Deutsche Bank

Pillar 3 Report as of September 30, 2022

Content

Regulatory framework

Basis of Presentation

This Pillar 3 Report provides disclosures for the consolidated Deutsche Bank Group (the Group) 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 and investment firms” (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 and investment firms 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 information provided in this Pillar 3 Report is unaudited. Due to rounding, numbers presented throughout this document may not add up precisely to the totals and percentages may not precisely reflect the absolute figures.

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.

Regulation (EU) 2019/876 has introduced a minimum regulatory leverage ratio of 3 % determined as the ratio of Tier 1 capital and the regulatory leverage exposure. The binding leverage ratio is applicable since the reporting period ended June 30, 2021. The minimum regulatory leverage ratio of 3 % is increased if certain Euro-based exposures facing Eurosystem central banks are excluded from the leverage exposure. This was the case based on Decision (EU) 2021/1074 of the European Central Bank until March 31, 2022. From January 1, 2023 an additional leverage ratio buffer requirement of 50 % of the applicable Global Systemic Important Institutions (G-SII) buffer rate will apply. It is currently expected that this additional requirement will increase the leverage ratio requirement by 0.75 %.

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 the Group’s competitors’ assumptions and estimates may differ from Deutsche Bank’s.

MREL (SRMR/BRRD) and TLAC (CRR)

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 need to have at least the maximum of 18% plus the combined buffer requirement of its RWA and 6.75% of its LRE as Total Loss Absorbing Capacity (“TLAC”).

Instruments which qualify for MREL and TLAC are own funds (Common Equity Tier 1, Additional Tier 1 and Tier 2) and 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 MREL (but separate from TLAC) against which only subordinated liabilities and own funds can be counted.

MREL is determined by the competent resolution authorities for each supervised bank individually and depending on the 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 an MREL policy published annually by the SRB. Any binding MREL ratio determined by the SRB is communicated to Deutsche Bank via the German Federal Financial Supervisory Authority (BaFin). Deutsche Bank AG received its current total MREL and current subordinated MREL requirement with immediate applicability in the second quarter of 2022.

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.

Definition of Default

In the third quarter of 2021, the Group introduced the new definition of default, which consists of two EBA guidelines. One guideline comprises an EBA technical standard regarding the materiality threshold for credit obligations past due (implemented with ECB regulation (EU) 2018/1845) and the second guideline covers the application of the definition of default. Both of these new requirements are jointly referred to below as EBA Guidelines on definition of default. The EBA Guidelines on definition of default replaced the default definition under Basel II and is applied to all key risk metrics throughout this Report, including as a trigger to Stage 3 in the Group's IFRS 9 expected credit loss (ECL) model.

Key metrics

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

In the following table EU KM1, Deutsche Bank provides key regulatory metrics and ratios as well as related input components as defined by CRR and CRD. The key metrics comprise own funds, RWAs, capital ratios, additional requirements based on SREP, capital buffer requirements, leverage ratio, liquidity coverage ratio and net stable funding ratio.

