bank as part of its target to achieve at least € 500 billion in sustainable financing and ESG investments between 2020 and year end 2025, as defined in the Group's Sustainable Finance Framework. Reported numbers are on balance-sheet positions as of December 31, 2023.

The majority of the € 7 billion assets reported by Deutsche Bank in ESG10 is loans.

ESG10 – Other climate change risk mitigating actions that are not covered in the EU Taxonomy

Dec 31, 2023

	in € m.	b	c	d	e	f
Type of financial instrument	Type of counterparty	Gross carrying amount	Type of risk mitigated (Climate change transition risk)	Type of risk mitigated (Climate change physical risk)	Qualitative information on the nature of the mitigating actions	
1	Financial corporations	95	Climate change transition risk		Projects pertaining to renewable energy generation (solar, wind and hydro power), energy efficiency, clean transportation, green buildings, and sustainable management of natural resources and land use	
2						
	Non-financial corporations	142	Climate change transition risk			
3	Of which Loans collateralised by commercial immovable property	0				
4	Bonds (e.g. green, sustainable, sustainability-linked under standards other than the EU standards)	Households	0			
5		Of which Loans collateralised by residential immovable property	0			
6		Of which building renovation loans	0			
7					Projects pertaining to renewable energy generation (solar, wind and hydro power), energy efficiency, clean transportation, green buildings, and sustainable management of natural resources and land use	
	Other counterparties	677	Climate change transition risk			
8	Financial corporations	397	Climate change transition risk		Loans for projects for setting up and operating Solar, Wind and Biomass Power plants (renewable energy). Loans to energy efficient commercial buildings. Loans for Efficient lightning, data center and clean transportation	
9						
	Non-financial corporations	5,379	Climate change transition risk			
10	Loans (e.g. green, sustainable, sustainability-linked under standards other than the EU standards)	Of which Loans collateralised by commercial immovable property	2,227	Climate change transition risk	Loans for energy efficient commercial buildings	
11		Households	8	Climate change transition risk		
12		Of which Loans collateralised by residential immovable property	8	Climate change transition risk	Loans for construction/acquisition of new and existing energy efficient residential buildings.	
13		Of which building renovation loans	0			
14	Other counterparties	0				

Jun 30, 2023

	in € m.	b	c	d	e	f
Type of financial instrument		Type of counterparty	Gross carrying amount	Type of risk mitigated (Climate change transition risk)	Type of risk mitigated (Climate change physical risk)	Qualitative information on the nature of the mitigating actions
1						Projects pertaining to renewable energy generation (solar, wind and hydro power), energy efficiency, clean transportation, green buildings, and sustainable management of natural resources and land use
		Financial corporations	101	Climate change transition risk		
2		Non-financial corporations	84	Climate change transition risk		
3		Of which Loans collateralised by commercial immovable property	0			
4	Bonds (e.g. green, sustainable, sustainability-linked under standards other than the EU standards)	Households	0			
5		Of which Loans collateralised by residential immovable property	0			
6		Of which building renovation loans	0			
7						Projects pertaining to renewable energy generation (solar, wind and hydro power), energy efficiency, clean transportation, green buildings, and sustainable management of natural resources and land use
		Other counterparties	626	Climate change transition risk		
8		Financial corporations	533	Climate change transition risk		
9						Loans for projects for setting up and operating Solar, Wind and Biomass Power plants (renewable energy). Loans to energy efficient commercial buildings
		Non-financial corporations	4,746	Climate change transition risk		
10	Loans (e.g. green, sustainable, sustainability-linked under standards other than the EU standards)	Of which Loans collateralised by commercial immovable property	1,769	Climate change transition risk		Loans for energy efficient commercial buildings
11		Households	6,369	Climate change transition risk		Loans for construction and acquisition of new and existing energy efficient residential buildings
12		Of which Loans collateralised by residential immovable property	6,369	Climate change transition risk		Loans for construction and acquisition of new and existing energy efficient residential buildings
13		Of which building renovation loans	0			
14		Other counterparties	0			

# Liquidity risk

## Risk management objectives and policies

### Liquidity risk management strategies and processes

#### **Article 435 (1)(a) CRR (EU OVA & EU LIQA)**

The Group's liquidity risk management principles are documented in the "Liquidity Risk Management Policy" and the framework is described in the "Global Liquidity Risk Framework" and "Global Funding Risk Framework" documents. Both the policy and framework documents adhere to and articulate how the eight key risk management practices are applied to liquidity risk, namely risk governance, risk organization (3 lines of defence), risk culture, risk appetite and -strategy, risk identification and -assessment, risk mitigation and controls, risk measurement and reporting, stress planning and -execution. The individual roles and responsibilities are laid out and documented in the Global Responsibility Matrix, which provides further clarity and transparency on the roles and responsibilities across all involved stakeholders.

### Liquidity risk management structure and organization

#### **Article 435 (1)(b) CRR (EU OVA & EU LIQA)**

The Management Board defines the liquidity and funding risk strategy for the Group and sets the risk appetite, based on recommendations made by the Group Asset and Liability Committee and Group Risk Committee. The Management Board reviews and approves the risk appetite at least annually. The risk appetite is applied to the Group and bespoke Key Liquidity Entities e.g., Deutsche Bank AG to monitor and control liquidity risk as well as the Group's long-term funding and issuance plan.

The Liquidity Risk Management Framework defines the organization of the liquidity managing functions in alignment with the three lines of defence structure, which is described in the "Risk Management Policy". The Corporate Divisions and Treasury comprise the first line of defence, responsible for executing the steps needed to most effectively manage the liquidity of the Group and steer business activities. Risk comprises the second line of defence, responsible for defining the liquidity risk management framework, providing independent risk oversight, challenge, and validation of activities conducted by the first line of defence, including establishing the risk appetite. Group Audit comprises the third line of defence, responsible for overseeing the activities of both the first line of defence and second line of defence.

### Scope and nature of liquidity risk measurement and reporting system

#### **Article 435 (1)(c) CRR (EU OVA & EU LIQA)**

Finance - Liquidity & Treasury Reporting & Analysis (LTRA) and Finance - Global Reporting – LTRA together have overall accountability for the accurate and timely production of both external regulatory liquidity reporting (Pillar 1) as well as internal management reporting (Pillar 2) for liquidity risk of the Group. In addition, Liquidity & Treasury Reporting & Analysis is responsible for the development of management information systems and the related analysis to support the liquidity risk framework and its governance for Treasury and Liquidity Risk Management.

### Policies for hedging and mitigating liquidity risk

#### **Article 435 (1)(d) CRR (EU OVA & EU LIQA)**

The Group's liquidity risk management principles are documented in the "Liquidity Risk Management Policy" and the framework is described in the "Global Liquidity Risk Framework" and "Global Funding Risk Framework" documents. All additional policies and procedures (both global and local) issued by the liquidity risk management functions further define the requirements specific to liquidity risk practices. They are subordinate to the "Liquidity Risk Management Policy" and are subject to the standards it sets forth.

### Approach to centralized group liquidity management and individual legal entity liquidity management

The Bank ensures at the level of each liquidity relevant entity that all local liquidity metrics are managed in compliance with the defined risk appetite. Local liquidity surpluses are pooled in DB AG Frankfurt Branch and local liquidity shortfalls can be met through support from DB AG Frankfurt Branch. Transfers of liquidity capacity between entities are subject to the approval framework outlined in the "Intercompany Funding Policy" involving the Group's liquidity steering function as well as the local liquidity managers.

## The bank's contingency funding plans

Deutsche Bank's Group Contingency Funding Plan (CFP) outlines how the bank would respond to an actual or anticipated liquidity stress event. It includes a decisive set of actions that can be taken to raise cash and recover the bank's key liquidity metrics in times of liquidity stress. The CFP includes a clear governance structure and well-defined liquidity risk indicators to ensure timely and effective decision-making, communication, and coordination during a liquidity stress event. Deutsche Bank has established the Financial Resource Management Council (FRMC) which is responsible for oversight of capital and liquidity across contingency, recovery, and resolution scenarios in a crisis situation.

## Liquidity stress testing and scenario analysis

Global internal liquidity stress testing and scenario analysis is used for measuring liquidity risk and evaluating the Group's short-term liquidity position within the liquidity framework. This complements the daily operational cash management process. The long-term liquidity strategy based on contractual and behavioral modelled cash flow information is represented by a long-term metric known as the Funding Matrix (refer to Funding Risk Management below).

The global liquidity stress testing process is managed by Treasury in accordance with the Management Board approved risk appetite. Treasury is responsible for the design of the overall methodology, the choice of liquidity risk drivers and the determination of appropriate assumptions (parameters) to translate input data into stress testing output. LRM is responsible for the definition of the stress scenarios. Under the principles laid out by Model Risk Management, LRM performs the independent validation of liquidity risk models and non-model estimates. LTRA is responsible for implementing these methodologies and performing the stress test calculation in conjunction with Treasury, LRM and IT.

Stress testing and scenario analysis are used to evaluate the impact of sudden and severe stress events on the Group's liquidity position. Deutsche Bank has selected four scenarios to calculate the Group's stressed Net Liquidity Position ("sNLP"). These scenarios are designed to capture potential outcomes which may be experienced by Deutsche Bank during periods of idiosyncratic and/or market-wide stress and are designed to be both plausible and sufficiently severe as to materially impact the Group's liquidity position. The most severe scenario assesses the potential consequences of a combined market-wide and idiosyncratic stress event, including downgrades of our credit rating. Under each of the scenarios the impact of a liquidity stress event over different time horizons and across multiple liquidity risk drivers, covering all business lines, product areas and balance sheet is considered. The output from scenario analysis feeds the Group Wide Stress Test, which considers the impact of scenarios on all risk stripes.

In addition, potential funding requirements from contingent liquidity risks which might arise under stress, including drawdowns on credit facilities, increased collateral requirements under derivative agreements, and outflows from deposits with a contractual rating linked trigger are included in the analysis. Subsequently Countermeasures, which are the actions the Group would take to counterbalance the outflows incurred during a stress event, are taken into consideration. Those countermeasures include utilizing the Bank's Liquidity Reserve and generating liquidity from other unencumbered, marketable assets without causing any material impact on the Bank's business model.

Stress testing is conducted at a global level and for defined Key Liquidity Entities covering an eight-week stress horizon which is considered the most critical time span during a liquidity crisis and, where, on a Group level, liquidity is actively steered and assessed. In addition to the consolidated currency stress test, stress tests for material currencies (EUR and USD) are performed. Ad-hoc analysis may be conducted to reflect the impact of potential downside events that could affect the Bank such as the COVID-19 pandemic. Relevant stress assumptions are applied to reflect liquidity flows from risk drivers and on-balance sheet and off-balance sheet products. The suite of stress testing scenarios and assumptions are reviewed on a regular basis and are updated when enhancements are made to stress testing methodologies.

Complementing daily liquidity stress testing, the Bank also conducts regular Group Wide Stress Testing (GWST) run by Enterprise Risk Management (ERM) analyzing liquidity risks in conjunction with the other defined risk types and evaluating their impact and interplay to both capital and liquidity positions.

## Qualitative information on LCR

### Article 451a CRR (EU LIQB)

#### The Liquidity Coverage Ratio (LCR)

The LCR is intended to promote the short-term resilience of a bank's liquidity risk profile over a 30 day stress scenario. The ratio is defined as the amount of High Quality Liquid Assets ("HQLA") that could be used to raise liquidity, measured against the total volume of net cash outflows, arising from both contractual and modelled exposures, in a stressed scenario.



The Group's average Liquidity Coverage Ratio of 137% (twelve months average) as of December 31, 2023 has been calculated in accordance with the Commission Delegated Regulation (EU) 2015/61 and the EBA Guidelines on LCR disclosure to complement the disclosure of liquidity risk management under Article 435 CRR.

The Group's Liquidity Coverage Ratio was 140% as of December 31, 2023, or € 62 billion of excess over the regulatory minimum of 100%. This compares to 132%, or € 51 billion of excess liquidity at September 30, 2023. The increase is primarily related to increase in deposits offset by other business movements during the last quarter.