EU KM1 – Key metrics

		a	b	c	d	e
	in € m. (unless stated otherwise)	Sep 30, 2022	Jun 30, 2022	Mar 31, 2022	Dec 31, 2021	Sep 30, 2021
	Available own funds (amounts)					
1	Common Equity Tier 1 (CET 1) capital	49,202	47,932	46,687	46,506	45,633
2	Tier 1 capital	56,470	55,201	53,206	55,375	53,751
3	Total capital	66,706	65,246	63,093	62,732	61,203
	Risk weighted exposure amounts					
4	Total risk-weighted exposure amount	369,210	369,970	364,431	351,629	350,733
	Capital ratios (as percentage of risk.weighted exposure amount)					
5	Common Equity Tier 1 ratio (%)	13.3	13.0	12.8	13.2	13.0
6	Tier 1 ratio (%)	15.3	14.9	14.6	15.7	15.3
7	Total capital ratio (%)	18.1	17.6	17.3	17.8	17.5
	Additional own funds requirements based on SREP (as a percentage of risk-weighted exposure amount)					
EU 7a	Additional own funds requirements to address risks other than the risk of excessive leverage (%)	2.5	2.5	2.5	2.5	2.5
EU 7b	of which: to be made up of CET 1 capital (percentage points)	1.4	1.4	1.4	1.4	1.4
EU 7c	to be made up of Tier 1 capital (percentage points)	1.9	1.9	1.9	1.9	1.9
EU 7d	Total SREP own funds requirements (%)	10.5	10.5	10.5	10.5	10.5
	Combined buffer requirement (as a percentage of risk-weighted exposure amount)					
8	Capital conservation buffer (%)	2.5	2.5	2.5	2.5	2.5
EU 8a	Conservation buffer due to macro-prudential or systemic risk identified at the level of a Member State (%)	0.0	0.0	0.0	0.0	0.0
9	Institution specific countercyclical capital buffer (%)	0.03	0.02	0.02	0.03	0.02
EU 9a	Systemic risk buffer (%)	0.0	0.0	0.0	0.0	0.0
10	Global Systemically Important Institution buffer (%)	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 (%)	4.5	4.5	4.5	4.5	4.5
EU 11a	Overall capital requirements (%)	15.0	15.0	15.0	15.0	15.0
12	CET 1 available after meeting the total SREP own funds requirements (%)	7.4	7.0	6.7	7.3	6.9
	CET 1 available after meeting the total SREP own funds requirements	27,395	26,066	24,507	25,738	24,376
	Leverage ratio[1] [2]					
13	Leverage ratio total exposure measure	1,309,900	1,279,798	1,163,662	1,124,628	1,119,468
14	Leverage ratio (%)	4.3	4.3	4.6	4.9	4.7
	Additional own funds requirements to address risks of excessive leverage (as a percentage of leverage ratio total exposure amount)					
EU 14a	Additional own funds requirements to address the risk of excessive leverage (%)	0.0	0.0	0.0	0.0	0.0
EU 14b	of which: to be made up of CET 1 capital (percentage points)	0.0	0.0	0.0	0.0	0.0
EU 14c	Total SREP leverage ratio requirements (%)	3.0	3.0	3.2	3.2	3.2
	Leverage ratio buffer and overall leverage ratio requirement (as a percentage of total exposure measure)					
EU 14d	Leverage ratio buffer requirement (%)	0.0	0.0	0.0	0.0	0.0
EU 14e	Overall leverage ratio requirements (%)	3.0	3.0	3.2	3.2	3.2
	Liquidity Coverage Ratio					
15	Total high-quality liquid assets (HQLA) (Weighted value - average)	217,686	215,480	218,448	219,604	220,467
EU 16a	Cash outflows - Total weighted value	217,308	214,162	211,611	212,302	212,397
EU 16b	Cash inflows - Total weighted value	57,625	56,978	55,092	57,441	58,515
16	Total net cash outflows (adjusted value)	159,683	157,184	156,519	154,861	153,882
17	Liquidity coverage ratio (%)	136	137	140	142	143
	Net Stable Funding Ratio					
18	Total available stable funding	606,353	598,440	607,170	602,317	592,566
19	Total required stable funding	521,760	513,910	501,030	497,510	483,164
20	NSFR ratio (%)	116	116	121	121	123

[1] Starting with the first quarter of 2022, the leverage ratio is presented as reported; the fully loaded definition has been discontinued in the first quarter 2022 due to immaterial difference; the comparative periods from September 30, 2021 until December 31, 2021 continue to disclose the fully loaded numbers following EBA guidance and do not include the IFRS 9 transitional provision as per Article 473a of the CRR; the transitional impact amounted to € 22 million as of September 30, 2022, € 23 million as of June 30, 2022, € 20 million as of March 31, 2022, € 39 million as of December 31, 2021 and € 29 million as of September 30, 2021

[2] Since April 1, 2022 Deutsche Bank no longer excludes certain central bank exposures, based on Article 429a (1) (n) CRR and the ECB Decision 2021/1074 as this temporary exemption during the COVID-19 pandemic ended on March 31, 2022. Not applying the temporary exclusion of certain central bank exposures, the leverage exposure was € 1,247 billion as of March 31, 2022, € 1,223 billion as of December 31, 2021 and € 1,224 billion as of September 30, 2021; the corresponding leverage ratios were 4.3% as of March, 31, 2022, 4.5% as of December 31, 2021 and 4.3% as of September 30, 2021

Key metrics of own funds and eligible liabilities

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

The table below provides summary information about the Group's "Minimum requirement for own funds and eligible liabilities" and its "G-SII Requirement for own funds and eligible liabilities".

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

		Minimum requirement for own funds and eligible liabilities (MREL)		G-SII Requirement for own funds and eligible liabilities (TLAC)				
		a		b	c	d	e	f
in € m. (unless stated otherwise)		Sep 30, 2022	Jun 30, 2022	Sep 30, 2022	Jun 30, 2022	Mar 31, 2022	Dec 31, 2022	Sep 30, 2021
	Own funds and eligible liabilities, ratios and components							
1	Own funds and eligible liabilities	127,873	124,242	118,585	114,690	110,007	109,094	108,721
EU 1a	Own funds and subordinated liabilities	118,585	114,690	–	–	–	–	–
2	Total risk exposure amount of the resolution group (TREA)	369,210	369,970	369,210	369,970	364,431	351,629	350,733
3	Own funds and eligible liabilities as percentage of TREA	34.63	33.58	32.12	31.00	30.19	31.03	31.00
	of which:							
EU 3a	Own funds and subordinated liabilities	32.12	31.00	–	–	–	–	–
4	Total exposure measure of the resolution group (TEM)	1,309,900	1,279,798	1,309,900	1,279,798	1,163,662	1,124,667	1,119,497
5	Own funds and eligible liabilities as percentage of TEM	9.76	9.71	9.05	8.96	9.45	9.70	9.71
	of which:							
EU 5a	Own funds and subordinated liabilities	9.05	8.96	–	–	–	–	–
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
	Minimum requirement for own funds and eligible liabilities (MREL)							
EU 7	MREL requirement expressed as percentage of the TREA	24.89	24.89	–	–	–	–	–
	of which:							
EU 8	to be met with own funds or subordinated liabilities	20.28	20.28	–	–	–	–	–
EU 9	MREL requirement expressed as percentage of TEM	7.01	7.01	–	–	–	–	–
	of which:							
EU 10	to be met with own funds or subordinated liabilities	7.01	7.01	–	–	–	–	–

As of September 30, 2022 the MREL ratio was 34.63% as percentage of Total Risk Exposure Amount (TREA) compared to a requirement of 29.42% of TREA including the 4.53% combined buffer requirement, equalling a surplus of € 19.2 billion above its MREL requirement. The subordinated MREL ratio was 32.12% as percentage of TREA compared to a requirement of 24.81% of TREA including the 4.53% combined buffer requirement. The subordinated MREL surplus is € 27.0 billion.

As of September 30, 2022 the TLAC ratio was 32.12% as percentage of TREA compared to a requirement of 22.53% including the 4.53% combined buffer requirement, resulting in a surplus of € 35.4 billion. TLAC as a percentage of TEM was 9.05% compared to a requirement of 6.75%, which corresponds to a surplus of € 30.2 billion.

Capital

IFRS 9 transitional arrangements on own funds and temporary treatment of unrealized gains and losses

Article 473a CRR and Article 468 CRR

As of September 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, over a five year period until year end 2022. The transitional provisions were structured such that there is a static component relating to increases of credit loss allowance observed as of January 2018 and a dynamic component relating to credit loss allowance increases observed between January 2018 and the current reporting date.