#### Concentration of funding and liquidity sources

Diversification of the Group's funding profile in terms of investor types, regions and products is an important element of the Group's liquidity risk management framework. The Group's most stable funding sources stem from capital markets issuances and equity, as well as from Private Bank and Corporate Bank deposits. Other customer deposits and secured funding and short positions are additional sources of funding. Unsecured wholesale funding represents unsecured wholesale liabilities sourced primarily by the Treasury Pool Management team. Given the relatively short-term nature of these liabilities, it is predominantly used to fund liquid trading assets.

To promote the additional diversification of the Group's refinancing activities, the bank holds a license to issue mortgage Pfandbriefe. The Group continues to run a program for the purpose of issuing Covered Bonds under Spanish law (Cedulas) and participate in the ECB's TLTRO program. Additionally, the Group also issues green bonds under the Group's Sustainable Finance Framework. The Group also issued an inaugural Panda bond, following recent regulatory changes by PBoC (People's Bank of China) and SAFE (State Administration of Foreign Exchange (of China)) to facilitate foreign remittance of Panda bond proceeds.

Unsecured wholesale funding comprises a range of institutional products, such as certificate of deposits, commercial paper as well as Money Market deposits.

To avoid any unwanted reliance on these short-term funding sources, and to promote a sound funding profile which complies with the defined risk appetite, the Group has implemented limits (across tenors) on these funding sources which are derived from daily stress testing analysis. In addition, the bank limits the total volume of unsecured wholesale funding to manage the reliance on this funding source as part of the overall funding diversification.

#### Composition of HQLA

The average HQLA of € 215 billion has been calculated in accordance with the Commission Delegated Regulation (EU) 2015/61 and the EBA Guidelines on LCR disclosure to complement the disclosure of liquidity risk management under Article 435 CRR.

The HQLA as of December 31, 2023 of € 219 billion is primarily held in Level 1 cash and central bank reserves (71%) and Level 1 high quality securities (26%). This compares to € 210 billion at September 30, 2023 which was primarily held in Level 1 cash and central bank reserves (70%) and Level 1 high quality securities (27%).

#### Derivative exposures and potential collateral calls

The majority of outflows related to derivative exposures and other collateral requirements shown in item 11 below are in relation to derivative contractual cash outflows that are offset by derivative cash inflows shown below in item 19 Other cash inflows.

Other significant outflows included in item 11 relate to the impact of an adverse market scenario on derivatives based on the 24 month historical look back approach and the potential posting of additional collateral as a result of a 3 notch downgrade of Deutsche Bank's credit rating (as per regulatory requirements).

#### Currency mismatch in the LCR

The LCR is calculated for EUR and USD which have been identified as significant currencies (having liabilities > 5% of total group liabilities excluding regulatory capital and off balance sheet liabilities) in accordance with the Commission Delegated Regulation (EU) 2015/61. In addition to the above the Group also calculates an LCR for the GBP currency. No explicit LCR risk appetite is set for the significant currencies. However, limits have been defined over the respective significant currency stressed Net Liquidity Position (sNLP). This allows the internal monitoring and management of risks stemming from currency mismatches that may arise from liquidity inflows and outflows over the short-term horizon.

#### Other items in the LCR calculation that are not captured in the LCR disclosure template but that the institution considers relevant for its liquidity profile

The Pillar 3 disclosure obligations require Banks to disclose twelve months rolling averages each quarter. The Group does not consider anything else relevant for disclosure.

## Quantitative information on LCR

### Article 451a CRR

#### EU LIQ1 – LCR disclosure template

in € bn.		Total unweighted value (average)				Total weighted value (average)			
Quarter ending on		Dec 31, 2023	Sep 30, 2023	Jun 30, 2023	Mar 31, 2023	Dec 31, 2023	Sep 30, 2023	Jun 30, 2023	Mar 31, 2023
Number of data points used in the calculation of averages		12	12	12	12	12	12	12	12
<b>High-quality liquid assets</b>									
1	Total high-quality liquid assets (HQLA)	–	–	–	–	215	214	217	219
<b>Cash-outflows</b>									
2	Retail deposits and deposits from small business costumers	274	275	277	278	14	15	15	15
of which:									
3	Stable deposits	131	131	131	131	7	7	7	7
4	Less stable deposits	60	62	65	67	8	8	8	9
5	Unsecured wholesale funding	231	233	240	246	101	100	103	106
of which:									
6	Operational deposits (all counterparties) and deposits in network of cooperative banks	75	79	85	88	18	20	21	22
7	Non-operational deposits (all counterparties)	155	152	154	157	80	79	81	83
8	Unsecured debt	2	2	1	1	2	2	1	1
9	Secured wholesale funding	–	–	–	–	9	10	10	10
10	Additional requirements	226	224	224	225	77	76	76	76
of which:									
11	Outflows related to derivative exposures and other collateral requirements	28	28	29	29	25	25	25	25
12	Outflows related to loss of funding on debt products	0	0	0	0	0	0	0	0
13	Credit and liquidity facilities	197	195	195	196	51	51	51	51
14	Other contractual funding obligations	60	61	62	63	9	9	9	9
15	Other contingent funding obligations	267	268	268	264	2	2	2	2
16	Total cash outflows	–	–	–	–	212	212	215	219
<b>Cash - inflows</b>									
17	Secured lending (e.g. reverse repos)	277	294	307	307	9	10	10	12
18	Inflows from fully performing exposures	49	50	52	54	36	36	37	37
19	Other cash inflows	13	13	12	12	13	13	12	12
EU 19a	Difference between total weighted inflows and total weighted outflows arising from transactions in third countries where there are transfer restrictions or which are denominated in non-convertible currencies	–	–	–	–	3	3	3	4
EU 19b	Excess inflows from a related specialized credit institution	–	–	–	–	0	0	0	0
20	Total cash inflows	339	358	372	372	55	55	56	58
of which:									
EU 20a	Fully exempt inflows	0	0	0	0	0	0	0	0
EU 20b	Inflows subject to 90 % cap	0	0	0	0	0	0	0	0
EU 20c	Inflows subject to 75 % cap	319	335	347	345	55	55	56	58
<b>Total adjusted value</b>									
21	Liquidity buffer	–	–	–	–	215	214	217	219
22	Total net cash outflows	–	–	–	–	157	157	160	161
23	Liquidity coverage ratio (%)	–	–	–	–	137	137	136	136

## Net Stable Funding Ratio

The NSFR requires banks to maintain a stable funding profile in relation to its 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 Group's Net Stable Funding Ratio (NSFR) as of December 31, 2023, was 121% or a surplus of € 107 billion over the regulatory minimum of 100%. This compares to 120%, or a surplus of € 99 billion over the regulatory minimum of 100% as of December 31, 2022. The increase was primarily driven by business portfolio movements offset by ECB TLTRO repayments.

#### EU LIQ2 – Net stable funding ratio template

		Dec 31, 2023				
		a	b	c	d	e
		Unweighted value by residual maturity				Weighted value
in € bn.		No maturity	< 6 months	6 months to < 1 year	≥ 1 year	
<b>Available stable funding (ASF) Items</b>						
1	Capital items and instruments	73	0	0	12	85
2	Own funds	73	0	0	9	82
3	Other capital instruments	–	0	0	3	3
4	Retail deposits	–	236	36	4	258
5	Stable deposits	–	163	30	3	186
6	Less stable deposits	–	73	6	1	72
7	Wholesale funding:	–	399	42	124	257
8	Operational deposits	–	72	0	0	36
9	Other wholesale funding	–	327	42	124	221
10	Interdependent liabilities	–	0	0	0	0
11	Other liabilities:	0	120	1	4	5
12	NSFR derivative liabilities	0	–	–	–	–
13	All other liabilities and capital instruments not included in the above categories	–	120	1	4	5
14	<b>Total available stable funding (ASF)</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>605</b>
<b>Required stable funding (RSF) Items</b>						
15	Total high-quality liquid assets (HQLA)	–	–	–	–	10
EU 15a	Assets encumbered for more than 12m in cover pool	–	0	0	23	19
16	Deposits held at other financial institutions for operational purposes	–	0	0	0	0
17	Performing loans and securities:	–	178	38	399	388
18	Performing securities financing transactions with financial customers collateralized by Level 1 HQLA subject to 0% haircut	–	61	0	0	1
19	Performing securities financing transaction with financial customers collateralized by other assets and loans and advances to financial institutions	–	28	12	56	65
20	Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, and PSEs,	–	52	15	135	153
	of which:					
21	With a risk weight of less than or equal to 35% under the Basel II Standardized Approach for credit risk	–	2	0	7	7
22	Performing residential mortgages,	–	1	1	128	91
	of which:					
23	With a risk weight of less than or equal to 35% under the Basel II Standardized Approach for credit risk	–	1	0	94	62
24	Other loans and securities that are not default and do not qualify as HQLA, including exchange-traded equities and trade finance on-balance sheet products	–	35	9	80	79
25	Interdependent assets	–	0	0	0	0
26	Other assets:	0	137	2	26	64
27	Physical traded commodities	–	–	–	0	0
28	Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs	–	–	–	6	5
29	NSFR derivative assets	–	–	–	11	11
30	NSFR derivative liabilities before deduction of variation margin posted	–	–	–	42	2
31	All other assets not included in the above categories	–	78	2	25	45
32	Off-balance sheet items	–	98	27	143	16
33	<b>Total required stable funding (RSF)</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>499</b>
34	<b>Net Stable Funding Ratio (in percent)</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>121</b>

		Sep 30, 2023				
		a	b	c	d	e
		Unweighted value by residual maturity				Weighted value
in € b.		No maturity	< 6 months	6 months to < 1 year	≥ 1 year	
<b>Available stable funding (ASF) Items</b>						
1	Capital items and instruments	72	0	0	12	85
2	Own funds	72	0	0	9	82
3	Other capital instruments	–	0	0	3	3
4	Retail deposits	–	253	16	5	256
5	Stable deposits	–	181	11	4	186
6	Less stable deposits	–	72	5	1	70
7	Wholesale funding:	–	398	45	122	253
8	Operational deposits	–	65	0	0	32
9	Other wholesale funding	–	334	45	122	221
10	Interdependent liabilities	–	0	0	0	0
11	Other liabilities:	0	128	3	5	6
12	NSFR derivative liabilities	0	–	–	–	–
13	All other liabilities and capital instruments not included in the above categories	–	128	3	5	6
14	<b>Total available stable funding (ASF)</b>	–	–	–	–	<b>600</b>
<b>Required stable funding (RSF) Items</b>						
15	Total high-quality liquid assets (HQLA)	–	–	–	–	10
EU 15a	Assets encumbered for more than 12m in cover pool	–	0	0	23	20
16	Deposits held at other financial institutions for operational purposes	–	0	0	0	0
17	Performing loans and securities:	–	181	32	406	392
18	Performing securities financing transactions with financial customers collateralized by Level 1 HQLA subject to 0% haircut	–	50	0	0	1
19	Performing securities financing transaction with financial customers collateralized by other assets and loans and advances to financial institutions	–	43	10	59	67
20	Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, and PSEs,	–	53	15	140	157
	of which:					
21	With a risk weight of less than or equal to 35% under the Basel II Standardized Approach for credit risk	–	3	0	7	6
22	Performing residential mortgages,	–	1	1	125	90
	of which:					
23	With a risk weight of less than or equal to 35% under the Basel II Standardized Approach for credit risk	–	1	0	95	63
24	Other loans and securities that are not default and do not qualify as HQLA, including exchange-traded equities and trade finance on-balance sheet products	–	34	6	82	78
25	Interdependent assets	–	0	0	0	0
26	Other assets:	0	162	1	25	57
27	Physical traded commodities	–	–	–	1	1
28	Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs	–	–	–	6	5
29	NSFR derivative assets	–	–	–	5	5
30	NSFR derivative liabilities before deduction of variation margin posted	–	–	–	50	3
31	All other assets not included in the above categories	–	101	1	24	43
32	Off-balance sheet items	–	92	30	147	17
33	<b>Total required stable funding (RSF)</b>	–	–	–	–	<b>495</b>
34	<b>Net Stable Funding Ratio (in percent)</b>	–	–	–	–	<b>121</b>