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

In addition, the CRR amendment simplifies the implementation of the transitional provisions as the requirement to recalculate the exposure at default (EAD) for each individual credit risk standardized approach (CRSA) exposure taking into account the amounts added back to CET 1 no longer applies. Instead, an additional credit risk RWA amount equal to 100% times the credit loss allowance for the CRSA portfolio that has not reduced CET 1 due to the application of the transitional provisions is determined. The same amount is included in the leverage exposure. Deutsche Bank does make use of this simplification in the Group's application of transitional provisions.

The capital add back as of September 30, 2022 is € 22.4 million which includes € 14.6 million from the static component solely stemming from the CRSA portfolio due to the increase in credit loss allowances for the CRSA portfolio at transition to IFRS 9. There was no contribution from the IRBA portfolios, given the regulatory expected loss exceeded IFRS 9 credit loss allowances during the reporting dates.

There is no contribution from the dynamic component from both CRSA and IBRA portfolios which compares credit loss allowance levels between January 1, 2018 and January 1, 2020. This is due to a reduction in credit loss allowance levels in the aforementioned period for the CRSA portfolio and the regulatory expected loss exceeding the credit loss allowance levels for the IRBA portfolio.

There is a contribution of € 7.8 million from the dynamic component which compares the credit loss allowance levels since January 1, 2020 and the reporting date. This is due to an increase in provisions for the CRSA portfolio since January 1, 2020.

The impact of the € 22.4 million capital add back as of September 30, 2022 on the CET 1, Tier 1 and Total Capital as well as risk weighted assets and leverage exposure did not lead to a material change of the related ratios. Therefore 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 due to immateriality.

Deutsche Bank did not elect to apply the new Article 468 of CRR 'quick fix' which relates to the temporary treatment of unrealized gains and losses measured at fair value through other comprehensive income in view of the COVID-19 pandemic.

Capital requirements

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

		Sep 30, 2022		Jun 30, 2022	
		a	c1	b	c2
	in € m.	RWA	Minimum capital requirements	RWA	Minimum capital requirements
1	Credit risk (excluding CCR)	225,911	18,073	226,060	18,085
	of which:				
2	The standardized approach (SA)	20,057	1,605	19,261	1,541
3	The foundation IRB (FIRB) approach	1,428	114	2,168	173
4	Slotting approach	626	50	591	47
EU 4a	Equities under the simple riskweighted approach	9,967	797	11,225	898
5	The advanced IRB (AIRB) approach	193,832	15,507	192,814	15,425
6	Counterparty credit risk (CCR)	33,103	2,648	28,880	2,310
	of which:				
7	The standardized approach	2,743	219	2,793	223
8	Internal model method (IMM)	22,614	1,809	19,058	1,525
EU 8a	Risk exposure to a CCP	827	66	593	47
EU 8b	Credit Valuation Adjustment (CVA)	5,586	447	4,808	385
9	Other CCR	1,333	107	1,628	130
15	Settlement risk	110	9	156	12
16	Securitization exposures in the banking book (after the cap)	13,519	1,082	13,205	1,056
	of which:				
17	SEC-IRBA approach	7,127	570	7,510	601
18	SEC-ERBA (including IAA)	677	54	474	38
19	SEC-SA approach	5,383	431	4,778	382
EU 19a	1250% / deduction	332	27	443	35
20	Market risk	24,667	1,973	28,068	2,245
	of which:				
20	Standardized approach	3,337	267	3,245	260
21	IMA	21,330	1,706	24,824	1,986
EU 22a	Large exposures	0	0	0	0
23	Operational risk	58,467	4,677	59,373	4,750
	of which:				
EU 23a	Basic indicator approach	0	0	0	0
EU 23b	Standardized approach	0	0	0	0
EU 23c	Advanced measurement approach	58,467	4,677	59,373	4,750
24	Amounts below the thresholds for deduction (subject to 250% risk weight)	13,433	1,075	14,228	1,138
29	Total	**369,210**	**29,537**	369,970	29,598

As of September 30, 2022, RWA was € 369.2 billion compared to € 370.0 billion as of June 30, 2022. The decrease of € 0.8 billion was primarily driven by the RWA for market risk, operational risk and the amounts below the threshold for deduction (subject to 250% risk weight), which was partially offset by increases for counterparty credit risk (CCR) RWA and RWA for securitization exposures in the banking book (after the cap).

Market risk RWA decreased by € 3.4 billion primarily within the internal model approach (IMA) driven by the Stressed Value-at-Risk (SVaR) component due to changes in credit and foreign exchange exposures as well as the incremental risk charge (IRC) component mainly due to changes in government bond positions. The increase in the Value-at-Risk (VaR) component was driven by the inclusion of the recent market volatility as well as the increased capital multiplier, which also led to an offsetting effect in the SVaR component. The operational risk RWA decreased by € 0.9 billion mainly resulting from a more favorable development of the Group's internal loss profile feeding into the capital model. RWA for amounts below the thresholds for deduction (subject to 250% risk weight) decreased by € 0.8 billion and was primarily driven by lower RWA for deferred tax assets. The decrease in credit risk RWA (excluding CCR) by € 0.1 billion was mainly driven by the decrease of € 1.3 billion in the equities under simple risk-weighted approach due to an increase in diversification in an equity portfolio which led to a reduction in risk weights and lower exposures in exchange traded equities as well as other equities. Additionally, the RWA under the foundation IRB (FIRB) approach decreased by € 0.7 billion due to a decrease in exposure class corporates. These decreases were partly compensated by the increase of € 1.0 billion in the advanced IRB (AIRB) approach primarily due to foreign exchange movements, partly offset by optimized balance sheet management in the Investment Bank. The increase of € 0.7 billion in the standardized approach (SA) is due to increases in the exposure classes corporates, collective investment undertakings and exposures in default.

The aforementioned decreases were partly offset by the increase of € 4.2 billion for counterparty credit risk (CCR) RWA, mainly driven by the increase of € 3.6 billion for the Internal Model Method (IMM) due to Mark to Market (MtM) movements and business growth within the Investment Bank as well as foreign exchange movements and the increase of € 0.8 billion for credit valuation adjustment (CVA) RWA mainly driven by business activities. Additionally, RWA for securitization exposures in the banking book (after the cap) increased by € 0.3 billion driven by higher RWA for SEC-ERBA (including IAA) and SEC-SA, partly offset by lower RWA for SEC-IRBA and 1250% / Deduction.

The movements of RWA for credit and market risk are discussed below in sections "Development of credit risk RWA", "CCR exposures development" and "Development of market risk RWA".

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

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 Sep 30, 2022	Three months ended Jun 30, 2022
		a	a
	in € m.	RWA	RWA
1	Risk weighted exposure amount as at the end of the previous reporting period	**195,573**	192,608
2	Asset size	(4,136)	(1,677)
3	Asset quality	255	40
4	Model updates	0	(44)
5	Methodology and policy	302	0
6	Acquisitions and disposals	0	0
7	Foreign exchange movements	3,892	4,645
8	Other	0	0
9	Risk weighted exposure amount as at the end of the reporting period	**195,887**	195,573

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" show 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 0.2% or € 0.3 billion since June 30, 2022 is primarily resulting from foreign exchange movements. Additionally, an increase can be observed in category "methodology and policy" which includes impacts driven by the introduction of EBA guidelines and "Target Review of Internal Models (TRIM)" resulting from regular ECB reviews. The increase in category "asset quality" is stemming from counterparty ratings deterioration and an updated treatment for Credit Conversation Factors (CCFs) for open ended guarantees. These were offset by an effect stemming from revised treatment of fair value changes for hedged exposures. The decrease in the category "asset size" reflects lower RWA due to optimized balance sheet management in the Investment Bank.