		Jun 30, 2023				
		a	b	c	d	e
		Unweighted value by residual maturity				Weighted value
		No maturity	< 6 months	6 months to < 1 year	≥ 1 year	
in € b.						
<b>Available stable funding (ASF) Items</b>						
1	Capital items and instruments	72	0	0	12	84
2	Own funds	72	0	0	9	81
3	Other capital instruments	–	0	0	3	3
4	Retail deposits	–	237	27	4	252
5	Stable deposits	–	168	23	3	185
6	Less stable deposits	–	70	4	1	68
7	Wholesale funding:	–	382	35	129	251
8	Operational deposits	–	72	0	0	36
9	Other wholesale funding	–	310	35	129	215
10	Interdependent liabilities	–	0	0	0	0
11	Other liabilities:	17	118	3	4	5
12	NSFR derivative liabilities	17	–	–	–	–
13	All other liabilities and capital instruments not included in the above categories	–	118	3	4	5
14	<b>Total available stable funding (ASF)</b>	–	–	–	–	<b>592</b>
<b>Required stable funding (RSF) Items</b>						
15	Total high-quality liquid assets (HQLA)	–	–	–	–	10
EU 15a	Assets encumbered for more than 12m in cover pool	–	0	0	24	20
16	Deposits held at other financial institutions for operational purposes	–	0	0	0	0
17	Performing loans and securities:	–	177	32	411	397
18	Performing securities financing transactions with financial customers collateralized by Level 1 HQLA subject to 0% haircut	–	62	1	0	1
19	Performing securities financing transaction with financial customers collateralized by other assets and loans and advances to financial institutions	–	29	9	59	66
20	Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, and PSEs,	–	52	15	135	160
	of which:					
21	With a risk weight of less than or equal to 35% under the Basel II Standardized Approach for credit risk	–	1	0	4	2
22	Performing residential mortgages,	–	10	1	134	92
	of which:					
23	With a risk weight of less than or equal to 35% under the Basel II Standardized Approach for credit risk	–	9	0	110	83
24	Other loans and securities that are not default and do not qualify as HQLA, including exchange-traded equities and trade finance on-balance sheet products	–	24	6	83	79
25	Interdependent assets	–	0	0	0	0
26	Other assets:	0	145	1	22	51
27	Physical traded commodities	–	–	–	0	0
28	Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs	–	–	–	6	5
29	NSFR derivative assets	–	–	–	2	2
30	NSFR derivative liabilities before deduction of variation margin posted	–	–	–	46	2
31	All other assets not included in the above categories	–	91	1	22	41
32	Off-balance sheet items	–	93	29	142	17
33	<b>Total required stable funding (RSF)</b>	–	–	–	–	<b>496</b>
34	<b>Net Stable Funding Ratio (in percent)</b>	–	–	–	–	<b>119</b>

		Mar 31, 2023				
		a	b	c	d	e
		Unweighted value by residual maturity				Weighted value
in € b.		No maturity	< 6 months	6 months to < 1 year	≥ 1 year	
<b>Available stable funding (ASF) Items</b>						
1	Capital items and instruments	71	0	0	12	83
2	Own funds	71	0	0	9	81
3	Other capital instruments	–	0	0	3	3
4	Retail deposits	–	243	24	3	253
5	Stable deposits	–	170	20	3	184
6	Less stable deposits	–	72	4	1	70
7	Wholesale funding:	–	363	43	128	253
8	Operational deposits	–	77	0	0	39
9	Other wholesale funding	–	286	43	128	214
10	Interdependent liabilities	–	0	0	0	0
11	Other liabilities:	11	146	2	4	5
12	NSFR derivative liabilities	11	–	–	–	–
13	All other liabilities and capital instruments not included in the above categories	–	146	2	4	5
14	<b>Total available stable funding (ASF)</b>	–	–	–	–	<b>595</b>
<b>Required stable funding (RSF) Items</b>						
15	Total high-quality liquid assets (HQLA)	–	–	–	–	17
EU 15a	Assets encumbered for more than 12m in cover pool	–	0	0	24	21
16	Deposits held at other financial institutions for operational purposes	–	0	0	0	0
17	Performing loans and securities:	–	192	29	404	392
18	Performing securities financing transactions with financial customers collateralized by Level 1 HQLA subject to 0% haircut	–	70	2	0	2
19	Performing securities financing transaction with financial customers collateralized by other assets and loans and advances to financial institutions	–	29	9	57	64
20	Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, and PSEs, of which:	–	54	13	146	160
21	With a risk weight of less than or equal to 35% under the Basel II Standardized Approach for credit risk	–	1	0	5	4
22	Performing residential mortgages, of which:	–	9	1	125	92
23	With a risk weight of less than or equal to 35% under the Basel II Standardized Approach for credit risk	–	8	1	113	83
24	Other loans and securities that are not default and do not qualify as HQLA, including exchange-traded equities and trade finance on-balance sheet products	–	30	5	76	74
25	Interdependent assets	–	0	0	0	0
26	Other assets:	0	138	1	23	51
27	Physical traded commodities	–	–	–	0	0
28	Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs	–	–	–	7	6
29	NSFR derivative assets	–	–	–	1	1
30	NSFR derivative liabilities before deduction of variation margin posted	–	–	–	45	2
31	All other assets not included in the above categories	–	84	1	22	41
32	Off-balance sheet items	–	88	27	135	16
33	<b>Total required stable funding (RSF)</b>	–	–	–	–	<b>497</b>
34	<b>Net Stable Funding Ratio (in percent)</b>	–	–	–	–	<b>120</b>

## Unencumbered assets

### Qualitative information on unencumbered assets

#### Article 443 CRR and EU AE4

In accordance to the EBA ITS 2020/04 guideline the data on encumbered and unencumbered assets uses the median of the last four quarterly data points. Therefore, the sum of sub-components does not necessarily add up in the quantitative information disclosed below.

Encumbered assets primarily comprise those on- and off-balance sheet assets that are pledged as collateral against secured funding, collateral swaps, and other collateralized obligations. Additionally, in line with the EBA technical standards on regulatory asset encumbrance reporting, we consider default funds and initial margins as encumbered, as well as other assets pledged which cannot be freely withdrawn such as mandatory minimum reserves at central banks. We also include derivative margin receivable assets as encumbered under these EBA guidelines.

## Quantitative information on unencumbered assets

### Article 443 CRR

The below tables set out a breakdown of on- and off-balance sheet items, broken down between encumbered and unencumbered. Any securities borrowed or purchased under resale agreements are shown based on the fair value of collateral received. Following the European Commission's disclosure guidance for asset encumbrance we have introduced the asset quality indicator concept "high-quality liquid assets" (HQLA) as defined under the Delegated Act on Liquidity Coverage Ratio.

For December 2023, € 197 billion of the Group's on-balance sheet assets were encumbered. These assets primarily relate to firm financing of trading inventory and other securities, funding (i.e. Pfandbriefe and covered bonds) secured against loan collateral and cash collateral for derivative margin requirements.

For December 2023, the Group had received securities as collateral with a fair value of € 307 billion, of which € 251 billion were sold or on pledged. These pledges typically relate to trades to facilitate client activity, including prime brokerage, collateral posted in respect of Exchange Traded Funds and derivative margin requirements.

'Own debt securities issued other than covered bonds and asset backed securities' refers to those own bond holdings that are not derecognized from the balance sheet by a non-IFRS institution. This is not applicable for Deutsche Bank Group.

### EU AE1 – Encumbered and unencumbered assets

		Dec, 31 2023							
		010	030	040	050	060	080	090	100
		Encumbered assets				Unencumbered assets			
		Carrying amount		Fair value		Carrying amount		Fair value	
		of which notionally eligible EHQLA and HQLA		of which notionally eligible EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA	
in € bn.									
030	Equity instruments	0.2	0	–	–	2.8	0.9	–	–
040	Debt securities	76.9	60.9	76.9	60.9	76.1	47.5	76.1	47.5
of which:									
050	Covered bonds	0.4	0.4	0.4	0.4	1.2	1.2	1.2	1.2
060	Securitisations	3.4	0.3	3.4	0.3	3.3	0.5	3.3	0.5
070	Issued by general governments	64.4	57.4	64.4	57.4	49.4	44.2	49.4	44.2
080	Issued by financial corporations	7.8	1.7	7.8	1.7	15.7	2.3	15.7	2.3
090	Issued by non-financial corporations	4.3	1.8	4.3	1.8	10.7	0.6	10.7	0.6
120	Other assets	121.3	13.2	–	–	1,032.2	148.5	–	–
010	Total	196.9	74.3	–	–	1,115.1	194.7	–	–

		Dec, 31 2022							
		010	030	040	050	060	080	090	100
		Encumbered assets				Unencumbered assets			
		Carrying amount		Fair value		Carrying amount		Fair value	
		of which notionally eligible EHQLA and HQLA		of which notionally eligible EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA	
in € bn.									
030	Equity instruments	0.5	0.2	–	–	3.0	1.2	–	–
040	Debt securities	70.9	54.9	70.9	54.9	80.5	50.2	80.5	50.2
of which:									
050	Covered bonds	0.6	0.5	0.6	0.5	1.2	1.2	1.2	1.2
060	Asset-backed securities	3.4	1.3	3.4	1.3	2.8	0.7	2.8	0.7
070	Issued by general governments	56.4	50.6	56.4	50.6	53.9	48.3	53.9	48.3
080	Issued by financial corporations	9.2	2.1	9.2	2.1	14.2	5.2	14.2	5.2
090	Issued by non-financial corporations	4.7	2.0	4.7	2.0	11.2	0.3	11.2	0.3
120	Other assets	149.3	13.7	–	–	1,075.3	160.1	–	–
010	Total	220.6	68.6	–	–	1,154.5	211.5	–	–

## EU AE2 – Collateral received

		Dec 31, 2023			
		010	030	040	060
				Unencumbered	
		Fair value of encumbered collateral received or own debt securities issued		Fair value of collateral received or own debt securities issued available for encumbrance	
		of which notionally eligible EHQLA and HQLA		of which EHQLA and HQLA	
in € bn.					
140	Loans on demand	0	0	0	0
150	Equity instruments	0.5	0.2	0.1	0
160	Debt securities	303.2	275.7	50.8	32.3
of which:					
170	Covered bonds	5.3	5.2	6.2	6.1
180	Asset-backed securities	12.3	7.3	5.0	0.1
190	Issued by general governments	263.8	255.9	33.4	26.9
200	Issued by financial corporations	30.4	13.0	14.1	5.2
210	Issued by non-financial corporations	8.8	2.7	2.6	0.4
220	Loans and advances other than loans on demand	0	0	2.0	0
230	Other collateral received	3.1	0	3.2	0
130	<b>Total collateral received</b>	<b>306.9</b>	<b>276.2</b>	<b>55.6</b>	<b>32.7</b>
240	Own debt securities issued other than own covered bonds or asset-backed securities	0	0	0	0
241	Own covered bonds and asset-backed securities issued and not yet pledged	–	–	13.1	2.4
250	<b>Total Assets, collateral received and own debt securities issued</b>	<b>503.8</b>	<b>351.2</b>	<b>–</b>	<b>–</b>

		Dec 31, 2022			
		010	030	040	060
				Unencumbered	
		Fair value of encumbered collateral received or own debt securities issued		Fair value of collateral received or own debt securities issued available for encumbrance	
		of which notionally eligible EHQLA and HQLA		of which EHQLA and HQLA	
in € bn.					
140	Loans on demand	0	0	0	0
150	Equity instruments	2.0	1.3	0.5	0.3
160	Debt securities	251.7	219.9	46.0	28.3
of which:					
170	Covered bonds	3.2	3.2	1.4	1.4
180	Asset-backed securities	8.6	4.0	3.0	0.1
190	Issued by general governments	215.8	207.7	37.8	26.6
200	Issued by financial corporations	21.6	8.0	7.0	1.4
210	Issued by non-financial corporations	9.7	3.2	1.4	0.2
220	Loans and advances other than loans on demand	0	0	3.4	0
230	Other collateral received	1.7	0	2.0	0
130	<b>Total collateral received</b>	<b>256.3</b>	<b>221.2</b>	<b>51.6</b>	<b>28.5</b>
240	Own debt securities issued other than own covered bonds or asset-backed securities	0	0	0	0
241	Own covered bonds and asset-backed securities issued and not yet pledged	–	–	3.2	0.7
250	<b>Total Assets, collateral received and own debt securities issued</b>	<b>468.2</b>	<b>284.8</b>	<b>–</b>	<b>–</b>

The below table shows selected amounts for encumbered on- and off-balance sheet assets against the corresponding liabilities that have given rise to the encumbrance. These include assets pledged for derivatives margin, collateral required for repurchase agreements, and assets needed for the Group's covered bond issuance portfolio and the ECB's Targeted Longer Term Refinancing Operation.

## EU AE3 – Sources of encumbrance

		Dec 31, 2023		Dec 31, 2022	
		010	030	010	030
		Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered		Assets, collateral received and own debt securities issued other than covered bonds and ABSs encumbered	
		Matching liabilities, contingent liabilities or securities lent		Matching liabilities, contingent liabilities or securities lent	
in € bn.					
010	Carrying amount of selected financial liabilities	398.6	416.4	355.6	380.5



# Reputational Risk

Within the bank's risk management process, reputational risk is defined as the risk of possible damage to Deutsche Bank's brand and reputation, and the associated risk to earnings, capital or liquidity arising from any association, action or inaction which could be perceived by stakeholders to be inappropriate, unethical or inconsistent with Deutsche Bank's values and beliefs.

## Risk management objectives and policies

### Reputational Risk Management strategies and processes

#### **Article 435 (1)(a) CRR (EU OVA)**

Deutsche Bank has limited appetite for transactions or relationships with material reputational risk or in areas which inherently pose a higher reputational risk such as the defence, gaming, or adult entertainment sectors, or where there are certain environmental concerns. Reputational risk cannot be precluded as it can be driven by unforeseeable changes in perception of its practices by its various stakeholders (e.g. public, clients, shareholders and regulators).

The Reputational Risk Framework (the Framework) is in place to manage the process through which active decisions are taken on matters which may pose a reputational risk, before the event, and in doing so to prevent damage to Deutsche Bank's reputation wherever possible. The Framework provides consistent standards for the identification, assessment and management of reputational risk issues. Reputational impacts which may arise as a consequence of a failure from another risk type, control or process are addressed separately via the associated risk type framework and are therefore not addressed in this section. The reputational risk could arise from multiple sources including, but not limited to, potential issues with the profile of the counterparty, the business purpose / economic substance of the transaction or product, high risk industries, environmental and social considerations, and the nature of the transaction or product or its structure and terms.

The modelling and quantitative measurement of reputational risk internal capital is implicitly covered in our economic capital framework primarily within strategic risk.

### Reputational Risk Management structure and organization

#### **Article 435 (1)(b) CRR (EU OVA)**

Whilst every employee has a responsibility to protect our reputation, the primary responsibility for the identification, assessment, management, monitoring and, if necessary, referring or reporting of reputational risk matters lies with Deutsche Bank's Business Divisions as the primary risk owners. Each Business Division has an established process through which matters, which are deemed to be a moderate or greater reputational risk are assessed, the Unit Reputational Risk Assessment Process.

The Unit Reputational Risk Assessment Process is required to refer any material reputational risk matters to the respective Regional Reputational Risk Committee. The Framework also sets out a number of matters which are considered inherently higher risk from a reputational risk perspective and are therefore mandatory referrals to the Regional Reputational Risk Committees. The Reputational Risk Regional Committees, which are 2nd LoD Committees, are responsible for ensuring the oversight, governance and coordination of the management of reputational risk in the respective region of Deutsche Bank. The Regional Reputational Risk Committees meet, as a minimum, on a quarterly basis with ad hoc meetings as required. The Group Reputational Risk Committee is responsible for ensuring the oversight, governance and coordination of the management of reputational risk at Deutsche Bank on behalf of the Group Risk Committee and the Management Board. Additionally, the Group Reputational Risk Committee reviews cases with a Group wide impact and in exceptional circumstances, those that could not be resolved at a regional level.

The Framework is applicable to all business units and regions. Matters specific to DWS are reviewed by a DWS reputational risk committee and, if necessary, escalated to the DWS Executive Board, which can escalate matters to the management board of DB AG.

## Scope and nature of reputational risk measurement and reporting systems

### **Article 435 (1)(c) CRR (EU OVA)**

The Reputational Risk Team provides monthly updates on reputational risk topics to the Reputational Risk Regional Committee chairs and secretaries of the Unit Reputational Risk Assessment Process, as well as quarterly updates to the Group Reputational Risk Committee and Regional Reputational Risk Committees. The Risk and Capital Profile report includes updates on reputational risk, which is distributed on a monthly basis to the Management Board and on a quarterly basis to the Supervisory Board. This includes details such as the number of reputational risk issues assessed by the various committees and their decisions.

## Policies for hedging and mitigating reputational risk

### **Article 435 (1)(d) CRR (EU OVA)**

The Reputational Risk Framework is governed by the Reputational Risk Policy and Procedure. The Framework has a group wide scope and is globally applicable. Regional and divisional reputational risk procedures have been implemented where deemed appropriate. Specific guidance on reputational risk issues is provided in the Reputational Risk Guidance Statements published monthly internally. Subject Matter Expert input is required for specific reputational risk drivers such as defence, gaming, and environmental issues. Due to geopolitical developments in 2023 there was an increased focus on the topic of defense.

# Model risk

## Risk management objectives and policies

### Model Risk Management strategies and processes

#### Article 435 (1)(a) CRR (EU OVA)

Model risk is one of the bank's level 1 risks, and is overseen by the Chief Risk Officer through the setting of a quantitative and qualitative risk appetite statement, and managed through:

- A model risk management policy and procedure, and supporting documents aligned to risk appetite, regulatory requirements, and industry best practice, with clear roles and responsibilities for stakeholders
- Inventorisation of all sources of model risk, supporting ongoing model risk framework components including risk assessments and attestations
- Key controls for all sources of model risk from development through to decommissioning, including validation, approval, deployment and monitoring:
  - Independent Validations, and subsequent independent approvals, verify that models and non-model estimates have been appropriately designed and implemented for their intended scope and purpose, and that respective controls are in place to assure that they continue to perform as expected during their use
  - The controls identify limitations and weaknesses, resulting in findings and compensating controls, these may be conditions for use, such as adjustments or overlays
- Model risk governance, including senior forums for monitoring and escalation of model risk related topics, as well as monthly updates to the Management Board on the model risk appetite metrics, and periodic model risk updates to the Supervisory Board.

### Model Risk Management structure and organization

#### Article 435 (1)(b) CRR (EU OVA)

Model risk is managed in accordance with the segregation of duties set out in the Risk Management Policy. Model risk is attached to those functions that generate and steer model risk directly such as, Model Owners, Model Developers, Model Users, including infrastructure functions.

The control function for model risk is Model Risk Management (MoRM) with its independent validation unit for model risk. The Head of MoRM is part of the Bank's Risk Division with direct reporting line to the Chief Risk Officer. Complementary, Group Audit is responsible for overseeing the activities of both groups before mentioned.

MoRM fulfils all the responsibilities of a risk type control function, including:

- Defining and regularly updating the model risk framework by setting minimum risk management and/or control standards to support the bank's compliance with all applicable material rules and regulations
- Independently assessing the implementation of, and adherence to, the framework of functions that generate and steer model risk directly, and reporting an overall assessment of the bank's risk profile
- Acting as an advisor to these functions on how to identify, assess and manage risks and implement the framework and
- Monitoring model risk adherence to the defined risk appetite, including escalating confirmed breaches, and recommending matters for potential consequence management, whether at a divisional or an individual-level in line with the Model Risk Consequence Management Framework

MoRM is also responsible for the approval of the use of models and non-model estimates within the bank. This includes initial and ongoing validation. Independent validation functions outside of Model Risk Management are required to have a sufficient level of independence and expertise, and to apply MoRM standards and templates.

### Scope and nature of model risk measurement and reporting systems

#### Article 435 (1)(c) CRR (EU OVA)

The governance and monitoring of model risk is facilitated by a combination of individuals in the functions that directly generate and manage model risk and MoRM model risk managers, supported by Model Risk Councils and forums, which escalate to the Risk Committee of the Board of Directors. They support the management of model risk for individual models and non-model estimates, as well as in the aggregate.

Model Inventories owned by MoRM are the repository for sources of model risk across the firm and provide the basis for the reporting of model risk.

MoRM provides (at least) quarterly updates on model risk topics to four divisional/regional Model Risk Councils, escalating into the Group Model Risk Council, as well as providing updates to certain Deutsche Bank AG Branches (London and New York), the Group Risk Committee and stand-alone model risk sections in the risk and capital profile. The risk and capital profile is distributed monthly to the Management Board and quarterly to the Supervisory Board.

Model risk profiles are produced by MoRM, to enable the monitoring, reporting and governance of model risk. Model risk profiles include:

- Current and emerging model risks and adherence to risk limits and risk concentrations
- Key information to effectively monitor model risk and identify potential areas of concern, such as: Risk Appetite Metric results, remediation and mitigating actions and target dates, and residual model risk
- Individual metrics showing risk appetite results for that reporting period, including remediation plans, compensating controls and ‘paths to green/amber’
- Status of remediation of material problems; appropriate and timely responses to identified problems, with current and forward-looking perspectives
- Reporting on overdue validation findings and the individuals responsible
- Model Risk Consequence Management Framework report

## Policies for hedging and mitigating model risk

### Article 435 (1)(d) CRR (EU OVA)

Model Risk is hedged and mitigated at a model/ non-model estimate level, through appropriate actions independently verified as proportionate. These may be built into the model/ non-model estimate, as part of development, or subsequently identified as part of the initial validation process or subsequent monitoring processes.

As part of independent validation, MoRM may identify the need for temporary or permanent mitigants prior to permitting the use of a model/ non-model estimate. These mitigants may take the form of adjustments to the output, the allocation of a reserve/buffer, limitations or restrictions on the use of a model/ non-model estimate, additional monitoring and/or restrictions or amendments to inputs and/or parameters.

These mitigants, are tracked and monitored as part of periodic reviews. Reassessments may also be triggered by significant changes to the model/ non-model estimate or its materiality, or potentially through the resolution of related weaknesses in the model/ non-model estimate.

## Remuneration policy

### Article 450 CRR, Article 435 (2)(a)-(c) CRR and EU OVB

Article 450 CRR, Article 435 (2)(a)-(c) CRR and related requirements such as table EU REMA and EU OVB and templates EU REM1-5 are addressed by the following section from the Employee Compensation Report from within our Annual Report 2021.

## Number of directorships held by board members

### Article 435 (2)(a) CRR (EU OVB)

The number of directorships held by members of the management board are listed below in the table:

## Number of directorships

	Dec 31, 2023	
	Number of executive and non-executive directorships	Number of supervisory board directorships
Christian Sewing	0	0
James von Moltke	0	0
Fabrizio Campelli	0	2
Bernd Leukert	0	2 <sup>1</sup>
Alexander von zur Mühlen	0	0
Claudio de Sanctis	0	0
Rebecca Short	0	0
Stefan Simon	0	2
Olivier Vigneron	0	0

<sup>1</sup> one mandate within Deutsche Bank Group

## Recruitment policy for board members

### Article 435 (2)(b) CRR (EU OVB)

Together with the Management Board, the Supervisory Board arranges for a long-term succession planning. The Nomination Committee supports the Supervisory Board in identifying suitable candidates to fill a position on the bank's Management Board while taking into account the applicable regulatory requirements. The Nomination Committee has developed a position description with a candidate profile and a statement of the expected time commitment. The Nomination Committee and the Supervisory Board regularly receive reports from the Management Board on internal candidates for succession planning and the process from the perspective of the Management Board. For the selection of suitable candidates, external and internal, the Nomination Committee is guided by the EBA Guidelines on the assessment of the suitability of the members of the management board (EBA/GL/2021/06) and takes into account the balance and diversity of the knowledge, skills and experience of all members of the Management Board, while also considering diversity principles. Building on the recommendation of the Nomination Committee, the Chairman's Committee submits proposals for the appointment of the Management Board member to the Supervisory Board. Based on this, the Supervisory Board decides on the appointment of the Management Board members. The first appointment period is for a maximum of three years. Management Board members can be reappointed for one of several terms of office, which may be for a maximum of five years pursuant to the law, whereby at Deutsche Bank such reappointments should generally also be for a maximum of three years. Section 76 (3a) of the German Stock Corporation Act (AktG) requires that the Management Board comprises at least one woman and one man.