Counterparty credit risk (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 Sep 30, 2022	Three months ended Jun 30, 2022
		a	a
	in € m.	RWA	RWA
1	Counterparty credit risk RWA under the IMM opening balance	**19,201**	19,216
2	Asset size	2,987	(476)
3	Credit quality of counterparties	(36)	(68)
4	Model updates (IMM only)	0	0
5	Methodology and policy (IMM only)	0	0
6	Acquisitions and disposals	0	0
7	Foreign exchange movements	634	529
8	Other	0	0
9	Counterparty credit risk RWA under the IMM closing balance	**22,786**	19,201

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” shows 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 increased by 18.7% or € 3.6 billion since June 30, 2022 and is primarily driven by the category “asset size”. The increase in “asset size” is reflecting business growth and Mark to Market (MtM) movements for Derivatives as well as a change in the composition of the securities financing transactions (SFTs) portfolio within the Investment Bank.

Market risk

Own funds requirements for market risk under the IMA

Development of market risk RWA

Article 438 (h) CRR

The following table EU MR2-B 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 Sep 30, 2022						
		a	b	c	d	e	f	g
	in € m.	VaR	SVaR	IRC	Compre-hensive risk measure	Other	Total RWA	Total capital requirements
1	Market Risk RWA opening balance	5,951	14,677	4,195	–	0	24,824	1,986
1a	Regulatory adjustment[1]	(4,397)	(11,102)	(429)	–	0	(15,928)	(1,274)
1b	RWA at the previous quarter-end (end of the day)	1,554	3,575	3,766	–	0	8,895	712
2	Movement in risk levels	(199)	(28)	(667)	–	0	(895)	(72)
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[2]	255	0	0	–	0	255	20
7	Other	0	0	0	–	0	0	0
8a	RWA at the end of the reporting period (end of the day)	1,610	3,547	3,099	–	0	8,256	660
8b	Regulatory adjustment[1]	6,149	6,570	357	–	0	13,075	1,046
8	Market Risk RWA closing balance	7,758	10,117	3,455	–	0	21,330	1,706

[1] 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.

		Three months ended Jun 30, 2022						
		a	b	c	d	e	f	g
	in € m.	VaR	SVaR	IRC	Compre-hensive risk measure	Other	Total RWA	Total capital requirements
1	Market Risk RWA opening balance	3,887	11,099	3,698	–	0	18,683	1,495
1a	Regulatory adjustment[1]	(2,530)	(6,860)	(23)	–	0	(9,412)	(753)
1b	RWA at the previous quarter-end (end of the day)	1,357	4,239	3,675	–	0	9,271	742
2	Movement in risk levels	598	(678)	91	–	0	11	1
3	Model updates/changes	25	(163)	0	–	0	(138)	(11)
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	(427)	177	0	–	0	(250)	(20)
7	Other	0	0	0	–	0	0	0
8a	RWA at the end of the reporting period (end of the day)	1,554	3,575	3,766	–	0	8,895	712
8b	Regulatory adjustment[1]	4,397	11,102	429	–	0	15,928	1,274
8	Market Risk RWA closing balance	5,951	14,677	4,195	–	0	24,824	1,986

[1] 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.
[2] Indicates the spot impact on RWA at the time of go-live and does not reflect the RWA impact from market volatility feeding through the VaR model.

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 September 30, 2022, the IMA components for market risk totaled € 21.3 billion, which was a decrease of € 3.5 billion since June 30, 2022. The decrease in average stressed value-at-risk was mainly driven by changes in credit and foreign exchange exposures in the Investment Bank partially offset by an increase in average value-at-risk mainly due to increased market volatility in the third quarter of 2022 feeding through the VaR market data. In addition, there was a slight offsetting increase in value-at-risk and stressed value-at-risk components driven by increase in capital multiplier from 4.65 to 4.85 due to increase in buy & hold back testing outliers from 7 to 9. The decrease in incremental risk charge was driven by changes in European government bond positions and reduction in long credit index exposure under Fixed Income and Currencies Trading business.