## Policy on diversity for board members

### Article 435 (2)(c) CRR (EU OVB)

Promoting diversity on the Management Board is very important to the Supervisory Board, and it is intensively addressing the topic. It is actively working on Management Board diversity, e.g., in terms of gender, nationality and age, as well as different backgrounds and mindsets. As of December 31, 2023 the percentage of women on the Supervisory Board of Deutsche Bank AG was 40%. The statutory minimum of 30% pursuant to Section 96 (2) of the German Stock Corporation Act (AktG) was thereby exceeded.

Deutsche Bank is firmly convinced that an improved gender balance in leadership roles will meaningfully contribute to its future success.

The Supervisory Board and Management Board strive to and should serve as role models for the bank regarding diversity, equity and inclusion. In accordance with the bank's values and beliefs specified above, diversity in the composition of the Supervisory Board and the Management Board also facilitates the proper performance of the tasks and duties assigned to them by law, the Articles of Association and Terms of Reference.

Based on Deutsche Bank's understanding of diversity, equity and inclusion, the values and beliefs and the measures described in the following for their implementation also apply – to the extent legally admissible – to the Supervisory Board and the Management Board of Deutsche Bank AG. The Supervisory Board considers diversity in the company, in particular, when filling positions on the Management Board and Supervisory Board.

On July 27, 2023, the Supervisory Board of Deutsche Bank AG updated the Suitability Guideline for selecting members of the Supervisory Board and Management Board of Deutsche Bank AG, which also continues to comprise diversity principles. This Suitability Guideline implements the "Guidelines on the assessment of the suitability of members of the management body and key function holders" issued jointly by the European Banking Authority and European Securities and Markets Authority.

### Diversity concept and succession planning for the Management Board

Through the composition of the Management Board, it has to be ensured that its members have, at all times, the required knowledge, skills and experience necessary to properly perform their tasks. Accordingly, when selecting members for the Management Board, care is to be taken that they collectively have sufficient expertise and diversity within the meaning of the bank's objectives specified above. Furthermore, the Supervisory Board and the Management Board should ensure long-term succession planning.

### Implementation

In accordance with the law, the Articles of Association and Terms of Reference, the Supervisory Board adopted a candidate profiles for the members of the Management Board, based on a proposal from the Nomination Committee. These profiles takes into account an "Expertise and Capabilities Matrix", specifying, among other things, the required knowledge, skills and experience to perform the tasks as Management Board member, in order to successfully develop and implement the bank's strategy in the respective market or the respective division and as a management body collectively. The Management Board reviews succession plans for Management Board positions, both individually and as a group. Individual succession plans are reviewed and internal succession candidates are discussed in detail based on potential, leadership skills and experience as well as fit and proper suitability. As gender diversity is a key focus of Deutsche Bank the respective succession metrics and data analytics support this process. After approval by the Management Board these plans are submitted to the Nomination Committee and the Supervisory Board in principle at a meeting for extensive deliberations.

In identifying candidates to fill a position on the bank's Management Board, the Supervisory Board's Nomination Committee takes into account the appropriate diversity balance of all Management Board members collectively. Furthermore, it also considers the targets set by the Supervisory Board in accordance with statutory requirements for the percentage of women on the Management Board.

The Nomination Committee supports the Supervisory Board with the periodic assessment, to be performed at least once a year, of the knowledge, skills and experience of the individual members of the Management Board and of the Management Board in its entirety.

### Results achieved in the 2023 financial year

As of December 31, 2023 the Management Board comprised one women (11%) and eight men.

The age structure is diverse, ranging from 48 to 56 years of age as of December 31, 2023. The length of experience as member of the Management Board of Deutsche Bank as of December 31, 2023 ranged from less than one year to around eight years.

In the light of the bank's strategy as a leading European bank with a global reach and a strong home market in Germany, five of the nine Management Board members as of December 31, 2023 have a German background. Furthermore, the current Management Board members are citizens of Italy, the United Kingdom, France, Australia, New Zealand and Switzerland. However, the ethnic diversity of the Management Board does not currently reflect the full diversity of the markets where the bank do business or the diversity of the bank's employees.

The diverse range of the members' educational and professional backgrounds includes banking, business administration, economics, law, linguistics, philosophy and engineering.

The bank transparently reports on Management Board diversity in addition to the information presented above in this Corporate Governance Statement in the section "Management Board and Supervisory Board: Management Board" as well as on the bank's website: [www.db.com](http://www.db.com) (Heading Investor Relations, "Corporate Governance", "Management Board").

# Compensation of the employees

The content of the 2023 Employee Compensation Report is based on the qualitative and quantitative remuneration disclosure requirements outlined in Article 450 No. 1 (a) to (j) Capital Requirements Regulation (CRR) in conjunction with Section 16 of the Remuneration Ordinance for Institutions (*Institutsvergütungsverordnung* – InstVV).

This Compensation Report takes a group-wide view and covers all consolidated entities of the Deutsche Bank Group. In accordance with regulatory requirements, equivalent reports for 2023 are prepared for the following Significant Institutions within Deutsche Bank Group: BHW Bausparkasse AG, Germany; Deutsche Bank Luxembourg S.A., Luxembourg; Deutsche Bank S.p.A., Italy; Deutsche Bank Mutui S.p.A., Italy; Deutsche Bank S.A.E., Spain.

## Regulatory environment

Ensuring compliance with regulatory requirements is an overarching consideration in the bank's Group Compensation Strategy. The bank strives to be at the forefront of implementing regulatory requirements with respect to compensation and will continue to maintain a close exchange with its prudential supervisor, the European Central Bank (ECB), to be in compliance with all existing and new requirements.

As an EU-headquartered institution, Deutsche Bank is subject to the Capital Requirements Regulation/Directive (CRR/CRD) globally, as transposed into German national law in the German Banking Act and InstVV. These rules are applied to all of Deutsche Bank subsidiaries and branches world-wide to the extent required in accordance with Section 27 InstVV. As a Significant Institution within the meaning of InstVV, Deutsche Bank identifies all employees whose work is deemed to have a material impact on the overall risk profile (Material Risk Takers or MRTs) in accordance with the criteria stipulated in the German Banking Act and in the Commission Delegated Regulation 2021/923. Deutsche Bank identifies MRTs at a Group level, at the level of Significant Institutions and, in accordance with the German Banking Act, for all CRR institutions at a solo level.

Taking into account more specific sectorial legislation and in accordance with InstVV, some of Deutsche Bank's subsidiaries (in particular within the DWS Group) fall under sector specific remuneration rules, such as the Alternative Investments Fund Managers Directive (AIFMD), the Undertakings for Collective Investments in Transferable Securities Directive (UCITS) and the Investment Firm Directive (IFD) including the applicable local transpositions. MRTs are also identified in these subsidiaries. Identified employees are subject to the remuneration provisions outlined in the applicable Guidelines on sound remuneration policies published by the European Securities and Markets Authority (ESMA) and the European Banking Authority (EBA).

Deutsche Bank takes into account the regulations targeted at employees who engage directly or indirectly with the bank's clients, for instance as per the local transpositions of the Markets in Financial Instruments Directive II – MiFID II. Accordingly, specific provisions for employees deemed to be Relevant Persons are implemented with a view to ensuring that they act in the best interest of the bank's clients.

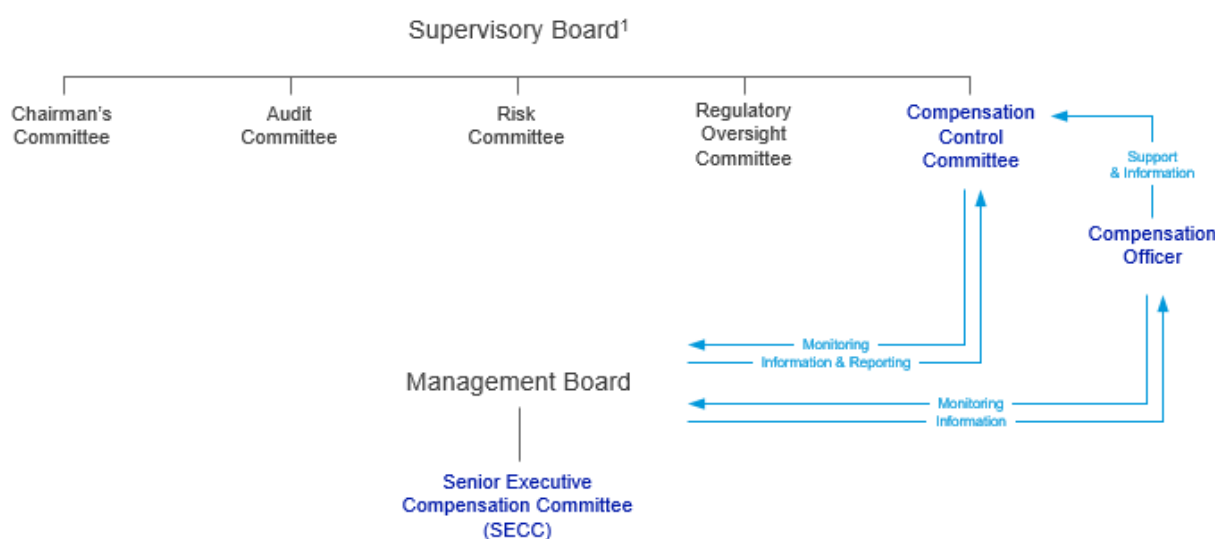
Where applicable, Deutsche Bank is also subject to specific rules and regulations implemented by local regulators. Many of these requirements are aligned with the InstVV. However, where variations are apparent, proactive and open discussions with regulators have enabled the bank to follow the local regulations whilst ensuring that any impacted employees or locations remain within the bank's overall Group Compensation Framework. This includes, amongst others, the compensation structures applied to Covered Employees in the United States under the requirements of the Federal Reserve Board as well as the requirements related to compensation recovery for executive officers in the event of an accounting restatement as required by the U.S. Securities and Exchange Commission. In any case, the InstVV requirements are applied as minimum standards globally.

## Compensation governance

Deutsche Bank has a robust governance structure enabling it to operate within the clear parameters of its Compensation Strategy and Policy. In accordance with the German two-tier board structure, the Supervisory Board governs the compensation of the Management Board members while the Management Board oversees compensation matters for all other employees in the Group. Both the Supervisory Board and the Management Board are supported by specific committees and functions, in particular the Compensation Control Committee (CCC), the Compensation Officer, and the Senior Executive Compensation Committee (SECC).

In line with their responsibilities, the bank's control functions are involved in the design and application of the bank's remuneration systems, in the identification of MRTs and in determining the total amount of VC. This includes assessing the impact of employees' behavior and the business-related risks, performance criteria, granting of remuneration and severances as well as ex-post risk adjustments.

### Reward governance structure



<sup>1</sup> Does not comprise a complete list of Supervisory Board Committees

### Compensation Control Committee (CCC)

The Supervisory Board has set up the CCC to support in establishing and monitoring the structure of the compensation system for the Management Board Members of Deutsche Bank AG. Furthermore, the CCC monitors the appropriateness of the compensation systems for the employees of Deutsche Bank Group, as established by the Management Board and the SECC. The CCC reviews whether the total amount of variable compensation is affordable and set in accordance with the risk, capital and liquidity situation as well as in alignment with the business and risk strategies. Furthermore, the CCC supports the Supervisory Board in monitoring the MRT identification process.

The CCC consists of the Supervisory Board Chairperson as well as two other Supervisory Board Members representing shareholders and three Supervisory Board Members representing employees. The Committee held seven meetings in the calendar year 2023. The members of the Risk Committee attended two meetings as guests, the Chairperson of the Risk Committee attended four meetings as guest. The Chairperson of the CCC is also a member of the Risk Committee. Further details can be found in the Report of the Supervisory Board within the Annual Report.

### Compensation Officer

The Management Board, in cooperation with the CCC, has appointed a Group Compensation Officer to support the Supervisory Boards of Deutsche Bank AG and of the bank's Significant Institutions in Germany in performing their compensation related duties. The Compensation Officer is involved in the conceptual review, development, monitoring and application of the employees' compensation systems, the MRT identification and remuneration disclosures on an ongoing basis. The Compensation Officer performs all relevant monitoring obligations independently, provides an assessment on the appropriateness of the design and strategy of the compensation systems for employees at least annually and regularly supports and advises the CCC.



### Senior Executive Compensation Committee (SECC)

The SECC is a delegated committee established by the Management Board which has the mandate to develop sustainable compensation principles, to prepare recommendations on Total Compensation levels and to ensure appropriate compensation governance and oversight. The SECC establishes the Compensation and Benefits Strategy, Policy and corresponding guiding principles. Moreover, using quantitative and qualitative factors, the SECC assesses Group and divisional performance as a basis for compensation decisions and makes recommendations to the Management Board regarding the total amount of annual variable compensation and its allocation across business divisions and infrastructure functions.

In order to maintain its independence, only representatives from infrastructure and control functions who are not aligned to any of the business divisions are members of the SECC. In 2023, the SECC's membership comprised of the DB AG Management Board member responsible for Human Resources and the Chief Financial Officer as Co-Chairpersons, the Head of Compliance, the Head of Performance & Reward as well as an additional representative from both Finance and Risk as voting members. The Compensation Officer, the Deputy Compensation Officer and an additional representative from Finance participated as non-voting members. The SECC generally meets on a monthly basis but with more frequent meetings during the compensation process. It held 19 meetings in total with regard to the compensation process for the performance year 2023.

## Compensation and Benefits Strategy

Deutsche Bank recognizes that its compensation framework plays a vital role in supporting its strategic objectives. It enables the bank to attract and retain the individuals required to achieve the bank's objectives. The Compensation and Benefits Strategy is built on three core pillars that support the bank's global, client-centric business and risk strategy, reinforced by safe and sound compensation practices that operate within the bank's profitability, solvency, and liquidity position.

Principles	Performance	Processes
<ul style="list-style-type: none"> <li>– Support the delivery of our sustainable growth <b>strategy as a Global Hausbank</b></li> <li>– Align with <b>clients' and shareholder interests</b> and manage costs effectively</li> <li>– <b>Prevent inappropriate risk taking</b> and taking into account various risk types including Environmental, Social and Governance <b>(ESG) risk</b></li> <li>– <b>Attract and retain best talent</b> by having market-aligned and competitive frameworks and processes</li> <li>– Support our <b>culture aspirations</b>, incl. promotion of a <b>strong risk and "speak up" culture</b></li> </ul>	<ul style="list-style-type: none"> <li>– Create an environment for <b>motivated, engaged and committed</b> employees</li> <li>– Strong link between performance and pay outcomes to foster a <b>sustainable performance culture</b></li> <li>– Apply and promote the bank's <b>corporate Values and Beliefs</b> and the <b>Code of Conduct</b> and apply <b>appropriate consequences for failing to meet required standards</b></li> </ul>	<p>Processes designed to:</p> <ul style="list-style-type: none"> <li>– Foster a gender-neutral approach, be <b>simple and transparent</b> and ensure <b>equity and fairness</b></li> <li>– Ensure compliance with legal and <b>regulatory</b> requirements</li> <li>– Prevent inappropriate risk-taking by incorporating <b>risk management</b> measures</li> </ul>

## Group Compensation Framework

The compensation framework, generally applicable globally across all regions and business lines, emphasizes an appropriate balance between Fixed Pay (FP) and Variable Compensation (VC) – together forming Total Compensation (TC). It aligns incentives for sustainable performance at all levels of Deutsche Bank whilst ensuring the transparency of compensation decisions and their impact on shareholders and employees. The underlying principles of the compensation framework are applied to all employees equally, irrespective of differences in seniority, tenure, gender or ethnicity.

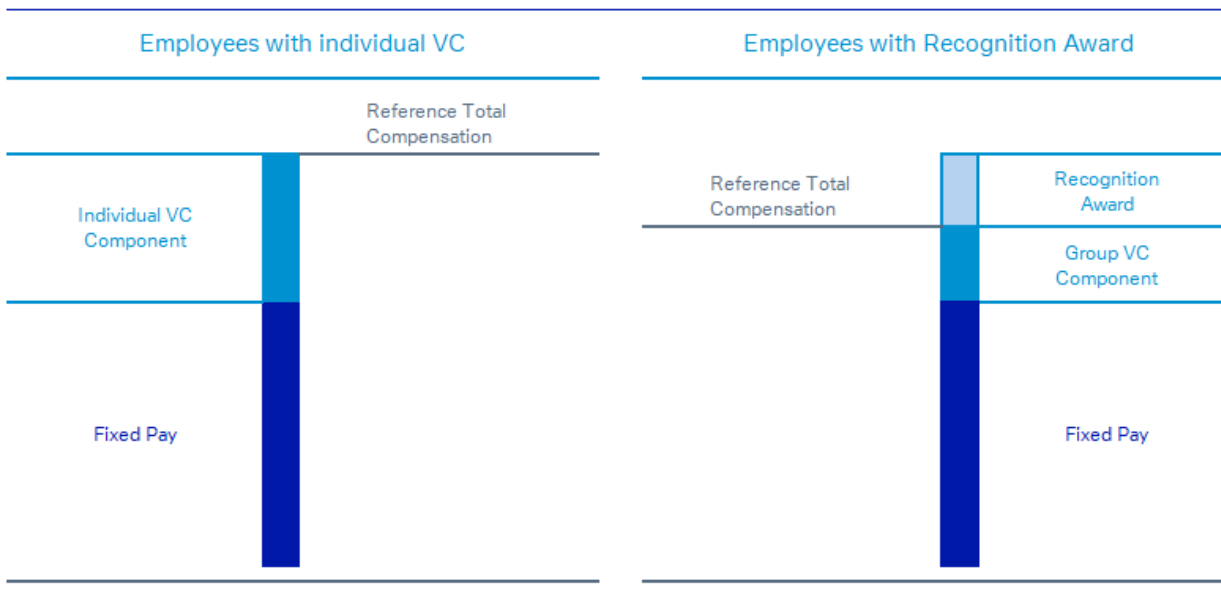
Pursuant to CRD and the requirements subsequently adopted in the German Banking Act, Deutsche Bank is subject to a maximum ratio of 1:1 with regard to fixed-to-variable remuneration components, which was increased to 1:2 for a limited population with shareholder approval on May 22, 2014 with an approval rate of 95.27%, based on valid votes by 27.68% of the share capital represented at the Annual General Meeting. Nonetheless, the bank has determined that employees in specific infrastructure functions (such as Legal, Group Tax and Human Resources) should in general continue to be subject to a maximum ratio of 1:1 while Control Functions as defined by InstVV are subject to a maximum ratio of 2:1. These Control Functions comprise Risk, Compliance, Anti-Financial Crime, Group Audit and the Compensation Officer and his Deputy.

The bank has assigned a Reference Total Compensation (RTC) to eligible employees that describes a reference value for their role. This value provides employees with orientation on their FP and VC. Actual individual TC can be at, above or below the Reference Total Compensation, depending on VC decisions.

**Fixed Pay** is used to compensate employees for their skills, experience and competencies, commensurate with the requirements, size and scope of their role. The appropriate level of FP is determined with reference to the prevailing market rates for each role, internal comparisons and applicable regulatory requirements. FP plays a key role in order to attract and retain the right talent. For the majority of employees, FP is the primary compensation component.

**Variable Compensation** reflects affordability and performance at Group, divisional, and individual level. It allows the bank to differentiate individual performance and to drive behavior through appropriate incentives that can positively influence culture. It also allows for flexibility in the cost base. For most employees globally, VC is granted as **Individual VC** and considers the applicable divisional and the employee's individual performance, conduct, and adherence to values and beliefs. In addition, it is subject to Group affordability and linked to Group performance. Employees who are not eligible for an award of Individual VC are granted a Group VC Component and may be nominated for a **Recognition Award** (where applicable). The Group VC Component reflects the bank's annual achievements in reaching its strategic targets whilst Recognition Awards provide the opportunity to acknowledge and reward outstanding contributions made by the employees of lower seniority levels in a timely and transparent manner.

### Key components of the compensation framework



In the context of InstVV, **severance payments** are considered variable compensation. The bank's severance framework ensures full alignment with the respective InstVV requirements.

**Employee benefits** complement Total Compensation and are considered FP from a regulatory perspective, as they have no direct link to performance or discretion. They are granted in accordance with applicable local market practices and requirements. Pension expenses represent the main element of the bank's benefits portfolio globally.

## Employee groups with specific compensation structures

For some areas of the bank, compensation structures apply that deviate, within regulatory boundaries, in some aspects from the Group Compensation Framework outlined above.

### Postbank units

While generally executive staff of former Postbank follow the remuneration structure of Deutsche Bank, the compensation for any other staff in Postbank units is based on specific frameworks agreed with trade unions or with the respective workers' councils. Where no collective agreements exist, compensation is subject to individual contracts. In general, non-executive and tariff staff in Postbank units receive VC, but the structure and portion of VC can differ between legal entities.

### DWS

The vast majority of DWS asset management entities and employees fall under AIFMD, UCITS or IFD, while a limited number of employees remain in scope of the bank's Group Compensation Framework and InstVV. DWS has established its own compensation governance, policy, and structures, as well as Risk Taker identification process in line with AIFMD/UCITS/IFD requirements. These structures and processes are aligned with InstVV where required but tailored towards the Asset Management business. Pursuant to the ESMA/EBA Guidelines, DWS's compensation strategy is designed to ensure an appropriate ratio between fixed and variable compensation.

Generally, DWS applies remuneration rules that are equivalent to the Deutsche Bank Group approach, but use DWS Group-related parameters, where possible. Notable deviations from the Group Compensation Framework include the use of share-based instruments linked to DWS shares and fund-linked instruments. These serve to improve the alignment of employee compensation with DWS' shareholders' and investors' interests.

### Tariff staff

Within Deutsche Bank Group there are 17,105 tariff employees in Germany (based on full-time equivalent as of December 31, 2023). Tariff staff are either subject to a collective agreement (*Tarifvertrag für das private Bankgewerbe und die öffentlichen Banken*), as negotiated between trade unions and employer associations, or subject to agreements as negotiated with the respective trade unions directly. The remuneration of tariff staff is included in the quantitative disclosures in this Report.

## Determination of performance-based variable compensation

The bank puts a strong focus on its governance related to compensation decision-making processes. A robust set of rule-based principles for compensation decisions with close links to the performance of both business and individual were applied.

The total amount of VC for any given performance year is derived from an assessment of the bank's profitability, solvency, and liquidity position, and the determination of VC pools for divisions and infrastructure functions based on their performance in support of achieving the bank's strategic objectives.

In a first step, Deutsche Bank assesses the bank's profitability, solvency and liquidity position in line with its Risk Appetite Framework, including a holistic review against the bank's multi-year strategic plan to determine what the bank "can" award in line with regulatory requirements (i.e., Group affordability). During this assessment, the bank also considers other limitations such as cost constraints. The proportion of the VC pools that is related to Group performance is determined based on the performance of a selected number of Group's KPIs, such as Common Equity Tier 1 (CET 1) Capital Ratio, Cost/Income Ratio (CIR), Post-Tax Return on Tangible Equity (RoTE), ESG – Sustainable Finance Volume, Gender Diversity and Control Risk Management Grade. In the next step, the bank assesses divisional risk-adjusted performance, i.e. what the bank "should" award in order to provide an appropriate compensation for contributions to the bank's success.