Liquidity risk

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.

This requirement has been implemented into European law, via the Commission Delegated Regulation (EU) 2015/61, adopted in October 2014. Compliance with the LCR was required in the EU from October 1, 2015.

The Group's average LCR of 136% (twelve months average) 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 (LCR) was 136% as of September 30, 2022, or € 60 billion of excess over the regulatory minimum of 100%. This compares to 133%, or € 52 billion of excess liquidity at June 30, 2022. The increase is primarily driven by increase in capital market issuances and deposit growth partially offset by loan and facilities growth.

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 expanded in 2020 its potential investor base by introducing the Group's Sustainable Finance Framework and issued a Green Bond in June 2020.

Unsecured wholesale funding comprises a range of institutional products, such as Certificate of Deposits (CDs), Commercial Papers (CPs) 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 € 218 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 September 30, 2022 of € 227 billion is primarily held in Level 1 cash and central bank reserves (70%) and Level 1 high quality securities (28%). This compares to € 207 billion as of June 30, 2022 primarily held in Level 1 cash and central bank reserves (74%) and Level 1 high quality securities (23%).

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 DB's credit rating (as per regulatory requirements).

Currency mismatch in the LCR

The LCR is calculated for EUR, USD and GBP 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. 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 the 12 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	Sep 30, 2022	Jun 30, 2022	Mar 31, 2022	Dec 31, 2021	Sep 30, 2022	Jun 30, 2022	Mar 31, 2022	Dec 31, 2021
	Number of data points used in the calculation of averages	12	12	12	12	12	12	12	12
	High-quality liquid assets								
1	Total high-quality liquid assets (HQLA)	–	–	–	–	218	215	218	220
	Cash-outflows								
2	Retail deposits and deposits from small business costumers	277	277	279	280	15	15	16	16
	of which:								
3	Stable deposits	129	127	123	120	6	6	6	6
4	Less stable deposits	66	67	72	77	8	9	9	10
5	Unsecured wholesale funding	248	242	235	228	108	105	101	98
	of which:								
6	Operational deposits (all counterparties) and deposits in network of cooperative banks	89	86	84	83	22	21	21	20
7	Non-operational deposits (all counterparties)	157	154	149	144	84	82	79	76
8	Unsecured debt	2	2	2	2	2	2	2	2
9	Secured wholesale funding	–	–	–	–	11	13	15	17
10	Additional requirements	220	214	207	203	71	68	66	68
	of which:								
11	Outflows related to derivative exposures and other collateral requirements	27	26	25	27	23	22	20	23
12	Outflows related to loss of funding on debt products	0	0	0	0	0	0	0	0
13	Credit and liquidity facilities	193	187	181	176	48	46	46	45
14	Other contractual funding obligations	66	65	61	56	8	8	8	7
15	Other contingent funding obligations	246	223	201	173	4	5	5	5
16	Total cash outflows	–	–	–	–	217	214	212	212
	Cash - inflows								
17	Secured lending (e.g. reverse repos)	310	310	300	280	14	15	16	17
18	Inflows from fully performing exposures	54	52	49	47	38	36	34	33
19	Other cash inflows	11	10	8	11	11	10	8	11
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	–	–	–	–	5	4	3	3
EU 19b	Excess inflows from a related specialized credit institution	–	–	–	–	0	0	0	0
20	Total cash inflows	375	371	357	337	58	57	55	57
	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	345	339	324	305	58	57	55	57
	Total adjusted value								
21	Liquidity buffer	–	–	–	–	218	215	218	220
22	Total net cash outflows	–	–	–	–	160	157	157	155
23	Liquidity coverage ratio (%)	–	–	–	–	136	137	140	142

List of tables