When assessing divisional performance, a range of considerations are referenced. Performance is assessed in the context of financial and – based on Balanced Scorecards – non-financial targets. The financial targets for front-office divisions are subject to appropriate risk-adjustment, in particular by referencing the degree of future potential risks to which Deutsche Bank may be exposed, and the amount of capital required to absorb severe unexpected losses arising from these risks. For the infrastructure functions, the financial performance assessment is mainly based on the achievement of cost targets. While the allocation of VC to infrastructure functions, and in particular to control functions, depends on both Deutsche Bank's overall and their own performance, it is not dependent on the performance of the division(s) that these functions oversee.

At the level of the individual employee, the Variable Compensation Guiding Principles are established, which detail the factors and metrics that have to be taken into account when making Individual VC decisions. Managers must fully appreciate the risk-taking activities of individuals to ensure that VC allocations are balanced and risk-taking is not inappropriately incentivized. The factors and metrics to be considered include, but are not limited to, (i) business delivery ("What"), i.e. quantitative and qualitative financial, risk-adjusted and non-financial performance metrics, and (ii) behavior ("How"), i.e. culture, conduct and control considerations such as qualitative inputs from control functions or disciplinary sanctions. Generally, performance is assessed based on a one year period. However, for Management Board members of Significant Institutions, the performance across three years is taken into account.

## Variable compensation structure

The compensation structures are designed to provide a mechanism that promotes and supports long-term performance of employees and the bank. Whilst a portion of VC is paid upfront, these structures require that an appropriate portion is deferred to ensure alignment to the sustainable performance of the Group. For both parts of VC, Deutsche Bank shares are used as instruments and as an effective way to align compensation with Deutsche Bank's sustainable performance and the interests of shareholders.

The bank continues to go beyond regulatory requirements with the scope as well as the amount of VC that is deferred and the minimum deferral periods for certain employee groups. The deferral rate and period are determined based on the risk categorization of the employee as well as the business unit. Where applicable, the bank starts to defer parts of variable compensation for MRTs where VC is set at or above € 50,000 or where VC exceeds 1/3 of TC. For non-MRTs, deferrals start at higher levels of VC. MRTs are on average subject to deferral rates in excess of the minimum 40% (60% for Senior Management) as required by InstVV. For MRTs in Material Business Units (MBU) the bank applies a deferral rate of at least 50%. The VC threshold for MRTs requiring at least 60% deferral is set at € 500,000. Moreover, for all employees whose FP exceeds the amount of € 500,000, the full amount of the VC is deferred.

As detailed in the table below, deferral periods range from three to five years, dependent on employee groups.

### Overview on 2023 award types (excluding DWS Group)

Award Type	Description	Beneficiaries	Deferral Period	Retention Period	Portion
Upfront: Cash VC	Upfront cash	All eligible employees	N/A	N/A	100% of VC, except employees with deferred awards
Upfront: Equity Upfront Award (EUA)	Upfront equity (linked to Deutsche Bank's share price over the retention period)	MRTs with VC ≥ € 50,000 or where VC exceeds 1/3 of TC  Non-MRTs with deferred awards where 2023 TC > € 500,000	N/A	12 months	50% of upfront VC
Deferred: Restricted Incentive Award (RIA)	Deferred cash	All employees with deferred VC	Equal tranche vesting: MRTs: 4 years Senior Mgmt. <sup>1</sup> : 5 years Non-MRTs: 3 years	N/A	50% of deferred VC
Deferred: Restricted Equity Award (REA)	Deferred equity (linked to Deutsche Bank's share price over the vesting and retention period)	All employees with deferred VC	Equal tranche vesting: MRTs: 4 years Senior Mgmt. <sup>1</sup> : 5 years Non-MRTs: 3 years	12 months for MRTs	50% of deferred VC

N/A – Not applicable

<sup>1</sup> For the purpose of Performance Year 2023 annual awards, Senior Management is defined as Deutsche Bank AG MB-1 positions; voting members of Business Division Top Executive Committees; MB members of Significant Institutions; respective MB-1 positions with managerial responsibility; for the specific deferral rules for the Management Board of Deutsche Bank AG refer to the Compensation Report for the Management Board

Employees are not allowed to sell, pledge, transfer or assign a deferred award or any rights in respect to the award. They may not enter into any transaction having an economic effect of hedging any variable compensation, for example offsetting the risk of price movement with respect to the equity-based award. The Human Resources and Compliance functions, overseen by the Compensation Officer, work together to monitor employee trading activity and to ensure that all employees comply with this requirement.

## Ex-post risk adjustment of variable compensation

In line with regulatory requirements relating to ex-post risk adjustment of variable compensation, the bank believes that a long-term view on conduct and performance of its employees is a key element of deferred VC. As a result, under the Management Board's oversight, all deferred awards are subject to performance conditions and forfeiture provisions as detailed below.

Overview on Deutsche Bank Group performance conditions and forfeiture provisions of variable compensation granted for Performance Year 2023

Provision	Description	Forfeiture
<b>Solvency and Liquidity</b>	<ul style="list-style-type: none"> <li>If at the quarter end preceding vesting and release, any one of the following falls below a defined Risk Appetite threshold: CET1 Capital Ratio; Leverage Ratio; Economic Capital Adequacy Ratio; Liquidity Coverage Ratio; High Quality Liquid Assets (HQLA)</li> </ul>	<ul style="list-style-type: none"> <li>Between 10% and 100% of the next tranche of deferred award due for delivery / of the Equity Upfront Award, depending on the Risk Appetite threshold and the extent the Group / Divisional PBT condition(s) is/ are met</li> </ul>
<b>Group PBT</b>	<ul style="list-style-type: none"> <li>If for the financial year end preceding the vesting date adjusted Group PBT is negative<sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>Between 10% and 100% of the next tranche of deferred award due for delivery, depending on the extent Solvency and Liquidity condition is met and whether Divisional PBT condition is met (if applicable)</li> </ul>
<b>Divisional PBT</b>	<ul style="list-style-type: none"> <li>If for the financial year end preceding the vesting date adjusted Divisional PBT is negative<sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>Between 10% and 100% of the next tranche of deferred award due for delivery, depending on the extent Solvency and Liquidity condition is met and whether Group PBT condition is met</li> </ul>
<b>Forfeiture Provisions<sup>2</sup></b>	<ul style="list-style-type: none"> <li>In the event of an internal policy or procedure breach, breach of any applicable laws or regulations, or a Control Failure</li> <li>If any award was based on performance measures or assumptions that are later deemed to be materially inaccurate</li> <li>Where a Significant Adverse Event occurs, and the Participant is considered sufficiently proximate</li> <li>If forfeiture is required to comply with prevailing regulatory requirements</li> </ul>	<ul style="list-style-type: none"> <li>Up to 100% of undelivered awards</li> </ul>
<b>Clawback</b>	<ul style="list-style-type: none"> <li>In the event an InstVV MRT participated in conduct that resulted in significant loss or regulatory sanction/supervisory measures; or failed to comply with relevant external or internal rules regarding appropriate standards of conduct</li> <li>in relation to a competent regulatory authority or other legal requirements</li> </ul>	<ul style="list-style-type: none"> <li>100% of award which has been delivered, before the second anniversary of the last vesting date for the award</li> </ul>

<sup>1</sup> Considering clearly defined and governed adjustments for relevant Profit and Loss items (e.g., business restructurings; impairments of goodwill or intangibles)

<sup>2</sup> Other provisions may apply as outlined in the respective plan rules

## Compensation decisions for 2023

### Year-end considerations and decisions for 2023

All compensation decisions are made within the boundaries of regulatory requirements. These requirements form the overarching framework for determining compensation at Deutsche Bank. In particular, management must ensure that compensation decisions are not detrimental to maintaining the bank's sound capital base and liquidity reserves.

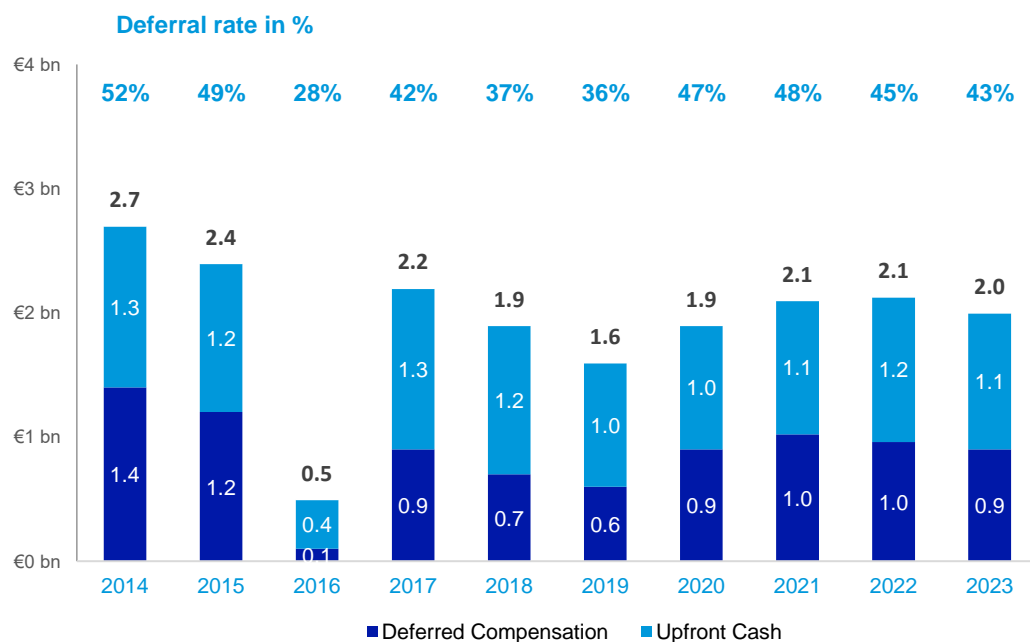
Despite a persistently difficult macroeconomic environment, Deutsche Bank has demonstrated resilience and achieved sustainable business growth and revenues, resulting in a pre-tax profit of € 5.7 billion.

2023 was a successful year for Deutsche Bank, further proving the strength of its Global Hausbank model: a client centric approach coupled with targeted investment decisions, without losing focus on continued cost discipline, capital generation and strong controls. The bank reconfirmed a measured and forward-looking approach when deciding on variable compensation for 2023. This approach balanced the need to grow sustainably whilst remaining within the boundaries of cost commitments as well as remunerating employees fairly and competitively based on performance. This resulted in VC levels for 2023 that are more conservative than the bank's financial performance might have indicated. As in previous years, the SECC continuously monitored and reviewed the implications of potential VC awards, both for the bank's capital and liquidity base and for its ambitious cost targets.

With due consideration for all these factors, the Management Board determined that the bank is in a position to award variable compensation, including a year-end performance-based VC pool, of € 1.996 billion for 2023 (2022: € 2.126 billion). The VC for the Management Board of Deutsche Bank AG was determined, as always, by the Supervisory Board in a separate process, but is included in the tables and charts below.

As part of the overall 2023 VC awards granted in March 2024, the Group VC Component was awarded to all eligible employees in line with the assessment of the four defined KPI categories which are outlined in the Group Compensation Framework chapter of this Report. The Management Board determined a payout rate of 70% for the Group VC Component in 2023, compared to 80% in 2022 and 77.5% in 2021.

Reported year-end performance-based variable compensation and deferral rates year over year – all employees



Due to rounding, numbers presented may not add up precisely to the totals.

Deutsche Bank continues to apply deferral structures that go beyond the regulatory minimum, resulting in an overall deferral rate (all employees including non-MRT population) of 43% in 2023. For the MRT population only, the deferral rate amounts to 91%.

## Material Risk Taker compensation disclosure

On a global basis, 1,477 employees were identified as MRTs according to InstVV for financial year 2023, compared to 1,426 employees for 2022. This slight increase is attributable to the increased number of quantitative (remuneration driven) MRTs. The number of 2023 Group MRTs amounts to 1,246 individuals. Moreover, 179 individuals were identified by Significant Institutions (thereof 44 Group MRTs and two MRTs identified by Other CRR Institutions) and 112 individuals were identified by Other CRR Institutions (thereof 16 Group MRTs and two MRTs identified by Significant Institutions). The remuneration elements for all those MRTs on a consolidated basis are detailed in the tables below in accordance with Article 450 CRR. Where applicable, the EU REM tables display the prescribed business lines as per Annex XXXIII of Regulation No 575/2013.

With regard to deferral arrangements and pay-out instruments, 81 MRTs identified by Other CRR Institutions, whose total remuneration amounts to € 16.9 million (thereof € 5.7 million variable remuneration including severance payments) benefit from a derogation laid down in Article 94(3) CRD point (a) and 70 MRTs identified by Group or Significant Institutions, whose total remuneration amounts to € 15.8 million (thereof € 1.9 million variable remuneration including severance payments) benefit from a derogation laid down in Article 94(3) CRD point (b).



## Remuneration for 2023 - Material Risk Takers (REM 1)

		2023				
in € m. (unless stated otherwise) <sup>1</sup>		Super- visory Board <sup>2</sup>	Manage- ment Board <sup>3</sup>	Senior Management <sup>4</sup>	Other Material Risk Takers	Group Total
	Number of MRTs <sup>5</sup>	20	9	241	1,043	1,313
Fixed Pay	Total Fixed Pay	7	34	169	617	828
	of which: cash-based	7	29	161	588	786
	of which: shares or equivalent ownership interests	0	0	0	0	0
	of which: share-linked instruments or equivalent non-cash instruments	0	0	0	0	0
	of which: other instruments	0	0	0	0	0
	of which: other forms	0	5	8	30	43
	Number of MRTs <sup>5</sup>	0	9	234	975	1,218
Variable Pay	Total Variable Pay <sup>6</sup>	0	38	150	474	661
	of which: cash-based	0	18	78	246	342
	of which: deferred	0	18	62	183	263
	of which: shares or equivalent ownership interests	0	20	60	228	308
	of which: deferred	0	20	58	183	260
	of which: share-linked instruments or equivalent non-cash instruments	0	0	10	0	10
	of which: deferred	0	0	6	0	6
	of which: other instruments	0	0	2	0	2
	of which: deferred	0	0	2	0	2
	of which: other forms	0	0	0	0	0
of which: deferred	0	0	0	0	0	
	Total Pay	7	72	319	1,091	1,489

<sup>1</sup> The table may contain marginal rounding differences

<sup>2</sup> Supervisory Board represents the Supervisory Board Members of Deutsche Bank AG

<sup>3</sup> Management Board represents the Management Board Members of Deutsche Bank AG

<sup>4</sup> Senior Management is defined as Deutsche Bank AG MB-1 positions; voting members of Business Division Top Executive Committees; MB members of Significant and Other CRR Institutions and respective MB-1 positions with managerial responsibility

<sup>5</sup> Beneficiaries only as of December 31, 2023 (HC reported for Supervisory Board and Management Board, FTE reported for the remaining part); therefore, the totals do not add up to the 1,477 individuals identified as MRTs; shows remuneration awarded to all MRTs (including 2023 leavers)

<sup>6</sup> Variable Pay includes Deutsche Bank's Year-end performance-based VC for 2023, other VC and severance payments; it also includes fringe benefits awarded to Management Board Members of Deutsche Bank AG which are to be classified as variable remuneration; the table does not include new hire replacement awards for lost entitlements from previous employers (buyouts)

## Guaranteed variable remuneration and severance payments - Material Risk Takers (REM 2)

		2023				
in € m. (unless stated otherwise) <sup>1</sup>		Super- visory Board <sup>2</sup>	Manage- ment Board <sup>3</sup>	Senior Management <sup>4</sup>	Other Material Risk Takers	Group Total
<b>Guaranteed variable remuneration awards</b>						
	Number of MRTs <sup>5</sup>	0	0	2	1	3
	Total amount	0	0	1	1	2
	of which: paid during financial year, not taken into account in bonus cap	0	0	1	1	2
<b>Severance payments awarded in previous periods, paid out during financial year</b>						
	Number of MRTs <sup>5</sup>	0	0	0	0	0
	Total amount	0	0	0	0	0
<b>Severance payments awarded during financial year</b>						
	Number of MRTs <sup>5</sup>	0	0	11	63	74
	Total amount <sup>6</sup>	0	0	20	17	37
	of which: paid during financial year	0	0	12	17	29
	of which: deferred	0	0	8	0	8
	of which: paid during financial year, not taken into account in bonus cap	0	0	20	17	37
	of which: highest payment that has been awarded to a single person	0	0	8	2	8

<sup>1</sup> The table may contain marginal rounding differences

<sup>2</sup> Supervisory Board represents the Supervisory Board Members of Deutsche Bank AG

<sup>3</sup> Management Board represents the Management Board Members of Deutsche Bank AG

<sup>4</sup> Senior Management is defined as Deutsche Bank AG MB-1 positions; voting members of Business Division Top Executive Committees; MB members of Significant and Other CRR Institutions and respective MB-1 positions with managerial responsibility

<sup>5</sup> Beneficiaries only (HC reported for all categories)

Deferred remuneration - Material Risk Takers (REM 3)

	2023								
in € m. (unless stated otherwise) <sup>1</sup>	Total amount of deferred remuneration awarded for previous performance periods	Of which due to vest in the financial year	Of which vesting in subsequent financial years	Amount of performance adjustment made in the financial year to deferred remuneration that was due to vest in the financial year	Amount of performance adjustment made in the financial year to deferred remuneration that was due to vest in future performance years	Total amount of adjustment during the financial year due to ex post implicit adjustments <sup>5</sup>	Total amount of deferred remuneration awarded before the financial year actually paid out in the financial year <sup>6</sup>	Total of amount of deferred remuneration awarded for previous performance period that has vested but is subject to retention periods	
Supervisory Board <sup>2</sup>	0	0	0	0	0	0	0	0	
Cash-based	0	0	0	0	0	0	0	0	
Shares or equivalent ownership interests	0	0	0	0	0	0	0	0	
Share-linked instruments or equivalent non-cash instruments	0	0	0	0	0	0	0	0	
Other instruments	0	0	0	0	0	0	0	0	
Other forms	0	0	0	0	0	0	0	0	
Management Board <sup>3</sup>	123	12	111	0	0	8	12	3	
Cash-based	55	8	46	0	0	0	8	0	
Shares or equivalent ownership interests	68	3	64	0	0	8	3	3	
Share-linked instruments or equivalent non-cash instruments	0	0	0	0	0	0	0	0	
Other instruments	0	0	0	0	0	0	0	0	
Other forms	0	0	0	0	0	0	0	0	
Senior management <sup>4</sup>	405	102	303	0	2	28	102	50	
Cash-based	197	49	148	0	1	0	48	0	
Shares or equivalent ownership interests	194	50	144	0	1	26	50	47	
Share-linked instruments or equivalent non-cash instruments	12	3	9	0	0	1	3	3	
Other instruments	2	0	2	0	0	0	0	0	
Other forms	0	0	0	0	0	0	0	0	
Other Material Risk Takers	1,536	439	1,096	0	0	99	438	183	
Cash-based	756	215	542	0	0	0	214	0	
Shares or equivalent ownership interests	779	224	554	0	0	99	223	183	
Share-linked instruments or equivalent non-cash instruments	1	0	1	0	0	0	0	0	
Other instruments	0	0	0	0	0	0	0	0	
Other forms	0	0	0	0	0	0	0	0	
<b>Total amount</b>	<b>2,064</b>	<b>553</b>	<b>1,510</b>	<b>0</b>	<b>2</b>	<b>135</b>	<b>551</b>	<b>236</b>	

<sup>1</sup> The table may contain marginal rounding differences

<sup>2</sup> Supervisory Board represents the Supervisory Board Members of Deutsche Bank AG

<sup>3</sup> Management Board represents the Management Board Members of Deutsche Bank AG

<sup>4</sup> Senior Management is defined as Deutsche Bank AG MB-1 positions; voting members of Business Division Top Executive Committees; MB members of Significant and Other CRR Institutions and respective MB-1 positions with managerial responsibility

<sup>5</sup> Changes of value of deferred remuneration due to the changes of prices of instruments

<sup>6</sup> Defined as remuneration awarded before the financial year which vested in the financial year (including where subject to a retention period)

### Remuneration of high earners – Material Risk Takers (REM 4)

in €	2023	2022
	Number of individuals <sup>1</sup>	Number of individuals
Total Pay <sup>2</sup>		
1,000,000 to 1,499,999	290	299
1,500,000 to 1,999,999	88	120
2,000,000 to 2,499,999	53	47
2,500,000 to 2,999,999	16	36
3,000,000 to 3,499,999	8	16
3,500,000 to 3,999,999	14	12
4,000,000 to 4,499,999	11	9
4,500,000 to 4,999,999	1	5
5,000,000 to 5,999,999	4	7
6,000,000 to 6,999,999	8	6
7,000,000 to 7,999,999	5	8
8,000,000 to 8,999,999	4	4
9,000,000 to 9,999,999	2	2
10,000,000 to 10,999,999	0	1
11,000,000 to 11,999,999	0	0
12,000,000 to 12,999,999	0	0
13,000,000 to 13,999,999	0	0
14,000,000 to 14,999,999	1	0
<b>Total</b>	<b>505</b>	<b>572</b>

<sup>1</sup> Comprises MRTs only (including 2023 leavers)

<sup>2</sup> Includes all components of FP and VC (including severances); buyouts are not included

In total, 505 MRTs received a Total Pay of € 1 million or more for 2023.

### Compensation awards 2023 – Material Risk Takers (REM 5)

in € m. (unless stated otherwise) <sup>1</sup>	Management Body Remuneration			Business Areas					Total
	Super- visory Board <sup>2</sup>	Manage- ment Board <sup>2</sup>	Total Manage- ment Body	Invest- ment Banking <sup>2</sup>	Retail Banking <sup>2</sup>	Asset Manage- ment <sup>2</sup>	Corporate Functions <sup>2</sup>	Control Functions <sup>2</sup>	
<b>Total number of Material Risk Takers<sup>3</sup></b>									<b>1,313</b>
of which: Management Body	20	9	29	N/A	N/A	N/A	N/A	N/A	N/A
of which: Senior Management <sup>4</sup>	N/A	N/A	N/A	29	84	5	91	32	241
of which: Other Material Risk Takers	N/A	N/A	N/A	620	205	0	128	89	1,043
<b>Total Pay of Material Risk Takers</b>	<b>7</b>	<b>72</b>	<b>79</b>	<b>906</b>	<b>244</b>	<b>29</b>	<b>165</b>	<b>66</b>	<b>1,489</b>
of which: variable pay <sup>5</sup>	0	38	38	419	108	20	63	13	661
of which: fixed pay	7	34	41	488	135	9	102	52	828

<sup>1</sup> The table may contain marginal rounding differences

<sup>2</sup> Supervisory Board represents the Supervisory Board Members of Deutsche Bank AG; Management Board represents the Management Board Members of Deutsche Bank AG; Investment Banking = Investment Bank; Retail Banking = Private Bank and Corporate Bank; Asset Management = Asset Management (DWS); Control Functions include Chief Risk Office, Group Audit, Compliance and Anti-Financial Crime; Corporate Functions include any Infrastructure function which is neither captured as a Control Function nor part of any division

<sup>3</sup> HC as of December 31, 2023 reported for Supervisory Board and Management Board, FTE as of December 31, 2023 reported for the remaining part; therefore, the totals do not add up to the 1,477 individuals identified as MRTs; shows remuneration awarded to all MRTs (including 2023 leavers)

<sup>4</sup> Senior Management is defined as Deutsche Bank AG MB-1 positions; voting members of Business Division Top Executive Committees; MB members of Significant and Other CRR Institutions and respective MB-1 positions with managerial responsibility

<sup>5</sup> Variable Pay includes Deutsche Bank's Year-end performance-based VC for 2023, other VC and severance payments; it also includes fringe benefits awarded to Management Board Members of Deutsche Bank AG which are to be classified as variable remuneration; the table does not include new hire replacement awards for lost entitlements from previous employers (buyouts)

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